



**DULUTH INTERNATIONAL AIRPORT**

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**DULUTH INTERNATIONAL AIRPORT  
NEW PARKING STRUCTURE AND  
EXTERIOR WAYFINDING SIGNAGE  
BID PACKAGE 2D  
ISSUE FOR BID**

FAA AIP No. - 3-27-0024-55-13  
RS&H PROJ. No. – 2131882.114  
CITY OF DULUTH BID No. 13-4401

**PROJECT MANUAL  
VOLUME 1 OF 2**

Date: MAY 15, 2013



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**CIVIL**

**I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.**

**JOHN E. HIPPCHEN, P.E.  
REYNOLDS, SMITH AND HILLS, INC.**

**MN REGISTRATION #: 22088**

**DATE: \_\_\_\_\_**

**ARCHITECTURAL**

**I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND I AM A DULY LICENSED ARCHITECT UNDER THE LAWS OF THE STATE OF MINNESOTA.**

**BRIAN D. MORSE, I.A.I.  
TKDA**

**MN REGISTRATION #: 20092**

**DATE: \_\_\_\_\_**

**STRUCTURAL**

**I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND I AM A DULY LICENSED ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.**

**PAUL A. JOHNSON, P.E.  
MBJ ENGINEERING, INC.**

**MN REGISTRATION #: 20379**

**DATE: \_\_\_\_\_**

**MECHANICAL**

**I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND I AM A DULY LICENSED ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.**

**PREM C. LALA, P.E.  
REYNOLDS, SMITH AND HILLS, INC.**

**MN REGISTRATION #: 48631**

**DATE: \_\_\_\_\_**

**PLUMBING**

**I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND I AM A DULY LICENSED ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.**

**PREM C. LALA, P.E.  
REYNOLDS, SMITH AND HILLS, INC.**

**MN REGISTRATION #: 48631**

**DATE: \_\_\_\_\_**

**FIRE PROTECTION**

**I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND I AM A DULY LICENSED ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.**

**PREM C. LALA, P.E.  
REYNOLDS, SMITH AND HILLS, INC.**

**MN REGISTRATION #: 48631**

**DATE: \_\_\_\_\_**

## Invitation to Bid

Project Name/Description: Duluth International Airport - New Parking Structure and Exterior Wayfinding Signage

City of Duluth Bid No. 13-4401

Sealed bids will be received for the Duluth Airport Authority by the City Purchasing Agent in and for the Corporation of the City of Duluth at his office, Room 100 City Hall, Duluth, MN 55802 (218) 730-5340 at 2:00 p.m. local time on Thursday, June 11, 2013, for the above named project, and will be publicly opened and read aloud immediately thereafter.

The project scope consists of: New Parking Garage, Pedestrian Bridge to New Passenger Terminal, and Way-Finding Signage. Bid Package 2D consists of the following Work Scopes: 2.20D Civil, Site Work, & Building Earthwork; 2.90D Landscaping; 3.30D Concrete; 3.40D Precast Wall Panel & Floor Plank; 4.20D Unit Masonry; 5.10D Struct. Steel & Misc. Metal Fabrication & Erection; 7.10D Metal Panels & Roofing; 7.18D Vehicular Traffic Coating; 7.20D Joint Sealants; 8.22D Overhead Coiling Doors; 8.30D Doors, Frames, Hardware, & Misc. Specialties (Materials Only); 8.40D Aluminum Framed Automatic Entrances, Storefronts, and Glass; 9.20D Metal Studs & Drywall; 9.60D Terrazzo; 9.90D Painting; 10.20D Interior & Exterior Wayfinding Signage; 14.20D Elevator; 21.10D Fire Suppression System; 22.10D Mechanical Systems (Full); 26.10D Electrical Systems (Full). The package consists of the construction of a new parking structure and skywalk. The parking structure will be four stories, one below grade and three above grade. The parking structure will consist of precast wall panels and planks on top of poured concrete footings and foundation walls. The skywalk will connect the parking structure to the second floor of the new Passenger Terminal. This package also includes all of the exterior wayfinding signage for the terminal roadways and the signage required for the parking structure.

See Section 01014 Work Scope Descriptions for more detailed information on the specifics of the content for each of the Work Scopes. Bidders are cautioned to examine the Work Scope Descriptions and contract documents closely to ensure **only the applicable portion** of the scope is included in bids for this Bid Package. These documents are available for viewing at the Kraus-Anderson® Construction Company jobsite trailer upon request.

**BASIS OF BIDS:** Multiple Prime Bids will be received for labor and materials as outlined in the Work Scope Descriptions as described in Section 01014.

A separate Bid Form Packet will be furnished for bid submission. All bidders must use the original Bid Form Packet for submission of their bid. Contact Kim Lofquist, Kraus-Anderson® Construction Company, 218-722-3775 for the Bid Form Packet. Faxed bids will not be allowed.

A Pre-Bid Meeting will be held on Thursday, May 23, 2013, at 2:00 p.m. in the Conference Room on the 3rd Floor of the new Passenger Terminal Building, Duluth International Airport, after which there will be an opportunity to examine the site of the proposed work.

**PROJECT LABOR AGREEMENT:** Each contractor and subcontractor, having submitted a bid on this project certifies that it is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on the project. In the interests of such harmony and the long-term supply of skilled manpower, each successful contractor and any and all levels of subcontractors, as a condition of

being awarded a contract or subcontract, will agree to abide by the provisions of Project Labor Agreement as executed by and between Owner, Kraus-Anderson® Construction Company (Construction Manager for project) and the Duluth Building and Construction Trades Council and its affiliated local unions, and will be bound by the provisions of that agreement in the same manner as any other provision of the Contract. A draft copy of the agreement is available for inspection at the office of the Construction Manager, Kraus-Anderson® Construction Company, 4525 Haines Road, Duluth, MN 55811, and is included by reference in these Contract Documents as fully as if herein set forth.

Under Minnesota Statute S473.144, the Authority may not accept any bid or proposal for a contract or execute a contract for goods or services in excess of \$100,000 with any business having more than 40 full time employees in Minnesota at any time during the previous 12 months, unless the business has an affirmative action plan for the employment of minority persons, women, and the disabled that has been approved by the Commission of Human Rights. The Commission's certificate of compliance form and any required documentation indicating a bidder's compliance or exemption from this requirement must be submitted within three business days following the opening of the bids and prior to award of the contract. Bids will be considered non-responsive if the certificate of compliance requirement as set forth in the specifications is not met.

The schedule of minimum wages as established by the Secretary of Labor and set forth in the specifications is to govern on this project, and bids shall be based on these established minimum wage rates. However, in accordance with Minnesota law, overtime must be paid for work in excess of 8 hours per day and 40 hours per week.

Nondiscrimination in Employment: The proposed contract shall be under and subject to Executive Order No. 11246 of September 24, 1965, as amended, and to the equal opportunity clause, mandated by the regulations promulgated pursuant thereto. The proposed contract must incorporate the terms set forth in the affirmative action attachments included in the specifications for this project. The bidder (proposer) must supply all the information required by the bid or proposal form. Certification of Non-Segregated Facilities will be required as described in the Instructions to Bidders.

The Airport Authority, in accordance with Title VI of the Civil Rights Act of 1964, 78 Stat. 252, 42 U.S.C. 2000d to 2000d-4 and Title 49, Code of Federal Regulations, Department of Transportation, Subtitle A, Office of the Secretary, Part 21, Nondiscrimination in Federally-assisted programs of the Department of Transportation issued pursuant to such Act, hereby notifies all bidders that it will affirmatively insure that in any contract entered into pursuant to this advertisement, disadvantaged business enterprises will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award. Women will be afforded equal opportunity in all areas of employment. However, the employment of women shall not diminish the standards or requirements for employment of minorities.

The bidder/offerer certifies, by submission of this proposal or acceptance of this contract, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by a Federal department or agency. It further agrees by submitting this proposal that it will include this clause without modification in all lower tier transactions, solicitations, proposals, contracts and subcontracts. Where the bidder/offerer/contractor or any lower tier participant is unable to certify to this statement, it shall attach an explanation to this solicitation/proposal.

The contractor, by submission of an offer and/or execution of a contract, certifies that it is in compliance with Restrictions on Federal Public Works Projects as set forth in Attachment 3 to the construction contract. Further, the contractor agrees that, if awarded a contract resulting from this solicitation, it will

incorporate this provision for certification without modification in each contract and in all lower tier subcontracts. The bidder shall make good faith efforts as defined in Appendix A of 49 CFR Part 23, Regulations of the Office of the Secretary of Transportation to subcontract Three and two tenths percent (3.2%) of the dollar value of the contract to small business concerns owned and controlled by socially and economically disadvantaged individuals (DBE).

The individuals who are presumed to be socially and economically disadvantaged include Women, Blacks, Hispanics, Native Americans, Asian-Pacific Americans, and Asian-Indian Americans.

In the event that the apparent successful bidder of this solicitation qualifies as a DBE, the contract goal shall be deemed to have been met.

Bidders will submit, in writing, the names of the DBEs included in their bid, a description of the work DBEs will perform, and the dollar value of each DBE subcontract.

Exclusive agreements between DBEs and bidders are forbidden. The DAA reserves the right to waive failure of a bidder to meet the DBEs goals if sufficient effort as determined by DAA has been made to comply with the DBE goals and the requirements are not met.

The bids shall be accompanied by an Affidavit of Non-Collusion and written assurance that the bidder has made a good faith effort towards meeting DBE goals.

A bidder's or proposer's failure to show a good faith effort to achieve the specified contract goal for the participation of Disadvantaged Business Enterprise in the completion of this project will be grounds for finding the bid or proposal non-responsive.

Notice of Requirements for Affirmative Action to Ensure Equal Employment Opportunity - State of Minnesota Requirements:

The offerer's or bidder's attention is called to the "equal opportunity clause" set forth herein.

The goals and timetables for minority and female participation, expressed in percentage terms for the contractor's aggregate workforce in each trade on all construction work in the Covered Area as follows: Goals for minority participation in each trade, 1.0%; goals for female participation in each trade, 6.9%.

These goals are applicable to all contractors' construction work performed in the Covered Area.

The contractor's compliance with Minnesota Statutes, section 473.144 and part 5000.3520 shall be based on its implementation of the equal opportunity clause, specific affirmative action obligations required by part 5000.3540, and its efforts to meet the goals established for the geographical area where the contract resulting from this solicitation is to be performed. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from contractor to contractor or from project to project for the sole purpose of meeting the contractor's goals shall be a violation of the contract, Minnesota Statutes, section 473.144 and part 5000.3520. Compliance with the goals will be measured against the total work hours performed.

The contractor shall provide written notification to the Compliance Division of the Minnesota Department of Human Rights within ten working days of award of any construction contract at any tier for construction work under the contract resulting from the solicitation. The notification must list the name, address and



telephone number of the subcontractor; employer identification number, estimated dollar amount of the subcontract; and the geographical area in which the contract is to be performed.

As used in this notice, and in the contract resulting from this solicitation, the "Covered Area" is the City of Duluth in St. Louis County, Minnesota.

See Instructions to Bidders for Federal requirements for Affirmative Action to Ensure Equal Employment Opportunity (Executive Order 11246, as amended).

Each bid proposal shall be accompanied by a "Bid Security" in the form of a certified check made payable to the City of Duluth in the amount of not less than 5% of the total bid or a surety bond in the amount payable to the Authority with the surety company thereon duly authorized to do business in the State of Minnesota, such Bid Security to be a guarantee that the bidder will not, without the consent of the Authority, withdraw his bid for a period of 60 days after the opening of bids, and if the successful bidder, will enter into a contract with the Duluth Airport Authority and in connection therewith, give Public Contractor's Bond as required by law; and the amount of the certified check will be retained or bond enforced by the Authority in case the bidder fails so to do.

The Bid Security of the three lowest bidders will be retained until the contract is executed, but in no event longer than 60 days provided that the Bid Security of the lowest responsible bidder shall be retained in any event until the contract is executed and Public Contractor's Bond furnished as herein provided.

The bid of the lowest responsible bidder, provided said low bidder has made a good faith effort to meet the DBE contract goal will be accepted on or before the expiration of 60 days after the date of the opening of bids. In the event that the Authority deems it in its best interest to delay the award of the contract (i.e. if the federal funding for the project is delayed) the 60 day time period may be extended for up to one year if mutually agreed upon by both the bidder and the Authority. The Authority, reserves the right to reject any or all bids and to waive any minor irregularities, informalities or discrepancies.

Inquiries regarding Plans and Specifications may be directed to the Architect/Engineer of Record Reynolds, Smith & Hills, Inc. at (218) 722-1227, or the Construction Manager of Record, Kraus-Anderson® Construction Company at (218) 727-8363. Plans and Specifications will also be on file at the Duluth Purchasing Agent, the Duluth, Hibbing, Minneapolis & St. Paul Builders Exchanges, Reed Construction Data, McGraw-Hill, iSqFt & AGC of MN Planroom Partnership, and MEDA Plan Rooms.

Copies of Drawings and Specifications may be obtained on or after May 20, 2013. Order printed sets through Shel/Don Group Inc.'s online Plan Room at [www.sheldonplanroom.com](http://www.sheldonplanroom.com). Contact Jeanette Herubin, Shel/Don Group Inc., at 218-727-2817, for final non-refundable deposit cost. Non-refundable checks made payable to Shel/Don Group Inc. Plans can be picked up at Shel/Don Group Inc., 124 E Superior Street, Duluth, MN 55802 once required deposit has been received by Shel/Don Group Inc. This payment will not be refunded.

For a non-refundable \$20 fee you may obtain a CD containing an electronic version of the plans/specs/addendums and a hard copy of Bid Form Packet. Make check payable to Kraus-Anderson® Construction Company, 3716 Oneota Street, Duluth, MN 55807. For a CD, and Bid Form Packet, contact Kim Lofquist, phone 218-722-3775.

Examination of Documents: Bidders shall carefully examine entire contents of Contract Documents prepared for the Work to become thoroughly familiar with all requirements.

Additional Compensation: Contractors shall not receive extra payments for conditions which can be determined by examining the site and the Contract Documents.

Duluth Airport Authority

By: Dennis Sears  
City of Duluth Purchaser  
100 City Hall  
Duluth, MN 55802

To appear in DBT: May 9<sup>th</sup>, 10<sup>th</sup> and 11<sup>th</sup> 2013  
respectively

This advertisement is also available on the City of Duluth website at:  
[http://www.duluthmn.gov/purchasing/bid\\_information.cfm](http://www.duluthmn.gov/purchasing/bid_information.cfm)

## **NOTICE TO BIDDERS**

Minnesota Statutes that require prompt payment to subcontractors:

16A.1245 Prompt payment to subcontractors.

Each state agency contract must require the prime contractor to pay any subcontractor within ten days of the prime contractor's receipt of payment from the state for undisputed services provided by the subcontractor. The contract must require the prime contractor to pay interest of 1-1/2 percent per month or any part of a month to the subcontractor on any undisputed amount not paid on time to the subcontractor. The minimum monthly interest penalty payment for an unpaid balance of \$100 or more is \$10. For an unpaid balance of less than \$100, the prime contractor shall pay the actual penalty due to the subcontractor. A subcontractor who prevails in a civil action to collect interest penalties from a prime contractor must be awarded its costs and disbursements, including attorney's fees, incurred in bringing the action.

HIST: 1990 c 541 s 1

337.10 Building and construction contracts; prohibited provisions.

Subd. 3. Prompt payment to subcontractors. A building and construction contract shall be deemed to require the prime contractor and all subcontractors to promptly pay any subcontractor or material supplier contract within ten days of receipt by the party responsible for payment of payment for undisputed services provided by the party requesting payment. The contract shall be deemed to require the party responsible for payment to pay interest of 1-1/2 percent per month to the party requesting payment on any undisputed amount not paid on time. The minimum monthly interest penalty payment for an unpaid balance of \$100 or more is \$10. For an unpaid balance of less than \$100, the party responsible for payment shall pay the actual penalty due to the party requesting payment. A party requesting payment who prevails in a civil action to collect interest penalties from a party responsible for payment must be awarded its costs and disbursements, including attorney fees incurred in bringing the action. This subdivision does not apply to construction of or improvements to residential real estate as defined in section 326.83, subdivision 17, or to construction of or improvements to attached single-family dwellings, if those dwellings are used for residential purposes and have fewer than 13 units per structure.

HIST: 1997 c 127 s 1; 1998 c 289 s 1,2; 1999 c 116 s 2

## INSTRUCTIONS TO BIDDERS

1. Use of Separate Bid Forms. These contract documents include a complete set of bidding and contract forms which are for the convenience of bidders and are not to be detached from the contract document, filled out, or executed. **Separate copies of bid forms are furnished for that purpose.**
2. Interpretations or Addenda. No oral interpretation will be made to any bidder as to the meaning of the contract documents or any part thereof. Every request for such an interpretation shall be made in writing to the City of Duluth. Any inquiry received seven or more days prior to the date fixed for opening of bids will be given consideration. Every interpretation made to a bidder will be in the form of an addendum to the contract documents, and when issued, will be on file in the offices of the Purchasing Agent and City Architect at least five days before bids are opened. In addition, all addenda will be mailed to each person holding contract documents, but it shall be the bidder's responsibility to make inquiry as to the addenda issued. All such addenda shall become part of the contract, and all bidders shall be bound by such addenda, whether or not received by the bidders.
3. Inspection of Site. Each bidder should visit the site of the proposed work and fully acquaint himself with the existing conditions there relating to construction and labor, and should fully inform himself as to the facilities involved, the difficulties, and the restrictions attending the performance of the contract. The bidder should thoroughly examine and familiarize himself with the drawings, technical specifications, and all other contract documents. The contractor, by the execution of the contract, shall in no way be relieved of any obligation under it due to his failure to receive or examine any form or legal instrument or to visit the site and acquaint himself with the conditions there existing; and the City of Duluth will be justified in rejecting any claim based on facts regarding which he should have been on notice as a result thereof.
4. Alternative Bids. No alternative bids will be considered unless alternative bids are specifically requested by the technical specifications.
5. Bids.
  - a. All bids must be submitted on forms supplied by the City of Duluth Purchasing Agent and shall be subject to all requirements of the contract documents, including the drawings, and these **Instructions to Bidders**. All bids must be regular in every respect; and no interlineations, excisions, or special conditions shall be made or included in the bid form by the bidder.

- b. Bid documents including the bid and the bid guaranty shall be enclosed in an envelope which shall be sealed and clearly labeled with the project number, if any, name of bidder, and date and time of bid opening, in order to guard against premature opening of the bid. If proposal is mailed, this envelope shall be placed in another envelope which shall be sealed and labeled with project number, if any, name of bidder, and date and time of bid opening -- and addressed to City of Duluth Purchasing Agent, 100 City Hall, Duluth, Minnesota 55802.
- c. The City of Duluth may consider as irregular any bid on which there is an alteration of or departure from the bid form hereto attached, and at its option may reject the same.
- d. If the contract is awarded, it will be awarded by the City of Duluth to a responsible bidder on the basis of the lowest bid and the selected alternative bid items. The contract will require the completion of the work according to the contract documents.
- e. Each bidder shall include in his bid the following information:

Principals --      Names  
                             Social Security Numbers  
                             Home Addresses, including city, state, & zip code

Firm --      Name  
                     Treasury Number  
                     Address  
                     City, State & Zip Code

Mechanical & Electrical Subcontractors -- Names of firms that will do the mechanical and electrical work and the amounts of the mechanical and electrical sub-bids, if applicable and when (where indicated on Bid Proposal Form).

6. Bid Guaranty.

- a. The bid must be accompanied by a bid guaranty which shall not be less than five percent (5%) of the amount of the bid. At the option of the bidder, the guaranty may be a certified check, bank draft, negotiable U.S. Government bond (at par value), or a bid bond. No bid will be considered unless it is accompanied by the required guaranty. Certified check or bank draft must be made payable to the order of the City of Duluth, Minnesota. Cash deposits will not be accepted. The bid guaranty shall insure the execution of the agreement and the furnishing of the surety bond or bonds by the successful bidder, all as required by the contract documents.
- b. Revised bids submitted before the opening of bids, whether forwarded by mail or telegram, if representing an increase in excess of two percent (2%) of the original bid, must have bid guaranty adjusted accordingly; otherwise, the bid will not be considered.
- c. Certified checks or bank drafts, or the amount thereof, bid bonds, and negotiable U.S. Government bonds of unsuccessful bidders, will be returned as soon as practical after the

opening of bids.

7. Collusive Agreements

- a. The successful bidder on each City of Duluth construction project shall be required to execute a City of Duluth non-collusive affidavit to the effect that he has not entered into a collusive agreement with any other person, firm, or corporation in regard to any bid submitted.
- b. Before executing any subcontract, the successful bidder shall submit the name of any proposed subcontractor for prior approval, and an affidavit substantially in the form provided in Section 103 of General Conditions hereof.

8. Unit Prices. The unit price for each of the several items in the proposal of each bidder shall include its prorata share of overhead so that the sum of the products obtained by multiplying the quantity shown for each item by the unit price bid represents the total bid. Any bid not conforming to this requirement may be rejected as informal. The special attention of all bidders is called to this provision; for should conditions make it necessary to revise the quantities, no limit will be fixed for such increased or decreased quantities nor extra compensation allowed, provided the net monetary value of all such additive and subtractive changes in quantities of such items of work (i.e., difference in cost) shall not increase or decrease the original contract price by more than twenty-five percent (25%), except for work not covered in the drawings and technical specifications as provided for in Section 109 hereof.

9. Corrections. Erasures or other changes in the bids must be explained or noted over the signature of the bidder.

10. Time for Receiving Bids.

- a. Bids received prior to the advertised hour of opening will be securely kept, sealed. The officer whose duty it is to open them will decide when the specified time has arrived, and no bid received thereafter will be considered; except that when a bid arrives by mail after the time fixed for opening, but before the reading of all other bids is completed, and it is shown to the satisfaction of the City Purchasing office that the non-arrival on time was

due solely to delay in the mails for which the bidder was not responsible, such bid will be received and considered.

- b. Bidders are cautioned that, while telegraphic modifications of bids may be received as provided above, such modifications, if not explicit and if in any sense subject to misinterpretation, shall make the bid so modified or amended, subject to rejection.
11. Opening of Bids. At the time and place fixed for the opening of bids, the City Purchasing Agent will cause to be opened and publicly read aloud every bid received within the time set for receiving bids, irrespective of any irregularities therein. Bidders and other persons properly interested may be present, in person or by representative.
12. Withdrawal of Bids. Bids may be withdrawn on written or telegraphic request dispatched by the bidder in time for delivery in the normal course of business to the time fixed for opening; provided, that written confirmation of any telegraphic withdrawal over the signature of the bidder is placed in the mail and postmarked prior to the time set for bid opening. The bid guaranty of any bidder withdrawing his bid in accordance with the foregoing conditions will be returned promptly.
13. Award of Contract: Rejection of Bids.
- a. The contract will be awarded to the responsible bidder submitting the lowest bid complying with the conditions of the Invitation to Bid. The bidder to whom the award is made will be notified at the earliest possible date. The City of Duluth, however, reserves the right to reject any and all such bids and to waive any informality in bids received whenever such rejection or waiver is in its interest.
  - b. The City of Duluth reserves the right to consider as unqualified to do the work of general construction, any bidder who does not habitually perform with his own forces the major portions of the work involved in construction of the improvements embraced in the contract documents.
14. Execution of Agreement: Performance and Payment Bond.
- a. Subsequent to the award and within ten (10) days after the prescribed forms are presented for signature, the successful bidder shall execute and deliver to the City of Duluth an agreement in the form as furnished by the City, in such number of copies as the City of Duluth may require.
  - b. Having satisfied all conditions of award as set forth elsewhere in these documents, the successful bidder shall, within the period specified in paragraph "a" above, furnish:
    - 1) A performance bond for the use and benefit of the City of Duluth to complete the contract according to its terms, and conditioned on saving the City of Duluth harmless from all costs and charges that may accrue on account of completing the specified work; and

- 2) A payment bond for the use and benefit of all persons furnishing labor and materials for the performance of the contract conditioned upon the payment, as they become due, of all just claims for labor and materials.

Both the performance bond and the payment bond shall be in a penal sum of not less than the amount of the contract awarded. Such bonds shall be in the same form as that included in the contract documents and shall bear the same date as, or a date subsequent to, that of the agreement. A current power of attorney for the person who signs for any surety company shall be attached to such bonds.

- c. The failure of the successful bidder to execute such agreement to supply the required bond or bonds within ten (10) days after the prescribed forms are presented for signature, or within such extended period as the City of Duluth may grant, based on reasons determined sufficient by the City of Duluth, shall constitute a default, and the City of Duluth may either award the contract to the next lowest responsible bidder or re-advertise for bids, and may charge against the bidder the difference between the amount of the bid and the amount for which a contract for the work is subsequently executed, irrespective of whether the amount thus due exceeds the amount of the bid bond. If a more favorable bid is received by re-advertising, the defaulting bidder shall have no claim against the City of Duluth for a refund.

15. Wages and Salaries.

- a. Attention of bidders is particularly called to the requirements concerning the payment of not less than the prevailing wage and salary rates specified in the contract documents and the conditions of employment with respect to certain categories and classifications of employees.
- b. The rates of pay set forth under **General Conditions** are the minimums to be paid during the life of the contract. It is therefore the responsibility of bidders to inform themselves as to local labor conditions, such as the length of work day and work week, overtime compensations, health and welfare contributions, labor supply, and prospective changes or adjustments of rates.

16. Equal Employment Opportunity. Attention of bidders is particularly called to the requirement for ensuring that employees and applicants for employment are not discriminated against because of their race, color, religion, sex, or national origin. (See Supplementary General Conditions, Part II, Section II).

17. Employment and Business. Attention of bidders is particularly called to the requirement that, to the greatest extent feasible, opportunities for training and employment made possible by this project shall be given to lower income residents of the City of Duluth. Additionally, efforts should be made, if any work is subcontracted, to award subcontracts to concerns located in or owned in substantial part by persons residing in the City of Duluth.

18. Sales and Use Taxes. It is assumed that, in the preparation of his proposal, the bidder has taken into consideration his liability from any sales, use, or excise tax that might be assessed in the



purchase of, storage, use, or consumption of any materials, services, or supplies for performance of the contract work. Any such tax paid by the contractor will be considered as his expense, for which no direct compensation will be made by the City to the contractor over and above the accepted bid.

19. Pre-Bid/Pre-Construction Meetings.

- a. Seven (7) days prior to bid date, a pre-bid meeting will be held (see **Bid Form** for time and place). All prime bidders are requested to attend. All bidders will be allowed to make inquiries regarding the contract documents. All formal decisions will be documented by addendum. Failure of any prime bidders to attend this meeting could jeopardize the contract award.
- b. Approximately seven (7) days after City Council approval of contract award, the successful bidder is required to attend a pre-construction meeting. At this meeting, the successful bidder will present his construction schedule, cost breakdown, required submittals, etc.

20. Equal Employment Opportunity (EEO) Affirmative Action Policy Statement and Compliance Certificate.

- a. The successful bidder on each City of Duluth construction project shall be required to execute a certificate substantially in the form herein provided.
- b. Before executing any subcontract in excess of \$2,500, the successful bidder shall require the subcontractor to execute a form similar in nature to the form herein provided.

DIVISION 0  
PROJECT IDENTIFICATION

**00 21 13 - INSTRUCTIONS TO BIDDERS**

1. **NOTICE FOR BIDS:** Stipulated sum bids will be received for New Parking Structure and Exterior Wayfinding Signage, Duluth International Airport, Duluth, MN, for Bid Package 2D, as stated in the Invitation to Bid.

2. **RECEIVING AND OPENING OF BIDS:** Bids will be received as stated in the Invitation to Bid and will be opened immediately after the bid closing hour at a location designated by Owner. All bids must be submitted on the original Bid Form Packet provided with Contract Documents.

The Owner may consider informal any bid not prepared and submitted in accordance with provisions herein and may waive any informalities or reject any and all bids.

3. **MODIFICATION OF BIDS:** Oral, telephone or telegraphic bids or modifications to bids will not be considered.

4. **CONTRACTS:** Bids will be received and the project will be constructed under prime contracts as outlined in the Work Scope Descriptions.

5. **DRAWINGS AND SPECIFICATIONS ON FILE:** Bidding requirements, drawings and specifications are on file at the offices of the Duluth Purchasing Agent, Construction Manager, and RS&H, Inc., and the following locations:

Duluth Builders Exchange  
802 Garfield Avenue  
Duluth, MN 55802  
Telephone: 218-722-2836

Minneapolis Builders Exchange  
1123 Glenwood Avenue  
Minneapolis, MN 55405  
Telephone: 612-381-2620

St. Paul Builders Exchange  
445 Farrington Street  
St. Paul, MN 55103  
Telephone: 651-224-7545

McGraw-Hill  
Website: [www.construction.com](http://www.construction.com)  
Telephone: 651-528-8872

Hibbing Plan Room  
211 E. Howard Street  
P.O. Box 727  
Hibbing, MN 55746  
Telephone: 218-262-3895

Reed Construction Data  
30 Technology Parkway South, Suite 500  
Norcross, GA 30092-2912  
Telephone: 800-424-3996

MEDA  
Website:  
[www.constructionconnection.org](http://www.constructionconnection.org)

iSqFt & AGC of MN Planroom  
Partnership  
4500 Lake Forest Drive, Suite 502  
Cincinnati, OH 45242  
Telephone: 800-364-2059

DULUTH INTERNATIONAL AIRPORT  
NEW PARKING STRUCTURE AND  
EXTERIOR WAYFINDING SIGNAGE  
BID PACKAGE 2D  
ISSUE FOR BID

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**00 21 13 - INSTRUCTIONS TO BIDDERS**

**6. INQUIRIES REGARDING PROJECT - DISCREPANCIES OR AMBIGUITIES:**

All inquiries, requests for clarifications, requests for consideration of materials not specified and similar questions shall be directed to RS&H, Inc. in writing. Discrepancies or ambiguities in, or omissions from, the drawings, specifications or other Contract Documents, or should there be doubt as to their meaning, an interpretation shall be requested from RS&H, Inc., in writing. All inquiries, requests for clarification, requests for consideration of materials and products, must be received by RS&H, Inc. by 5:00 p.m. CST on Monday, June 3, 2013 (unless longer periods are specified elsewhere in the specifications for certain work). It is the bidder's (and Contractor's) responsibility to bring all discrepancies, ambiguities, omissions or matters in need of clarification to the attention of RS&H, Inc. for interpretation and decision. If there is a discrepancy that is unclarified prior to the Bid, the Contractor shall be responsible for the more stringent interpretation of the unclarified condition.

**7. ADDENDA AND INTERPRETATIONS:** Replies to inquiries, requests for interpretations or clarifications and requests for consideration of materials which involve or provide information that is not already a part of bidding information will be contained in addenda and shall become a part of Contract Documents and incorporated in all bids submitted.

All bidders, submitting labor and/or supply bids, are responsible to ascertain what addenda have been issued prior to bid date, examining the addenda and determining the affect of addenda provisions on their Work Scope.

Interpretations, clarifications, modifications and supplemental instructions in form of written addenda will be provided to all prime contract bidders on record at the Construction Manager's office, and to Builders Exchanges where plans are on file. RS&H, Inc. and Owner will not be responsible for or honor any claims resulting from, or alleged to be the result of, misunderstanding by the bidder (or Contractor) of verbal discussion of the Project conditions prior to receiving bids. All verbal comments made during the bidding period are subject to inclusion in addenda; otherwise, they shall not be binding on Owner or RS&H, Inc.

During construction, discrepancies, ambiguities and intent not clarified by addenda will be subject to interpretation of RS&H, Inc. only, and work shall be provided in accordance with RS&H, Inc.'s interpretations.

Bidders shall state on bid form the number of addenda received.

DIVISION 0  
PROJECT IDENTIFICATION

**00 21 13 - INSTRUCTIONS TO BIDDERS**

**8. PROCUREMENT OF DOCUMENTS FOR BIDDERS ON PRIME CONTRACTS:**

Copies of Drawings and Specifications may be obtained on or after May 21, 2013. Order printed sets through Shel/Don Group Inc.'s online Plan Room at [www.sheldonplanroom.com](http://www.sheldonplanroom.com). Contact Jeanette Herubin, Shel/Don Group Inc., at 218-727-2817, for final non-refundable deposit cost. Non-refundable checks made payable to Shel/Don Group Inc. Plans can be picked up at Shel/Don Group Inc., 124 E Superior Street, Duluth, MN 55802 once required deposit has been received by Shel/Don Group Inc. This payment will not be refunded.

For a non-refundable \$20 fee you may obtain a CD containing an electronic version of the plans/specs/addendums and an electronic copy of Bid Form Packet. Make check payable to Kraus-Anderson® Construction Company, 3716 Oneota Street, Duluth, MN 55807. For a CD and/or Bid Form, contact Kim Lofquist, phone 218-722-3775.

Online via ARC, Inc.'s PlanWell Collaborate website: Bidders can directly download files via a website link:

A. Contact Kim Lofquist, Kraus-Anderson® Construction Company, phone 218-722-3775, for the link.

B. Bid documents can be downloaded immediately.

**9. PLANS FOR SUBCONTRACTORS, MATERIAL DEALERS & QUANTITY SURVEYORS:** A complete set of drawings and specifications may be obtained as stated in #8 above.

**10. OBLIGATION OF BIDDER - EXAMINATION OF DOCUMENTS & SITE:** Each bidder (including subcontract bidder where appropriate) is responsible to visit the site and to fully inform himself and record his own investigations as to the extent of the Work, the extent of the work performed by other contractors under other construction packages, conditions under which the Work is to be performed, existing buildings and streets, conditions of the area, existing utilities and other features, type of soil, available facilities and difficulties that may be encountered in connection therewith, and other relevant items which will affect his bid or the Work.

DIVISION 0  
PROJECT IDENTIFICATION

**00 21 13 - INSTRUCTIONS TO BIDDERS**

Prior to submitting a bid, each bidder is required to examine all of the bidding requirements, all Contract Documents, all drawings and specifications for the Project (including those primarily for other Subcontracts), become thoroughly familiar with the scope of the Project and all factors and items of work which will affect his bid or the Work, whether shown or specified in documents primarily for Work of others or Work of this Contract.

No extras will be allowed the Contractor as a result of misunderstanding of the extent of scope of the Work as a result of his failure to study and record his own findings. Submission of a bid shall be proof that such examinations have been made and that bidder has recorded his own investigation and has become thoroughly familiar with all contract documents (including all addenda). The failure or omissions of any bidder to examine any form, instrument or document shall in no way relieve any bidder from any obligation in respect to his bid.

11. **CONDITIONS OF WORK:** Each bidder must inform himself fully of conditions relating to the construction of the Project and the availability and employment of labor thereon. Failure to do so will not relieve a successful bidder of his obligation to furnish all materials and labor necessary to carry out the provisions of his contract. Contractor, in carrying out his work, must employ such methods or means as will not cause any interruption of or interference with the Work of any other Contractor.
12. **PREPARATION OF BID:** Submit bids to Owner in accordance with the following requirements:
  - A. Submit Bid Form Packet in duplicate on the prescribed form, which is furnished with the specification, with full name and address of the bidder.
  - B. Completely fill in all blank spaces on the Bid Form, in ink or typewriter, in both words and figures.
  - C. Sign in longhand, executed by a principal duly authorized to enter into an agreement. If a bidder is a co-partnership, then signatures on the bid shall be by an authorized member of the firm, with names and addresses of each member of partnership.
  - D. Base bid (Basic Proposal) and all alternate bids shall be stated both in writing and in figures. In all cases, written and numerical figures must agree; otherwise at Owner's option, it shall be cause for rejection of bid. Complete form without interlineation, alteration, erasure.

DULUTH INTERNATIONAL AIRPORT  
NEW PARKING STRUCTURE AND  
EXTERIOR WAYFINDING SIGNAGE  
BID PACKAGE 2D  
ISSUE FOR BID

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**00 21 13 - INSTRUCTIONS TO BIDDERS**

- E. Submit alternate prices (bid) for either increasing or decreasing the cost as called for on bid form and Description of Alternates. Submit a bid for all alternates, except those which may be denoted as optional.
  - F. Do not stipulate any other conditions, alternates or qualifications. Owner will not accept any condition not contained in specifications or other documents.
  - G. Submit bid in a sealed envelope bearing (on the outside) name of the bidder, address, name of the Project and Work Scope for which bid is submitted. The official Bid Form Packet must be submitted. If forwarded by mail or other means of delivery, sealed envelope containing the bid must be enclosed in another envelope addressed as specified.
13. **BID SECURITY - EXECUTION OF CONTRACT:** With each bid, submit a certified check or cashier's check on a solvent bank, or bid bond, equal to five percent (5%) of amount of maximum bid submitted (including additive alternates) and made payable without recourse to City of Duluth.

For bid bonds, form may be surety's standard form or AIA Form A-310, duly executed by the bidder as principal, issued by a corporate surety company authorized to do business in the State of Minnesota, with copy of Power of Attorney attached, as well as proper acknowledgments.

Bid security in form of certified or cashier's check will be returned to all but the three lowest bidders within sixty (60) days after opening of bids.

Bid security shall be forfeited to Owner as liquidated damages in the event bidder is awarded a Contract and he fails or refuses to execute the Agreement and furnish specified bond within ten (10) days after award, provided Agreement is ready for signature. If Agreement has not been prepared within ten (10) days, Contractor shall have two (2) days after its preparation for execution.

14. **WITHDRAWAL OF BIDS:** A bidder may withdraw his bid at any time prior to date set for receiving bids (or authorized postponement thereof). Thereafter, the bids may be withdrawn only after sixty (60) days has elapsed after bid date, provided Owner has not acted thereon.

**00 21 13 - INSTRUCTIONS TO BIDDERS**

15. **QUALIFICATIONS OF BIDDERS:** Owner may make such investigations as he deems necessary to determine the ability and responsibility of the bidder to perform the work, and any bidder shall furnish to Owner all such information and data for this purpose, as the Owner may request. Owner reserves the right to reject any bid if the evidence submitted by, or investigation of, such bidder fails to satisfy the Owner that such bidder is properly qualified to carry out the obligations of the contract and to complete the Work contemplated therein. The competence and responsibility of bidder will be considered in making an award, including, but not limited to: (1) proof of financial responsibility, (2) quality of similar work, (3) amount of experience with similar projects, (4) facilities, personnel and equipment, (5) reputation for performance, and (6) ability to complete the work within specified time. Owner reserves the right to reject any Bid where there is reasonable doubt as to the qualifications of the bidder.
16. **ACCEPTANCE OF BID - AWARD OF CONTRACT:** Owner reserves the right to (1) accept bidder's Base Bid only, (2) accept any one or more of bidder's Alternate Bids, in any order regardless of the order in which they were listed, (3) reject all Bids, (4) award contract based on his investigation of bidders, as well as acceptance of alternates, all of which Owner deems to be in his best interest, (5) waive informalities or minor irregularities in bids and waive minor irregularities or discrepancies in bidding procedure.
17. **PERFORMANCE BOND:** Upon award of Contract, Contractor shall provide Performance and Payment Bonds in the amount of 100% of Contract Sum using the forms specified in the Contract Documents.
18. **SUBCONTRACTS - SUPPLIERS:** Proposed subcontractors are subject to Owner's, Construction Manager's and RS&H, Inc.'s acceptance. The right of rejection may be exercised when there is reasonable doubt the subcontractor (supplier) will be able to satisfactorily perform work under the Contract.
19. **COMPLETION TIME:** Commencement of Work and time of completion shall be an essential condition of the Contract. Work shall be completed within time specified, agreed upon and entered into Contract. Refer to Section 01 32 13 for dates and further requirements of completion.

DIVISION 0  
PROJECT IDENTIFICATION

**00 21 13 - INSTRUCTIONS TO BIDDERS**

20. WORK UNDER PREVIOUS CONSTRUCTION PHASES: Bidders shall acknowledge that project work is being conducted under previous construction phases. Bidders shall acquaint themselves with the work of these previous phases in order to coordinate and understand the work of this contract. Plans and specifications for these phases are available for review at RS&H, Inc.'s office and Construction Manager's office.

**END OF SECTION 00 21 13**





REQUEST FOR BID  
DATE 5/15/2013  
BID # 13-4401

RETURN BY BID OPENING TIME TO:

PURCHASING DIVISION  
100 CITY HALL  
Duluth, MN 55802  
Buyer: Dennis Sears  
PHONE: 218-730-5340  
FAX: 218-730-5921

**NEW PARKING STRUCTURE AND  
EXTERIOR WAYFINDING SIGNAGE - BID PACKAGE 2D**

**BID OPENING AT 2:00 PM on THURSDAY, JUNE 6, 2013**

Note: all bids must be written, signed and transmitted in a sealed envelope, plainly marked with the bid number, subject matter and opening date. The City of Duluth reserves the right to split award where there is a substantial savings to the City, waive informalities and to reject any and all bids. Bidder should state in proposal if bid price is based on acceptance of total order. Sales tax shall be included in the unit price. Bidder to state freight charges if the proposal F.O.B. is shipping point, freight not allowed. Low bid will not be the only consideration for award of bid. Bid Form shall be signed by authorized bidder's representative as indicated on signature lines and addendums need to be acknowledged with this request for bid form.

RETURN BID IN DUPLICATE WITH DUPLICATE DESCRIPTIVE LITERATURE  
FOR BID RESULTS, ENCLOSE A SELF-ADDRESSED, STAMPED ENVELOPE WITH BID

**BID DEPOSIT REQUIREMENTS: 5% OF BID AMOUNT**

Deposit shall mean cash, cashier's check or corporate surety bond payable to or in favor of the City of Duluth.

A PERFORMANCE BOND AND A PAYMENT BOND shall be required of the successful bidder, BOTH in the full amount of the bid.

INSURANCE CERTIFICATE required per attached requirements.  
Designated F.O.B. Point: Jobsite

Tax: Federal Excise Tax Exemption  
Account No. 41-74-0056 K

Vendor Email Address: _____	FREIGHT CHARGE	\$ N/A
NAME: _____	TOTAL BID PRICE	# _____
ADDR1: _____	TO INCLUDE ANY ADDITIONAL PAGES.	
ADDR2: _____		
ADDR3: _____		
BY: _____	PAYMENT TERMS	\$ _____
(Print) _____	F.O.B. POINT	Duluth Airport
(Signature) _____	DELIVERY DATE	_____
(Title) _____		
(Tele. #) _____		

The City of Duluth is an Equal Opportunity Employer.

DULUTH AIRPORT AUTHORITY  
DULUTH INTERNATIONAL AIRPORT  
NEW PARKING STRUCTURE AND  
EXTERIOR WAYFINDING SIGNAGE  
BID PACKAGE 2D  
ISSUE FOR BID

Bid Docs.xls  
MAY 15, 2013  
ISSUE FOR BID

BID EXTENSION ATTACHMENT  
CITY OF DULUTH

DATE: 5/15/2013  
BID #: 13-4401

\*\*\*\*\*SCHEDULE OF PRICES\*\*\*\*\*

NEW PARKING STRUCTURE AND  
EXTERIOR WAYFINDING SIGNAGE - BID PACKAGE 2D

Make all extensions and total the bid.

This Bid Form will consist of a Line Item Base Bid for the Civil Sitework  
PLUS Multiple Bid Divisions for the Parking Structure

(Civil Sitework -Total Base Bid Line Item ) \$ \_\_\_\_\_

SEE ATTACHED BID FORM FOR PARKING GARAGE WORK SCOPE DIVISIONS  
AND CIVIL LINE ITEM BID FORM

\*\*\*\*\*

The basis of award shall be the lowest bid for the  
Bid Division or any combination of Bid Divisions  
The basis of the award of the contract  
shall be at the sole discretion of the City of Duluth/Duluth Airport  
Authority. The award of the individual Additive Alternates is at the  
sole discretion of the City of Duluth/DAA, based on available  
Federal Funding. The City of Duluth/DAA reserves the right  
to award either the one or multiply bid divisions.

A Pre-bid meeting will be held on Thursday, May 23, 2013 at 10:00 a.m.  
in the 3rd floor conference room of the new Passenger Terminal Building of  
the Duluth International Airport.

C I T Y     O F     D U L U T H

5/15/2013

13-4401

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ADDENDUM RECEIPT ACKNOWLEDGEMENTS:

ADDENDUM NO. \_\_\_\_\_ , DATED \_\_\_\_\_

ADDENDUM NO. \_\_\_\_\_ , DATED \_\_\_\_\_

ADDENDUM NO. \_\_\_\_\_ , DATED \_\_\_\_\_

ADDENDUM NO. \_\_\_\_\_ , DATED \_\_\_\_\_

CONTRACTOR NAME:

\_\_\_\_\_

THE CONTRACTOR AGREES TO ALL OF THE PROVISIONS CONTAINED IN THE CONTRACT DOCUMENTS. ENCLOSED HERewith FIND A CERTIFIED CHECK OR BID BOND IN THE AMOUNT OF AT LEAST 5% OF THE AMOUNT OF PROPOSAL MADE PAYABLE TO THE CITY OF DULUTH AS A PROPOSAL GUARANTEE WHICH IT (see additional page(s))

IS AGREED BY THE UNDERSIGNED WILL BE FORFEITED IN THE EVENT THE FORM OF CONTRACT AND BOND IS NOT EXECUTED, IF AWARDED TO THE UNDERSIGNED.

SIGNED: \_\_\_\_\_ FOR

\_\_\_\_\_  
A PARTNERSHIP (OR)

\_\_\_\_\_  
A CORPORATION INCORPORATED UNDER THE LAWS OF THE STATE OF:

PRESIDENT \_\_\_\_\_

VICE-PRES. \_\_\_\_\_

SECRETARY \_\_\_\_\_

TREASURER \_\_\_\_\_

ADDRESS (ES) \_\_\_\_\_

\_\_\_\_\_

C I T Y     O F     D U L U T H

5/15/2013

13-4401

\*\*\*\*\*

BEING DULY SWORN, DEPOSES AND SAYS THAT THERE ARE NO OTHER PERSONS COMPRISING ABOVE COMPANY OR FIRM THAN THE ABOVE NAMES, AND THAT THERE ARE NO PERSONS OR CORPORATIONS INTERESTED IN THE FORGOING PROPOSALS, EITHER AS PRINCIPAL OR SUBCONTRACTOR, OTHER THAN THE ABOVE NAMES; ALSO THAT THE PROPOSALS ARE MADE WITHOUT ANY CONNECTION WITH ANY PERSON OR PERSONS MAKING ANY PROPOSAL FOR THE ABOVE WORK; THAT THEY ARE IN ALL RESPECTS FAIR AND WITHOUT COLLUSION OR FRAUD; AND THAT NO PERSON ACTING IN ANY OFFICIAL CAPACITY FOR THE CITY OF DULUTH IS DIRECTLY OR INDIRECTLY INTERESTED THEREIN, OR IN ANY PORTION OF THE PROFIT THEREOF.

---

SUBSCRIBED AND SWORN TO BEFORE ME THIS

DAY OF

A.D.,

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NOTARY PUBLIC

IMPORTANT NOTE BIDDERS:  
ALL APPLICABLE SALES AND/OR USE TAXES ARE  
TO BE INCLUDED IN BID PRICING. ALSO,  
ALL BIDS ARE TO BE F.O.B. JOBSITE.

**LOCATION:** Duluth International Airport

Reynolds, Smith and Hills, Inc.

Date Prepared: May 20, 2013

Prepared By: RDRE

RS&H Project No. 213-1882-114

**PROJECT DESCRIPTION:**

Parking Structure

**BID FORM**

BID ITEM	SPEC. NUMBER	ITEM DESCRIPTION	UNIT	ESTIMATED QUANTITY	UNIT COST	TOTAL COST
1	P-100.3.1	MOBILIZATION	LS	1		
2	P-102.10.1	SAFETY AND SECURITY	LS	1		
3	P-104.5.1	PROJECT SURVEY AND STAKEOUT	LS	1		
4	P-106.5.1	PAVEMENT MARKING REMOVAL	SF	1000		
5	P-107.4.2	REMOVE AND DISPOSE CONCRETE SIDEWALK	SY	175		
6	P-107.4.3	REMOVE AND DISPOSE ASPHALT PAVEMENT FULL DEPTH	SY	6250		
7	P-107.4.4	REMOVE CONCRETE CURB AND GUTTER	LF	2300		
8	P-107.4.5	REMOVE STREET SIGN	EACH	24		
9	P-152.4.1	UNCLASSIFIED EXCAVATION	CY	525		
10	P-152.4.2	ROCK EXCAVATION	CY	50		
11	P-152.4.3	COMMON BORROW	CY	50		
12	P-156.5.1	EROSION CONTROL - INLET PROTECTION	EACH	14		
13	P-620.5.1	PAVEMENT MARKING (YELLOW) WITH REFLECTIVE BEADS INCLUDING SURFACE PREPARATION	SF	100		
14	P-620.5.3	PAVEMENT MARKING (WHITE) WITH REFLECTIVE BEADS INCLUDING SURFACE PREPARATION	SF	1350		
15	P-620.5.5	HANDICAP SYMBOL PAVEMENT MARKING WITH REFLECTIVE BEADS	EACH	28		
16	P-620.5.6	PAVEMENT MARKING - TURN ARROW	EACH	6		
17	MNDOT 2104.501	REMOVE SEWER PIPE (SANITARY)	LF	152		
18	MNDOT 2105.521	GRANULAR BORROW MODIFIED 7% (CV)	CY	185		
19	MNDOT 2105.604	GEOTEXTILE FABRIC TYPE V	SY	640		
20	MNDOT 2211.503	CRUSHED AGGREGATE BASE COURSE	CY	875		
21	MNDOT 2360	BITUMINOUS BASE COURSE	TON	160		
22	MNDOT 2360	BITUMINOUS SURFACE COURSE	TON	135		
23	MNDOT 2401.515	CONCRETE SIDEWALK (MIX #3A32) W/ 6" x 6" WWF, AS SPECIFIED	SY	1075		
24	MNDOT 2503.511	STORM SEWER PIPE, 10" PVC	LF	50		
25	MNDOT 2503.511	STORM SEWER PIPE, 12" HDPE	LF	60		
26	MNDOT 2503.511	STORM SEWER PIPE, 18" HDPE	LF	375		
27	MNDOT 2503.511	4 INCH PVC PIPE SEWER (SANITARY)	LF	25		
28	MNDOT 2503.511	8 INCH PVC PIPE SEWER (SANITARY)	LF	170		
29	MNDOT 2503.602	CONNECT TO EXISTING STORM SEWER	EACH	8		
30	MNDOT 2503.603	PLUG, FILL AND ABANDON PIPE	LF	130		

**LOCATION:** Duluth International Airport

Reynolds, Smith and Hills, Inc.

Date Prepared: May 20, 2013

Prepared By: RDRE

RS&H Project No. 213-1882-114

**PROJECT DESCRIPTION:**

Parking Structure

**BID FORM**

BID ITEM	SPEC. NUMBER	ITEM DESCRIPTION	UNIT	ESTIMATED QUANTITY	UNIT COST	TOTAL COST
31	MNDOT 2504.602	6 INCH GATE VALVE AND BOX	EACH	1		
32	MNDOT 2504.603	3 INCH HDPE WATERMAIN	LF	400		
33	MNDOT 2505.602	CONNECT TO EXISTING GAS MAIN	EACH	1		
34	MNDOT 2505.603	2 INCH POLYETHYLENE GAS MAIN	LF	280		
35	MNDOT 2506.522	ADJUST FRAME RING AND CASTING	EACH	2		
36	MNDOT 2506.602	SANITARY MANHOLE	EACH	4		
37	MNDOT 2506.602	SANITARY CASTING	EACH	4		
38	MNDOT 2521.618	BRICK WALK - DRIVEWAY ENTRANCE	SF	208		
39	MNDOT 2531.501	CONCRETE CURB AND GUTTER D424	LF	240		
40	MNDOT 2531.501	CONCRETE CURB AND GUTTER B624	LF	1150		
41	MNDOT 2531.501	CONCRETE CURB AND GUTTER ZERO HEAD CURB	LF	300		
42	MNDOT 2531.618	TRUNCATED DOMES	SF	472		
43	MNDOT 2545.523	DIRECTIONAL DRILL FOR 2" GAS LINE	LF	50		
44	MNDOT 2545.523	DIRECTIONAL DRILL 2" HDPE ELECTRICAL CONDUIT	LF	280		
45	MNDOT 2550.512	QUAZITE BOX CAT. NO: PG 2436 BB36 ELECTRICAL HANDHOLE W/ PG 2436HA00 LID	EACH	3		
46	MNDOT 2550.602	LOOP DETECTOR	LS	1		
47	MNDOT 2564.537/00010	HANDICAP PARKING SIGN R7-8M	EACH	14		
48	D-705.5.1	INSTALL 6" UNDERDRAIN WITH FABRIC PIPE WRAP AND POROUS BACKFILL	LF	1455		
49	D-705.5.3	REMOVE IRRIGATION CONDUIT	LF	160		
50	D-705.5.4	REMOVE UNDERDRAIN	LF	544		
51	D-705.5.5	REMOVE SEWER PIPE (STORM), 12" - 18" DIA.	LF	650		
52	D-751.5.1	REMOVE MANHOLES OR CATCH BASINS	EACH	4		
53	D-751.5.2	INSTALL NEW MANHOLE/CATCHBASIN, TYPE G	EACH	2		
54	D-751.5.3	INSTALL NEW MANHOLE/CATCHBASIN, 4' DIA	EACH	1		
55	D-751.5.4	INSTALL NEW MANHOLE/CATCHBASIN, 7' DIA	EACH	1		
56	D-751.5.5	STORM DRAINAGE FRAME AND COVER, AS SPECIFIED	EACH	3		
57	D-751.7.6	ADJUST EXISTING STORM OR SANITARY MH CASTING	EACH	3		
58	T-904.5.1	SODDING	SY	1750		
59	T-905.5.1	TOPSOILING (FURNISHED FROM OFF THE SITE)	CY	200		
60	L-105-5.2	REMOVE EXISTING ELECTRICAL/COMMUNICATIONS CONDUIT AND CABLE	LF	1050		
61	L-105-5.3	REMOVE EXISTING ELECTRICAL/COMMUNICATIONS HANDHOLE	EACH	1		

**LOCATION:** Duluth International Airport

Reynolds, Smith and Hills, Inc.

Date Prepared: May 20, 2013

Prepared By: RDRE

RS&H Project No. 213-1882-114

**PROJECT DESCRIPTION:**

Parking Structure

**BID FORM**

BID ITEM	SPEC. NUMBER	ITEM DESCRIPTION	UNIT	ESTIMATED QUANTITY	UNIT COST	TOTAL COST
62	L-108-5.3	2/C #8 600V THHN CABLE	LF	790		
63	L-108-5.5	1/C #4 EQUIPMENT GROUND	LF	790		
64	L-110.5.1	1-WAY, 2" SCHEDULE 80 PVC, DIRECT BURIED	LF	400		
65	SP 5.3	SALVAGE AND REINSTALL TYPE 'C' LIGHT WITH NEW FOUNDATION	EACH	5		
66	SP 6.3	SALVAGE TYPE 'C' LIGHT PROVIDE TO OWNER/DEMOLISH CONCRETE BASE	EACH	3		
67	SP 7.3	SALVAGE AND REINSTALL GATE OPERATOR W/ NEW LOOPS	EACH	1		
68	SP 8.4	TRAFFIC CONTROL ALLOWANCE	AL	1		
69	SP 9.3	PRIVATE UTILITY LOCATING SERVICE	LS	1		
70	SP 10.3	ADJUST EXISTING WATER VALVE	LS	1		
71	SP 11.3	TERMINAL BUILDING WORK	LS	1		
				TOTAL		

**00 41 00 - BID FORM**

(Bidder may copy this form on his own letterhead)  
**SUBMIT IN DUPLICATE**

**BID FORM**

**BID TO:** Duluth Airport Authority;  
By the City Purchasing Agent  
Room 100 City Hall  
Duluth, MN 55802

**BID FROM:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

FOR REFERENCE ONLY

Actual Bid Form

MUST be obtained through

Kraus-Anderson® Construction Company

In accordance with the Invitation to Bid and the proposed Contract Documents prepared by Reynolds, Smith and Hills, Inc., relating to the construction of:

Duluth International Airport  
New Parking Structure and Exterior Wayfinding Signage  
Bid Package 2D  
Duluth, Minnesota

the undersigned, having visited the site of proposed construction and having become thoroughly familiar with local conditions affecting the cost and performance of the Work and with all requirements of the Contract Documents and related Addenda, hereby proposes and agrees to provide all labor, materials, equipment, applicable permits and taxes required to construct and complete the Work in accordance with the Contract Documents and Addenda for the following amounts:

**Base Bids:**

Instructions for Submitting Base Bids:

- Base Bid includes the Parking Structure and Skywalk.
- State Skywalk breakdown in space provided.
- For bidders wishing to submit bids on more than one Work Scope, space has been provided to submit bids for Multiple Work Scopes on the same Bid Form.
- State Base Bid in both words and figures in spaces provided.

DULUTH INTERNATIONAL AIRPORT  
NEW PARKING STRUCTURE AND  
EXTERIOR WAYFINDING SIGNAGE  
BID PACKAGE 2D  
ISSUE FOR BID

SECTION 00 41 00 - 1



**00 41 00 - BID FORM**

1. Base Bid for Work Scope No. 2.20D Title Civil, Site Work, & Building Earthwork

Bid Amount: \_\_\_\_\_ \$ \_\_\_\_\_

- a. Cost Breakdown No. 1: Skywalk

Breakdown Amount: \_\_\_\_\_ \$ \_\_\_\_\_

2. Base Bid for Work Scope No. 2.90D Title Landscaping

Bid Amount: \_\_\_\_\_ \$ \_\_\_\_\_

- a. Cost Breakdown No. 1: Skywalk

Breakdown Amount: \_\_\_\_\_ \$ \_\_\_\_\_

3. Base Bid for Work Scope No. 3.30D Title Concrete

Bid Amount: \_\_\_\_\_ \$ \_\_\_\_\_

- a. Cost Breakdown No. 1: Skywalk

Breakdown Amount: \_\_\_\_\_ \$ \_\_\_\_\_

4. Base Bid for Work Scope No. 3.40D Title Precast Wall Panel & Floor Plank

Bid Amount: \_\_\_\_\_ \$ \_\_\_\_\_

- a. Cost Breakdown No. 1: Skywalk

Breakdown Amount: \_\_\_\_\_ \$ \_\_\_\_\_

5. Base Bid for Work Scope No. 4.20D Title Unit Masonry

Bid Amount: \_\_\_\_\_ \$ \_\_\_\_\_

- a. Cost Breakdown No. 1: Skywalk

Breakdown Amount: \_\_\_\_\_ \$ \_\_\_\_\_

6. Base Bid for Work Scope No. 5.10D Title Struct. Steel & Misc. Metal Fabrication & Erection

Bid Amount: \_\_\_\_\_ \$ \_\_\_\_\_

- a. Cost Breakdown No. 1: Skywalk

Breakdown Amount: \_\_\_\_\_ \$ \_\_\_\_\_

**00 41 00 - BID FORM**

7. Base Bid for Work Scope No. 7.10D Title Metal Panels & Roofing

Bid Amount: \_\_\_\_\_ \$ \_\_\_\_\_

a. Cost Breakdown No. 1: Skywalk

Breakdown Amount: \_\_\_\_\_ \$ \_\_\_\_\_

8. Base Bid for Work Scope No. 8.22D Title Overhead Coiling Doors

Bid Amount: \_\_\_\_\_ \$ \_\_\_\_\_

a. Cost Breakdown No. 1: Skywalk

Breakdown Amount: \_\_\_\_\_ \$ \_\_\_\_\_

9. Base Bid for Work Scope No. 8.30D Title Doors, Frames, Hardware, & Misc.

Specialties (Materials Only)

Bid Amount: \_\_\_\_\_ \$ \_\_\_\_\_

a. Cost Breakdown No. 1: Skywalk

Breakdown Amount: \_\_\_\_\_ \$ \_\_\_\_\_

10. Base Bid for Work Scope No. 8.40D Title Aluminum Framed Automatic Entrances, Storefronts, and Glass

Bid Amount: \_\_\_\_\_ \$ \_\_\_\_\_

a. Cost Breakdown No. 1: Skywalk

Breakdown Amount: \_\_\_\_\_ \$ \_\_\_\_\_

11. Base Bid for Work Scope No. 9.20D Title Metal Studs & Drywall

Bid Amount: \_\_\_\_\_ \$ \_\_\_\_\_

a. Cost Breakdown No. 1: Skywalk

Breakdown Amount: \_\_\_\_\_ \$ \_\_\_\_\_

12. Base Bid for Work Scope No. 9.60D Title Terrazzo

Bid Amount: \_\_\_\_\_ \$ \_\_\_\_\_

a. Cost Breakdown No. 1: Skywalk

Breakdown Amount: \_\_\_\_\_ \$ \_\_\_\_\_

**00 41 00 - BID FORM**

13. Base Bid for Work Scope No. 9.65D Title Flooring

Bid Amount: \_\_\_\_\_ \$ \_\_\_\_\_

a. Cost Breakdown No. 1: Skywalk

Breakdown Amount: \_\_\_\_\_ \$ \_\_\_\_\_

14. Base Bid for Work Scope No. 9.90D Title Painting

Bid Amount: \_\_\_\_\_ \$ \_\_\_\_\_

a. Cost Breakdown No. 1: Skywalk

Breakdown Amount: \_\_\_\_\_ \$ \_\_\_\_\_

15. Base Bid for Work Scope No. 10.20D Title Interior & Exterior Wayfinding Signage

Bid Amount: \_\_\_\_\_ \$ \_\_\_\_\_

a. Cost Breakdown No. 1: Skywalk

Breakdown Amount: \_\_\_\_\_ \$ \_\_\_\_\_

16. Base Bid for Work Scope No. 14.20D Title Elevator

Bid Amount: \_\_\_\_\_ \$ \_\_\_\_\_

a. Cost Breakdown No. 1: Skywalk

Breakdown Amount: \_\_\_\_\_ \$ \_\_\_\_\_

17. Base Bid for Work Scope No. 21.10D Title Fire Suppression System

Bid Amount: \_\_\_\_\_ \$ \_\_\_\_\_

a. Cost Breakdown No. 1: Skywalk

Breakdown Amount: \_\_\_\_\_ \$ \_\_\_\_\_

18. Base Bid for Work Scope No. 22.10D Title Mechanical Systems

Bid Amount: \_\_\_\_\_ \$ \_\_\_\_\_

a. Cost Breakdown No. 1: Skywalk

Breakdown Amount: \_\_\_\_\_ \$ \_\_\_\_\_

**00 41 00 - BID FORM**

19. Base Bid for Work Scope No. 26.10D Title Electrical Systems

Bid Amount: \_\_\_\_\_ \$ \_\_\_\_\_

a. Cost Breakdown No. 1: Skywalk

Breakdown Amount: \_\_\_\_\_ \$ \_\_\_\_\_

**Combined Base Bid:**

Work Scope Numbers and Titles on which Combined Bid is based:

Work Scope No. \_\_\_\_\_ Title: \_\_\_\_\_

Work Scope No. \_\_\_\_\_ Title: \_\_\_\_\_

Work Scope No. \_\_\_\_\_ Title: \_\_\_\_\_

Work Scope No. \_\_\_\_\_ Title: \_\_\_\_\_

Work Scope No. \_\_\_\_\_ Title: \_\_\_\_\_

Combined Bid Amount: \_\_\_\_\_ \$ \_\_\_\_\_

**Alternates:**

Refer to Section 01 23 00 for complete description of Alternates.

		ADD	DEDUCT
Alternate No. _____	to Work Scope _____	\$ _____	\$ _____
Alternate No. _____	to Work Scope _____	\$ _____	\$ _____
Alternate No. _____	to Work Scope _____	\$ _____	\$ _____
Alternate No. _____	to Work Scope _____	\$ _____	\$ _____
Alternate No. _____	to Work Scope _____	\$ _____	\$ _____
Alternate No. _____	to Work Scope _____	\$ _____	\$ _____
Alternate No. _____	to Work Scope _____	\$ _____	\$ _____
Alternate No. _____	to Work Scope _____	\$ _____	\$ _____

00 41 00 - BID FORM

		ADD	DEDUCT
Alternate No. _____	to Work Scope _____	\$ _____	\$ _____
Alternate No. _____	to Work Scope _____	\$ _____	\$ _____

**Addenda:** Receipt of the following Addenda to the Contract Documents and their costs being incorporated into the Bid is acknowledged (provide Addenda numbers below):

<u>Addenda No.</u>	<u>Dated</u>	<u>Addenda No.</u>	<u>Dated</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

**Bid Acceptance:** If written notice of the acceptance of this Bid is received by the undersigned within 60 days after date set for opening of this Bid, or at any other time thereafter before Bid is withdrawn, the undersigned agrees to enter into and execute a Contract with the Owner in accordance with this Bid, as accepted and in a form acceptable to Owner, and to furnish and deliver to the Construction Manager the Performance Bond, Payment Bond, and proof of insurance coverage, all within 10 days after notice of acceptance of this Bid.

**Execution of Proposal:** The entity(ies) signing this proposal is fully authorized to sign on behalf of the named firm and to fully bind the named firm to all of the conditions and provisions of the Contract. This proposal shall remain valid and not be withdrawn for 60 calendar days after bid due date.

Submitted this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

Name of Firm: \_\_\_\_\_

Street Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Phone Number: \_\_\_\_\_ Fax Number: \_\_\_\_\_

DULUTH INTERNATIONAL AIRPORT  
NEW PARKING STRUCTURE AND  
EXTERIOR WAYFINDING SIGNAGE  
BID PACKAGE 2D  
ISSUE FOR BID

SECTION 00 41 00 - 6

**00 41 00 - BID FORM**

Bidder is: (check one)

☐ Individual

☐ Partnership

☐ Corporation

If Bidder is a corporation, give legal name of corporation, state where incorporated, and names of president and secretary. If a partnership, give names of all individual co-partners composing the firm. If an individual, give first and last name in full.

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Name (typed or printed): \_\_\_\_\_

Signature: \_\_\_\_\_

Title: \_\_\_\_\_

FOR REFERENCE ONLY  
Actual Bid Form  
END OF DOCUMENT  
MUST be obtained through  
Kraus-Anderson® Construction Company

## City of Duluth Purchasing Division

### General Specifications

The word "City" used in these specifications shall mean the city of Duluth and/or its Authorities.

#### 1. Instruction to Bidders:

A. All bids must be completed in a non-erasable format on the form provided by city of Duluth, errors are to be crossed out and initialed.  
B. All bids must be enclosed in a sealed envelope.  
C. The enclosed blue and white sticker must be placed on the outside of envelope.  
D. The bid envelope shall be addressed to the city of Duluth, Purchasing Division, Room 100 City Hall, Duluth, Minnesota 55802.

#### 2. Non-Collusion Clause:

Vendor, their agent/employee hereby agree to comply and fully perform in accordance with the law and state that they have not, directly or indirectly, entered into an agreement or understanding, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with the proposal submitted with respect to the above-referenced invitation to bid. Vendor fully acknowledges that such an act of non-compliance may be deemed unlawful and would be considered a violation of the law and subject to prosecution.

#### 3. Award of Contract - Rejection of Bids:

The Contract will be awarded to the responsible bidder submitting the lowest bid complying with the conditions of the Invitation for bids. The bidders, to whom the award is made, will be notified at the earliest possible date. The city of Duluth, however, reserves the right to reject any and all bids and to waive any informality in bids received whenever such rejection or waiver is in its interest.

#### 5. Obligation of Bidder:

At the time of the opening of bids, each bidder will be presumed to have read and to be thoroughly familiar with the plans, specifications and contract documents (including all addenda). The failure or omission of any bidder to examine any form, instrument, or document shall in no way relieve any bidder from any obligation in respect to their bid.

#### 6. Liquidated Damages for Failure to Enter into Contract:

The successful bidder, upon their failure or refusal to accept a purchase order or execute and deliver the contract and bonds required within 10 days after receipt of a notice of the acceptance of their bid, shall forfeit to the city, as liquidated damages for such failure or refusal, the security deposited with their bid (if required).

#### 7. Completion of Bid Request:

The city may consider as irregular any bid on which there is an alteration of or departure from the Bid Form hereto attached and at its option may reject the same.

#### 8. E.E.O. Regulations:

Contractor will be required to comply with all applicable Equal Employment Opportunity (E.E.O.) laws and regulations. Affirmative action must be taken to insure that the employees and applicants for employment are not discriminated against because of their race, color, creed, sex or national origin.

The city of Duluth is an equal opportunity employer.

#### 9. Participation:

This document is intended to serve the city of Duluth, its Agents and Authorities. Each authority may issue their own purchase order and will be responsible for it. The City of Duluth Authorities are as follows:

1. Duluth Airport Authority
2. Spirit Mountain Recreational Area Authority
3. Duluth Entertainment and Convention Center
4. Duluth Transit Authority
5. Duluth Economic Development Authority
6. Duluth Housing and Redevelopment Authority

The city has a cooperative purchasing agreement with St. Louis county allowing the county to purchase from this bid when requested. St. Louis county will issue and be responsible for its own purchase orders.

#### 10. Qualifications of Bidder

The city may make such investigations as deemed necessary to determine the ability of the bidder to perform the work, and the bidder shall furnish to the city all such information and data for this purpose as the city may request. The city reserves the right to reject any bid if the evidence submitted by, or investigation of, such bidder fails to satisfy the city that such bidder is properly qualified to carry out the obligations of the contract and to complete the work contemplated therein. Conditional bids will not be accepted.

#### 11. Addenda and Interpretations

Responses to general questions and clarifications of bids may be made at the discretion of the city. However, no interpretation of the meaning of the specifications or other pre-bid documents will be made to any bidder orally.

Every request for such interpretation should be in writing and delivered or sent by facsimile to the city purchasing agent or the buyer shown on the bid request, Duluth, Minnesota 55802, and to be given consideration must be received at least five days prior to the date fixed for the opening of bids.

#### 12. Award of Contract - Rejection of Bids:

In determining the successful bidder, there will be considered in addition to price (per Ordinance 7050):

- A. The ability, capacity and skill of the bidder to perform the contract.
- B. The character, integrity, reputation, judgement, experience and efficiency of the bidder.
- C. The quality of performance of previous contract.
- D. The sufficiency of the financial resources, equipment available and ability of the bidder to perform the contract.

#### 13. Quantities:

The city reserves the right to increase or decrease the quantities of items on this bid as required. Any exception to this provision must be noted by the vendor in its bid or proposal.

#### 14. Wages and Salaries:

A. Attention of bidders is particularly called to the requirements concerning the payment of not less than the prevailing wage and salary rates specified in the contract documents and the conditions of employment with respect to certain categories and classifications of employees for all "Public Works" type projects estimated to exceed \$2,000.

B. The rates of pay set forth under General Conditions are the minimums to be paid during the life of the contract. It is therefore the responsibility of bidders to inform themselves as to local labor conditions, such as the length of work day and work week, overtime compensations, health and welfare contributions, labor supply, and prospective changes or adjustments of rates.

#### 15. Validity of Bids:

All bids shall be valid for 60 days from the date of bid opening, unless an other period is noted in bid documents or if an extension is agreed upon, in writing prior to the end of the 60 day period.

#### 16. Facsimile Bids:

Facsimile bids are acceptable if: bids are received at the designated facsimile number prior to the scheduled bid opening and an original copy of the bid, identical to the "faxed" bid, is received within 48 hours of the bid opening. Facsimile bid deposits are not acceptable. The city shall endeavor to keep bids confidential, but will accept no responsibility for the confidentiality of facsimile bids. All bids or proposals returned by facsimile are understood to incorporate these general specifications.

#### 17. Insurance:

All vendors doing work on city property, except vendors making routine deliveries, shall submit an insurance certificate indicating insurance coverage as per current city requirements.

#### 18. Website:

[ci.duluth.mn.us/city/service/purchasing/index.htm](http://ci.duluth.mn.us/city/service/purchasing/index.htm)

DIVISION 0  
CONDITIONS OF THE CONTRACT

**00 50 00 - LIST OF CONTRACT FORMS**

1. FORMS INCLUDED

A. The following is a list of forms and standards applicable to this Project:

- Bid Form: As bound in this Project Manual. Submit exact form in duplicate. Use of Bid Form Packet is mandatory.
- Bid Bond Form: The standard form of a surety, authorized to do business in Minnesota and meeting all requirements, will be acceptable. Standard AIA Document A-310 will be acceptable. Submit with Bid with proper Power of Attorney certificate and acknowledgment. See attached.
- Agreement: The Contract form as specified in Contract Documents. See attached.
- Performance/Payment Bond: Forms shall be submitted by awarded contractor using the Duluth Airport Authority forms as specified in the Contract Documents. See attached. Submit in one copy, with proper Power of Attorney and acknowledgment upon execution of contract agreement with Owner.

**END OF SECTION 00 50 00**



# THE AMERICAN INSTITUTE OF ARCHITECTS



AIA Document A310

## Bid Bond

Bond No. \_\_\_\_\_

**KNOW ALL MEN BY THESE PRESENTS**, that we \_\_\_\_\_  
(Here insert full name and address or legal title of Contractor)

as Principal, hereinafter called the Principal, and \_\_\_\_\_  
(Here insert full name and address or legal title of Surety)

a corporation duly organized under the laws of the State of \_\_\_\_\_  
as Surety, hereinafter called the Surety, are held and firmly bound unto \_\_\_\_\_  
(Here insert full name and address or legal title of Owner)

as Obligee, hereinafter called Obligee, in the sum of \_\_\_\_\_  
Dollars (\$ \_\_\_\_\_).

For the payment of which sum well and truly to be made, the said Principal and the said Surety, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

**WHEREAS**, the Principal has submitted a bid for Project No.: \_\_\_\_\_  
(Here insert full name, address, and description of project)

**NOW, THEREFORE**, if the Obligee shall accept the bid of the Principal and the Principal shall enter into a Contract with the Obligee in accordance with the terms of such bid, and give such bond or bonds as may be specified in the bidding or Contract Documents with good and sufficient surety for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof, or in the event of the failure of the Principal to enter such Contract and give such bond or bonds, if the Principal shall pay to the Obligee the difference not to exceed the penalty hereof between the amount specified in said bid and such larger amount for which the Obligee may in good faith contract with another party to perform the Work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect.

Signed and sealed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

\_\_\_\_\_  
(Witness)

{ \_\_\_\_\_ (Principal) (Seal)  
\_\_\_\_\_  
(Title)

\_\_\_\_\_  
(Witness)

{ \_\_\_\_\_ (Surety) (Seal)  
\_\_\_\_\_  
(Title)

# CONTRACT

\_\_\_\_\_  
"CONTRACTOR NAME"

## NEW PARKING STRUCTURE AND EXTERIOR WAYFINDING SIGNAGE

*"Duluth International Airport Project Name"*

FAA AIP No. 3-27-0024-55-13

Mn/DOT Project No. \_\_\_\_\_

**THIS CONTRACT** is made and is in effect as of this \_\_\_\_ day of \_\_\_\_\_, 2013, by and between the Duluth Airport Authority, (the "OWNER") and "\_\_\_\_\_", (the "CONTRACTOR").

**THE PARTIES AGREE AS FOLLOWS:** The Contractor, for and in consideration of the mutual promises contained herein, and the payment to Contractor of an amount not to exceed \_\_\_\_\_

"CONTRACT AMOUNT IN WORDS" \$ \_\_\_\_\_ "CONTRACT AMOUNT IN NUMBERS"

based on the Contractor's bid, dated June 6, 2013, which is hereby made a part of this Contract and appended hereto as Exhibit A, agrees to competently perform the various items of work and construct the projects therein indicated at Duluth International Airport (the "Airport") in accordance with the "New Parking Structure and Exterior Wayfinding Signage Bid Package-2D Contract Documents and Specifications hereinafter referred to as Exhibit B dated

\_\_\_\_\_"DATE OF DOCUMENTS"

Said Exhibit B is hereby made a part of and basis of this Contract, and a true copy of said Exhibit B is now on file in the office of the Owner.

In the event of a conflict between any of the terms and conditions of this Contract and the Exhibits, such terms and conditions shall be deemed to be controlling in this order:

(1) This Contract, (2) then Exhibit B, (3) then Exhibit A.

The parties further agree as follows:

1. That in consideration of the foregoing, the Owner hereby agrees to pay to the Contractor, promptly and according to the requirements of this Contract, the amount set forth above subject to the conditions as set forth in this Contract.
2. That it is understood that the parties named herein are the only persons interested in this Contract as principals. The parties do not intend to create any third party beneficiaries to this Contract. No employee or agent of Contractor shall be an employee or agent of Owner for any purpose.
3. That the Contractor has examined the site of the proposed work, plans and specifications, special provisions, contract documents, and all addenda in order that the Contractor might become familiar with the character, quality, and quantity of the work to be performed, the materials to be furnished and the requirements of the specifications, special provisions and contract documents.
4. That the Contractor certifies to be in compliance with all Human Rights, Affirmative Action and Equal Opportunity Requirements of state, federal, or local laws, all applicable drug and alcohol regulations, including the DAA drug and alcohol policy, and all other laws, rules, and regulations as are included in this Contract or are otherwise applicable to Contractor. Violation of any of these rules is grounds to void this contract.
5. That in the event any surety upon any bond furnished in connection with this Contract becomes unacceptable to the Owner, or if any such surety shall fail to furnish reports as to its financial condition from time to time as requested by the Owner, the Contractor agrees to furnish promptly such additional surety as may be required from

time to time to protect the interests of the Owner or of persons supplying labor or materials in the prosecution of the work contemplated by this Contract.

6. That the Contractor shall not commence any work to be performed under this Contract until the Contractor has obtained from responsible insurance companies all insurance required as set forth in the provision entitled "Insurance and Indemnification Requirements" found in Part 5 - Supplementary General Conditions as contained in Exhibit B. The Owner and the City of Duluth, (the "City") shall be named as additional insureds on Contractor's Certificate of Insurance specific to Public Liability and Automobile Liability coverage. The Contractor shall maintain this insurance in full force and effect until the work to be performed under this Contract has been accepted by the Owner. Further, the Contractor shall indemnify the Owner and the City as set forth in said "Insurance and Indemnification Requirements" found in Part 5- Supplemental General Conditions contained in Exhibit B.
7. That should it become necessary to change any feature of the project from the terms and conditions set forth herein, this shall be done by written and dated supplemental agreement (change order). The Contractor shall not start working on any work requiring a supplemental agreement until the written agreement setting forth the adjusted prices shall be dated and executed by the Owner and the Contractor.
8. That the Contractor at all times shall observe and comply with all Federal, State, Territory or Possessions, and local laws, codes, ordinances, and regulations in any manner affecting the conduct of the work, including MSA 471.425 on prompt payment to subcontractors as set forth in Exhibit B, and 49 CFR Part 1520, Protection of Sensitive Security Information.
9. That it is further understood and agreed by the parties to this Contract that the work specified herein shall be commenced in accordance with Exhibit B. The time of commencing and

completion of said work is the essence of this Contract and the Contractor shall complete all work in accordance with Exhibit B. Liquidated damages shall be assessed as listed in the Contract Documents and Specifications: General Provisions, 80-08 Failure to Complete Work on Time on page GP-38-39 (\$3,000.00 per Calendar Day).

10. The books, records, documents and accounting procedures and practices of the Contractor as they relate to this Contract are subject to examination of the Owner, the City, and either the Legislative Auditor or the State Auditor, as appropriate, for a period of six (6) years following termination or expiration of this Contract.

The Federal Government, including the Comptroller General of the United States, has the right to examine or audit relevant financial records regarding this Contract for a period not to exceed six (6) years after expiration of the term of this Contract. Contractor shall maintain an established accounting system that complies with generally accepted accounting principles. Records related to disputes arising out of this Contract shall be maintained and made available until such disputes have been resolved. As used in this provision, "records" includes books, documents, accounting procedures and practices, and other data, regardless of type and regardless of whether such items are in written form, in the form of computer data, or in any other form.

The Contractor shall maintain all records and other evidence sufficient to reflect costs claimed to have been incurred or anticipated to be incurred directly or indirectly in performance of this Contract. The Transportation Security Administration Contracting Officer "TSA CO" or the authorized representative of the TSA CO shall have the right to examine and audit those records at any time, or from time to time. The right of examination shall include inspection at all reasonable times at the offices of the Contractor.

11. Kraus-Anderson Construction Company as the Construction Manager and Reynolds Smith and Hills, Inc. as the

architect/engineer, will provide administration of this Contract and will be the Owner's representatives for purposes of this Contract; provided, however, that the Owner's Executive Director (the "Executive Director") will be the Owner's representative for purposes of Paragraph 13.

12. The Contractor shall not contract with a proposed person or entity to whom the Owner reasonably objects.
13. In addition to the events of default set forth in Paragraph a through I in Section 80-09 of Exhibit B, it shall be deemed to be an event of default by the Contractor if the Contractor fails to observe or perform any of the terms, provisions, conditions, covenants or agreements required to be observed or performed under this Contract or so fails to administer the work as to endanger the performance of this Contract.

The Executive Director shall have the discretion to implement one or more of the following remedies in the event of a default:

- a. Terminate this Agreement immediately upon written notice.
- b. Provide Contractor with written notice of default setting forth a time period within which to cure the default, and if such default is not cured to the satisfaction of the Executive Director within said time period, the Executive Director may immediately terminate this Contract.
- c. Take the prosecution of the work out of the hands of the Contractor or surety, appropriate or use any or all materials and equipment that have been mobilized for use in the work and are acceptable, enter into an agreement(s) for the completion of said Contract according to the terms and provisions hereof, and/or use such other methods as in the opinion of the Executive Director will be required for the completion of said Contract in an acceptable manner. All costs and charges incurred by the Owner, together with the cost of completing the work under Contract, will be deducted from any monies due or which may become due the

Contractor. If such expense exceeds the sum which would have been payable under the Contract, then the Contractor and the surety shall be liable and shall pay to the Owner the amount of such excess.

- d. Seek and be entitled to injunctive or declaratory relief to prevent violation of the terms and conditions of this Contract or compel Contractor's performance of its obligations hereunder.
- e. Seek such other legal or equitable relief as a court of competent jurisdiction may determine is available to Owner.

The remedies provided under this Contract shall be deemed to be cumulative and non-exclusive and the election of one remedy shall not be deemed to be the waiver of any other remedy with regard to any event of default under this Contract.

- 14. Any waiver by any party of any provision of this Contract shall not imply a subsequent waiver of that or any other provision.
- 15. This Contract is made in the State of Minnesota and shall be construed and interpreted in accordance with the laws of the State of Minnesota. The appropriate venue and jurisdiction for any litigation hereunder shall be in a court located in St. Louis County, Minnesota. However, litigation in the federal courts involving the parties shall be in the appropriate federal court within the State of Minnesota.
- 16. Notice to the Owner or the Contractor provided for herein shall be sufficient if sent by the regular United States mail, postage prepaid, addressed to the Owner as follows: Duluth Airport Authority, 4701 Grinden Dr., Duluth, MN 55811 and addressed to the Contractor as follows: \_\_\_\_\_

---

*"NAME AND COMPLETE ADDRESS OF CONTRACTOR"* or to such other respective persons or addresses as the parties may designate to each other in writing from time to time.

17. This Contract, including all exhibits and addenda, constitutes the entire Contract between the Owner and the Contractor and supersedes all prior written oral agreements and negotiations between the parties relating to the subject matter hereto.
18. The Contractor represents to the Owner that the officers of the Contractor who executed this Contract on its behalf are fully authorized to do so, and that this Contract when thus executed by said officers of the Contractor on its behalf shall constitute and be the binding obligation and agreement of the Contractor in accordance with the terms and conditions hereof.

The parties hereto have duly executed this Contract for the purpose herein expressed this \_\_\_\_\_ day of \_\_\_\_\_, 2013.

**DULUTH AIRPORT AUTHORITY**

\_\_\_\_\_  
"NAME OF CONTRACTOR"

By \_\_\_\_\_  
Robert C. Pearson  
President

By \_\_\_\_\_  
NAME: \_\_\_\_\_  
TITLE: \_\_\_\_\_

By \_\_\_\_\_  
Roger D. Wedin  
Secretary

By \_\_\_\_\_  
NAME: \_\_\_\_\_  
TITLE: \_\_\_\_\_

Approved as to form:

\_\_\_\_\_  
Joan Christensen  
Assistant City Attorney





**DULUTH AIRPORT AUTHORITY**  
**PAYMENT BOND**

KNOW ALL MEN BY THESE PRESENTS: That we:

\_\_\_\_\_  
(contractor's name)

(hereinafter called the "Contractor") located at: \_\_\_\_\_

\_\_\_\_\_  
(contractor's address)

and \_\_\_\_\_  
(surety's name)

(a corporation holding a certificate of the Insurance Commissioner of the State of Minnesota showing that it is authorized to contract as a surety, hereinafter called the "Surety") located at:

\_\_\_\_\_  
(surety's address)

are held and firmly bound unto the Duluth Airport Authority (hereinafter called the "Owner"), for the benefit of persons furnishing labor and materials for the contract set forth below, in the penal sum of \_\_\_\_\_ Dollars (\$\_\_\_\_\_) for the payment of which we bind ourselves, our heirs, executors and administrators, successors and assigns, for the payment of all labor and materials supplied by any person in the performance of a written contract for the purpose of:

\_\_\_\_\_  
according to plans, profiles, and specifications thereto annexed. A copy of that contract is incorporated herein by reference and is made a part hereof as if fully copied herein.

NOW, THEREFORE, THE CONDITIONS OF THIS OBLIGATION ARE SUCH That,

- A) If the Contractor shall make payments, as they may become due, to all persons supplying "labor and materials," as defined in Minnesota Statutes Section 574.26, used directly or indirectly by the Contractor, or his Subcontractor, in the prosecution of the work provided for in the contract,
- B) If the Contractor shall indemnify the owner or other claimant for all costs that may accrue on account of the enforcing of the terms of the bond, if action is brought on the bond, including reasonable attorney's fees, in any case where such action is successfully maintained,

Then, this obligation shall be void; otherwise it shall remain in full force and effect.

And, the said Contractor and Surety agree that in accordance with Minnesota Statutes Section 574.26 not only said Duluth Airport Authority, but any person furnishing "labor and materials," as defined in Minnesota Statutes 574.26, may sue on this bond for their use on account of any sums due them for anything so furnished.

The Contractor and the Surety do hereby expressly waive any objection that might be interposed as to the right of the Owner to require a bond containing the foregoing provisions, and they do hereby further expressly waive any defense which they or either and any of them might interpose to an action brought hereon by any person, firm, or corporation, including subcontractors, materialmen and third persons, for work, labor, services, supplies or material performed, rendered or furnished as aforesaid, upon the ground that there is no law authorizing the Owner to require the foregoing provisions to be placed in this bond.

And the Surety, for value received, hereby stipulates and agrees that the obligations of the Surety and this bond shall in no way be impaired or affected by any extension of time, modification, omission, addition or change in or to the contract or the work to be performed thereunder, or by any payment thereunder before the time required therein, or by any waiver of any provision thereof, or by any assignment, subletting or other transfer thereof, or of any part thereof, or of any work to be performed, or of any moneys due or to become due thereunder; and the said Surety does hereby waive notice of any and all such extensions, modifications, omissions, additions, changes, payments, waivers, assignments, subcontracts and transfers, and hereby stipulates and agrees that any and all things done and omitted to be done by and in relation to executors, administrators, successors, assignees, subcontractors and other transferees, shall have the same effect as to said Surety as though done or omitted to be done by and in relation to the Contractor.

Signed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

\_\_\_\_\_  
Name of Principal

\_\_\_\_\_  
By

\_\_\_\_\_  
Name of Surety

By \_\_\_\_\_  
Attorney-in-Fact

## ACKNOWLEDGEMENTS

State of Minnesota)

) ss. Principal – Individual

County of St. Louis)

This instrument was acknowledged before me on \_\_\_\_\_  
by \_\_\_\_\_.

Notary Seal

\_\_\_\_\_  
Notary Public

State of Minnesota)

) ss. Principal – Corporate or Partnership

County of St. Louis)

This instrument was acknowledged before me on \_\_\_\_\_  
by \_\_\_\_\_ as \_\_\_\_\_  
of \_\_\_\_\_.

Notary Seal

\_\_\_\_\_  
Notary Public

State of Minnesota)

) ss. Surety

County of St. Louis)

Be It Known, That on this \_\_\_\_\_ day of \_\_\_\_\_ A. D., 20\_\_\_\_, came before me personally  
\_\_\_\_\_, to me personally known, who being  
by me duly sworn, did say that he/she is the \_\_\_\_\_ (title)  
of \_\_\_\_\_  
the above named corporation which executed the foregoing bond as surety; that the seal affixed to the foregoing  
instrument is the corporate seal of said corporation; that said instrument was executed in behalf of said corporation, by  
authority of its Board of Directors; that said corporation hold a certificate of the Insurance Commissioner of the State  
of Minnesota showing that it is authorized to contract as a surety; and said \_\_\_\_\_  
acknowledged said instrument to be the free act and deed of said corporation.

Notary Seal

\_\_\_\_\_  
Notary Public

### APPROVED AS TO FORM, CORRECTNESS AND VALIDTY HEREOF

Dated this \_\_\_\_\_ day of \_\_\_\_\_, 20 \_\_\_\_ Dated this \_\_\_\_\_ day of \_\_\_\_\_, 20 \_\_\_\_

\_\_\_\_\_  
Finance Director Duluth MN

\_\_\_\_\_  
Assistant City Attorney, Duluth MN



**DULUTH AIRPORT AUTHORITY**  
**PERFORMANCE BOND**

KNOW ALL MEN BY THESE PRESENTS: That we:

\_\_\_\_\_  
(contractor's name)

(hereinafter called the "Contractor") located at: \_\_\_\_\_

\_\_\_\_\_  
(contractor's address)

and \_\_\_\_\_  
(surety's name)

(a corporation holding a certificate of the Insurance Commissioner of the State of Minnesota showing that it is authorized to contract as a surety, hereinafter called the "Surety") located at:

\_\_\_\_\_  
(surety's address)

are held and firmly bound unto the Duluth Airport Authority (hereinafter called the "Owner"), in the penal sum of \_\_\_\_\_ Dollars (\$\_\_\_\_\_) for the payment of which we bind ourselves, our heirs, executors and administrators, successors and assigns, for the faithful performance of a written contract for the purpose of:

\_\_\_\_\_  
\_\_\_\_\_  
according to plans, profiles, and specifications thereto annexed. A copy of that contract is incorporated herein by reference and is made a part hereof as if fully copied herein.

NOW, THEREFORE, THE CONDITIONS OF THIS OBLIGATION ARE SUCH That,

- A) If the Contractor shall in all respects comply with the terms and conditions of the Contract (which includes the contract documents) and such alterations as may be made in said contract as documents therein provide for, and shall complete the contract in accordance with its terms,
- B) If the Contractor shall indemnify, defend and save harmless the owner from all costs, expenses, damages, injury or conduct, want or care or skill, negligence or default, including patent infringement on the part of the Contractor, agents or employees, in the execution or performance of the contract,
- C) If the Contractor shall indemnify the Owner for all costs that may accrue on account of the enforcing of the terms of the bond, if action is brought on the bond, including reasonable attorney's fees, in any case where such action is successfully maintained,

D) If the Contractor shall comply with all laws pertaining to doing the work under the contract,

Then, this obligation shall be void; the Contractor and Surety jointly and severally agree to pay to the Owner any difference between the sum to which the Contractor will be entitled on the completion of the contract and that which the Owner may be obliged to pay for the completion of the work by contract or otherwise, and any damages, direct or indirect, or consequential, which the Owner may sustain on account of the work, or on account of the failure of the Contractor to properly and in all things, keep and execute all of the provisions of the Contract, provided however that Surety's liability to pay damages is limited to the amount of the Performance Bond as set forth above.

And, the said Contractor and Surety hereby further bind themselves, their successors, executors, administrators and assigns, jointly and severally, that they will employ and fully protect the said Owner against and will pay any and all amounts, damages, costs and judgments which may be recovered against or which the Owner may be called upon to pay to any person or corporation by reason of any damage arising from the performance of said work, repair or maintenance thereof, or the manner of doing the same, or the neglect of the said Contractor or his agents or servants, or the improper performance of the said work by the Contractor or his agents or servants, or the infringements of any patent rights by reason of the use of any material furnished or work done, as aforesaid, or otherwise. For the purpose of this paragraph, a subcontractor shall be deemed to be the agent or employee of the Contractor to the extent of his subcontract.

The Contractor and the Sureties do hereby expressly waive any objection that might be interposed as to the right of the Owner to require a bond containing the foregoing provisions, and they do hereby further expressly waive any defense which they or either and any of them might interpose to an action brought hereon by any person, firm, or corporation, including subcontractors, materialmen and third persons, for work, labor, services, supplies or material performed, rendered or furnished as aforesaid, upon the ground that there is no law authorizing the Owner to require the foregoing provisions to be placed in this bond.

And the Surety, for value received, hereby stipulates and agrees that the obligations of the Surety and this bond shall in no way be impaired or affected by any extension of time, modification, omission, addition or change in or to the contract or the work to be performed thereunder, or by any payment thereunder before the time required therein, or by any waiver of any provision thereof, or by any assignment, subletting or other transfer thereof, or of any part thereof, or of any work to be performed, or of any moneys due or to become due thereunder; and the said Surety does hereby waive notice of any and all such extensions, modifications, omissions, additions, changes, payments, waivers, assignments, subcontracts and transfers, and hereby stipulates and agrees that any and all things done and omitted to be done by and in relation to executors, administrators, successors, assignees, subcontractors and other transferees, shall have the same effect as to said Surety as though done or omitted to be done by and in relation to the Contractor.

Signed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

\_\_\_\_\_  
Name of Principal

\_\_\_\_\_  
By

\_\_\_\_\_  
Name of Surety

\_\_\_\_\_  
By  
Attorney-in-Fact

## ACKNOWLEDGEMENTS

State of Minnesota )  
 ) ss. Principal – Individual  
County of St. Louis )

This instrument was acknowledged before me on \_\_\_\_\_  
by \_\_\_\_\_.

Notary Seal

\_\_\_\_\_  
Notary Public

State of Minnesota )  
 ) ss. Principal – Corporate or Partnership  
County of St. Louis )

This instrument was acknowledged before me on \_\_\_\_\_  
by \_\_\_\_\_ as \_\_\_\_\_  
of \_\_\_\_\_.

Notary Seal

\_\_\_\_\_  
Notary Public

State of Minnesota )  
 ) ss. Surety  
County of St. Louis )

Be It Known, That on this \_\_\_\_\_ day of \_\_\_\_\_ A. D., 20\_\_\_\_, came before me personally  
\_\_\_\_\_, to me personally known, who being  
by me duly sworn, did say that he/she is the \_\_\_\_\_ (title) of

\_\_\_\_\_  
the above named corporation which executed the foregoing bond as surety; that the seal affixed to the foregoing  
instrument is the corporate seal of said corporation; that said instrument was executed in behalf of said corporation, by  
authority of its Board of Directors; that said corporation hold a certificate of the Insurance Commissioner of the State  
of Minnesota showing that it is authorized to contract as a surety; and said \_\_\_\_\_  
acknowledged said instrument to be the free act and deed of said corporation.

Notary Seal

\_\_\_\_\_  
Notary Public

### APPROVED AS TO FORM, CORRECTNESS AND VALIDTY HEREOF

Dated this \_\_\_\_\_ day of \_\_\_\_\_, 20 \_\_\_\_

Dated this \_\_\_\_\_ day of \_\_\_\_\_, 20 \_\_\_\_

\_\_\_\_\_  
Finance Director, Duluth MN

\_\_\_\_\_  
Assistant City Attorney, Duluth MN

## FINAL RELEASE OF LIEN

KNOWN ALL MEN BY THESE PRESENTS, that the undersigned, for and in consideration of the payment of the sum of \_\_\_\_\_ Dollars (\$ \_\_\_\_\_), paid by **the Duluth Airport Authority** hereinafter referred to as "Owner", receipt of which is hereby acknowledged as total compensation for performance of the below-described Contract for Bid Schedule(s) \_\_\_\_\_, does hereby fully and completely discharge and release the Owner from and waives any and all debts, accounts, promises, damages, liens, encumbrances, causes of action, suits, bonds, judgments, claims and demands whatsoever, in law or in equity, which the undersigned ever had, now has or might hereafter have on account of labor performed, material furnished or services rendered, directly or indirectly, for the Contract between the parties dated \_\_\_\_\_, 20 \_\_\_\_, known as **New Parking Structure and Exterior Wayfinding Signage BP2D** except for those claims, disputes and other matters arising out of or relating to said Contract which have been raised by written demand in accordance with the Contract Documents prior to this data and identified by the Contractor as unsettled in the final Application for Payment and are either in arbitration or court litigation, as the case may be, in accordance with the Contract Documents.

The undersigned further covenants that subcontractors, suppliers, and material suppliers, and any or all other persons supplying materials, supplies, service or labor used directly or indirectly in the prosecution of the work provided for in the Contract, have been paid in full for all work under this contract.

The undersigned agrees to maintain in full force and effect the provisions of the Contract Documents respecting the guaranty against defective work, and any other special guaranties required by the Contract Documents, for the terms provided in the Contract Documents, which terms shall begin to run from the date specified in the Contract Documents.

The undersigned represents and warrants that the statements contained in the foregoing Release are true and correct.

IN WITNESS WHEREOF, I have hereunto set my hand and seal this \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

WITNESSES:

\_\_\_\_\_  
CONTRACTOR

By: \_\_\_\_\_

\_\_\_\_\_  
STATE OF \_\_\_\_\_

Title: \_\_\_\_\_

COUNTY OF \_\_\_\_\_

Sworn to and subscribed before me this \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

(NOTARY SEAL)

\_\_\_\_\_  
NOTARY PUBLIC

My Commission Expires:

## AFFIDAVIT AND INFORMATION REQUIRED OF BIDDERS

Affidavit of Non-Collusion:

I hereby swear (or affirm) under penalty of perjury:

- 1) That I am the bidder (if the bidder is an individual), a partner in the bidder (if the bidder is a partnership), or an officer or employee of the bidding corporation having authority to sign on its behalf (if the bidder is a corporation);
- 2) That the attached bid or bids have been arrived at by the bidder independently and have been submitted without collusion with and without agreement, understanding, or planned common course of action with any other vendor or materials, supplied, equipment or services described in the invitation to bid, designed to limit independent bidding or competition;
- 3) That the contents of the bid or bids have not been communicated by the bidder or its employees or agents to any person not an employee or agent of the bidder or its surety on any bond furnished with the bid or bids and will not be communicated to any such person prior to the official opening of the bid or bids; and
- 4) That I have fully informed myself regarding the accuracy of the statements made in this affidavit.

Signed:\_\_\_\_\_

Firm Name:\_\_\_\_\_

Subscribed and sworn to me before this\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_

NOTARY PUBLIC\_\_\_\_\_

My commission expires:\_\_\_\_\_

Bidder's E.I. Number\_\_\_\_\_

(Number used on employer's quarterly Federal Tax return)



# DATA FOR LABOR COST BIDDING

Project No.: 03-27-0024-55-13

## DULUTH INTERNATIONAL AIRPORT NEW PARKING STRUCTURE AND EXTERIOR WAYFINDING SIGNAGE BP2D

This **project is funded** by (bold/underline those which apply):

City of Duluth

Federal Government

HUD/CDBG - see Section 10 of Supplementary  
General Conditions, Part II

State of Minnesota

The **base workweek** may be (bold/underline those which apply):

Five 8-hour days

or

Four 10-hour days

Each certified payroll must indicate the base workweek on the accompanying Statement of Compliance form.

### OVERTIME REQUIREMENTS:

For City, State, and Federal funded projects, overtime must be paid on daily hours worked in excess of the base daily hours. Contractors (including sub-contractors) are not allowed to pay overtime solely on hours in excess of forty per week.

**HUD projects**, however, do allow payment of overtime after forty hours per week—this is the only exception.

### WAGE RATES

When both State of Minnesota and Federal Government (general decision) wage rates are included in a contract, the higher of the two rates for any classification must be paid.

State of Minnesota prevailing wages typically list two rates for each classification with two effective dates. Should any City of Duluth contract continue to and past the second effective date, that rate and fringe benefit

**PROJECT LABOR AGREEMENT**

**NO STRIKE, NO LOCKOUT**

**PUBLIC SECTOR**

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## AGREEMENT

This Project Labor Agreement (hereinafter, the "Agreement") is entered into effective the 1st day of July, 2009, by and between the various contractors engaged in the construction of facilities to be known as the New Duluth International Airport Passenger Terminal Project (hereinafter "Project"). The parties are as follows: The Duluth Building and Construction Trades Council, on behalf of its affiliated Local Unions (hereinafter "Union" or "Unions"), the Duluth Airport Authority, (hereinafter "Owner") and Kraus-Anderson Construction Company (insert contractor), (hereinafter "Construction Manager", "Contractor" and "Contractors").

It is understood by the parties to this Agreement that it is the policy of the Owner that the construction work covered by this Agreement shall be contracted to Contractors who agree to be bound by the terms of this Agreement. As a condition of working on the Project, all contractors of whatever tier shall execute this agreement for the purpose of covering all work that falls within the scope of Agreement. This Project Labor Agreement is a material term of the bid specifications for the Project and therefore, regardless of whether a Contractor executes this Agreement, by virtue of the Owner and/or Construction Manager accepting the bid offer of the Contractor, a Contractor who performs work on this Project is bound to this Project Labor Agreement regardless of their execution of this Agreement. The Construction Manager shall monitor compliance with this Agreement by all Contractors who through their execution of this Agreement, together with their sub-contractors, have become bound hereto.

The term "Contractor" shall include all Contractors and subcontractors of whatever tier engaged in on-site construction work within the scope of this Agreement.

The Union and all signatory Contractors agree to abide by the terms and conditions contained in this Agreement with respect to the administration of the Agreement by the Owner and the performance of the construction by the Contractor of the Project. This Agreement represents the complete understanding of the parties with respect to this Project Labor Agreement, and it is further understood that no Contractor party is required to sign any local area agreement as a condition of performing work within the scope of this Agreement. No practice, understanding or agreement between a Contractor and a Union party which is not explicitly set forth in this Agreement shall be binding on any other party unless endorsed in writing by the Project Contractor.

## **ARTICLE I - PURPOSE**

The New Duluth International Airport Passenger Terminal Project, an undertaking of the Owner, is a public project which will employ numbers of skilled and unskilled workers. Construction of the Project will entail utilization of the construction industry in an area having multiple labor contracts and employer associations. Consequently, conflicts within labor-management relations could cause delay or disruption of the efficient completion of the project unless maximum cooperation of all segments of the construction industry is obtained. This Agreement is to establish as the minimum standards on the Project the hours and working conditions as those prevailing for the largest number of workers engaged in the same classes of work within the area.

It is in the public interest that the Project progress and be completed in an expeditious and efficient manner, free of disruption or delay of any kind. Therefore, it is essential to secure optimum productivity and to eliminate any delays in the work. In recognition of the special needs of this Project and to maintain a spirit of harmony, labor-management peace and stability during the term of this Project Labor Agreement, the parties agree to establish effective and binding methods for the settlement of all misunderstandings, disputes or grievances which may arise. Therefore, the Unions agree not to engage in any strike, slowdown or interruption of work and the Contractor agrees not to engage in any lockout.

## **ARTICLE II - SCOPE OF THE AGREEMENT**

Section 1. This Agreement, hereinafter designated as the "Project Labor Agreement" or "Agreement," shall apply and is limited to all construction work included in all Bid Categories for the Project, under the direction of the signatory Contractors and performed by those Contractor(s) of whatever tier which have contracts awarded for such work on or after the effective date of this Agreement with regard to the Project.

Such Project is generally described as the construction of: New Duluth International Airport Passenger Terminal Project ("Project").

Section 2. The Contractor shall ensure that all direct subcontractors of a Contractor, of whatever tier, who have been awarded contracts for work covered by this Agreement on or after the effective date of this Agreement shall be required to accept and be bound by the terms and conditions of the Project Labor Agreement.

Section 3. The provisions of this Project Labor Agreement shall apply to all craft employees represented by any Union listed in Schedule A hereto attached and shall not apply to other field personnel or managerial or supervisory employees as defined by the National Labor Relations Act.

Section 4. All employees covered by this Agreement shall be classified in accordance with work performed and paid the base hourly wage rates for those classifications as specified in the attached Schedule A.

Any contractor performing work on the project who is not party to a Local Area Labor Agreement (PLA Contractor) agrees to install the basic hourly wage rates, hours, working conditions, referral procedures and all other terms as fully set forth in the Local Area Agreements negotiated with the Local Unions set forth in Exhibit A work on the Project.

Section 5. The Contractors agree to pay contributions to the established employee benefit funds in the amounts designated in the appropriate Schedule A.

Contractors that are not signatory to a collective bargaining agreement beyond the scope of this Agreement ("PLA contractor") may select to participate in the legally established industry health reimbursement arrangement ("HRA") plan, in lieu of contributing to the respective bona fide benefit funds as designated in Schedule A. The amount of the contribution is based on the difference between the contribution amount of the bona fide Schedule A benefit funds and the cost of the PLA contractor's bona fide non-discretionary plans. Contributions must be made on behalf of named employees. Participating contractors will submit to the Trustees of the HRA trust and plan a copy of their plan, summary plan description, and the premium structure for workers covered under the PLA contractor's bona fide, non-discretionary plans. The value of the PLA contractor's benefit plans are subject to confirmation by the Trustees of the HRA trust and plan. This may include an independent audit according to a policy as established by the Trustees. Contractors are required to submit certified payroll reports to the Trustees or authorized administrator in order to confirm compliance with the terms of the HRA trust and plan.

The Contractors adopt and agree to be bound by the written terms of the legally-established Trust Agreements (or in lieu thereof, the aforementioned HRA plan and trust including any policies) specifying the detailed basis on which payments are to be made into, and benefits paid out of, such Trust Funds. The Contractors authorize the parties to such Trust Agreements to appoint trustees and successor trustees to administer the Trust funds and hereby ratify and accept the Trustees so appointed as if made by the Contractors.

Section 6. In the event of any conflict between any provisions of this Agreement and in the Local Area Agreements, the terms of this Agreement will be applied. In other words, where a subject covered by the provisions of this Project Labor Agreement is also covered by the Local Area Agreement the provisions of this Project Labor Agreement shall prevail. Where a subject is covered by the Local Area Agreement and not covered by this Project Labor Agreement, the Local Area Agreement provisions shall prevail.

Section 7. This Agreement shall only be binding on the signatory parties hereto and shall not apply to the parents, affiliates, subsidiaries, or other ventures of any such party.

Section 8. This Agreement shall be limited to work historically recognized as construction work. Nothing contained herein shall be construed to prohibit, restrict, or interfere with the performance of any other operation, work or function which may occur in or around the Project site or be associated with the development of the Project, or with the ongoing operations of the Owner.

Section 9. It is understood that the liability of any Contractor and the liability of the separate Unions under this Agreement shall be several and not joint. The Union agrees that this Agreement does not have the effect of creating any joint employment status between or among Owner and any Contractor.

Section 10. All workers delivering fill, sand, gravel, crushed rock, transit/concrete mix, asphalt or other similar materials and all workers removing any materials from the construction site as required by the specifications are subject to the provisions of the Minnesota state prevailing wage law and are entitled to the appropriate area standard wage. For purposes of this contract, such materials are for specified future use and per Minnesota state prevailing wage law delivery and pick up of the above-listed materials constitutes incorporation.

### **ARTICLE III - UNION RECOGNITION AND REPRESENTATION**

Section 1. The Contractor recognizes the Union as the sole and exclusive bargaining representative of all craft employees working on facilities within the scope of this Agreement.

Section 2. Authorized representatives of the Union shall have access to the Project, provided they do not interfere with the work of employees and further provided that such representatives fully comply with the posted visitor and security and safety rules of the Project.

## **ARTICLE IV - LABOR HARMONY CLAUSE**

The contractor shall furnish labor that can work in harmony with all other elements of labor employed on the Project and shall submit a labor harmony plan to demonstrate how this will be done. "Harmony" shall include the provision of labor that will not, either directly or indirectly, cause or give rise to any work disruptions, slow downs, picketing, stoppages, or any violence or harm to any person or property while performing any work, or activities incidental thereto at the Project. The labor harmony plan should include the company's labor management policies, collective bargaining agreements if any and their expiration dates, past labor relations history, a listing of activities anticipated under this contract that may potentially cause friction with on-site workers, and procedures the company will undertake to eliminate this friction.

The contractor agrees that it shall require every lower-tier subcontractor to provide labor that will work in harmony with all other elements of labor employed in the work, and will include the provisions contained in the paragraph above, in every lower-tier subcontract let for work under this contract.

The requirement to provide labor that can work in harmony with all other elements of labor employed in the work throughout the contract performance is a material element of this contract. Failure by the contractor or any of its lower-tier subcontractors to comply with this requirement shall be deemed a material breach of the contract which will subject the contractor to all rights and remedies the Owner may have, including without limitation the right to terminate the contract.

## **ARTICLE V - WORK STOPPAGES AND LOCKOUTS**

Section 1. There shall be no strike, picketing, work stoppages, slowdowns or other disruptive activity for any reason by the Union or employees against any Contractor covered under this Agreement, and there shall be no lockout by the Contractor. Failure of any Union or employee to cross any picket line established by any union, signatory or non-signatory, or any other organization, at or in proximity to the Project site is a violation of this Article.

Section 2. Any party alleging a breach of Section 1., of Article IV shall have the right to petition a court for temporary and permanent injunctive relief. The moving party need not show the existence of irreparable harm, and shall be required to post bond only to secure payment of court costs and attorney fees as may be awarded by the court.



## **ARTICLE VI - DISPUTES AND GRIEVANCES**

Section 1. This Agreement is intended to provide close cooperation between management and labor. The Construction Manager/General Contractor and the Building and Construction Trades Council shall each assign a representative to this Project for the purpose of assisting the Local Unions, together with the Contractor, to complete the construction of the Project economically, efficiently, continuously and without interruption, delays or work stoppages.

Each Contractor shall hold a pre-job conference with the Union and Construction Manager/General Contractor to clear up any project question and work assignments in which there is thought to be a difference in opinion. Every effort will be made to hold such conference well in advance of actual work performance.

Section 2. The Contractor, Union, and employees collectively and individually, realize the importance to all parties to maintain continuous and uninterrupted performance of the work of the Project, and agree to resolve disputes over grievances in accordance with the arbitration provisions set forth in the Local Area Agreements in effect with the Unions listed in Schedule A attached hereto.

## **ARTICLE VII - JURISDICTIONAL DISPUTES**

Section 1. There will be no strikes, work stoppages, slowdowns, or other disruptive activity arising out of any jurisdictional dispute. Pending the resolution of the dispute, the work shall continue uninterrupted as assigned by the Contractor.

Section 2. Building construction work shall be assigned by the Contractor in accordance with the procedural rules of the Plan for the Settlement of Jurisdictional Disputes in the Construction Industry (hereinafter the "Plan"). Any jurisdictional dispute over the Contractor's assignment of work shall be settled in accordance with the provisions of the Plan.

Section 3. Where a jurisdictional dispute involves the International Brotherhood of Teamsters, it shall be referred for resolution to that International Union and the disputing International Union. The resolution of the dispute shall be reduced to writing, signed by the authorized representative of the International Unions and the Contractor. The assignments made by the Contractor shall be followed until such time as the dispute is resolved in accordance with this Section.

## **ARTICLE VIII - NO DISCRIMINATION**

Section 1. The Contractor and Union agree that they will not discriminate against any employee or applicant for employment because of his or her membership or non-membership in a Union or based upon race, color, religion, sex, national origin or age in any manner prohibited by law or regulation.

Section 2. Any complaints regarding application of the provisions of Section 1., should be brought to the immediate attention of the involved Contractor for consideration and resolution.

Section 3. The use of the masculine or feminine gender in this Agreement shall be construed as including both genders.

## **ARTICLE IX - SAVINGS AND SEPARABILITY**

It is not the intention of the parties to violate any laws governing the subject matter of this Agreement. The parties hereto agree that in the event any provisions of the Agreement are finally held or determined to be illegal or void as being in contravention of any applicable law, the remainder of the Agreement shall remain in full force and effect unless the part or parts so found to be void are wholly inseparable from the remaining portions of this Agreement. Further, the Contractor and Union agree that if and when any and all provisions of this Agreement are finally held or determined to be illegal or void by Court of competent jurisdiction, the parties will promptly enter into negotiations concerning the substance affected by such decision for the purpose of achieving conformity with the requirements of an applicable law and the intent of the parties hereto.

## **ARTICLE X - DURATION OF THE AGREEMENT**

The Project Labor Agreement shall be effective July 1, 2009 and shall continue in effect for the duration of the Project construction work described in Article II hereof. Construction of any phase, portion, section or segment of the project shall be deemed complete when such phase, portion, section or segment has been turned over to the Owner and has received the final acceptance from the Owner's representative.

Since there are provisions herein for no strikes or lockouts in the event any changes are negotiated and implemented under a Local Area Agreement during the term of this Agreement, the Contractor agrees that, except as specified herein, such changes shall be recognized and shall apply retroactively to the termination date in the particular Local Agreement involved. Each Contractor which has a Local Agreement with a Union at the time that its contract at the project commences shall continue it in effect with each said Union so long as the Contractor remains on the project. In the event any such Local Area Agreement expires, the Contractor shall abide by all of the terms of the expired Local Agreement until agreement is reached on a new Local Agreement, with any changes being subject to the provisions of this Agreement.

The Union agrees that there will be no strikes, work stoppages, sympathy actions, picketing, slowdowns or other disruptive activity affecting the Project by any Union involved in the negotiation of a Local Area Agreement nor shall there be any lockout on this Project affecting the Union during the course of such negotiations.

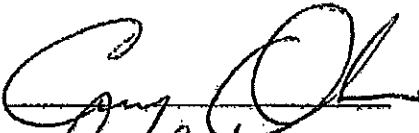
#### **ARTICLE XI – COUNTERPARTS**

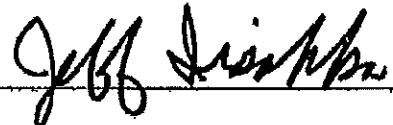
This Project Labor Agreement maybe executed in counterparts, each of which shall be deemed an original and all of which together shall constitute the binding and enforceable agreement of the parties hereto.

IN WITNESS WHEREOF the parties have entered into this Agreement to be effective as of the day and year above written.


Duluth Building and  
Construction Trades Council

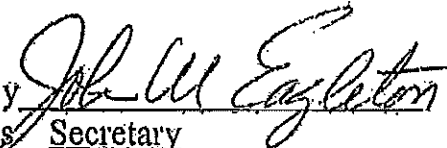
Construction Manager

By   
Its President

By   
Its VP-DIR. OF OPERATIONS

Owner

By   
Its President

By   
Its Secretary

**AGREEMENT TO BE BOUND**  
**PROJECT LABOR AGREEMENT**

The undersigned EMPLOYER agrees that it has reviewed a copy of the Project Labor Agreement for the NEW DULUTH INTERNATIONAL AIRPORT TERMINAL Project located in Duluth, Minnesota and further agrees to become a party to and bound to the foregoing Agreement.

SIGNED FOR THE EMPLOYER:

Dated: \_\_\_\_\_

\_\_\_\_\_  
Company Name

\_\_\_\_\_  
Company Address

\_\_\_\_\_  
Phone No., Job Site and/or Office

\_\_\_\_\_  
Fax No.

\_\_\_\_\_  
By

\_\_\_\_\_  
Title

DIVISION 0  
GENERAL REQUIREMENTS

**00 82 90 - PROJECT LABOR AGREEMENT**

**1. PROJECT LABOR AGREEMENT**

- A. Each contractor and subcontractor, having submitted a bid on this project, certifies that it is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on the project. In the interest of such harmony and the long-term supply of skilled manpower, each successful contractor and any and all levels of subcontractors, as a condition of being awarded a contract or subcontract, will agree to abide by the provisions of the Project Labor Agreement as made as of the 1st day of July, 2009, by and between Owner, Kraus-Anderson® Construction Company (Construction Manager for new construction projects in current overall construction program), and To Be Determined and its affiliated local unions, and will be bound by the provisions of that agreement in the same manner as any other provision of the Contract. A copy of the draft agreement is available for inspection at the office of the Construction Manager, Kraus-Anderson® Construction Company, 4525 Haines Road, Duluth, Minnesota, and is included by reference in these Contract Documents as fully as if herein set forth.

**END OF SECTION 00 82 90**

DIVISION 0  
CONDITIONS OF THE CONTRACT

**00 83 00 - WAGE DETERMINATION SCHEDULE**

GENERAL

1. WAGE RATE REQUIREMENTS

- A. Contractor and subcontractors shall be subject to payment of prevailing wage rates for highway and heavy and commercial construction determined for Project by Minnesota Department of Labor and Industry. A laborer or mechanic employed directly on the Project site by Contractor or any subcontractor, agent or other person doing or contracting to do all or a part of the Work on the Project shall not be paid a lesser wage rate than prevailing wage rate determined for same or most similar trade or occupation in the Wage Rate Determination Schedule. If a prevailing wage determination is not scheduled for a trade or classification, Contractor is not relieved from responsibility for paying the prevailing wage rate for trade in question. Additional classifications may develop between determinations by the Minnesota Department of Labor and Industry. Therefore, no inferences may be drawn from the omission of a classification which has local usage. Further, the Owner will not be liable for increased labor costs, or errors or changes to the rates or classifications.

2. PREVAILING WAGE RATE DETERMINATION

- A. A copy of the applicable Prevailing Wage Determination Schedule, as provided by the Minnesota Department of Labor and Industry is included for Contractor's reference.

3. POSTING OF WAGE DETERMINATION SCHEDULES

- A. The Contractor shall post and maintain at least one copy of the schedule of Prevailing Wage Determination Schedule in a conspicuous location on the construction site until substantial completion of Project.

4. ENFORCEMENT AND COMPLIANCE

- A. Contractor is solely responsible for enforcement of compliance with Wage Rate Determination Schedule for persons employed directly by Contractor and persons in the employ of its subcontractors, including settlement of claims made by persons found to have received wages lower than rate classification included in said schedule.

**END OF SECTION 00 83 00**

DULUTH INTERNATIONAL AIRPORT  
NEW PARKING STRUCTURE AND  
EXTERIOR WAYFINDING SIGNAGE  
BID PACKAGE 2D  
ISSUE FOR BID

SECTION 00 83 00 - 1

March 16, 1998

### **PREVAILING WAGE STATEMENT**

A recent unpublished decision of the Minnesota Court of Appeals affirms the authority of the Minnesota Commissioner of Transportation to enforce the Minnesota Prevailing Wage Law on State Highway projects on a case-by-case basis. International Union of Operations Engineers, Local 49 vs. Minnesota Department of Transportation, et. Al., Court of Appeals Case No. C6-97-1582, also see Minnesota Statutes §§177.43 and 177.44 (1996).

The Department of Transportation will enforce the Minnesota Prevailing Wage Law in a manner consistent with the Court of Appeals decision notwithstanding any prior notices on this subject. A copy of the Court of Appeals decision is available to anyone who is interested in reviewing it. Please call Charles Groshens, Labor Compliance Unit at (651) 297-5716 to receive a copy.

June 26, 2001

### **PREVAILING WAGE STATEMENT II**

On June 18, 2001, the Minnesota Department of Labor & Industry (MnL&I) published, in the State Register, a notice of modification and adoption of the rules as published in State Register, Volume 25, Number 14, Pages 772-778, October 2, 2000 (25 SR 772). The rules were promulgated under Minnesota Administrative Procedures Act, Minnesota Statutes Chapter 14, and affect all projects funded in whole or part with state monies that are advertised for bid 5 working days after the publication date.

The rules give guidance on the application of the State Prevailing Wage Statute, Minnesota Statutes §177.41 to 177.44, as it applies to contractors' laborers and mechanics working at off-site facilities, truck drivers performing hauling activities for state funded projects, and the calculation and application of truck rental rates.

The truck rental rates, when certified by the MnL&I, will take effect on state funded projects advertised after the rates are published in the State Register. Mn/DOT will incorporate the truck rental rates into the appropriate contracts when published after they have been published in the State Register.

Copies of the rules can be received by contacting the MnL&I, Labor Standards, Erik Oelker at (651) 296-6452 or Mn/DOT Labor Compliance Office, Charles Groshens, at (651) 297-5716.

#### **Reference:**

**5200.1105** Rental Rates for Trucks on Public Works Highway Projects  
[www.revisor.leg.state.mn.us/arule/5200/1105.html](http://www.revisor.leg.state.mn.us/arule/5200/1105.html)

**5200.1106** Coverage of Prevailing Wage Law Under Minnesota Statutes 177.41-177.44  
[www.revisor.leg.state.mn.us/arule/5200/1106.html](http://www.revisor.leg.state.mn.us/arule/5200/1106.html)



**MINNESOTA DEPARTMENT OF LABOR AND INDUSTRY PREVAILING WAGES FOR STATE  
FUNDED CONSTRUCTION PROJECTS**



**THIS NOTICE MUST BE POSTED ON THE JOBSITE IN A CONSPICUOUS PLACE**

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**Construction Type: Highway and Heavy**

**Region Number: 01**

Counties within region:

- CARLTON-09
- COOK-16
- ITASCA-31
- KOOCHICHING-36
- LAKE-38
- PINE-58
- ST. LOUIS-69

Effective: 2012-10-29    Revised: 2013-04-15

This project is covered by Minnesota prevailing wage statutes. Wage rates listed below are the minimum hourly rates to be paid on this project.

All hours worked in excess of eight (8) hours per day or forty (40) hours per week shall be paid at a rate of one and one half (1 1/2) times the basic hourly rate.

Violations should be reported to:

Department of Transportation  
Office of Construction  
Transportation Building MS650  
John Ireland Blvd  
St. Paul, MN 55155  
(651) 366-4209

Refer questions concerning the prevailing wage rates to:

Department of Labor and Industry  
Prevailing Wage Section  
443 Lafayette Road N  
St Paul, MN 55155  
(651) 284-5091  
[DLI.PrevWage@state.mn.us](mailto:DLI.PrevWage@state.mn.us)

**LABOR CODE AND CLASS**

		<b>EFFECT DATE</b>	<b>BASIC RATE</b>	<b>FRINGE RATE</b>	<b>TOTAL RATE</b>
<b><i>LABORERS (101 - 112) (SPECIAL CRAFTS 701 - 730)</i></b>					
101	LABORER, COMMON (GENERAL LABOR WORK)	2012-10-29	26.14	15.33	41.47
		2013-05-01	26.11	15.61	41.72
102	LABORER, SKILLED (ASSISTING SKILLED CRAFT JOURNEYMAN)	2012-10-29	26.14	15.33	41.47
		2013-05-01	26.11	15.61	41.72
103	LABORER, LANDSCAPING (GARDENER, SOD LAYER AND NURSERY OPERATOR)	2012-10-29	17.49	12.04	29.53
		2013-05-01	18.00	12.43	30.43
104	FLAG PERSON	2012-10-29	26.14	15.33	41.47
		2013-05-01	24.26	17.46	41.72
105	WATCH PERSON	2012-10-29	17.97	7.71	25.68
106	BLASTER	2012-10-29	28.89	15.33	44.22
107	PIPELAYER (WATER, SEWER AND GAS)	2012-10-29	28.14	15.33	43.47
		2013-05-01	28.11	15.61	43.72
108	TUNNEL MINER	2012-10-29	26.84	15.33	42.17
		2013-05-01	26.81	15.61	42.42
109	UNDERGROUND AND OPEN DITCH LABORER (EIGHT FEET BELOW STARTING GRADE LEVEL)	2012-10-29	26.84	15.33	42.17
		2013-05-01	26.81	15.61	42.42
110	SURVEY FIELD TECHNICIAN (OPERATE TOTAL STATION, GPS RECEIVER, LEVEL, ROD OR RANGE POLES, STEEL TAPE MEASUREMENT; MARK AND DRIVE STAKES; HAND OR POWER DIGGING FOR AND IDENTIFICATION OF MARKERS OR MONUMENTS;	2012-10-29	26.14	15.33	41.47

PERFORM AND CHECK CALCULATIONS; REVIEW AND UNDERSTAND CONSTRUCTION PLANS AND LAND SURVEY MATERIALS). THIS CLASSIFICATION DOES NOT APPLY TO THE WORK PERFORMED ON A PREVAILING WAGE PROJECT BY A LAND SURVEYOR WHO IS LICENSED PURSUANT TO MINNESOTA STATUTES, SECTIONS 326.02 TO 326.15.

	2013-05-01	26.11	15.61	41.72
111 TRAFFIC CONTROL PERSON (TEMPORARY SIGNAGE)	2012-10-29	26.14	15.33	41.47
	2013-05-01	26.11	15.61	41.72
112 QUALITY CONTROL TESTER (FIELD AND COVERED OFF-SITE FACILITIES; TESTING OF AGGREGATE, ASPHALT, AND CONCRETE MATERIALS); LIMITED TO MN DOT HIGHWAY AND HEAVY CONSTRUCTION PROJECTS WHERE THE MN DOT HAS RETAINED QUALITY ASSURANCE PROFESSIONALS TO REVIEW AND INTERPRET THE RESULTS OF QUALITY CONTROL TESTERS. SERVICES PROVIDED BY THE CONTRACTOR.	2012-10-29	21.40	13.51	34.91

***SPECIAL EQUIPMENT (201 - 204)***

201 ARTICULATED HAULER	2012-10-29	31.12	16.70	47.82
	2013-05-01	31.37	16.70	48.07
202 BOOM TRUCK	2012-10-29	31.12	16.70	47.82
	2013-05-01	31.37	16.70	48.07
203 LANDSCAPING EQUIPMENT, INCLUDES HYDRO SEEDER OR MULCHER, SOD ROLLER, FARM TRACTOR WITH ATTACHMENT SPECIFICALLY SEEDING, SODDING, OR PLANT, AND TWO-FRAMED FORKLIFT (EXCLUDING FRONT, POSIT-TRACK, AND SKID STEER LOADERS), NO EARTHWORK OR GRADING FOR ELEVATIONS	2012-10-29	17.49	12.04	29.53
	2013-05-01	18.00	12.43	30.43
204 OFF-ROAD TRUCK	2012-10-29	31.12	16.70	47.82
	2013-05-01	31.37	16.70	48.07

205 PAVEMENT MARKING OR MARKING REMOVAL EQUIPMENT (ONE OR TWO PERSON OPERATORS); SELF-PROPELLED TRUCK OR TRAILER MOUNTED UNITS.	2012-10-29	27.81	14.69	42.50
	2013-05-01	28.36	14.69	43.05

### ***HIGHWAY/HEAVY POWER EQUIPMENT OPERATOR***

<b>GROUP 2</b>	2012-10-29	31.97	16.70	48.67
	2013-05-01	32.22	16.70	48.92

- 302 HELICOPTER PILOT (HIGHWAY AND HEAVY ONLY)
- 303 CONCRETE PUMP (HIGHWAY AND HEAVY ONLY)
- 304 ALL CRANES WITH OVER 135-FOOT BOOM, EXCLUDING JIB (HIGHWAY AND HEAVY ONLY)
- 305 DRAGLINE, CRAWLER, HYDRAULIC BACKHOE (TRACK OR WHEEL MOUNTED) AND/OR  
OTHER SIMILAR EQUIPMENT WITH SHOVEL-TYPE CONTROLS THREE CUBIC YARDS AND  
OVER MANUFACTURER.S RATED CAPACITY INCLUDING ALL ATTACHMENTS. (HIGHWAY  
AND HEAVY ONLY)
- 306 GRADER OR MOTOR PATROL
- 307 PILE DRIVING (HIGHWAY AND HEAVY ONLY)
- 308 TUGBOAT 100 H.P. AND OVER WHEN LICENSE REQUIRED (HIGHWAY AND HEAVY ONLY)

<b>GROUP 3</b>	2012-10-29	31.42	16.70	48.12
	2013-05-01	31.67	16.70	48.37

- 309 ASPHALT BITUMINOUS STABILIZER PLANT
- 310 CABLEWAY
- 311 CONCRETE MIXER, STATIONARY PLANT (HIGHWAY AND HEAVY ONLY)
- 312 DERRICK (GUY OR STIFFLEG)(POWER)(SKIDS OR STATIONARY) (HIGHWAY AND HEAVY  
ONLY)
- 313 DRAGLINE, CRAWLER, HYDRAULIC BACKHOE (TRACK OR WHEEL MOUNTED) AND/OR  
SIMILAR EQUIPMENT WITH SHOVEL-TYPE CONTROLS, UP TO THREE CUBIC YARDS  
MANUFACTURER.S RATED CAPACITY INCLUDING ALL ATTACHMENTS (HIGHWAY AND  
HEAVY ONLY)
- 314 DREDGE OR ENGINEERS, DREDGE (POWER) AND ENGINEER
- 315 FRONT END LOADER, FIVE CUBIC YARDS AND OVER INCLUDING ATTACHMENTS. (HIGHWAY  
AND HEAVY ONLY)
- 316 LOCOMOTIVE CRANE OPERATOR
- 317 MIXER (PAVING) CONCRETE PAVING, ROAD MOLE, INCLUDING MUCKING OPERATIONS,  
CONWAY OR SIMILAR TYPE

318 MECHANIC . WELDER ON POWER EQUIPMENT (HIGHWAY AND HEAVY ONLY)  
 319 TRACTOR . BOOM TYPE (HIGHWAY AND HEAVY ONLY)  
 320 TANDEM SCRAPER  
 321 TRUCK CRANE . CRAWLER CRANE (HIGHWAY AND HEAVY ONLY)  
 322 TUGBOAT 100 H.P AND OVER (HIGHWAY AND HEAVY ONLY)

<b>GROUP 4</b>	2012-10-29	31.12	16.70	47.82
	2013-05-01	31.37	16.70	48.07

323 AIR TRACK ROCK DRILL  
 324 AUTOMATIC ROAD MACHINE (CMI OR SIMILAR) (HIGHWAY AND HEAVY ONLY)  
 325 BACKFILLER OPERATOR  
 326 CONCRETE BATCH PLANT OPERATOR (HIGHWAY AND HEAVY ONLY)  
 327 BITUMINOUS ROLLERS, RUBBER TIRED OR STEEL DRUMMED (EIGHT TONS AND OVER)  
 328 BITUMINOUS SPREADER AND FINISHING MACHINES (POWER), INCLUDING PAVERS, MACRO SURFACING AND MICRO SURFACING, OR SIMILAR TYPES (OPERATOR AND SCREED PERSON)  
 329 BROKK OR R.T.C. REMOTE CONTROL OR SIMILAR TYPE WITH ALL ATTACHMENTS  
 330 CAT CHALLENGER TRACTORS OR SIMILAR TYPES PULLING ROCK WAGONS, BULLDOZERS AND SCRAPERS  
 331 CHIP HARVESTER AND TREE CUTTER  
 332 CONCRETE DISTRIBUTOR AND SPREADER FINISHING MACHINE, LONGITUDINAL FLOAT, JOINT MACHINE, AND SPRAY MACHINE  
 333 CONCRETE MIXER ON JOBSITE (HIGHWAY AND HEAVY ONLY)  
 334 CONCRETE MOBIL (HIGHWAY AND HEAVY ONLY)  
 335 CRUSHING PLANT (GRAVEL AND STONE) OR GRAVEL WASHING, CRUSHING AND SCREENING PLANT  
 336 CURB MACHINE  
 337 DIRECTIONAL BORING MACHINE  
 338 DOPE MACHINE (PIPELINE)  
 339 DRILL RIGS, HEAVY ROTARY OR CHURN OR CABLE DRILL (HIGHWAY AND HEAVY ONLY)  
 340 DUAL TRACTOR  
 341 ELEVATING GRADER  
 342 FORK LIFT OR STRADDLE CARRIER (HIGHWAY AND HEAVY ONLY)  
 343 FORK LIFT OR LUMBER STACKER (HIGHWAY AND HEAVY ONLY)  
 344 FRONT END, SKID STEER OVER 1 TO 5 C YD  
 345 GPS REMOTE OPERATING OF EQUIPMENT  
 346 HOIST ENGINEER (POWER) (HIGHWAY AND HEAVY ONLY)  
 347 HYDRAULIC TREE PLANTER

- 348 LAUNCHER PERSON (TANKER PERSON OR PILOT LICENSE)
- 349 LOCOMOTIVE (HIGHWAY AND HEAVY ONLY)
- 350 MILLING, GRINDING, PLANNING, FINE GRADE, OR TRIMMER MACHINE
- 351 MULTIPLE MACHINES, SUCH AS AIR COMPRESSORS, WELDING MACHINES, GENERATORS, PUMPS (HIGHWAY AND HEAVY ONLY)
- 352 PAVEMENT BREAKER OR TAMPING MACHINE (POWER DRIVEN) MIGHTY MITE OR SIMILAR TYPE
- 353 PICKUP SWEEPER, ONE CUBIC YARD AND OVER HOPPER CAPACITY(HIGHWAY AND HEAVY ONLY)
- 354 PIPELINE WRAPPING, CLEANING OR BENDING MACHINE
- 355 POWER PLANT ENGINEER, 100 KWH AND OVER (HIGHWAY AND HEAVY ONLY)
- 356 POWER ACTUATED HORIZONTAL BORING MACHINE, OVER SIX INCHES
- 357 PUGMILL
- 358 PUMPCRETE (HIGHWAY AND HEAVY ONLY)
- 359 RUBBER-TIRED FARM TRACTOR WITH BACKHOE INCLUDING ATTACHMENTS (HIGHWAY AND HEAVY ONLY)
- 360 SCRAPER
- 361 SELF-PROPELLED SOIL STABILIZER
- 362 SLIP FORM (POWER DRIVEN) (PAVING)
- 363 TIE TAMPER AND BALLAST MACHINE
- 364 TRACTOR, BULLDOZER (HIGHWAY AND HEAVY ONLY)
- 365 TRACTOR, WHEEL TYPE, OVER 50 H.P. WITH PTO UNRELATED TO LANDSCAPING (HIGHWAY AND HEAVY ONLY)
- 366 TRENCHING MACHINE (SEWER, WATER, GAS) EXCLUDES WALK BEHIND TRENCHER (HIGHWAY AND HEAVY ONLY)
- 367 TUB GRINDER, MORBARK, OR SIMILAR TYPE
- 368 WELL POINT DISMANTLING OR INSTALLATION (HIGHWAY AND HEAVY ONLY)

<b>GROUP 5</b>	2012-10-29	28.08	16.70	44.78
	2013-05-01	28.33	16.70	45.03

- 369 AIR COMPRESSOR, 600 CFM OR OVER (HIGHWAY AND HEAVY ONLY)
- 370 BITUMINOUS ROLLER (UNDER EIGHT TONS)
- 371 CONCRETE SAW (MULTIPLE BLADE) (POWER OPERATED)
- 372 FORM TRENCH DIGGER (POWER)
- 373 FRONT END, SKID STEER UP TO 1C YD
- 374 GUNITE GUNALL (HIGHWAY AND HEAVY ONLY)
- 375 HYDRAULIC LOG SPLITTER
- 376 LOADER (BARBER GREENE OR SIMILAR TYPE)

377 POST HOLE DRIVING MACHINE/POST HOLE AUGER  
 378 POWER ACTUATED AUGER AND BORING MACHINE  
 379 POWER ACTUATED JACK  
 380 PUMP (HIGHWAY AND HEAVY ONLY)  
 381 SELF-PROPELLED CHIP SPREADER (FLAHERTY OR SIMILAR)  
 382 SHEEP FOOT COMPACTOR WITH BLADE . 200 H.P. AND OVER  
 383 SHOULDERING MACHINE (POWER) APSCO OR SIMILAR TYPE INCLUDING SELF-PROPELLED SAND AND CHIP SPREADER  
 384 STUMP CHIPPER AND TREE CHIPPER  
 385 TREE FARMER (MACHINE)

<b>GROUP 6</b>	2012-10-29	26.87	16.70	43.57
	2013-05-01	27.12	16.70	43.82

387 CAT, CHALLENGER, OR SIMILAR TYPE OF TRACTORS, WHEN PULLING DISK OR ROLLER  
 388 CONVEYOR (HIGHWAY AND HEAVY ONLY)  
 389 DREDGE DECK HAND  
 390 FIRE PERSON OR TANK CAR HEATER (HIGHWAY AND HEAVY ONLY)  
 391 GRAVEL SCREENING PLANT (PORTABLE NOT CRUSHING OR WASHING)  
 392 GREASER (TRACTOR) (HIGHWAY AND HEAVY ONLY)  
 393 LEVER PERSON  
 394 OILER (POWER SHOVEL, CRANE, TRUCK CRANE, DRAGLINE, CRUSHERS, AND MILLING MACHINES, OR OTHER SIMILAR HEAVY EQUIPMENT) (HIGHWAY AND HEAVY ONLY)  
 395 POWER SWEEPER  
 396 SHEEP FOOT ROLLER AND ROLLERS ON GRAVEL COMPACTION, INCLUDING VIBRATING ROLLERS  
 397 TRACTOR, WHEEL TYPE, OVER 50 H.P., UNRELATED TO LANDSCAPING

### ***TRUCK DRIVERS***

<b>GROUP 1</b>	2012-10-29	27.10	13.65	40.75
	2013-05-01	27.25	14.00	41.25

601 MECHANIC . WELDER  
 602 TRACTOR TRAILER DRIVER  
 603 TRUCK DRIVER (HAULING MACHINERY INCLUDING OPERATION OF HAND AND POWER OPERATED WINCHES)

<b>GROUP 2</b>	2012-10-29	26.55	13.65	40.20
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	2013-05-01	26.70	14.00	40.70
604 FOUR OR MORE AXLE UNIT, STRAIGHT BODY TRUCK				
<b>GROUP 3</b>	2012-10-29	26.45	13.65	40.10
	2013-05-01	26.60	14.00	40.60
605 BITUMINOUS DISTRIBUTOR DRIVER				
606 BITUMINOUS DISTRIBUTOR (ONE PERSON OPERATION)				
607 THREE AXLE UNITS				
<b>GROUP 4</b>	2012-10-29	26.20	13.65	39.85
	2013-05-01	26.35	14.00	40.35
608 BITUMINOUS DISTRIBUTOR SPRAY OPERATOR (REAR AND OILER)				
609 DUMP PERSON				
610 GREASER				
611 PILOT CAR DRIVER				
612 RUBBER-TIRED, SELF-PROPELLED PACKER UNDER 8 TONS				
613 TWO AXLE UNIT				
614 SLURRY OPERATOR				
615 TANK TRUCK HELPER (GAS, OIL, ROAD OIL, AND WATER)				
616 TRACTOR OPERATOR, UNDER 50 H.P.				
<b><i>SPECIAL CRAFTS</i></b>				
701 HEATING AND FROST INSULATORS	2012-10-29	21.53	14.71	36.24
702 BOILERMAKERS	2012-10-29	31.87	24.40	56.27
	2013-01-01	33.52	24.40	57.92
703 BRICKLAYERS	2012-10-29	28.58	20.66	49.24
	2012-10-29	29.02	22.04	51.06
704 CARPENTERS	2012-10-29	30.37	17.40	47.77
	2013-05-01	30.87	17.40	48.27
705 CARPET LAYERS (LINOLEUM)	2012-10-29	22.58	7.50	30.08



706 CEMENT MASONS	2012-10-29	32.78	16.80	49.58
707 ELECTRICIANS	2012-10-29	34.71	19.37	54.08
	2013-06-01	35.42	19.77	55.19
708 ELEVATOR CONSTRUCTORS	FOR RATE CALL 651-284-5091 OR EMAIL <u><a href="mailto:DLI.PREVWAGE@STATE.MN.US">DLI.PREVWAGE@STATE.MN.US</a></u>			
709 GLAZIERS	2012-10-29	25.58	15.12	40.70
	2013-05-01	26.58	15.12	41.70
710 LATHERS	FOR RATE CALL 651-284-5091 OR EMAIL <u><a href="mailto:DLL.PREVWAGE@STATE.MN.US">DLL.PREVWAGE@STATE.MN.US</a></u>			
711 GROUND PERSON	2012-10-29	24.99	12.37	37.36
	2013-03-31	25.74	12.59	38.33
712 IRONWORKERS	2012-10-29	29.24	21.20	50.44
713 LINEMAN	2012-10-29	37.30	16.00	53.30
	2013-03-31	38.42	16.33	54.75
714 MILLWRIGHT	2012-10-29	20.00	0.00	20.00
715 PAINTERS (INCLUDING HAND BRUSHED, HAND SPRAYED, AND THE TAPING OF PAVEMENT MARKINGS)	2012-10-29	27.81	14.69	42.50
	2013-05-01	28.36	14.69	43.05
716 PILEDRIIVER (INCLUDING VIBRATORY DRIVER OR EXTRACTOR FOR PILING AND SHEETING OPERATIONS)	2012-10-29	30.42	17.35	47.77
	2013-05-01	30.92	17.35	48.27
717 PIPEFITTERS . STEAMFITTERS	2012-10-29	35.56	16.38	51.94
	2013-05-01	36.31	16.38	52.69

718 PLASTERERS	FOR RATE CALL 651-284-5091 OR EMAIL <a href="mailto:DLI.PRE VWAGE@STATE.MN.US">DLI.PRE VWAGE@STATE.MN.US</a>			
719 PLUMBERS	2012-10-29	34.42	17.52	51.94
	2013-05-01	35.17	17.52	52.69
720 ROOFER	FOR RATE CALL 651-284-5091 OR EMAIL <a href="mailto:DLI.PRE VWAGE@STATE.MN.US">DLI.PRE VWAGE@STATE.MN.US</a>			
721 SHEET METAL WORKERS	2012-10-29	30.66	20.59	51.25
722 SPRINKLER FITTERS	FOR RATE CALL 651-284-5091 OR EMAIL <a href="mailto:DLI.PRE VWAGE@STATE.MN.US">DLI.PRE VWAGE@STATE.MN.US</a>			
723 TERRAZZO WORKERS	FOR RATE CALL 651-284-5091 OR EMAIL <a href="mailto:DLI.PRE VWAGE@STATE.MN.US">DLI.PRE VWAGE@STATE.MN.US</a>			
724 TILE SETTERS	FOR RATE CALL 651-284-5091 OR EMAIL <a href="mailto:DLI.PRE VWAGE@STATE.MN.US">DLI.PRE VWAGE@STATE.MN.US</a>			
725 TILE FINISHERS	FOR RATE CALL 651-284-5091 OR EMAIL <a href="mailto:DLI.PRE VWAGE@STATE.MN.US">DLI.PRE VWAGE@STATE.MN.US</a>			
726 DRYWALL TAPER	FOR RATE CALL 651-284-5091 OR EMAIL <a href="mailto:DLI.PRE VWAGE@STATE.MN.US">DLI.PRE VWAGE@STATE.MN.US</a>			
727 WIRING SYSTEM TECHNICIAN	2012-10-29	32.09	10.61	42.70
728 WIRING SYSTEMS INSTALLER	2012-10-29	22.46	8.65	31.11
729 ASBESTOS ABATEMENT WORKER	2012-10-29	25.66	5.92	31.58

730 SIGN ERECTOR

FOR RATE CALL 651-284-5091 OR  
EMAIL  
[DLI.PRE VWAGE@STATE.MN.US](mailto:DLI.PRE VWAGE@STATE.MN.US)

**MINNESOTA DEPARTMENT OF LABOR AND INDUSTRY PREVAILING WAGES FOR STATE  
FUNDED CONSTRUCTION PROJECTS**



**THIS NOTICE MUST BE POSTED ON THE JOBSITE IN A CONSPICUOUS PLACE**

**Construction Type: Commercial**

**County Number: 69**

County Name: ST. LOUIS

Effective: 2012-12-24    Revised: 2013-03-04

This project is covered by Minnesota prevailing wage statutes. Wage rates listed below are the minimum hourly rates to be paid on this project.

All hours worked in excess of eight (8) hours per day or forty (40) hours per week shall be paid at a rate of one and one half (1 1/2) times the basic hourly rate.

Violations should be reported to:

Department of Labor and Industry  
Prevailing Wage Section  
443 Lafayette Road N  
St Paul, MN 55155  
(651) 284-5091  
[DLI.PrevWage@state.mn.us](mailto:DLI.PrevWage@state.mn.us)

\* Indicates that adjacent county rates were used for the labor class listed.

**County: ST. LOUIS (69)**

LABOR CODE AND CLASS		EFFECT DATE	BASIC RATE	FRINGE RATE	TOTAL RATE
<b><i>LABORERS (101 - 112) (SPECIAL CRAFTS 701 - 730)</i></b>					
101	LABORER, COMMON (GENERAL LABOR WORK)	2012-12-24	21.95	15.08	37.03
		2013-05-01	22.17	15.36	37.53
102	LABORER, SKILLED (ASSISTING SKILLED CRAFT JOURNEYMAN)	2012-12-24	21.95	15.08	37.03

		2013-05-01	22.17	15.36	37.53
103	LABORER, LANDSCAPING (GARDENER, SOD LAYER AND NURSERY OPERATOR)	2012-12-24	17.49	12.04	29.53
		2013-05-01	18.00	12.43	30.43
104*	FLAG PERSON	2012-12-24	21.95	15.08	37.03
		2013-05-01	22.17	15.36	37.53
105*	WATCH PERSON	2012-12-24	19.60	15.08	34.68
		2013-05-01	19.82	15.36	35.18
106	BLASTER	2012-12-24	22.65	15.08	37.73
		2013-05-01	22.87	15.36	38.23
107	PIPELAYER (WATER, SEWER AND GAS)	2012-12-24	28.14	15.33	43.47
		2013-05-01	28.11	15.61	43.72
108	TUNNEL MINER	FOR RATE CALL 651-284-5091 OR EMAIL <a href="mailto:DLI.PREVWAGE@STATE.MN.US">DLI.PREVWAGE@STATE.MN.US</a>			
109	UNDERGROUND AND OPEN DITCH LABORER (EIGHT FEET BELOW STARTING GRADE LEVEL)	2012-12-24	26.84	15.33	42.17
		2013-05-01	26.81	15.61	42.42
110	SURVEY FIELD TECHNICIAN (OPERATE TOTAL STATION, GPS RECEIVER, LEVEL, ROD OR RANGE POLES, STEEL TAPE MEASUREMENT; MARK AND DRIVE STAKES; HAND OR POWER DIGGING FOR AND IDENTIFICATION OF MARKERS OR MONUMENTS; PERFORM AND CHECK CALCULATIONS; REVIEW AND UNDERSTAND CONSTRUCTION PLANS AND LAND SURVEY MATERIALS). THIS CLASSIFICATION DOES NOT APPLY TO THE WORK PERFORMED ON A PREVAILING WAGE PROJECT BY A LAND SURVEYOR WHO IS LICENSED PURSUANT TO MINNESOTA STATUTES, SECTIONS 326.02 TO 326.15.	2012-12-24	21.95	15.08	37.03
		2013-05-01	22.17	15.36	37.53

111	TRAFFIC CONTROL PERSON (TEMPORARY SIGNAGE)	2012-12-24	21.95	15.08	37.03
		2013-05-01	22.17	15.36	37.53

***SPECIAL EQUIPMENT (201 - 204)***

201*	ARTICULATED HAULER	2012-12-24	31.12	16.70	47.82
		2013-05-01	31.37	16.70	48.07

202	BOOM TRUCK	2012-12-24	31.17	15.95	47.12
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203*	LANDSCAPING EQUIPMENT, INCLUDES HYDRO SEEDER OR MULCHER, SOD ROLLER, FARM TRACTOR WITH ATTACHMENT SPECIFICALLY SEEDING, SODDING, OR PLANT, AND TWO-FRAMED FORKLIFT (EXCLUDING FRONT, POSIT-TRACK, AND SKID STEER LOADERS), NO EARTHWORK OR GRADING FOR ELEVATIONS	2012-12-24	17.19	11.65	28.84
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204*	OFF-ROAD TRUCK	2012-12-24	31.12	16.70	47.82
		2013-05-01	31.37	16.70	48.07

205	PAVEMENT MARKING OR MARKING REMOVAL EQUIPMENT (ONE OR TWO PERSON OPERATORS); SELF-PROPELLED TRUCK OR TRAILER MOUNTED UNITS.	2012-12-24	27.81	14.69	42.50
		2013-05-01	28.36	14.69	43.05

***HIGHWAY/HEAVY POWER EQUIPMENT OPERATOR***

<b>GROUP 2 *</b>		2012-12-24	20.94	8.34	29.28
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306	GRADER OR MOTOR PATROL
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308	TUGBOAT 100 H.P. AND OVER WHEN LICENSE REQUIRED (HIGHWAY AND HEAVY ONLY)
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<b>GROUP 3</b>		2012-12-24	31.15	6.00	37.15
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309	ASPHALT BITUMINOUS STABILIZER PLANT
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310	CABLEWAY
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312	
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DERRICK (GUY OR STIFFLEG)(POWER)(SKIDS OR STATIONARY) (HIGHWAY AND HEAVY ONLY)

314 DREDGE OR ENGINEERS, DREDGE (POWER) AND ENGINEER

316 LOCOMOTIVE CRANE OPERATOR

320 TANDEM SCRAPER

322 TUGBOAT 100 H.P AND OVER (HIGHWAY AND HEAVY ONLY)

<b>GROUP 4 *</b>	2012-12-24	31.12	16.70	47.82
	2013-05-01	31.37	16.70	48.07

323 AIR TRACK ROCK DRILL

324 AUTOMATIC ROAD MACHINE (CMI OR SIMILAR) (HIGHWAY AND HEAVY ONLY)

327 BITUMINOUS ROLLERS, RUBBER TIRED OR STEEL DRUMMED (EIGHT TONS AND OVER)

328 BITUMINOUS SPREADER AND FINISHING MACHINES (POWER), INCLUDING PAVERS, MACRO SURFACING AND MICRO SURFACING, OR SIMILAR TYPES (OPERATOR AND SCREED PERSON)

329 BROKK OR R.T.C. REMOTE CONTROL OR SIMILAR TYPE WITH ALL ATTACHMENTS

330 CAT CHALLENGER TRACTORS OR SIMILAR TYPES PULLING ROCK WAGONS, BULLDOZERS AND SCRAPERS

331 CHIP HARVESTER AND TREE CUTTER

332 CONCRETE DISTRIBUTOR AND SPREADER FINISHING MACHINE, LONGITUDINAL FLOAT, JOINT MACHINE, AND SPRAY MACHINE

334 CONCRETE MOBIL (HIGHWAY AND HEAVY ONLY)

335 CRUSHING PLANT (GRAVEL AND STONE) OR GRAVEL WASHING, CRUSHING AND SCREENING PLANT

336 CURB MACHINE

337 DIRECTIONAL BORING MACHINE

338 DOPE MACHINE (PIPELINE)

340 DUAL TRACTOR

341 ELEVATING GRADER

345 GPS REMOTE OPERATING OF EQUIPMENT

347 HYDRAULIC TREE PLANTER

348 LAUNCHER PERSON (TANKER PERSON OR PILOT LICENSE)

349 LOCOMOTIVE (HIGHWAY AND HEAVY ONLY)

350 MILLING, GRINDING, PLANNING, FINE GRADE, OR TRIMMER MACHINE

352 PAVEMENT BREAKER OR TAMPING MACHINE (POWER DRIVEN) MIGHTY MITE OR SIMILAR TYPE

354 PIPELINE WRAPPING, CLEANING OR BENDING MACHINE

356 POWER ACTUATED HORIZONTAL BORING MACHINE, OVER SIX INCHES

357 PUGMILL

359	RUBBER-TIRED FARM TRACTOR WITH BACKHOE INCLUDING ATTACHMENTS (HIGHWAY AND HEAVY ONLY)				
360	SCRAPER				
361	SELF-PROPELLED SOIL STABILIZER				
362	SLIP FORM (POWER DRIVEN) (PAVING)				
363	TIE TAMPER AND BALLAST MACHINE				
367	TUB GRINDER, MORBARK, OR SIMILAR TYPE				
<b>GROUP 5 *</b>		2012-12-24	18.77	8.18	26.95
370	BITUMINOUS ROLLER (UNDER EIGHT TONS)				
371	CONCRETE SAW (MULTIPLE BLADE) (POWER OPERATED)				
372	FORM TRENCH DIGGER (POWER)				
375	HYDRAULIC LOG SPLITTER				
376	LOADER (BARBER GREENE OR SIMILAR TYPE)				
377	POST HOLE DRIVING MACHINE/POST HOLE AUGER				
379	POWER ACTUATED JACK				
381	SELF-PROPELLED CHIP SPREADER (FLAHERTY OR SIMILAR)				
382	SHEEP FOOT COMPACTOR WITH BLADE . 200 H.P. AND OVER				
383	SHOULDERING MACHINE (POWER) APSCO OR SIMILAR TYPE INCLUDING SELF-PROPELLED SAND AND CHIP SPREADER				
384	STUMP CHIPPER AND TREE CHIPPER				
385	TREE FARMER (MACHINE)				
<b>GROUP 6 *</b>		2012-12-24	26.87	16.70	43.57
		2013-05-01	27.12	16.70	43.82
387	CAT, CHALLENGER, OR SIMILAR TYPE OF TRACTORS, WHEN PULLING DISK OR ROLLER				
389	DREDGE DECK HAND				
391	GRAVEL SCREENING PLANT (PORTABLE NOT CRUSHING OR WASHING)				
393	LEVER PERSON				
395	POWER SWEEPER				
396	SHEEP FOOT ROLLER AND ROLLERS ON GRAVEL COMPACTION, INCLUDING VIBRATING ROLLERS				
<b>COMMERCIAL POWER EQUIPMENT OPERATOR</b>					
<b>GROUP 1</b>		2012-12-24	35.19	15.95	51.14



501	HELICOPTER PILOT (COMMERCIAL CONSTRUCTION ONLY)				
502	TOWER CRANE 250 FEET AND OVER (COMMERCIAL CONSTRUCTION ONLY)				
503	TRUCK CRAWLER CRANE WITH 200 FEET OF BOOM AND OVER, INCLUDING JIB (COMMERCIAL CONSTRUCTION ONLY)				
<b>GROUP 2</b>		2012-12-24	34.85	15.95	50.80
504	CONCRETE PUMP WITH 50 METERS/164 FEET OF BOOM AND OVER (COMMERCIAL CONSTRUCTION ONLY)				
505	PILE DRIVING WHEN THREE DRUMS IN USE (COMMERCIAL CONSTRUCTION ONLY)				
506	TOWER CRANE 200 FEET AND OVER (COMMERCIAL CONSTRUCTION ONLY)				
507	TRUCK OR CRAWLER CRANE WITH 150 FEET OF BOOM UP TO AND NOT INCLUDING 200 FEET, INCLUDING JIB (COMMERCIAL CONSTRUCTION ONLY)				
<b>GROUP 3</b>		2012-12-24	33.44	15.95	49.39
508	ALL-TERRAIN VEHICLE CRANES (COMMERCIAL CONSTRUCTION ONLY)				
509	CONCRETE PUMP 32-49 METERS/102-164 FEET (COMMERCIAL CONSTRUCTION ONLY)				
510	DERRICK (GUY & STIFFLEG) (COMMERCIAL CONSTRUCTION ONLY)				
511	STATIONARY TOWER CRANE 200 FEET AND OVER MEASURED FROM BOOM FOOT PIN (COMMERCIAL CONSTRUCTION ONLY)				
512	SELF-ERECTING TOWER CRANE 100 FEET AND OVER MEASURED FROM BOOM FOOT PIN (COMMERCIAL CONSTRUCTION ONLY)				
513	TRAVELING TOWER CRANE (COMMERCIAL CONSTRUCTION ONLY)				
514	TRUCK OR CRAWLER CRANE UP TO AND NOT INCLUDING 150 FEET OF BOOM, INCLUDING JIB (COMMERCIAL CONSTRUCTION ONLY)				
<b>GROUP 4</b>		2012-12-24	33.10	15.95	49.05
515	CRAWLER BACKHOE INCLUDING ATTACHMENTS (COMMERCIAL CONSTRUCTION ONLY)				
516	FIREPERSON, CHIEF BOILER LICENSE (COMMERCIAL CONSTRUCTION ONLY)				
517	HOIST ENGINEER (THREE DRUMS OR MORE) (COMMERCIAL CONSTRUCTION ONLY)				
518	LOCOMOTIVE (COMMERCIAL CONSTRUCTION ONLY)				
519	OVERHEAD CRANE ( INSIDE BUILDING PERIMETER) (COMMERCIAL CONSTRUCTION ONLY)				
520	TRACTOR . BOOM TYPE (COMMERCIAL CONSTRUCTION ONLY)				
<b>GROUP 5</b>		2012-12-24	32.93	15.95	48.88
521	AIR COMPRESSOR 450 CFM OR OVER (TWO OR MORE MACHINES) (COMMERCIAL CONSTRUCTION ONLY)				
522	CONCRETE MIXER (COMMERCIAL CONSTRUCTION ONLY)				
523	CONCRETE PUMP UP TO 31 METERS/101 FEET OF BOOM				

524	DRILL RIGS, HEAVY ROTARY OR CHURN OR CABLE DRILL WHEN USED FOR CAISSON FOR ELEVATOR OR BUILDING CONSTRUCTION (COMMERCIAL CONSTRUCTION ONLY)				
525	FORKLIFT (COMMERCIAL CONSTRUCTION ONLY)				
526	FRONT END, SKID STEER 1 C YD AND OVER				
527	HOIST ENGINEER ( ONE OR TWO DRUMS) (COMMERCIAL CONSTRUCTION ONLY)				
528	MECHANIC-WELDER (ON POWER EQUIPMENT) (COMMERCIAL CONSTRUCTION ONLY)				
529	POWER PLANT (100 KW AND OVER OR MULTIPLES EQUAL TO 100KW AND OVER) (COMMERCIAL CONSTRUCTION ONLY)				
530	PUMP OPERATOR AND/OR CONVEYOR (TWO OR MORE MACHINES) (COMMERCIAL CONSTRUCTION ONLY)				
531	SELF-ERECTING TOWER CRANE UNDER 100 FEET MEASURED FROM BOOM FOOT PIN (COMMERCIAL CONSTRUCTION ONLY)				
532	STRADDLE CARRIER (COMMERCIAL CONSTRUCTION ONLY)				
533	TRACTOR OVER D2 (COMMERCIAL CONSTRUCTION ONLY)				
534	WELL POINT PUMP (COMMERCIAL CONSTRUCTION ONLY)				
<b>GROUP 6</b>		2012-12-24	31.42	15.95	47.37
535	CONCRETE BATCH PLANT (COMMERCIAL CONSTRUCTION ONLY)				
536	FIREPERSON, FIRST CLASS BOILER LICENSE (COMMERCIAL CONSTRUCTION ONLY)				
537	FRONT END, SKID STEER UP TO 1 C YD				
538	GUNITE MACHINE (COMMERCIAL CONSTRUCTION ONLY)				
539	TRACTOR OPERATOR D2 OR SIMILAR SIZE (COMMERCIAL CONSTRUCTION ONLY)				
540	TRENCHING MACHINE (SEWER, WATER, GAS) EXCLUDES WALK BEHIND TRENCHER				
<b>GROUP 7</b>		2012-12-24	30.30	15.95	46.25
541	AIR COMPRESSOR 600 CFM OR OVER (COMMERCIAL CONSTRUCTION ONLY)				
542	BRAKEPERSON (COMMERCIAL CONSTRUCTION ONLY)				
543	CONCRETE PUMP/PUMPCRETE OR COMPLACO TYPE (COMMERCIAL CONSTRUCTION ONLY)				
544	FIREPERSON, TEMPORARY HEAT SECOND CLASS BOILER LICENSE (COMMERCIAL CONSTRUCTION ONLY)				
545	OILER (POWER SHOVEL, CRANE, TRUCK CRANE, DRAGLINE, CRUSHERS AND MILLING MACHINES, OR OTHER SIMILAR POWER EQUIPMENT) (COMMERCIAL CONSTRUCTION ONLY)				
546	PICK UP SWEEPER (ONE CUBIC YARD HOPPER CAPACITY) (COMMERCIAL CONSTRUCTION ONLY)				
547	PUMP AND/OR CONVEYOR (COMMERCIAL CONSTRUCTION ONLY)				
<b>GROUP 8 *</b>		2012-12-24	28.29	15.95	44.24
548	ELEVATOR OPERATOR (COMMERCIAL CONSTRUCTION ONLY)				

- 549 GREASER (COMMERCIAL CONSTRUCTION ONLY)
- 550 MECHANICAL SPACE HEATER (TEMPORARY HEAT NO BOILER LICENSE REQUIRED)  
(COMMERCIAL CONSTRUCTION ONLY)

### ***TRUCK DRIVERS***

<b>GROUP 1</b>	2012-12-24	27.10	13.65	40.75
	2013-05-01	27.25	14.00	41.25

- 601 MECHANIC . WELDER
- 602 TRACTOR TRAILER DRIVER
- 603 TRUCK DRIVER (HAULING MACHINERY INCLUDING OPERATION OF HAND AND POWER  
OPERATED WINCHES)

<b>GROUP 2</b>	2012-12-24	26.55	13.65	40.20
	2013-05-01	26.70	14.00	40.70

- 604 FOUR OR MORE AXLE UNIT, STRAIGHT BODY TRUCK

<b>GROUP 3</b>	2012-12-24	26.45	13.65	40.10
	2013-05-01	26.60	14.00	40.60

- 605 BITUMINOUS DISTRIBUTOR DRIVER
- 606 BITUMINOUS DISTRIBUTOR (ONE PERSON OPERATION)
- 607 THREE AXLE UNITS

<b>GROUP 4 *</b>	2012-12-24	26.45	13.65	40.10
	2013-05-01	26.60	14.00	40.60

- 608 BITUMINOUS DISTRIBUTOR SPRAY OPERATOR (REAR AND OILER)
- 609 DUMP PERSON
- 610 GREASER
- 611 PILOT CAR DRIVER
- 612 RUBBER-TIRED, SELF-PROPELLED PACKER UNDER 8 TONS
- 613 TWO AXLE UNIT
- 614 SLURRY OPERATOR
- 615 TANK TRUCK HELPER (GAS, OIL, ROAD OIL, AND WATER)
- 616 TRACTOR OPERATOR, UNDER 50 H.P.

### ***SPECIAL CRAFTS***

701	HEATING AND FROST INSULATORS	2012-12-24	36.86	15.00	51.86
702	BOILERMAKERS	2012-12-24	31.87	24.40	56.27
		2013-01-01	33.52	24.40	57.92
703	BRICKLAYERS	2012-12-24	29.02	22.04	51.06
704	CARPENTERS	2012-12-24	26.20	14.49	40.69
		2013-05-01	26.75	14.49	41.24
705	CARPET LAYERS (LINOLEUM)	2012-12-24	28.79	13.90	42.69
706	CEMENT MASONS	2012-12-24	29.69	16.30	45.99
		2013-05-01	30.19	16.30	46.49
707	ELECTRICIANS	2012-12-24	34.71	19.37	54.08
		2013-06-01	35.42	19.77	55.19
708	ELEVATOR CONSTRUCTORS	2012-12-24	43.21	28.33	71.54
		2013-01-01	43.21	29.98	73.19
709	GLAZIERS	2012-12-24	25.58	15.12	40.70
		2013-05-01	26.58	15.12	41.70
710	LATHERS	2012-12-24	26.30	16.20	42.50
		2013-05-01	26.85	16.20	43.05
712	IRONWORKERS	2012-12-24	29.24	21.20	50.44
714	MILLWRIGHT	2012-12-24	27.70	16.55	44.25
		2013-05-01	28.40	16.55	44.95
715	PAINTERS (INCLUDING HAND BRUSHED, HAND SPRAYED, AND THE TAPING OF PAVEMENT MARKINGS)	2012-12-24	27.81	14.69	42.50
		2013-05-01	28.36	14.69	43.05

716*	PILED RIVER (INCLUDING VIBRATORY DRIVER OR EXTRACTOR FOR PILING AND SHEETING OPERATIONS)	2012-12-24	30.42	17.35	47.77
		2013-05-01	30.92	17.35	48.27
717	PIPEFITTERS . STEAMFITTERS	2012-12-24	37.26	16.35	53.61
		2013-05-01	38.51	16.35	54.86
718	PLASTERERS	2012-12-24	30.32	17.05	47.37
		2013-05-01	30.82	17.05	47.87
719	PLUMBERS	2012-12-24	37.26	16.35	53.61
		2013-05-01	38.51	16.35	54.86
720	ROOFER	2012-12-24	30.50	13.90	44.40
721	SHEET METAL WORKERS	2012-12-24	30.66	20.59	51.25
722	SPRINKLER FITTERS	2012-12-24	31.88	16.87	48.75
723	TERRAZZO WORKERS	2012-12-24	31.58	17.53	49.11
724	TILE SETTERS	2012-12-24	23.14	19.46	42.60
725	TILE FINISHERS	2012-12-24	23.14	19.46	42.60
726	DRYWALL TAPER	2012-12-24	28.41	14.69	43.10
		2013-05-01	28.96	14.69	43.65
727	WIRING SYSTEM TECHNICIAN	2012-12-24	33.12	11.98	45.10
728	WIRING SYSTEMS INSTALLER	2012-12-24	23.17	10.02	33.19
729	ASBESTOS ABATEMENT WORKER	2012-12-24	27.37	15.63	43.00
		2013-01-01	27.59	16.01	43.60

730 SIGN ERECTOR

2012-12-24 25.39 10.78 36.17

General Decision Number: MN130001 01/04/2013 MN1

Superseded General Decision Number: MN20120001

State: Minnesota

Construction Type: Highway

Counties: Carlton, Cook, Itasca, Koochiching, Lake, Pine and  
St Louis Counties in Minnesota.

#### HIGHWAY CONSTRUCTION PROJECTS

Modification Number	Publication Date
0	01/04/2013

\* SUMN2010-001 10/29/2012

	Rates	Fringes
BRICKLAYER.....	\$ 29.02	22.04
CARPENTER.....	\$ 30.37	17.40
CEMENT MASON/CONCRETE FINISHER...	\$ 32.78	16.80
ELECTRICIAN		
Electrician.....	\$ 34.71	19.37
Ground Person.....	\$ 24.99	12.37
Lineman.....	\$ 37.30	16.00
Wiring System Installer.....	\$ 22.46	8.65
Wiring System Technician....	\$ 32.09	10.61
IRONWORKER.....	\$ 29.24	21.20
LABORER		
Blaster.....	\$ 28.89	15.33
Common or General.....	\$ 26.14	15.33
Flag Person.....	\$ 26.14	15.33
Landscape.....	\$ 17.49	12.04
Skilled.....	\$ 26.14	15.33
Underground & Open Ditch (8 ft below grade).....	\$ 26.84	15.33
MILLWRIGHT.....	\$ 20.00	
PAINTER (Including Pavement Marking).....	\$ 27.81	14.69
PILEDRIVERMAN.....	\$ 30.42	17.35
POWER EQUIPMENT OPERATOR:		
GROUP 2.....	\$ 31.97	16.70

GROUP 3.....	\$ 31.42	16.70
GROUP 4.....	\$ 31.12	16.70
GROUP 5.....	\$ 28.08	16.70
GROUP 6.....	\$ 26.87	16.70
Speciality Equipment		
Articulated Hauler.....	\$ 31.12	16.70
Boom Truck.....	\$ 31.12	16.70
Off-Road Truck.....	\$ 31.12	16.70
OPERATING ENGINEER CLASSIFICATIONS		

GROUP 2: Helicopter Pilot; Concrete Pump; Cranes over 135 ft boom excluding jib; Dragline, Crawler, Hydraulic Backhoe and other similar equipment with shovel-type controls including attachments 3 cu yd & over; Grader or Motor Patrol; Pile Driving

GROUP 3: Asphalt Bituminous Stabilizer Plant; Cableway; Concrete Mixer, Stationary Plant; Derrick (guy or stiff leg) (power) (skids or stationary); Dragline, Crawler, Hydraulic Backhoe and other similar equipment with shovel-type controls including attachments up to 3 cu yd; Dredge or Engineers Dredge (Power); Front end loader 5 cu yd & over including attachments; Locomotive Crane Operator; Mixer (paving) concrete paving, Road Mole including Mucking operations, Conway or similar type; Mechanic, Welder; Tractor, Boom type. Tandem Scraper; Truck Crane, Crawler Crane; Tugboat 100 H.P. & over.

GROUP 4: Air Track Rock Drill; Automatic Road Machine CMI or similar; Backfiller; Concrete Batch Plant; Bituminous Roller Rubber Tire or Steel Drum 8 tons & over; Bituminous Spreader & Finishing Machine (power), including pavers, Macro Surfacing & Micro Surfacing or similar types (Operator & Screed person); Brokk or RTC remote control or similar type with attachments; Cat Challenger Tractor or similar types pulling Rock Wagons; Bulldozer & Scraper; Chip Harvester & Tree Cutter; Concrete Distributor & Spreader Finishing Machine, Longitudinal Float, Joint Machine, Spray Machine; Concrete Mixer on jobsite; Concrete Mixer; Crusing Plant (gravel, stone) or Gravel Washing, Crushing & Screening Plant; Curb Machine; Directional Boring Machine; Drill Rigs, Heavy Rotary or Churn or Cable Drill; Dual Tractor; Elevating Grader; Fork Lift; Front End, Skid Steer 1 to 5 cu yd; GPS Remote Operating of equipment; Hoist Engineer (power); Hydraulic Tree Planter; Locomotive; Milling, Grinding, Planing, Fine Grade, or Trimmer Machine; Multiple Machines such as Air Compressors, Welding Machines, Generators, Pumps; Pavement Breaker or Tamping Machine, Mighty Mite or similar type; Pickup Sweeper 1 cu yd & over hopper capacity; Horizontal Boring Machine power actuated over 6 inches; Pugmill; Pumpcrete; Rubber Tired Farm Tractor with Backhoe attachment; Scraper; Self-Propelled Soil Stabilizer; Slip Form (power driven) paving; Tractor, Bulldozer; Wheel type Tractor over 50 hp with PTO; Trenching Machine excludes walk behind Trencher; Tub Grinder, Morbark or similar type;



Well Point installation or Dismantling.

GROUP 5: Air Compressor 600 cfm or over; Bituminous Roller under 8 tons; Concrete Saw multiple blade; Form Trench Digger (power); Front End Skid Steer up to 1 cu yd; Guniater, Gunall; Hydraulic Log Splitter; Loader, Barber Greene or similar; Post Hole Driving Machine/Post Hole Auger; Power Actuated Auger & Boring Machine; Power Actuated Jack; Pump; Self-Propelled Chip Spreader (Flaherty or similar); Sheep Foot Compactor with blade 200 hp & over; Shouldering Machine (Power) APSCO or similar type including self-propelled Sand and Chip Spreader; Stump Chipper and Tree Chipper; Tree Farmer (Machine).

GROUP 6: Cat, Challenger or similar tractor when pulling Disk or Roller; Conveyor; Dredge Deck Hand; Fire Person or Tank Car Heater; Gravel Screening Plant (portable, not crushing or washing); Greaser (tractor); Lever Person; Oiler (Power Shovel, Truck Crane, Dragline, Crusher and Milling Machine); Power Sweeper; Sheep Foot Roller & Rollers on Gravel Compaction including vibrating rollers; Wheel type Tractor over 50 hp.

#### TRUCK DRIVER

GROUP 1.....	\$ 27.10	13.65
GROUP 2.....	\$ 26.55	13.65
GROUP 3.....	\$ 26.45	13.65
GROUP 4.....	\$ 26.20	13.65

#### TRUCK DRIVER CLASSIFICATIONS:

GROUP 1: Mechanic, Welder; Tractor Trailer; Truck hauling machinery including operation of hand and power operated winches.

GROUP 2: Four or more axle unit straight body truck.

GROUP 3: Bituminous Distributor driver; Bituminous Distributor (one person operation); Three Axle units.

GROUP 4: Bituminous Distributor Spray operator (rear and oiler); Dump Person; Greaser; Pilot Car; Rubber Tire self-propelled Packer under 8 tons; Two Axle unit; Slurry Operator; Tank Truck Tender (gas, road oil, water); Tractor under 50 hp.

Tunnel Miner.....	\$ 26.84	15.33
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WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Unlisted classifications needed for work not included within the scope of the classifications listed may be added after

award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

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The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is union or non-union.

#### Union Identifiers

An identifier enclosed in dotted lines beginning with characters other than "SU" denotes that the union classification and rate have found to be prevailing for that classification. Example: PLUM0198-005 07/01/2011. The first four letters , PLUM, indicate the international union and the four-digit number, 0198, that follows indicates the local union number or district council number where applicable , i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2011, following these characters is the effective date of the most current negotiated rate/collective bargaining agreement which would be July 1, 2011 in the above example.

Union prevailing wage rates will be updated to reflect any changes in the collective bargaining agreements governing the rates.

0000/9999: weighted union wage rates will be published annually each January.

#### Non-Union Identifiers

Classifications listed under an "SU" identifier were derived from survey data by computing average rates and are not union rates; however, the data used in computing these rates may include both union and non-union data. Example: SULA2004-007 5/13/2010. SU indicates the rates are not union majority rates, LA indicates the State of Louisiana; 2004 is the year of the survey; and 007 is an internal number used in producing the wage determination. A 1993 or later date, 5/13/2010, indicates the classifications and rates under that identifier were issued as a General Wage Determination on that date.

Survey wage rates will remain in effect and will not change

until a new survey is conducted.

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#### WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- \* an existing published wage determination
- \* a survey underlying a wage determination
- \* a Wage and Hour Division letter setting forth a position on a wage determination matter
- \* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations  
Wage and Hour Division  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board

U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION

General Decision Number: MN130105 03/29/2013 MN105

Superseded General Decision Number: MN20120105

State: Minnesota

Construction Type: Heavy

County: St Louis County in Minnesota.

HEAVY CONSTRUCTION PROJECTS

Modification Number	Publication Date
0	01/04/2013
1	02/22/2013
2	03/29/2013

BOIL0647-004 01/01/2013

	Rates	Fringes
BOILERMAKER.....	\$ 32.40	25.37
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CARP0361-020 07/11/2011		

ST LOUIS COUNTY (Southern 1/3 including Cotton, Floodwood, Fond Du Lac, and Proctor)

	Rates	Fringes
CARPENTER (Including Form Work).....	\$ 31.07	15.80
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CARP0361-021 07/11/2011		

ST LOUIS (Duluth)

	Rates	Fringes
CARPENTER (Including Form Work).....	\$ 31.47	15.80
-----		
CARP0606-010 05/01/2011		

ST LOUIS COUNTY (Northeast 2/3 including Cook, Cusson, Ely; and Western part including Chisholm, Greaney, and Orr)

	Rates	Fringes
CARPENTER (Including Form Work).....	\$ 31.07	15.80
-----		

ELEC0242-012 06/03/2012

ST. LOUIS (South part bounded on the north by the north line of  
Kelsey Township extended east & west)

	Rates	Fringes
ELECTRICIAN.....	\$ 31.27	23.12
-----		

ELEC0294-006 06/03/2012

ST. LOUIS (North part bounded on the south by the south line of  
Ellsburg Township, extended east & west)

	Rates	Fringes
ELECTRICIAN.....	\$ 32.63	23.74
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ENGI0049-064 05/01/2012

	Rates	Fringes
OPERATOR: Power Equipment		
Group 2.....	\$ 31.97	16.70
Group 3.....	\$ 31.42	16.70
Group 4.....	\$ 31.12	16.70
Group 5.....	\$ 28.08	16.70
Group 6.....	\$ 26.87	16.70

POWER EQUIPMENT OPERATOR CLASSIFICATIONS

GROUP 2: Crane with over 135' Boom, excluding jib; Dragline  
& Hydraulic Backhoe with shovel-type controls, 3 cubic  
yards and over; Grader/Blade finishing earthwork and  
bituminous.

GROUP 3: Dragline & Hydraulic Backhoe with shovel-type  
controls up to 3 cubic yards; Loader 5 cu yd and over;  
Mechanic; Tandem Scraper; Truck Crane; Crawler Crane

GROUP 4: Bituminous Roller 8 tons & over; Crusher/Crushing  
Plant; Drill Rig; Elevating Grader; Loader over 1 cu yd;  
Grader; Pump; Scraper up; to 32 cu yd; Farm Tractor with  
Backhoe attachment; Skid Steer Loader over 1 cu yd with  
Backhoe attachment; Bulldozer over 50 hp.

GROUP 5: Bituminous Roller under 8 tons; Bituminous Rubber  
Tire Roller; Loader up to 1 cu yd; Bulldozer 50 hp or less.

GROUP 6: Oiler; Self-Propelled Vibrating Packer 35 hp and  
over.

CRANE OVER 135' BOOM, EXCLUDING JIB - \$ .25 PREMIUM;  
CRANE OVER 200' BOOM, EXCLUDING JIB - \$ .50 PREMIUM

UNDERGROUND WORK:  
TUNNELS, SHAFTS, ETC. - \$ .25 PREMIUM  
UNDER AIR PRESSURE - \$ .50 PREMIUM

HAZARDOUS WASTE PROJECTS (PPE Required):  
LEVEL A - \$1.25 PREMIUM  
LEVEL B - \$ .90 PREMIUM  
LEVEL C - \$ .60 PREMIUM

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IRON0512-028 05/01/2012

	Rates	Fringes
IRONWORKER, STRUCTURAL AND REINFORCING.....	\$ 29.24	21.20

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LABO0132-038 05/01/2009

	Rates	Fringes
LABORER Common or General (Natural Gas Pipeline only).....	\$ 16.70	10.49

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\* LABO0563-034 05/01/2012

ST LOUIS (South of T. 55 N)

	Rates	Fringes
LABORERS (1) Common or General.....	\$ 26.14	15.33
(2) Mason Tender Cement/Concrete.....	\$ 26.34	12.94
(6) Pipe Layer.....	\$ 28.14	15.33

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\* LABO0563-035 05/01/2012

ST LOUIS (North of T. 55 N)

	Rates	Fringes
LABORERS (1) Common or General.....	\$ 24.26	17.21
(2) Mason Tender Cement/Concrete.....	\$ 24.46	17.21
(6) Pipe Layer.....	\$ 26.26	17.21

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PLAS0633-036 05/01/2012

ST. LOUIS COUNTY (North of T 55N)

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER...	\$ 26.71	14.64
-----		
PLAS0633-039 05/01/2012		

ST. LOUIS COUNTY (South of T 55N)

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER...	\$ 32.78	16.80
-----		
SUMN2009-072 09/28/2009		

	Rates	Fringes
LABORER: Landscape.....	\$ 12.88	4.61
-----		
TEAM0160-018 05/01/2012		

	Rates	Fringes
TRUCK DRIVER (DUMP)		
(1) Articulated Dump Truck..	\$ 26.70	14.05
(2) 3 Axles/4 Axles; 5		
Axles receive \$0.30		
additional per hour.....	\$ 26.15	14.05
(3) Tandem Axles; & Single		
Axles.....	\$ 26.05	14.05
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WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

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The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is union or non-union.



## Union Identifiers

An identifier enclosed in dotted lines beginning with characters other than "SU" denotes that the union classification and rate have found to be prevailing for that classification. Example: PLUM0198-005 07/01/2011. The first four letters , PLUM, indicate the international union and the four-digit number, 0198, that follows indicates the local union number or district council number where applicable , i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2011, following these characters is the effective date of the most current negotiated rate/collective bargaining agreement which would be July 1, 2011 in the above example.

Union prevailing wage rates will be updated to reflect any changes in the collective bargaining agreements governing the rates.

0000/9999: weighted union wage rates will be published annually each January.

## Non-Union Identifiers

Classifications listed under an "SU" identifier were derived from survey data by computing average rates and are not union rates; however, the data used in computing these rates may include both union and non-union data. Example: SULA2004-007 5/13/2010. SU indicates the rates are not union majority rates, LA indicates the State of Louisiana; 2004 is the year of the survey; and 007 is an internal number used in producing the wage determination. A 1993 or later date, 5/13/2010, indicates the classifications and rates under that identifier were issued as a General Wage Determination on that date.

Survey wage rates will remain in effect and will not change until a new survey is conducted.

---

## WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- \* an existing published wage determination
- \* a survey underlying a wage determination
- \* a Wage and Hour Division letter setting forth a position on a wage determination matter

\* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations  
Wage and Hour Division  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

=====

END OF GENERAL DECISION

General Decision Number: MN130041 03/29/2013 MN41

Superseded General Decision Number: MN20120041

State: Minnesota

Construction Type: Building

County: St Louis County in Minnesota.

BUILDING CONSTRUCTION PROJECTS (does not include single family homes or apartments up to and including 4 stories).

Modification Number	Publication Date
0	01/04/2013
1	02/22/2013
2	03/29/2013

ASBE0049-007 06/06/2012

	Rates	Fringes
ASBESTOS WORKER/HEAT & FROST INSULATOR (Includes the application of all insulating materials, protective coverings, coatings & finishes to all types of mechanical systems).....	\$ 26.82	22.15

-----  
BOIL0647-007 01/01/2013

	Rates	Fringes
BOILERMAKER.....	\$ 32.40	25.37

-----  
BRMN0001-050 06/28/2010

ST LOUIS (Remaining Northern part)

	Rates	Fringes
TILE SETTER.....	\$ 27.35	18.18

-----  
BRMN0003-008 05/01/2011

ST. LOUIS COUNTY (City of Duluth and South of a line between Townships #54 & #55, 2 miles north of Cotton)

	Rates	Fringes
BRICKLAYER.....	\$ 31.58	18.66

-----  
BRMN0003-011 05/01/2008

ST. LOUIS (City of Duluth and south of Township Line 55)

	Rates	Fringes
TILE SETTER.....	\$ 24.13	17.38

-----

BRMN0016-002 05/01/2011

ST. LOUIS COUNTY (North of a line between Townships #54 & #55,  
2 miles north of Cotton)

	Rates	Fringes
BRICKLAYER.....	\$ 31.63	18.61

-----

CARP0361-012 07/11/2011

DULUTH AREA including Alborn, Arnold, Bartlett, Birch,  
Brookstone, Canyon, Clinton, Culver, Floodwood, Gowan, Island,  
Kelsey, Lakewood, Meadowlands, Munger, Palmers, Payne, Prasit,  
Shaw, Taft)

	Rates	Fringes
CARPENTER (Including Acoustical Installation, Drywall Hanging, Form Work & Overhead Door Installation).....	\$ 27.20	14.75

-----

CARP0596-005 07/01/2012

	Rates	Fringes
SOFT FLOOR LAYER.....	\$ 30.94	11.75

-----

CARP0606-001 05/01/2010

EXCLUDING DULUTH AREA

	Rates	Fringes
CARPENTER (Including Acoustical Installation, Drywall Hanging, Form Work & Overhead Door Installation).....	\$ 26.75	14.65

-----

ELEC0242-012 06/03/2012

ST. LOUIS (South part bounded on the north by the north line of

Kelsey Township extended east & west)

	Rates	Fringes
ELECTRICIAN.....	\$ 31.27	23.12
-----		
ELEC0294-006 06/03/2012		

ST. LOUIS (North part bounded on the south by the south line of  
Ellsburg Township, extended east & west)

	Rates	Fringes
ELECTRICIAN.....	\$ 32.63	23.74
-----		
ENGI0049-045 05/01/2012		

	Rates	Fringes
OPERATOR: Power Equipment		
GROUP 1.....	\$ 35.19	15.95
GROUP 2.....	\$ 34.85	15.95
GROUP 3.....	\$ 33.44	15.95
GROUP 4.....	\$ 33.10	15.95
GROUP 5.....	\$ 32.93	15.95
GROUP 6.....	\$ 31.42	15.95
GROUP 7.....	\$ 30.30	15.95
GROUP 8.....	\$ 28.29	15.95

#### POWER EQUIPMENT OPERATOR CLASSIFICATIONS

GROUP 1: Truck & Crawler Crane with 200' of Boom & Over,  
including Jib (\$.50 premium with 300' of Boom & over,  
including jib); & Tower Crane 250' & Over.

GROUP 2: Truck & Crawler Crane with 150' of Boom, up to but  
not including 200' of Boom, including Jib; & Tower Crane  
200' & Over.

GROUP 3: Traveling Tower Crane; Truck & Crawler Crane, up to  
but not including 150' of Boom, including Jib; Tower Crane  
(Stationary) up to 200'; All-Terrain Vehicle Crane, Boom  
Truck over 100 ft.

GROUP 4: Backhoe/Track/Trackhoe, Hoist (3 drums or more);  
Overhead Crane (inside building perimeter), Excavator.

GROUP 5: Asphalt Spreader, Bulldozer, Curb Machine, Drill,  
Forklift, Compressor 450 CFM or over (2 or more machines);  
Boom Truck up to 100 ft, Loader over 1 cu yd, Hoist (1 or  
2 drums); Mechanic; Milling Machine, Roller, Scraper,  
Tractor over D2.

GROUP 6: Bobcat/Skid Loader, Loader up to 1 cu. yd., Tractor  
D2 or similar size.

GROUP 7: Compressor 600 CFM or over, Crane Oiler.

GROUP 8: Oiler.

-----  
IRON0512-018 05/01/2012

	Rates	Fringes
IRONWORKER, ORNAMENTAL, REINFORCING, AND STRUCTURAL.....	\$ 29.24	21.20

-----  
\* LABO1091-011 01/01/2012

	Rates	Fringes
LABORER (ASBESTOS ABATEMENT) Removal from Floors, Walls & Ceilings.....	\$ 27.33	14.94

-----  
\* LABO1091-013 05/01/2012

ST. LOUIS (South of T 55 N)

	Rates	Fringes
Laborers:		
GROUP 1.....	\$ 21.95	14.93
GROUP 2.....	\$ 22.10	14.93
GROUP 3.....	\$ 22.35	14.93
GROUP 4.....	\$ 22.65	14.93

#### LABORER CLASSIFICATIONS

GROUP 1: Common or General, Asphalt Shoveler, Carpenter  
Tender, Form Stripping

GROUP 2: Vibrating Plate

GROUP 3: Pipelayer

GROUP 4: Mason Tender (Brick, Cement/Concrete)

-----  
\* LABO1097-008 05/01/2012

ST. LOUIS (North of T 55N)

	Rates	Fringes
LABORER		
GROUP 1.....	\$ 20.62	16.25

GROUP 2.....\$ 21.02 16.25

LABORERS CLASSIFICATIONS

GROUP 1 - Common or General, Asphalt Shoveler, Carpenter  
Tender, Form Stripping, Mason Tender (Brick,  
Cement/Concrete)

GROUP 2 - Pipelayer, Vibrating Plate

-----  
PAIN0106-001 05/01/2012

	Rates	Fringes
GLAZIER.....	\$ 25.58	15.17

FOOTNOTE:

1 to 4 years service - 1 week paid vacation; 5 to 11 years -  
2 weeks paid vacation; 11 years or more - 3 weeks paid  
vacation

-----  
PAIN0106-013 05/01/2012

	Rates	Fringes
Painters:		
New:		
Brush, Roller.....	\$ 27.81	14.77
Spray, Drywall		
Finisher/Taper.....	\$ 28.41	14.77
Repaint:		
Brush, Roller.....	\$ 26.31	14.77
Spray, Drywall		
Finisher/Taper.....	\$ 26.91	14.77

-----  
PLAS0633-024 05/01/2012

ST. LOUIS (North of White Face River) COUNTIES

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER...	\$ 26.71	14.64

-----  
PLAS0633-059 05/01/2012

CARLTON & ST. LOUIS (South of T 55N) COUNTIES

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER...	\$ 29.69	16.30

-----  
PLUM0011-019 05/07/2012

ST. LOUIS (South of an east-west line drawn through Cotton)

	Rates	Fringes
PLUMBER/PIPEFITTER.....	\$ 35.77	16.73

---

PLUM0589-007 05/01/2012

ST. LOUIS (North of an East- West line drawn through Cotton)

	Rates	Fringes
PLUMBER/PIPEFITTER		
Contracts \$90,000.00 and		
under.....	\$ 35.26	15.65
Contracts over \$90,000.00...	\$ 37.27	16.45

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ROOF0096-024 07/02/2012

ST. LOUIS (South of Hwy 16, excluding City of Forbes)

	Rates	Fringes
ROOFER.....	\$ 30.50	13.92

---

ROOF0096-025 05/01/2011

ST. LOUIS (Remaining Northern two-thirds)

	Rates	Fringes
ROOFER.....	\$ 26.50	10.32

---

SHEE0010-045 05/01/2009

ST. LOUIS (Southern one-third)

	Rates	Fringes
SHEET METAL WORKER (Including		
HVAC Duct Installation).....	\$ 31.61	16.52

---

SHEE0010-056 05/01/2008

ST. LOUIS (Northern two-thirds)

	Rates	Fringes
SHEET METAL WORKER (Including		
HVAC Duct Installation).....	\$ 29.99	16.08

---

SUMN2009-050 07/27/2009

Rates	Fringes
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LABORER: Landscape.....	\$ 12.88	4.61
TRUCK DRIVER: Dump Truck.....	\$ 19.15	5.70

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WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

---

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---

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=====

END OF GENERAL DECISION

DIVISION 1  
GENERAL REQUIREMENTS

**01 01 40 - WORK SCOPE DESCRIPTIONS**

1. GENERAL
  - A. This section is intended to clarify the scope of work in each Work Scope.
  - B. The Owner will award Multiple Prime Contracts for the construction of the project.
2. BID PACKAGING
  - A. Work Scopes referenced in this section are for work to be performed at Duluth International Airport, New Parking Structure and Exterior Wayfinding Signage, Bid Package 2D, Duluth, MN.
3. SCOPE OF WORK
  - A. The Work Scope categories are constructed to follow as close as possible the CSI format of the contract documents, but also FAA, MNDOT, and City of Duluth Specification Sections. However, Work Scopes may contain work described in more than one specification section and/or parts thereof.
  - B. Local custom and trade-union jurisdictional settlements do not control the scope of work included in each Prime Contract. When a potential jurisdictional dispute or similar interruption of construction activities is first identified or threatened, the affected Contracts shall promptly negotiate a reasonable settlement to avoid or minimize the pending interruption and its delays.
  - C. This section is intended to clarify the scope of work in each Work Scope. Each Work Scope includes all provisions of Division 01 Specifications.
  - D. Unless noted otherwise, each Work Scope shall include the complete labor and materials, equipment, applicable permits and applicable taxes required for the performance of the described work in accordance with the plans and specifications.

DIVISION 1  
GENERAL REQUIREMENTS

**01 01 40 - WORK SCOPE DESCRIPTIONS**

**WORK SCOPE DESCRIPTION INDEX**

Work Scope	2.20D:	Civil, Site Work, & Building Earthwork
	2.90D:	Landscaping
	3.30D:	Concrete
	3.40D:	Precast Wall Panel & Floor Plank
	4.20D:	Unit Masonry
	5.10D:	Struct. Steel & Misc. Metal Fabrication & Erection
	7.10D:	Metal Panels & Roofing
	8.22D:	Overhead Coiling Doors
	8.30D:	Doors, Frames, Hardware, & Misc. Specialties (Materials Only)
	8.40D:	Aluminum Framed Automatic Entrances, Storefronts, and Glass
	9.20D:	Metal Studs & Drywall
	9.60D:	Terrazzo
	9.65D:	Flooring
	9.90D:	Painting
	10.20D:	Interior & Exterior Wayfinding Signage
	14.20D:	Elevator
	21.10D:	Fire Suppression System
	22.10D:	Mechanical Systems
	26.10D:	Electrical Systems

**END OF SECTION 01 01 40**

## Work Scope 2.20D – Civil, Site Work, & Building Earthwork

### KA SPECIAL REQUIREMENTS

#### 1.01 CIVIL, SITE WORK, & BUILDING EARTHWORK

- A. **Specific Work Scope:** This Work Scope consists of the Work directly and indirectly required by the specification sections listed below, plus all project drawings, addenda, and other documents identified as part of this Work Scope package, regardless of design discipline, drawing sheet identification, or jurisdictional requirements. In the event of a conflict between the General Provisions and Special Provisions, the Special Provisions will prevail.

1. Include and conform to the necessary specifications Bid Items 1-71 must conform to:

- a. MNDOT Standard Specification 2005 Edition.
- b. City of Duluth Standard Specification 2010 Edition.
- c. FAA Standard Specifications.

2. Specific Specifications Sections that are the responsibility of the Work Scope:

Part 1	Title	Complete
Part 2	Bid Information and Proposal Forms	Complete
Part 3	Mandatory Contract Provisions	Complete
Part 4	General Provisions	Complete
Part 5	Supplementary General Conditions	Complete
Part 6	Safety & Security	Complete
Part 7	Special Conditions	Complete
Part 8	Technical Specifications	Complete
Part 9	Special Provisions	Complete
Part 10	Appendix	Complete
Part 11	Division 01 - General Requirements	Complete
07 13 00	Sheet Membrane Waterproofing	Complete
07 21 23	Foundation/Slab-On-Grade Insulation	As It Applies
31 05 16	Aggregate Materials	Complete
31 20 00	Earth Moving	Complete
33 46 13	Foundation Drainage System	Complete - For Reference Only - Will Be Paid At Unit Costs

#### 1.02 PROJECT SPECIFIC SCOPE CLARIFICATIONS

- A. **General Requirements for All Work Scope Categories:** Refer to Specifications Parts 1–11 for additional requirements affecting this Work Scope.
- B. **Scope: Including but not limited to:** Furnish complete labor and materials (unless noted otherwise) for all Work Scope indicated on the contract documents, specifically the specification sections identified above. Include all necessary layout of lines and elevations, field measurements, equipment and tools, material handling/hoisting equipment, receiving/off-loading/storing of materials (as coordinated with the Construction Manager Superintendent), freight and delivery charges, and sales and use taxes. Direct coordination and cooperation with other Work Scope contractors, other trades, code enforcement officials, regulatory government personnel, owner representatives, and the Construction Manager are considered part of the Work Scope. Quality control and self-inspections/corrections of completed work provided by this Work Scope is the responsibility of this scope. The establishment and enforcement of a safety program that complies with all applicable regulations (including OSHA) and the project specifications/contract documents is a part of the Work Scope. Any temporary lighting beyond the normal OSHA requirements to properly complete this Work Scope is to be included as a part of the scope.
- Excluding:** Dumpsters, temporary toilets, temporary electrical power and lighting to OSHA standards, temporary heat/equipment/fuel (required enclosures by this Work Scope), snow plowing of parking lots and roads to access site (snow removal specific to this Work Scope is to be included in this scope) will be provided by others.
- C. **Work Hours:** A typical workweek will be (5) 8-hour shifts from 7:00 AM to 3:30 PM, Monday through Friday (subject to change). However, all trade contractors are required to furnish the appropriate manpower count and work the required number of hours and days per week to fulfill the contract and schedule obligations.
- D. **Project Labor Agreement:** This project is governed by a Project Labor Agreement (PLA), requiring all labor to comply with the applicable contract documents.

## **Work Scope 2.20D – Civil, Site Work, & Building Earthwork**

### **KA SPECIAL REQUIREMENTS**

- E. **Schedule:** The enclosed construction schedule prepared by the Construction Manager is a guideline of the approximate sequence of events that must occur to meet the targeted start and completion dates. Various milestone dates throughout the project will be fine-tuned with the assistance of the trade contractors and suppliers:
  - 1. Also review Civil Phasing Plan Sheet C008 for additional information.
  - 2. Liquidated damages will be assessed per contract documents.
  - 3. **Skywalk Construction: Due to funding requirements, all work associated with the construction of the skywalk will not start until June 2014.**
- F. **Contract Duration:** This Work Scope will have 100 calendar days to complete their work.
- G. **Winter Conditions:** Include temporary enclosures, shelters, blankets, snow removal as required specific to the work/storage of materials and any other winter conditions costs specific to the work in accordance with the specifications and project schedule. Winter heat, fuel, and equipment as required:
  - 1. **NOTE:** The Construction Manager will provide enclosures, heat, and fuel as required to heat the DAA Parking Area and stair towers. All other winter conditions are the responsibility of this Work Scope.
- H. **Protection of Your Work:** Until final acceptance by the Owner team, any necessary protection of in progress or completed scope is incidental to this Work Scope.
- I. **Coordination:** Coordinate all work with the Construction Manager and other trade contractors and suppliers that may interface with your work.
- J. **Submissions:** Provide timely submission of insurance certificates, schedule of values, shop drawings, product data, samples, and mock-ups.
- K. **Compliance:** Comply with all Federal, State, and Local building codes and regulations, include OSHA, FAA, TSA, CBP, and DAA requirements.
- L. **Clean-Up:** Provide continuous and on-going housekeeping and clean-up as required to maintain a clean and safe jobsite. Clean-up related to this Work Scope is considered a part of the Work Scope, and provided at no additional cost. At a minimum, one (1) day per week will be designated as the Clean-Up day. Upon completion of the work described in this Work Scope, the contractor must verify with the Construction Manager that all construction debris, tools, and equipment have been removed and the work site is left in a satisfactory condition as determined by the Construction Manager.
- M. **Buy American Certification:** Contractors are required to adhere to all Buy American requirements in the Specifications as it pertains to the skywalk.
- N. **Restoration of Adjacent Turf Areas Damaged by Construction:** This Work Scope is responsible to restore disturbed turf areas with sod (seeding is not acceptable) in accordance with requirements of MNDOT Specifications - Landscaping. This requirement only pertains to contractor staging area as indicated on C005 and any other areas disturbed by this Work Scope.
- O. **Site, Utilities, and Electric Demolition:** Provide miscellaneous site, utilities, and electrical demolition indicated on the Drawings.
- P. **Site Clearing:** Provide general site clearing and preparation work as indicated on the civil drawings in their entirety.
- Q. **Building Earthwork:** Provide earthwork as indicated but not limited to:
  - 1. All mass excavation and backfill necessary for the parking structure and skywalk.
  - 2. Removal and disposal of abandoned utilities occurring within the excavation:
    - a. Items indicated to be removed on civil plans will be paid for at unit prices.
    - b. Removal and disposal of abandoned utilities not indicated on the documents should be considered incidental and included in lump sum building unit cost.
  - 3. Earth stripping and stockpiling:
    - a. There is NO area for spoils storage on site; spoils are to be removed on a daily basis unless approved by Construction Manager.
    - b. Contaminated soils removal.
  - 4. Grading including rough and fine grading:
    - a. Finish grading and turf establishment.
  - 5. Special requirements:
    - a. Erosion and sedimentation control as defined herein.
    - b. Soil treatment requirements.
    - c. Soil stabilization requirements including incidental.
    - d. Engineered retention systems to complete your scope.
    - e. Contaminated soils removal and building backfill as per soils engineering report recommendations.

## **Work Scope 2.20D – Civil, Site Work, & Building Earthwork**

### ***KA SPECIAL REQUIREMENTS***

6. All necessary permits.
- R. **Dewatering Requirements:** Provide all necessary labor and equipment to perform daily dewatering required until all foundation walls are backfilled and slab-on-grad is poured:
  1. Special coordination with concrete trade contractor during footing and foundation work is required.
  2. Coordinate extent and duration of dewatering activities with Kraus-Anderson® Construction Company.
- S. **Excavation Support Systems:** Provide (engineer, construct, maintain, and monitor) excavation support systems as required:
  1. Delegated Design Requirements: Provide professional engineering services as required by this specification section including engineering analysis, calculations, certified shop and erection drawings for excavation support systems:
    - a. System designed by professional engineer with relevant project experience, and complying with requirements of the Specifications.
    - b. Refer to Kraus-Anderson® Construction Company's Subcontract for additional requirements for professional liability coverage.
- T. **Subdrainage System (Drain Tile):** Provide sub grade drainage system in accordance with MNDOT Specifications and 33 46 13 including, but not limited to:
  1. Foundation drainage system complete including final connections within catch basin drawing structures as required.
  2. Work Scope 22.10D is responsible for sump pumps, piping, and wiring as indicated on 1/P201.
  3. Work Scope 3.30D is responsible to pour both catch basins (elevator pit and sump pit).
- U. **Construction Grading:** Provide and maintain suitable OSHA grades around site and localized excavated areas to accommodate construction activities and equipment access:
  1. Coordinate requirements with Kraus-Anderson® Construction Company and Architect/Engineer.
- V. **Storm Water Pollution Prevention Plan (SWPPP):** Provide labor and materials to install, maintain, monitor, and remove upon completion all elements and process required to administer the storm water compliance requirements for this Project as outlined within the documents and required by the State:
  1. Construction entrances and exit areas.
  2. Perimeter control around construction sites.
  3. Erosion control procedures.
  4. Sediment control procedures.
  5. Dewatering and drain basin procedures.
- W. **Traffic Control:** Provide traffic control spotters/flag personnel and have them present at all times during concrete deliveries and pours:
  1. Provide traffic and street barrier as required.
  2. Include Allowance as stipulated in Special Provisions Sections.
- X. **Construction Cleaning:** Perform daily construction cleaning operations for debris generated by this Work Scope:
  1. Debris tracked or carried off site into traffic lanes must be cleaned up immediately. If tracking continues, this Work Scope shall provide continuously cleaning operations during activities of this Work Scope.
  2. Hard surface areas shall be broom cleaned upon completion.
- Y. **Asphalt Paving:** Provide general site clearing and preparation work in accordance with MNDOT Specifications, and as indicated on the Drawings.
- Z. **Concrete Paving:** Provide general site clearing and preparation work in accordance with MNDOT Specifications, and as indicated on the Drawings.
- AA. **Site Utilities:** Provide and install all site utilities per MNDOT Specifications:
  1. Site electrical:
    - a. All site electrical shown on Plan Sheet CE101 is the responsibility of Work Scope 2.20D.
    - b. All other site electrical is the responsibility of Work Scope 26.10D.
  2. Utilities (domestic water, fire suppression water, sanitary sewer, storm, gas):
    - a. Work Scope 2.20D is responsible to bring utilities within 5'0" of the building.
    - b. Work Scope 22.10D is responsible to bring utilities from 5'0" into the building. This includes the installation of clean-outs and oil water separators as indicated on P101.
    - c. Work Scope 22.10D is also responsible for below grade storm drain shown on P101 at southwest circulation tower.



## **Work Scope 2.20D – Civil, Site Work, & Building Earthwork**

### **KA SPECIAL REQUIREMENTS**

- BB. **Parking Structure and Skywalk Work:** All costs associated with Specification Sections listed in 1.01 – Part 2 above shall be included within the line item #71 - Terminal Building Work:
1. All excavation and engineered backfill required for the construction of parking structure and skywalk should be included.
  2. Include all sheet waterproofing and foundation/slab-on-grade insulation. Fasten insulation as approved by Architect/Engineer:
    - a. Work Scope 2.20D is responsible to provide all vertical and horizontal insulation in which fill is placed on top of insulation.
    - b. Work Scope 3.30D is responsible to provide all horizontal insulation in which vapor barrier/concrete is directly under poured concrete (example: stoops).
  3. Include any and all necessary soil corrections as indicated on the plans and geotechnical report.

### **1.03 SPECIAL COORDINATION OR INSTALLATION REQUIREMENTS**

- A. **Field Engineering:** The Construction Manager will provide the standard surveying for the building, including staking all of the gridlines and offsets. (One initial set, one set of offsets, and a benchmark per floor). This Work Scope will be required to take the offsets and transfer as required. The Construction Manager may double check random elevations and locations at no cost to this Work Scope:
1. This Work Scope is responsible for all remaining layout.
  2. Layout and engineering for shoring and temporary supports shall be included.
  3. Layout and saw cutting, wall removals, shoring, installation of necessary support steel headers shall be included and as required.
- B. **Acceptance of Substrates and Existing Conditions:** Starting work constitutes acceptances of existing conditions, preparatory work, and substrates that may affect the performance of this Work Scope.
1. This Work Scope is responsible to coordinate and provide services of firm specialized in locating and documenting underground service and utilities similar to Gopher One.
- C. **Special Safety Requirements:** This Work Scope is responsible to follow all OSHA regulations for your required work areas.
- D. **Special Coordination:** Provide a qualified representative to coordinate with other trades:
1. Ensure interface between interrelated products are compatible with one another.
- E. **Special Coordination at Exterior Envelope (Vapor Barriers/Thermal Enclosure):** Construction exterior enclosure to ensure continuous thermal insulation and vapor barrier as indicated or required for a fully functioning system.
- F. **Sealants:** Provide sealants required for work associated with this Work Scope in accordance with Section 07 92 00.
- G. **Construction Cleaning:** Perform daily construction cleaning operations for debris generated by this Work Scope:
1. Materials to be removed and disposed in appropriate Kraus-Anderson® Construction Company dumpster.
- H. **Special Protection:** Take special care while working above other trades and to provide protection necessary to protect trades below from falling objects and sparks.
- I. **Soil Borings:** See Geotechnical Reports, Part 10 – Appendix of the Specifications.
- J. **Multiple Mobilizations, Off Peak Shifts, and Minimum Work Force:** To comply with the Project Schedule and phasing requirements, multiple mobilizations may be required. Refer to Project Schedule for additional requirements.
- K. **Coordination With Others:**
1. Utility and foundation work.
- L. **Deep Utility Excavations:**
1. Soil retention system will require Third Party Engineering.
  2. Coordination of temporary and permanent utility work within building footprint will be required with other Work Scopes.
- M. **Excavations for Other Work Scopes:**
1. Must be OSHA approved.
  2. Excavation widths and grades must be acceptable for other trades to work efficiently.

### **1.04 MATERIAL HANDLING AND STORAGE**

- A. **Delivery and Receiving of Materials:** Include necessary provisions as required.
- B. **Hoisting and Scaffolding:** Work Scope is responsible for all working platforms, scaffolding, hoisting, and equipment necessary to access and complete work.

## **Work Scope 2.20D – Civil, Site Work, & Building Earthwork**

### **KA SPECIAL REQUIREMENTS**

- C. **On-Site Storage:** Storing materials on site and possible relocating materials will be necessary. Coordinate with Construction Manager.

#### **1.05 SUBMITTAL REQUIREMENTS**

- A. In accordance with individual specification section requiring Submittals and Division 01 requirements, subcontractor shall coordinate, prepare, and submit a complete package of design submittals in accordance with the Project Schedule and requirements of the Contract Documents. Timely submission of insurance certificates, schedules of values, shop drawings, product data, samples, mock-ups, Disadvantaged Business DBE submittals, "Buy American" submittals, and final red-lined "As-Built" drawings as required, are considered a part of this Work Scope.
- B. **Quality Control Submittals:** In accordance with specification sections, submit mill reports and concrete trip tickets to Kraus-Anderson® Construction Company's Superintendent with each delivery. All contractors are to provide their own quality control measures for their Work Scope, to include self-inspections and correction of substandard work that does not meet the specification standards.
- C. **Requirements for Delegated Design – Third Party Engineering:**
1. Qualification of Design Engineer.
  2. Certificate of Insurance for Errors and Omissions per Contract requirements.

#### **1.06 ALLOWANCES**

- A. See Civil Unit Price Schedule.

#### **1.07 UNIT PRICES AND COST BREAK DOWNS**

- A. This Work Scope bidder must fill out the complete Bid Form Packet including Schedules, total Schedules, and carry Total forward to Item 1. Base Bid for Work Scope 2.20D Civil, Site Work, & Building Earthwork on Page 2 of the Bid Form.
- B. **Cost Breakdown No. 1:** Provide a breakout price on the Construction Manager issued Bid Form for all work associated with the construction of the skywalk. This price should include all material, labor, equipment, and overhead and profit:
1. Due to funding requirements, the construction of the skywalk will not start until the summer of 2014.

#### **1.08 ALTERNATES**

- A. Include alternate per Specifications Section 01 23 00 – Alternates.

-- End --

## Work Scope 2.90D – Landscaping KA SPECIAL REQUIREMENTS

### 1.01 LANDSCAPING

- A. **Specific Work Scope:** This Work Scope consists of the Work directly and indirectly required by the specification sections listed below, plus all project drawings, addenda, and other documents identified as part of this Work Scope package, regardless of design discipline, drawing sheet identification, or jurisdictional requirements. In the event of a conflict between the General Provisions and Special Provisions, the Special Provisions will prevail.
1. Include and conform to the necessary specifications:
    - a. MNDOT Standard Specification 2005 Edition.
    - b. City of Duluth Standard Specification 2010 Edition.
    - c. FAA Standard Specifications.
  2. Specific Specifications Sections that are the responsibility of the Work Scope:

Part 1	Title	Complete
Part 2	Bid Information and Proposal Forms	Complete
Part 3	Mandatory Contract Provisions	Complete
Part 4	General Provisions	Complete
Part 5	Supplementary General Conditions	Complete
Part 6	Safety & Security	Complete
Part 7	Special Conditions	Complete
Part 8	Technical Specifications	Complete
Part 9	Special Provisions	Complete
Part 10	Appendix	Complete
Part 11	Division 01 - General Requirements	Complete
32 92 00	Turf & Grasses	Complete
32 93 00	Plants	Complete
32 94 43	Tree Grates	Complete

### 1.02 PROJECT SPECIFIC SCOPE CLARIFICATIONS

- A. **General Requirements for All Work Scope Categories:** Refer to Specifications Parts 1–11 for additional requirements affecting this Work Scope.
- B. **Scope: Including but not limited to:** Furnish complete labor and materials (unless noted otherwise) for all Work Scope indicated on the contract documents, specifically the specification sections identified above. Include all necessary layout of lines and elevations, field measurements, equipment and tools, material handling/hoisting equipment, receiving/off-loading/storing of materials (as coordinated with the Construction Manager Superintendent), freight and delivery charges, and sales and use taxes. Direct coordination and cooperation with other Work Scope contractors, other trades, code enforcement officials, regulatory government personnel, owner representatives, and the Construction Manager are considered part of the Work Scope. Quality control and self-inspections/corrections of completed work provided by this Work Scope is the responsibility of this scope. The establishment and enforcement of a safety program that complies with all applicable regulations (including OSHA) and the project specifications/contract documents is a part of the Work Scope. Any temporary lighting beyond the normal OSHA requirements to properly complete this Work Scope is to be included as a part of the scope.
- Excluding:** Dumpsters, temporary toilets, temporary electrical power and lighting to OSHA standards, temporary heat/equipment/fuel (required enclosures by this Work Scope), snow plowing of parking lots and roads to access site (snow removal specific to this Work Scope is to be included in this scope) will be provided by others.
- C. **Work Hours:** A typical workweek will be (5) 8-hour shifts from 7:00 AM to 3:30 PM, Monday through Friday (subject to change). However, all trade contractors are required to furnish the appropriate manpower count and work the required number of hours and days per week to fulfill the contract and schedule obligations.
- D. **Project Labor Agreement:** This project is governed by a Project Labor Agreement (PLA), requiring all labor to comply with the applicable contract documents.
- E. **Schedule:** The enclosed construction schedule prepared by the Construction Manager is a guideline of the approximate sequence of events that must occur to meet the targeted start and completion dates. Various milestone dates throughout the project will be fine-tuned with the assistance of the trade contractors and suppliers:
1. Also review Civil Phasing Plan Sheet C008 for additional information.
  2. Liquidated damages will be assessed per contract documents.

## Work Scope 2.90D – Landscaping

### KA SPECIAL REQUIREMENTS

3. **Skywalk Construction:** Due to funding requirements, all work associated with the construction of the skywalk will not start until June 2014.
4. **All landscaping work will not start until June 2014.**
- F. **Contract Duration:** This Work Scope will have 45 calendar days to complete their work.
- G. **Protection of Your Work:** Until final acceptance by the Owner team, any necessary protection of in progress or completed scope is incidental to this Work Scope.
- H. **Coordination:** Coordinate all work with the Construction Manager and other trade contractors and suppliers that may interface with your work.
- I. **Submissions:** Provide timely submission of insurance certificates, schedule of values, shop drawings, product data, samples, and mock-ups.
- J. **Compliance:** Comply with all Federal, State, and Local building codes and regulations, include OSHA, FAA, TSA, CBP, and DAA requirements.
- K. **Clean-Up:** Provide continuous and on-going housekeeping and clean-up as required to maintain a clean and safe jobsite. Clean-up related to this Work Scope is considered a part of the Work Scope, and provided at no additional cost. At a minimum, one (1) day per week will be designated as the Clean-Up day. Upon completion of the work described in this Work Scope, the contractor must verify with the Construction Manager that all construction debris, tools, and equipment have been removed and the work site is left in a satisfactory condition as determined by the Construction Manager.
- L. **Buy American Certification:** Contractors are required to adhere to all Buy American requirements in the Specifications as it pertains to the skywalk.
- M. **Restoration of Adjacent Turf Areas Damaged by Construction:** This Work Scope is responsible to restore all disturbed areas within parking structure and skywalk construction limits with sod (seeding is not acceptable) in accordance with requirements of MNDOT Specifications - Landscaping.
- N. **Construction Cleaning:** Perform daily construction cleaning operations for debris generated by this Work Scope:
  1. Debris tracked or carried off site into traffic lanes must be cleaned up immediately. If tracking continues, this Work Scope shall provide continuously cleaning operations during activities of this Work Scope.
  2. Hard surface areas shall be broom cleaned upon completion.

#### 1.03 SPECIAL COORDINATION OR INSTALLATION REQUIREMENTS

- A. **Field Engineering:** The Construction Manager will provide the standard surveying for the building, including staking all of the gridlines and offsets. (One initial set, one set of offsets, and a benchmark per floor). This Work Scope will be required to take the offsets and transfer as required. The Construction Manager may double check random elevations and locations at no cost to this Work Scope:
  1. This Work Scope is responsible for all remaining layout.
  2. Layout and engineering for shoring and temporary supports shall be included.
- B. **Acceptance of Substrates and Existing Conditions:** Starting work constitutes acceptances of existing conditions, preparatory work, and substrates that may affect the performance of this Work Scope.
  1. This Work Scope is responsible to coordinate and provide services of firm specialized in locating and documenting underground services and utilities similar to Gopher One.
- C. **Special Coordination:** Provide a qualified representative to coordinate with other trades:
  1. Ensure interface between interrelated products are compatible with one another.
- D. **Construction Cleaning:** Perform daily construction cleaning operations for debris generated by this Work Scope:
  1. Materials to be removed and disposed in appropriate Kraus-Anderson® Construction Company dumpster.
- E. **Soil Borings:** See Geotechnical Reports, Part 10 – Appendix of the Specifications.
- F. **Multiple Mobilizations, Off Peak Shifts, and Minimum Work Force:** To comply with the Project Schedule and phasing requirements, multiple mobilizations may be required. Refer to Project Schedule for additional requirements:
  1. Coordinate requirements with Kraus-Anderson® Construction Company.

#### 1.04 MATERIAL HANDLING AND STORAGE

- A. **Delivery and Receiving of Materials:** Include necessary provisions as required.
- B. **Hoisting and Scaffolding:** Work Scope is responsible for all working platforms, scaffolding, hoisting, and equipment necessary to access and complete work.

## **Work Scope 2.90D – Landscaping**

### **KA SPECIAL REQUIREMENTS**

- C. **On-Site Storage:** Storing materials on site and possible relocating materials will be necessary. Coordinate with Construction Manager.

#### **1.05 SUBMITTAL REQUIREMENTS**

- A. In accordance with individual specification section requiring Submittals and Division 01 requirements, subcontractor shall coordinate, prepare, and submit a complete package of design submittals in accordance with the Project Schedule and requirements of the Contract Documents. Timely submission of insurance certificates, schedules of values, shop drawings, product data, samples, mock-ups, Disadvantaged Business DBE submittals, "Buy American" submittals, and final red-lined "As-Built" drawings as required, are considered a part of this Work Scope.
- B. **Quality Control Submittals:** In accordance with specification sections, submit mill reports and concrete trip tickets to Kraus-Anderson® Construction Company's Superintendent with each delivery. All contractors are to provide their own quality control measures for their Work Scope, to include self-inspections and correction of substandard work that does not meet the specification standards.

#### **1.06 ALLOWANCES**

- A. Not applicable.

#### **1.07 UNIT PRICES AND COST BREAK DOWNS**

- A. **Cost Breakdown No. 1:** Provide a breakout price on the Construction Manager issued Bid Form for all work associated with the construction of the skywalk. This price should include all material, labor, equipment, and overhead and profit:
1. Due to funding requirements, the construction of the skywalk will not start until the summer of 2014.

#### **1.08 ALTERNATES**

- A. Include alternate per Specifications Section 01 23 00 – Alternates.

-- End --

## Work Scope 3.30D – Concrete KA SPECIAL REQUIREMENTS

### 1.01 CONCRETE

- A. **Specific Work Scope:** This Work Scope consists of the Work directly and indirectly required by the specification sections listed below, plus all project drawings, addenda, and other documents identified as part of this Work Scope package, regardless of design discipline, drawing sheet identification, or jurisdictional requirements. In the event of a conflict between the General Provisions and Special Provisions, the Special Provisions will prevail.

1. Specific Specifications Sections that are the responsibility of the Work Scope:
 

Part 1	Title	Complete
Part 2	Bid Information and Proposal Forms	Complete
Part 3	Mandatory Contract Provisions	Complete
Part 4	General Provisions	Complete
Part 5	Supplementary General Conditions	Complete
Part 6	Safety & Security	Complete
Part 7	Special Conditions	Complete
Part 10	Appendix	Complete
Part 11	Division 01 - General Requirements	Complete
03 10 00	Concrete Formwork	Complete
03 20 00	Concrete Reinforcement	Complete
03 30 00	Cast-In-Place Concrete	Complete
07 21 23	Foundation/Slab-On-Grade Insulation	As It Applies
07 26 16	Under-Slab Vapor Barrier	Complete
07 92 00	Joint Sealants	As It Applies
07 95 13	Expansion Joint Cover Assemblies	As It Applies
2. Items specified in other Sections, but installed by this Work Scope
 

Division 05	Embeds and Bollards (Pipe)	Installation Only
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### 1.02 PROJECT SPECIFIC SCOPE CLARIFICATIONS

- A. **General Requirements for All Work Scope Categories:** Refer to Specifications Parts 1–7 and 10-11 for additional requirements affecting this Work Scope.

**Scope: Including but not limited to:** Furnish complete labor and materials (unless noted otherwise) for all Work Scope indicated on the contract documents, specifically the specification sections identified above. Include all necessary layout of lines and elevations, field measurements, equipment and tools, material handling/hoisting equipment, receiving/off-loading/storing of materials (as coordinated with the Construction Manager Superintendent), freight and delivery charges, and sales and use taxes. Direct coordination and cooperation with other Work Scope contractors, other trades, code enforcement officials, regulatory government personnel, owner representatives, and the Construction Manager are considered part of the Work Scope. Quality control and self-inspections/corrections of completed work provided by this Work Scope is the responsibility of this scope. The establishment and enforcement of a safety program that complies with all applicable regulations (including OSHA) and the project specifications/contract documents is a part of the Work Scope. Any temporary lighting beyond the normal OSHA requirements to properly complete this Work Scope is to be included as a part of the scope.

**Excluding:** Dumpsters, temporary toilets, temporary electrical power and lighting to OSHA standards, temporary heat/equipment/fuel (required enclosures by this Work Scope), snow plowing of parking lots and roads to access site (snow removal specific to this Work Scope is to be included in this scope) will be provided by others.

- B. **Work Hours:** A typical workweek will be (5) 8-hour shifts from 7:00 AM to 3:30 PM, Monday through Friday (subject to change). However, all trade contractors are required to furnish the appropriate manpower count and work the required number of hours and days per week to fulfill the contract and schedule obligations.
- C. **Project Labor Agreement:** This project is governed by a Project Labor Agreement (PLA), requiring all labor to comply with the applicable contract documents.
- D. **Schedule:** The enclosed construction schedule prepared by the Construction Manager is a guideline of the approximate sequence of events that must occur to meet the targeted start and completion dates. Various milestone dates throughout the project will be fine-tuned with the assistance of the trade contractors and suppliers:
1. Also review Civil Phasing Plan Sheet C008 for additional information.
  2. Liquidated damages will be assessed per contract documents.



## Work Scope 3.30D – Concrete KA SPECIAL REQUIREMENTS

3. **Skywalk Construction:** Due to funding requirements, all work associated with the construction of the skywalk will not start until June 2014.
- E. **Contract Duration:** This Work Scope will have 60 working days to complete their work.
- F. **Winter Conditions:** Include temporary enclosures, shelters, blankets, snow removal as required specific to the work/storage of materials and any other winter conditions costs specific to the work in accordance with the specifications and project schedule. Winter heat, fuel, and equipment as required:
1. **NOTE:** The Construction Manager will provide enclosures, heat, and fuel as required to heat the DAA Parking Area and stair towers. All other winter conditions are the responsibility of this Work Scope.
- G. **Protection of Your Work:** Until final acceptance by the Owner team, any necessary protection of in progress or completed scope is incidental to this Work Scope.
- H. **Coordination:** Coordinate all work with the Construction Manager and other trade contractors and suppliers that may interface with your work.
- I. **Submissions:** Provide timely submission of insurance certificates, schedule of values, shop drawings, product data, samples, and mock-ups.
- J. **Compliance:** Comply with all Federal, State, and Local building codes and regulations, include OSHA, FAA, TSA, CBP, and DAA requirements.
- K. **Clean-Up:** Provide continuous and on-going housekeeping and clean-up as required to maintain a clean and safe jobsite. Clean-up related to this Work Scope is considered a part of the Work Scope, and provided at no additional cost. At a minimum, one (1) day per week will be designated as the Clean-Up day. Upon completion of the work described in this Work Scope, the contractor must verify with the Construction Manager that all construction debris, tools, and equipment have been removed and the work site is left in a satisfactory condition as determined by the Construction Manager.
- L. **Buy American Certification:** Contractors are required to adhere to all Buy American requirements in the Specifications as it applies to skywalk.
- M. **Removal of Temporary Barricades and Railing Systems:** Include removal and reinstallation of the temporary barricades at the end of each work day as required to complete your work.
- N. **Restoration of Adjacent Turf Areas Damaged by Construction:** Not applicable.
- O. Provide all equipment for this contractor's work, including cranes, conveyors, and/or concrete pumps as may be necessary.
- P. **Required Grouting:** All grouting operations, including column base plates, other plates, and sills as shown or required, all concrete additives, hardeners, curing, sealing, and dust proofing compounds:
1. All grouting required for precast scope will be by Work Scope 3.40D.
- Q. **Subgrade Preparation:** Provide fine grading associated with concrete work, including bottom of footings and slab-on-grade conditions in accordance with Division 03 including, but not limited to:
1. Fine grading of subgrade are the responsibility of this Work Scope. Coordinate with Work Scope 2.20D.
- R. **Concrete Formwork:** Provide (engineer, furnish, and install) concrete formwork in accordance with Section 03 10 00 including, but not limited to:
1. Includes temporary shoring or bracing as required, including form shoring, decking, and re-shoring required for pan and joist construction.
  2. Under-slab vapor barrier systems.
  3. Rigid insulation directly under, or within floor assembly used as forming material.
    - a. Work Scope 2.20D is responsible to provide all vertical and horizontal insulation in which fill is placed on top of insulation.
    - b. Work Scope 3.30D is responsible to provide all horizontal insulation in which vapor barrier/concrete is directly under poured concrete (example: stoops).
- S. **Concrete Reinforcing Steel:** Provide (furnish and install) reinforcing steel as shown and indicated in the contract documents, and in accordance with Section 03 20 00.
- T. **Cast-In-Place Concrete:** Provide cast-in-place concrete work in accordance with Section 03 30 00 including, but not limited to:
1. Footings, foundations, poured beams, columns, and other structural members.
  2. Slab-on-grade and elevated slabs, structural concrete only.
  3. Interior curbs, topping slabs, and 8' x 24' exterior concrete aprons.
  4. Forming and pouring of catch basins and elevator pit.

## **Work Scope 3.30D – Concrete KA SPECIAL REQUIREMENTS**

5. Metal pan stair and landing infills. Protection and cleaning of steel stair during concrete pour is the responsibility of this Work Scope.
  6. Underslab vapor barriers and waterstop material and systems specified.
  7. Layout and forming of openings shown.
  8. Placement and finishing operations to achieve specified results, including special screeds to achieve elevations, flatness, and levelness requirements specified.
  9. Pointing, patching, rubbing, grinding, and filling of concrete surfaces scheduled to receive final finish.
  10. Pipe bollards: excavation, setting, placement, and filling of pipe bollards. Provided by Work Scope 5.10D.
  11. Non-slip additives, hardeners, and special coatings as indicated.
  12. All grouting operations, including column base plates, other plates, and sills as shown or required, all concrete additives, hardeners, curing, sealing, and dust proofing compounds:
    - a. All grouting required for precast scope will be by Work Scope 3.40D.
  13. Curing methods specified.
  14. Sill plates, bearing plates, expansion joints, and joist pockets.
  15. Include pads at stairs.
  16. Coordination of temporary utility work by other Work Scopes with footing and foundation work.
- U. **Housekeeping and Equipment Pads:** Mechanical, Electrical, and Fire Protection contractors are responsible to provide and install their respective equipment pads. All other pads are to be included in this Work Scope.

### **1.03 SPECIAL COORDINATION OR INSTALLATION REQUIREMENTS**

- A. **Field Engineering:** The Construction Manager will provide the standard surveying for the building, including staking all of the gridlines and offsets. (One initial set, one set of offsets, and a benchmark per floor). This Work Scope will be required to take the offsets and transfer as required. The Construction Manager may double check random elevations and locations at no cost to this Work Scope:
1. This Work Scope is responsible for all remaining layout.
  2. Layout and engineering for shoring and temporary supports shall be included.
  3. Detailed surveying and layout of footings, foundations, and slab work are the responsibility of this Work Scope.
- B. **Acceptance of Substrates and Existing Conditions:** Starting work constitutes acceptances of existing conditions, preparatory work, and substrates that may affect the performance of this Work Scope.
- C. **Special Safety Requirements:** This Work Scope is responsible to follow all OSHA regulations for your required work areas.
- D. **Special Coordination:** Provide a qualified representative to coordinate with other trades:
1. Ensure interface between interrelated products are compatible with one another.
- E. **Special Coordination at Exterior Envelope (Vapor Barriers/Thermal Enclosure):** Construction exterior enclosure to ensure continuous thermal insulation and vapor barrier as indicated or required for a fully functioning system.
- F. **Sealants:** Provide sealants required for work associated with this Work Scope in accordance with Section 07 92 00.
- G. **Construction Cleaning:** Perform daily construction cleaning operations for debris generated by this Work Scope:
1. Materials to be removed and disposed in appropriate Kraus-Anderson® Construction Company dumpster.
- H. **Special Protection:** Take special care while working above other trades and to provide protection necessary to protect trades below from falling objects and sparks.
- I. **Winter/Cold Weather Conditions:** Include costs for winter conditions as required:
1. Include heated concrete charges.
  2. Include the costs for installation and removal of blankets as required.
  3. Snow removal.
- J. **Coordination With Other Contractors:** Notify Kraus-Anderson® Construction Company when foundations are ready for waterproofing and backfill.
- K. **Embeds Within Cast-In-Place Concrete:** Include layout and installation of embeds within cast-in-place concrete, including but not limited to the following:
1. Responsibility to receive, unload, and transport to install, erect, or setting location, and to ensure alignment, connection to reinforcement where required, and protection during placement of concrete.
    - a. Detailed layout and installation drawings of embeds will be provided by Work Scope which requires embed.
  2. Anchor bolts, metal nosings, and miscellaneous metals cast into concrete.
  3. Provide sleeves for handrails and guardrails where railings are indicated on concrete substrate.



## **Work Scope 3.30D – Concrete**

### **KA SPECIAL REQUIREMENTS**

4. Embeds and blockouts for precast.
5. Elevator shaft embeds and sills in concrete toppings.
- L. **Coordination of Embeds Set By Others:** Include coordination for embeds set by other Work Scopes, including but not limited to the following:
  1. Plumbing Work Scope will set drain assemblies and related sumps within concrete formwork where drains are required to be poured within the concrete. This Work Scope is responsible for final adjustment of drains during concrete pour.
  2. Mechanical Work Scope will install sleeves and embeds for their work.
  3. Electrical Work Scope will install sleeves, embeds, conduit, and boxes required to be poured within the concrete for their work.
  4. This Work Scope is responsible for layout and forming of blockouts indicated, and to ensure alignment, connection to reinforcement where required, and protection during placement of concrete.
- M. **Protection of Embeds and Reinforcing:** Properly protect reinforcing, anchor bolts, embeds, etc., protruding beyond the surface in accordance with OSHA standards. This includes trip hazards.
- N. **Spalling Caused By Embeds:** Anchors and embeds shall be "non-spalling" design. Spalling, which occurs, will require patching in accordance with direction from the Architect and Contractor.
- O. **Exposed Surfaces:** Refer to Specifications for specific requirements, but not less than:
  1. Include pointing, patching, rubbing and grinding, removal of form ridges, coating of concrete surfaces to receive final finish in accordance with contract documents.
  2. Outside Corners: Include chamfered edges on outside corners, unless specifically detailed otherwise.
- P. **Surfaces To Receive Waterproofing:** Refer to specifications for specific requirements, plus include chamfered edges on outside corners of foundation walls scheduled to receive dampproofing or waterproofing.
- Q. **Dewatering:** Work Scope 2.20D will provide all necessary labor and equipment to perform daily dewatering required until all foundation walls are backfilled and slab-on-grad is poured:
  1. Special coordination with civil contractor during footing and foundation work is required.
  2. Coordinate extent and duration of dewatering activities with Kraus-Anderson® Construction Company.
- R. **Concrete Pumping:** Included by this Work Scope:
  1. If trade contractor elects to use a central concrete placement system, location shall be coordinated and approved by Kraus-Anderson® Construction Company.
- S. **Concrete Wash-Down:** Excess and wash-up concrete distributed within construction limits will be removed and disposed of on a DAILY basis. In addition to the concrete pour clean-up, non-usable material will be cleaned up daily and disposed of in accordance with the SWPPP plan.
- T. **Quality Control:** Flatness conditions should be maintained per the contract documents.
- U. **Special Inspections:** Special and structural inspections will be done in accordance with the Contract Documents prior to placement of concrete. Special Inspector or Structural Engineer reserve right to inspect at both the truck location and hose discharge location.
- V. **Traffic Control:** Provide traffic control spotters/flag personnel and have them present at all times during concrete deliveries and pours as necessary.

#### **1.04 MATERIAL HANDLING AND STORAGE**

- A. **Delivery and Receiving of Materials:** Include necessary provisions as required.
- B. **Hoisting and Scaffolding:** Work Scope is responsible for all working platforms, scaffolding, hoisting, and equipment necessary to access and complete work.
- C. **On-Site Storage:** Storing materials on site and possible relocating materials will be necessary. Coordinate with Construction Manager.

#### **1.05 SUBMITTAL REQUIREMENTS**

- A. In accordance with individual specification section requiring Submittals and Division 01 requirements, subcontractor shall coordinate, prepare, and submit a complete package of design submittals in accordance with the Project Schedule and requirements of the Contract Documents. Timely submission of insurance certificates, schedules of values, shop drawings, product data, samples, mock-ups, Disadvantaged Business DBE submittals, "Buy American" submittals, and final red-lined "As-Built" drawings as required, are considered a part of this Work Scope.

## **Work Scope 3.30D – Concrete**

### **KA SPECIAL REQUIREMENTS**

- B. **Quality Control Submittals:** In accordance with specification sections, submit mill reports and concrete trip tickets to Kraus-Anderson® Construction Company's Superintendent with each delivery. All contractors are to provide their own quality control measures for their Work Scope, to include self-inspections and correction of substandard work that does not meet the specification standards.

#### **1.06 ALLOWANCES**

- A. Not applicable.

#### **1.07 UNIT PRICES AND COST BREAK DOWNS**

- A. **Cost Breakdown No. 1:** Provide a breakout price on the Construction Manager issued Bid Form for all work associated with the construction of the skywalk. This price should include all material, labor, equipment, and overhead and profit:
1. Due to funding requirements, the construction of the skywalk will not start until the summer of 2014.

#### **1.08 ALTERNATES**

- A. Include alternate per Specifications Section 01 23 00 – Alternates.

-- End --

## Work Scope 3.40D – Precast Wall Panel & Floor Plank

### KA SPECIAL REQUIREMENTS

#### **1.01 PRECAST WALL PANEL & FLOOR PLANK**

- A. **Specific Work Scope:** This Work Scope consists of the Work directly and indirectly required by the specification sections listed below, plus all project drawings, addenda, and other documents identified as part of this Work Scope package, regardless of design discipline, drawing sheet identification, or jurisdictional requirements. In the event of a conflict between the General Provisions and Special Provisions, the Special Provisions will prevail.

1. Specific Specifications Sections that are the responsibility of the Work Scope:

Part 1	Title	Complete
Part 2	Bid Information and Proposal Forms	Complete
Part 3	Mandatory Contract Provisions	Complete
Part 4	General Provisions	Complete
Part 5	Supplementary General Conditions	Complete
Part 6	Safety & Security	Complete
Part 7	Special Conditions	Complete
Part 10	Appendix	Complete
Part 11	Division 01 - General Requirements	Complete
03 41 00	Precast Structural Concrete	Complete
03 41 01	Precast Hollow Core Slabs	Complete
03 45 00	Precast Architectural Wall Panels	Complete
07 84 00	Firestopping	As It Applies
07 92 00	Joint Sealants	As It Applies
07 95 13	Expansion Joint Cover Assemblies	As It Applies

#### **1.02 PROJECT SPECIFIC SCOPE CLARIFICATIONS**

- A. **General Requirements for All Work Scope Categories:** Refer to Specifications Parts 1–7 and 10-11 for additional requirements affecting this Work Scope.

**Scope: Including but not limited to:** Furnish complete labor and materials (unless noted otherwise) for all Work Scope indicated on the contract documents, specifically the specification sections identified above. Include all necessary layout of lines and elevations, field measurements, equipment and tools, material handling/hoisting equipment, receiving/off-loading/storing of materials (as coordinated with the Construction Manager Superintendent), freight and delivery charges, and sales and use taxes. Direct coordination and cooperation with other Work Scope contractors, other trades, code enforcement officials, regulatory government personnel, owner representatives, and the Construction Manager are considered part of the Work Scope. Quality control and self-inspections/corrections of completed work provided by this Work Scope is the responsibility of this scope. The establishment and enforcement of a safety program that complies with all applicable regulations (including OSHA) and the project specifications/contract documents is a part of the Work Scope. Any temporary lighting beyond the normal OSHA requirements to properly complete this Work Scope is to be included as a part of the scope.

**Excluding:** Dumpsters, temporary toilets, temporary electrical power and lighting to OSHA standards, temporary heat/equipment/fuel (required enclosures by this Work Scope), snow plowing of parking lots and roads to access site (snow removal specific to this Work Scope is to be included in this scope) will be provided by others.

- B. **Work Hours:** A typical workweek will be (5) 8-hour shifts from 7:00 AM to 3:30 PM, Monday through Friday (subject to change). However, all trade contractors are required to furnish the appropriate manpower count and work the required number of hours and days per week to fulfill the contract and schedule obligations.
- C. **Project Labor Agreement:** This project is governed by a Project Labor Agreement (PLA), requiring all labor to comply with the applicable contract documents.
- D. **Schedule:** The enclosed construction schedule prepared by the Construction Manager is a guideline of the approximate sequence of events that must occur to meet the targeted start and completion dates. Various milestone dates throughout the project will be fine-tuned with the assistance of the trade contractors and suppliers:
1. Also review Civil Phasing Plan Sheet C008 for additional information.
  2. Liquidated damages will be assessed per contract documents.
  3. **Skywalk Construction: Due to funding requirements, all work associated with the construction of the skywalk will not start until June 2014.**
- E. **Contract Duration:** This Work Scope will have 60 working days to complete their work.

## **Work Scope 3.40D – Precast Wall Panel & Floor Plank**

### ***KA SPECIAL REQUIREMENTS***

- F. **Winter Conditions:** Include temporary enclosures, shelters, blankets, snow removal as required specific to the work/storage of materials and any other winter conditions costs specific to the work in accordance with the specifications and project schedule. Winter heat, fuel, and equipment as required:
  - 1. **NOTE:** The Construction Manager will provide enclosures, heat, and fuel as required to heat the DAA Parking Area and stair towers. All other winter conditions are the responsibility of this Work Scope.
- G. **Protection of Your Work:** Until final acceptance by the Owner team, any necessary protection of in progress or completed scope is incidental to this Work Scope.
- H. **Coordination:** Coordinate all work with the Construction Manager and other trade contractors and suppliers that may interface with your work.
- I. **Submissions:** Provide timely submission of insurance certificates, schedule of values, shop drawings, product data, samples, and mock-ups.
- J. **Compliance:** Comply with all Federal, State, and Local building codes and regulations, include OSHA, FAA, TSA, CBP, and DAA requirements.
- K. **Clean-Up:** Provide continuous and on-going housekeeping and clean-up as required to maintain a clean and safe jobsite. Clean-up related to this Work Scope is considered a part of the Work Scope, and provided at no additional cost. At a minimum, one (1) day per week will be designated as the Clean-Up day. Upon completion of the work described in this Work Scope, the contractor must verify with the Construction Manager that all construction debris, tools, and equipment have been removed and the work site is left in a satisfactory condition as determined by the Construction Manager.
- L. **Buy American Certification:** Contractors are required to adhere to all Buy American requirements in the Specifications as it pertains to the skywalk.
- M. **Removal of Temporary Barricades and Railing Systems:** Include removal and reinstallation of the temporary barricades at the end of each work day as required to complete your work.
- N. Provide all equipment for this contractor's work, including cranes, conveyors, and/or concrete pumps as may be necessary.

### ***1.03 SPECIAL COORDINATION OR INSTALLATION REQUIREMENTS***

- A. **Field Engineering:** The Construction Manager will provide the standard surveying for the building, including staking all of the gridlines and offsets. (One initial set, one set of offsets, and a benchmark per floor). This Work Scope will be required to take the offsets and transfer as required. The Construction Manager may double check random elevations and locations at no cost to this Work Scope:
  - 1. This Work Scope is responsible for all remaining layout.
  - 2. Layout and engineering for shoring and temporary supports shall be included.
- B. **Acceptance of Substrates and Existing Conditions:** Starting work constitutes acceptances of existing conditions, preparatory work, and substrates that may affect the performance of this Work Scope.
- C. **Special Safety Requirements:** This Work Scope is responsible to follow all OSHA regulations for your required work areas.
- D. **Special Coordination:** Provide a qualified representative to coordinate with other trades:
  - 1. Ensure interface between interrelated products are compatible with one another.
- E. **Special Coordination at Exterior Envelope (Vapor Barriers/Thermal Enclosure):** Construct exterior enclosure to ensure continuous thermal insulation and vapor barrier as indicated or required for a fully functioning system.
- F. **Sealants:** Provide sealants required for work associated with this Work Scope in accordance with Section 07 92 00.
- G. **Construction Cleaning:** Perform daily construction cleaning operations for debris generated by this Work Scope:
  - 1. Materials to be removed and disposed in appropriate Kraus-Anderson® Construction Company dumpster.
- H. **Special Protection:** Take special care while working above other trades and to provide protection necessary to protect trades below from falling objects and sparks.
- I. **Special Scheduling Requirements:** Increase manpower, multiple crews, and/or additional work hours as required to maintain project schedule, and complete work within allowed contract days.
- J. **Coordination With Other Contractors:** Coordinate all work with the Construction Manager and other trade contractors and supplies that may interface with your work. Specifically, but not limited to the following:
  - 1. Mechanical, Electrical, and Fire Protection penetrations, openings, and supports.
  - 2. Structural steel support pockets and embeds.

## **Work Scope 3.40D – Precast Wall Panel & Floor Plank**

### **KA SPECIAL REQUIREMENTS**

3. Concrete topping and curb pouring. Precast contractor will be responsible to seal/grout all openings prior to topping slab and curbing be poured.
4. Coordination where fastening to precast may result in compromising the integrity of the precast unit.
- K. **Embeds Within Precast Units:** Comply with the following:
  1. Embeds indicated on structural or architectural drawings shall be provided by this Work Scope.
    - a. Precast contractor shall provide embeds and layout drawings for embeds in cast-in-place concrete. Coordinate with WS 3.30D.
    - b. All other embeds, bearing plates, dowels, etc. required for construction of precast shall be provided and installed by this Work Scope.
- L. **Coordination of Embeds Required By Others:** Include coordination of embeds required by others that are installed in precast.
- M. **Coordination of Openings Required By Others:** Include coordination and placement of embeds required by others, including but not limited to the following:
  1. Coordinate with other trades to ensure required openings, larger than 10 inches by 10 inches are properly located and sized on shop drawings, for fabrication by this Work Scope.
- N. **Protection of Embeds and Reinforcing:** Properly protect reinforcing, anchor bolts, embeds, etc., protruding beyond the surface in accordance with OSHA standards. This includes trip hazards.
- O. **Spalling Caused By Embeds:** Anchors and embeds shall be “non-spalling” design. Spalling, which occurs, will require patching in accordance with direction from the Architect and Contractor.
- P. **Grouting Required By This Work Scope:** This Work Scope will include all grouting required for precast as indicated in the plans and specifications.
- Q. **Structural Concrete Topping – Placement:** Coordinate procedures with Kraus-Anderson® Construction Company:
  1. This Work Scope will be responsible to provide a surface that is acceptable to receive the topping slab. All topping slabs are by Work Scope 3.30D. Coordinate with Work Scope 3.30D.
- R. **Concrete Pumping:** Included by this Work Scope:
  1. If trade contractor elects to use a central concrete placement system, location shall be coordinated and approved by Kraus-Anderson® Construction Company.
- S. **Concrete Wash-Down:** Excess and wash-up concrete distributed within construction limits will be removed and disposed of on a DAILY basis. In addition to the concrete pour clean-up, non-usable material will be cleaned up daily and disposed of in accordance with the SWPPP plan. Required by the Work Scope.
- T. **Special Inspections:** Special and structural inspections will be done in accordance with the Contract Documents prior to placement of concrete. Special Inspector and the Structural Engineer reserve the right to inspect at both the truck location and hose discharge location.
- U. **Traffic Control:** Provide traffic control spotters/flag personnel and have them present at all times during precast deliveries and as necessary.

#### **1.04 MATERIAL HANDLING AND STORAGE**

- A. **Delivery and Receiving of Materials:** Include necessary provisions as required.
- B. **Delivery Sequence:** Coordinate fabrication and delivery of material to accommodate the Project Schedule and eliminate double handing of material:
  1. On-site storage areas are limited.
  2. Coordinate delivery, sequence, and interim staging areas with Kraus-Anderson® Construction Company prior to first delivery.
- C. **Hoisting and Scaffolding:** Work Scope is responsible for all working platforms, scaffolding, hoisting, and equipment necessary to access and complete work.
- D. **Hoisting For Precast:** Responsibility of this Work Scope:
  1. Size crane to accommodate Project Schedule in proposed erection sequence, with adequate capacity and reach to accommodate site restrictions.
  2. Tower crane will NOT be available for precast erection.
  3. This Work Scope is responsible to submit and maintain an active 7460 airspace determination as required by the Federal Aviation Administration. Contact Kraus-Anderson® Construction Company for details.
- E. **Concrete Clean-Up:** Non-usable concrete material will be cleaned up daily and disposed of in accordance with the SWPPP plan.

## **Work Scope 3.40D – Precast Wall Panel & Floor Plank**

### **KA SPECIAL REQUIREMENTS**

#### **1.05 SUBMITTAL REQUIREMENTS**

- A. In accordance with individual specification section requiring Submittals and Division 01 requirements, subcontractor shall coordinate, prepare, and submit a complete package of design submittals in accordance with the Project Schedule and requirements of the Contract Documents. Timely submission of insurance certificates, schedules of values, shop drawings, product data, samples, mock-ups, Disadvantaged Business DBE submittals, "Buy American" submittals, and final red-lined "As-Built" drawings as required, are considered a part of this Work Scope.
- B. **Quality Control Submittals:** In accordance with specification sections, submit mill reports and concrete trip tickets to Kraus-Anderson® Construction Company's Superintendent with each delivery. All contractors are to provide their own quality control measures for their Work Scope, to include self-inspections and correction of substandard work that does not meet the specification standards.

#### **1.06 ALLOWANCES**

- A. Not applicable.

#### **1.07 UNIT PRICES AND COST BREAK DOWNS**

- A. **Cost Breakdown No. 1:** Provide a breakout price on the Construction Manager issued Bid Form for all work associated with the construction of the skywalk. This price should include all material, labor, equipment, and overhead and profit:
  - 1. Due to funding requirements, the construction of the skywalk will not start until the summer of 2014.

#### **1.08 ALTERNATES**

- A. Include alternate per Specifications Section 01 23 00 – Alternates.

-- End --



## Work Scope 4.20D – Unit Masonry

### KA SPECIAL REQUIREMENTS

#### 1.01 UNIT MASONRY

- A. **Specific Work Scope:** This Work Scope consists of the Work directly and indirectly required by the specification sections listed below, plus all project drawings, addenda, and other documents identified as part of this Work Scope package, regardless of design discipline, drawing sheet identification, or jurisdictional requirements. In the event of a conflict between the General Provisions and Special Provisions, the Special Provisions will prevail.

1. Specific Specifications Sections that are the responsibility of the Work Scope:

Part 1	Title	Complete
Part 2	Bid Information and Proposal Forms	Complete
Part 3	Mandatory Contract Provisions	Complete
Part 4	General Provisions	Complete
Part 5	Supplementary General Conditions	Complete
Part 6	Safety & Security	Complete
Part 7	Special Conditions	Complete
Part 10	Appendix	Complete
Part 11	Division 01 - General Requirements	Complete
04 05 13	Masonry Mortaring	Complete
04 05 16	Masonry Grouts	Complete
04 05 19	Masonry Anchors	Complete
04 05 20	Joint Reinforcement and Bars	Complete
04 22 00	Concrete Unit Masonry	Complete
07 21 00	Thermal Insulation	As It Applies
07 65 00	Flexible Flashing	Complete
07 84 00	Firestopping	As It Applies
07 92 00	Joint Sealants	As It Applies
07 95 13	Expansion Joint Cover Assemblies	As It Applies

#### 1.02 PROJECT SPECIFIC SCOPE CLARIFICATIONS

- A. **General Requirements for All Work Scope Categories:** Refer to Specifications Parts 1–7 and 10-11 for additional requirements affecting this Work Scope.

**Scope: Including but not limited to:** Furnish complete labor and materials (unless noted otherwise) for all Work Scope indicated on the contract documents, specifically the specification sections identified above. Include all necessary layout of lines and elevations, field measurements, equipment and tools, material handling/hoisting equipment, receiving/off-loading/storing of materials (as coordinated with the Construction Manager Superintendent), freight and delivery charges, and sales and use taxes. Direct coordination and cooperation with other Work Scope contractors, other trades, code enforcement officials, regulatory government personnel, owner representatives, and the Construction Manager are considered part of the Work Scope. Quality control and self-inspections/corrections of completed work provided by this Work Scope is the responsibility of this scope. The establishment and enforcement of a safety program that complies with all applicable regulations (including OSHA) and the project specifications/contract documents is a part of the Work Scope. Any temporary lighting beyond the normal OSHA requirements to properly complete this Work Scope is to be included as a part of the scope.

**Excluding:** Dumpsters, temporary toilets, temporary electrical power and lighting to OSHA standards, temporary heat/equipment/fuel (required enclosures by this Work Scope), snow plowing of parking lots and roads to access site (snow removal specific to this Work Scope is to be included in this scope) will be provided by others.

- B. **Work Hours:** A typical workweek will be (5) 8-hour shifts from 7:00 AM to 3:30 PM, Monday through Friday (subject to change). However, all trade contractors are required to furnish the appropriate manpower count and work the required number of hours and days per week to fulfill the contract and schedule obligations.
- C. **Project Labor Agreement:** This project is governed by a Project Labor Agreement (PLA), requiring all labor to comply with the applicable contract documents.
- D. **Schedule:** The enclosed construction schedule prepared by the Construction Manager is a guideline of the approximate sequence of events that must occur to meet the targeted start and completion dates. Various milestone dates throughout the project will be fine-tuned with the assistance of the trade contractors and suppliers:
1. Also review Civil Phasing Plan Sheet C008 for additional information.
  2. Liquidated damages will be assessed per contract documents.

## **Work Scope 4.20D – Unit Masonry** **KA SPECIAL REQUIREMENTS**

3. **Skywalk Construction:** Due to funding requirements, all work associated with the construction of the skywalk will not start until June 2014.
- E. **Contract Duration:** This Work Scope will have 30 working days to complete their work.
- F. **Winter Conditions:** Include temporary enclosures, shelters, blankets, snow removal as required specific to the work/storage of materials and any other winter conditions costs specific to the work in accordance with the specifications and project schedule. Winter heat, fuel, and equipment as required:
1. NOTE: The Construction Manager will provide enclosures, heat, and fuel as required to heat the DAA Parking Area and stair towers. All other winter conditions are the responsibility of this Work Scope.
- G. **Protection of Your Work:** Until final acceptance by the Owner team, any necessary protection of in progress or completed scope is incidental to this Work Scope.
- H. **Coordination:** Coordinate all work with the Construction Manager and other trade contractors and suppliers that may interface with your work. Specifically, but not limited to the following:
1. Installation of materials provided by Work Scope 5.10D Struct. Steel & Misc. Metal Fabrication & Erection steel embeds, stair ledgers/weld plates, steel lintels/beams, angles at top of CMU wall, etc.
  2. Installing of hollow metal frames integral to a masonry wall are to be coordinated with Work Scopes 8.30D and 9.20D.
  3. Coordinate for inclusion and proper location of all Work Scope 21.10D Fire Suppression System/ 22.10D Mechanical Systems (Full)/26.10D Electrical Systems (Full) and any other concrete embedded work prior to placement.
  4. Coordinate installation of bond beams and embeds with elevator contractor. Elevator contractor will supply embeds and layout drawings. Masonry and precast contractors will install.
  5. Coordinate grouting activities where interface with other Work Scopes is required.
- I. **Submissions:** Provide timely submission of insurance certificates, schedule of values, shop drawings, product data, samples, and mock-ups.
- J. **Compliance:** Comply with all Federal, State, and Local building codes and regulations, include OSHA, FAA, TSA, CBP, and DAA requirements.
- K. **Clean-Up:** Provide continuous and on-going housekeeping and clean-up as required to maintain a clean and safe jobsite. Clean-up related to this Work Scope is considered a part of the Work Scope, and provided at no additional cost. At a minimum, one (1) day per week will be designated as the Clean-Up day. Upon completion of the work described in this Work Scope, the contractor must verify with the Construction Manager that all construction debris, tools, and equipment have been removed and the work site is left in a satisfactory condition as determined by the Construction Manager.
- L. **Buy American Certification:** Contractors are required to adhere to all Buy American requirements in the Specifications as it pertains to the skywalk.
- M. **Removal of Temporary Barricades and Railing Systems:** Include removal and reinstallation of the temporary barricades at the end of each work day as required to complete your work.
- N. **Interior Unit Masonry:** Provide unit masonry in accordance with Section 04 20 00 including, but not limited to:
1. Installation of loose angles and steel lintels occurring within masonry assemblies.
  2. Non-load bearing CMU work included in this Work Scope.
  3. Include all flashings, shims, sealants, vapor barriers, and insulation concealed by your work.

### **1.03 SPECIAL COORDINATION OR INSTALLATION REQUIREMENTS**

- A. **Field Engineering:** The Construction Manager will provide the standard surveying for the building, including staking all of the gridlines and offsets. (One initial set, one set of offsets, and a benchmark per floor). This Work Scope will be required to take the offsets and transfer as required. The Construction Manager may double check random elevations and locations at no cost to this Work Scope:
1. This Work Scope is responsible for all remaining layout.
  2. Layout and engineering for shoring and temporary supports shall be included.
- B. **Acceptance of Substrates and Existing Conditions:** Starting work constitutes acceptances of existing conditions, preparatory work, and substrates that may affect the performance of this Work Scope.
- C. **Special Safety Requirements:** This Work Scope is responsible to follow all OSHA regulations for your required work areas.



## **Work Scope 4.20D – Unit Masonry**

### **KA SPECIAL REQUIREMENTS**

- D. **Special Coordination:** Provide a qualified representative to coordinate with other trades:
  - 1. Ensure interface between interrelated products are compatible with one another.
- E. **Special Coordination at Exterior Envelope (Vapor Barriers/Thermal Enclosure):** Construct exterior enclosure to ensure continuous thermal insulation and vapor barrier as indicated or required for a fully functioning system.
- F. **Sealants:** Provide sealants required for work associated with this Work Scope in accordance with Section 07 92 00.
- G. **Construction Cleaning:** Perform daily construction cleaning operations for debris generated by this Work Scope:
  - 1. Materials to be removed and disposed in appropriate Kraus-Anderson® Construction Company dumpster.
- H. **Special Protection:** Take special care while working above other trades and to provide protection necessary to protect trades below from falling objects and sparks.
- I. **Surface Preparation for Masonry to Receive Final Finishes:** Provide masonry points/leveling grout bed, patching, filling, grinding of new or existing masonry surfaces necessary to achieve acceptable substrate for final finishes specified in accordance with Contract Documents.
- J. Reinforcing bars, anchor bolts, embeds, etc., protruding beyond the surface shall be properly protected per OSHA Standards, including trip hazards.
- K. **Grout/Mortar Wash-Down:** Excess and wash-up grout/mortar distributed within construction limits will be removed and disposed of on a DAILY basis. In addition to the grout/mortar clean-up, non-usable material will be cleaned up daily and disposed of in accordance with the SWPPP plan.

#### **1.04 MATERIAL HANDLING AND STORAGE**

- A. **Delivery and Receiving of Materials:** Include necessary provisions as required.
- B. **Hoisting and Scaffolding:** Work Scope is responsible for all working platforms, scaffolding, hoisting, and equipment necessary to access and complete work.
- C. **On-Site Storage:** Storing materials on site and possible relocating materials will be necessary. Coordinate with Construction Manager.

#### **1.05 SUBMITTAL REQUIREMENTS**

- A. In accordance with individual specification section requiring Submittals and Division 01 requirements, subcontractor shall coordinate, prepare, and submit a complete package of design submittals in accordance with the Project Schedule and requirements of the Contract Documents. Timely submission of insurance certificates, schedules of values, shop drawings, product data, samples, mock-ups, Disadvantaged Business DBE submittals, "Buy American" submittals, and final red-lined "As-Built" drawings as required, are considered a part of this Work Scope.
- B. **Quality Control Submittals:** In accordance with specification sections, submit mill reports and concrete trip tickets to Kraus-Anderson® Construction Company's Superintendent with each delivery. All contractors are to provide their own quality control measures for their Work Scope, to include self-inspections and correction of substandard work that does not meet the specification standards.

#### **1.06 ALLOWANCES**

- A. Not applicable.

#### **1.07 UNIT PRICES AND COST BREAK DOWNS**

- A. **Cost Breakdown No. 1:** Provide a breakout price on the Construction Manager issued Bid Form for all work associated with the construction of the skywalk. This price should include all material, labor, equipment, and overhead and profit:
  - 1. Due to funding requirements, the construction of the skywalk will not start until the summer of 2014.

#### **1.08 ALTERNATES**

- A. Include alternate per Specifications Section 01 23 00 – Alternates.

-- End --

## Work Scope 5.10D – Struct. Steel & Misc. Metal Fabrication & Erection KA SPECIAL REQUIREMENTS

### 1.01 STRUCT. STEEL & MISC. METAL FABRICATION & ERECTION

- A. **Specific Work Scope:** This Work Scope consists of the Work directly and indirectly required by the specification sections listed below, plus all project drawings, addenda, and other documents identified as part of this Work Scope package, regardless of design discipline, drawing sheet identification, or jurisdictional requirements. In the event of a conflict between the General Provisions and Special Provisions, the Special Provisions will prevail.

1. Specific Specifications Sections that are the responsibility of the Work Scope:

Part 1	Title	Complete
Part 2	Bid Information and Proposal Forms	Complete
Part 3	Mandatory Contract Provisions	Complete
Part 4	General Provisions	Complete
Part 5	Supplementary General Conditions	Complete
Part 6	Safety & Security	Complete
Part 7	Special Conditions	Complete
Part 10	Appendix	Complete
Part 11	Division 01 - General Requirements	Complete
05 05 13	Hot Dip Galvanizing	Complete
05 12 00	Structural Steel	Complete
05 31 13	Steel Floor Deck	Complete
05 31 23	Steel Roof Deck	Complete
05 50 00	Metal Fabrications	Complete
05 51 00	Metal Stairs	Complete
05 51 33	Metal Ladders	Complete
05 52 00	Handrails and Railings	Complete
05 73 16	Cable Railing	Complete
05 75 13	Wire Cloth	Complete
34 71 13	Vehicle Guide Rails	Complete

### 1.02 PROJECT SPECIFIC SCOPE CLARIFICATIONS

- A. **General Requirements for All Work Scope Categories:** Refer to Specifications Parts 1–7 and 10-11 for additional requirements affecting this Work Scope.
- B. **Scope: Including but not limited to:** Furnish complete labor and materials (unless noted otherwise) for all Work Scope indicated on the contract documents, specifically the specification sections identified above. Include all necessary layout of lines and elevations, field measurements, equipment and tools, material handling/hoisting equipment, receiving/off-loading/storing of materials (as coordinated with the Construction Manager Superintendent), freight and delivery charges, and sales and use taxes. Direct coordination and cooperation with other Work Scope contractors, other trades, code enforcement officials, regulatory government personnel, owner representatives, and the Construction Manager are considered part of the Work Scope. Quality control and self-inspections/corrections of completed work provided by this Work Scope is the responsibility of this scope. The establishment and enforcement of a safety program that complies with all applicable regulations (including OSHA) and the project specifications/contract documents is a part of the Work Scope. Any temporary lighting beyond the normal OSHA requirements to properly complete this Work Scope is to be included as a part of the scope.  
**Excluding:** Steel for existing CURTAIN WALL MODIFICATION BRACING at existing terminal. Dumpsters, temporary toilets, temporary electrical power and lighting to OSHA standards, temporary heat/equipment/fuel (required enclosures by this Work Scope), snow plowing of parking lots and roads to access site (snow removal specific to this Work Scope is to be included in this scope) will be provided by others.
- C. **Work Hours:** A typical workweek will be (5) 8-hour shifts from 7:00 AM to 3:30 PM, Monday through Friday (subject to change). However, all trade contractors are required to furnish the appropriate manpower count and work the required number of hours and days per week to fulfill the contract and schedule obligations.
- D. **Project Labor Agreement:** This project is governed by a Project Labor Agreement (PLA), requiring all labor to comply with the applicable contract documents.
- E. **Schedule:** The enclosed construction schedule prepared by the Construction Manager is a guideline of the approximate sequence of events that must occur to meet the targeted start and completion dates. Various milestone dates throughout the project will be fine-tuned with the assistance of the trade contractors and suppliers:

## Work Scope 5.10D – Struct. Steel & Misc. Metal Fabrication & Erection *KA SPECIAL REQUIREMENTS*

1. Also review Civil Phasing Plan Sheet C008 for additional information.
  2. Liquidated damages will be assessed per contract documents.
  3. **Skywalk Construction:** Due to funding requirements, all work associated with the construction of the skywalk will not start until June 2014.
- F. **Contract Duration:** This Work Scope will have 40 working days to complete their work.
- G. **Winter Conditions:** Include temporary enclosures, shelters, blankets, snow removal as required specific to the work/storage of materials and any other winter conditions costs specific to the work in accordance with the specifications and project schedule. Winter heat, fuel, and equipment as required:
1. **NOTE:** The Construction Manager will provide enclosures, heat, and fuel as required to heat the DAA Parking Area and stair towers. All other winter conditions are the responsibility of this Work Scope.
- H. **Protection of Your Work:** Until final acceptance by the Owner team, any necessary protection of in progress or completed scope is incidental to this Work Scope.
- I. **Coordination:** Coordinate all work with the Construction Manager and other trade contractors and suppliers that may interface with your work.
- J. **Submissions:** Provide timely submission of insurance certificates, schedule of values, shop drawings, product data, samples, and mock-ups.
- K. **Compliance:** Comply with all Federal, State, and Local building codes and regulations, include OSHA, FAA, TSA, CBP, and DAA requirements.
- L. **Clean-Up:** Provide continuous and on-going housekeeping and clean-up as required to maintain a clean and safe jobsite. Clean-up related to this Work Scope is considered a part of the Work Scope, and provided at no additional cost. At a minimum, one (1) day per week will be designated as the Clean-Up day. Upon completion of the work described in this Work Scope, the contractor must verify with the Construction Manager that all construction debris, tools, and equipment have been removed and the work site is left in a satisfactory condition as determined by the Construction Manager.
- M. **Buy American Certification:** Contractors are required to adhere to all Buy American requirements in the Specifications as it pertains to the skywalk.
- N. **Removal of Temporary Barricades and Railing Systems:** Include removal and reinstallation of the temporary barricades at the end of each work day as required to complete your work.
- O. **Structural Steel Framing:** Provide structural steel framing including but not limited to:
1. Shop drawings and connection detailing.
  2. Fabrication.
  3. Shop priming and painting where specified.
  4. Members and profiles indicated and sized on Structural drawings.
  5. Delivery.
  6. Erection:
    - a. Provide (furnish and install) sheer studs at tops of beams where indicated.
    - b. Structural connection bolts shall be tension controlled (twist-off) torque bolts, unless specifically indicated otherwise on Structural drawings.
  7. Include supply and installation of elevator hoisting beams.
- P. **Metal Decking:** Provide metal decking including, but not limited to:
1. Shop drawings and connection detailing.
  2. Fabricate deck to type and profiles indicated:
    - a. Provide complete with necessary accessories, sheet metal closures, concrete stops, joint tapes, and other materials required for a complete installation.
    - b. Deck fabricator shall warrant that deck, when properly installed, requires no shoring to prevent deflection of metal deck during or after concrete placement.
  3. Shop priming and painting where specified:
    - a. This Work Scope is responsible to ensure compatibility of shop primer with finish coats.
  4. Delivery.
  5. Erection:
    - a. Provide (furnish and install) sheer studs at composite deck where indicated.
    - b. Field cutting and shaping of steel deck as may be required.

## **Work Scope 5.10D – Struct. Steel & Misc. Metal Fabrication & Erection KA SPECIAL REQUIREMENTS**

- Q. **Metal Stairs:** Provide and install metal stairs assemblies in accordance with Section 05 51 00 including, but not limited to:
1. Include all necessary supports and anchors necessary for a complete installation.
- R. **Equipment Screen:** Provide and install the equipment screen as indicated on plans:
1. Include all necessary supports and anchors necessary for a complete installation.
  2. Coordination with Work Scope 7.10D will be required for base plate installation.
  3. If welding is required, this Work Scope is responsible to protect the surrounding construction.
- S. **Pipe Bollards:** Include the supply of all required pipe bollards as indicated on the Architectural and Structural drawings. Install by Work Scope 3.30D.
- T. **Connection, Subcomponent Engineering, and Special Erection Sequencing Requirements:** Where required by Contract Documents, or where connection detailing is requirement of fabricator for design members and connections not indicated on the Contract Documents:
1. Where Project Schedule requires special erection sequencing not specifically addressed by the structural design, provide engineering services to accommodate special sequencing, temporary bracing, and erection loads.
  2. Delegated Design Requirements: For those specific portions of the Work requiring professional engineering services by Section 05 12 00 including engineering analysis, calculations, connection details, shop and fabrication drawings, embed placement drawings, and erection drawings.
- U. **Coordination of Embeds Set by Others:** Include supply and coordination of embeds set by others, including but not limited to the following:
1. Anchor bolts.
  2. Embed plates, lintels/beams, angles, and weld plates (shown or not).
  3. Channel inserts used to secure work of this Section.
  4. Elevator embeds provided by Elevator contractor. NOTE: Hoist way beam is supplied and installed by this Work Scope.
  5. Provide embeds and setting drawings to locate and specify anchorage requirements.
- V. **Anchors and Embeds:** Comply with the following:
1. Anchors used in concrete slabs or walls must be of a "non-spalling" type anchor.
  2. Detailed layout drawings of embeds are to be provided by this Work Scope for use by setting contractor.
  3. Concrete Work Scope will place embeds within concrete work, unless specifically noted otherwise in this Work Scope Description or required by your quality control procedures.
  4. Include leveling nuts for ALL embeds.
  5. Embeds and anchors required for precast system (bearing plates, anchors, dowels, etc.) are not part of this Work Scope.
- W. **Construction Tolerances Where Finish Material Attaches To Steel:** Include the necessary provisions for erection of steel components in which finishes attach to steel including, but not limited to:
1. Steel edge detail at skywalk connection for glazed decorative metal railing. NOTE: Detail to match existing edge detail in terminal – reference Architectural drawings.
- X. **On-Site Handling of Embeds and Items For Installation:** Installation, erection, and setting requirement includes the obligation for proper receiving, unloading, and transport to install, erect, or setting location.

### **1.03 SPECIAL COORDINATION OR INSTALLATION REQUIREMENTS**

- A. **Field Engineering:** The Construction Manager will provide the standard surveying for the building, including staking all of the gridlines and offsets. (One initial set, one set of offsets, and a benchmark per floor). This Work Scope will be required to take the offsets and transfer as required. The Construction Manager may double check random elevations and locations at no cost to this Work Scope:
1. This Work Scope is responsible for all remaining layout.
  2. Layout and engineering for shoring and temporary supports shall be included.
- B. **Acceptance of Substrates and Existing Conditions:** Starting work constitutes acceptances of existing conditions, preparatory work, and substrates that may affect the performance of this Work Scope.
- C. **Special Safety Requirements:** This Work Scope is responsible to follow all OSHA regulations for your required work areas.
- D. **Special Coordination:** Provide a qualified representative to coordinate with other trades:
1. Ensure interface between interrelated products are compatible with one another.

## **Work Scope 5.10D – Struct. Steel & Misc. Metal Fabrication & Erection KA SPECIAL REQUIREMENTS**

- E. **Construction Cleaning:** Perform daily construction cleaning operations for debris generated by this Work Scope:
  - 1. Materials to be removed and disposed in appropriate Kraus-Anderson® Construction Company dumpster.
- F. **Special Protection:** Take special care while working above other trades and to provide protection necessary to protect trades below from falling objects and sparks.

### **1.04 MATERIAL HANDLING AND STORAGE**

- A. **Delivery and Receiving of Materials:** Include necessary provisions as required.
- B. **Hoisting and Scaffolding:** Work Scope is responsible for all working platforms, scaffolding, hoisting, and equipment necessary to access and complete work.
- C. **On-Site Storage:** Storing materials on site and possible relocating materials will be necessary. Coordinate with Construction Manager.

### **1.05 SUBMITTAL REQUIREMENTS**

- A. In accordance with individual specification section requiring Submittals and Division 01 requirements, subcontractor shall coordinate, prepare, and submit a complete package of design submittals in accordance with the Project Schedule and requirements of the Contract Documents. Timely submission of insurance certificates, schedules of values, shop drawings, product data, samples, mock-ups, Disadvantaged Business DBE submittals, "Buy American" submittals, and final red-lined "As-Built" drawings as required, are considered a part of this Work Scope.
- B. **Quality Control Submittals:** In accordance with specification sections, submit mill reports and concrete trip tickets to Kraus-Anderson® Construction Company's Superintendent with each delivery. All contractors are to provide their own quality control measures for their Work Scope, to include self-inspections and correction of substandard work that does not meet the specification standards.

### **1.06 ALLOWANCES**

- A. Not applicable.

### **1.07 UNIT PRICES AND COST BREAK DOWNS**

- A. **Cost Breakdown No. 1:** Provide a breakout price on the Construction Manager issued Bid Form for all work associated with the construction of the skywalk. This price should include all material, labor, equipment, and overhead and profit:
  - 1. Due to funding requirements, the construction of the skywalk will not start until the summer of 2014.

### **1.08 ALTERNATES**

- A. Include alternate per Specifications Section 01 23 00 – Alternates.

-- End --

## Work Scope 7.10D – Metal Panels & Roofing

### KA SPECIAL REQUIREMENTS

#### 1.01 METAL PANELS & ROOFING

- A. **Specific Work Scope:** This Work Scope consists of the Work directly and indirectly required by the specification sections listed below, plus all project drawings, addenda, and other documents identified as part of this Work Scope package, regardless of design discipline, drawing sheet identification, or jurisdictional requirements. In the event of a conflict between the General Provisions and Special Provisions, the Special Provisions will prevail.

1. Specific Specifications Sections that are the responsibility of the Work Scope:

Part 1	Title	Complete
Part 2	Bid Information and Proposal Forms	Complete
Part 3	Mandatory Contract Provisions	Complete
Part 4	General Provisions	Complete
Part 5	Supplementary General Conditions	Complete
Part 6	Safety & Security	Complete
Part 7	Special Conditions	Complete
Part 10	Appendix	Complete
Part 11	Division 01 - General Requirements	Complete
06 10 00	Rough Carpentry	As It Applies
07 22 16	Roof Deck Insulation	Complete
07 42 13.23	Composite Metal Building Panels	Complete
07 53 23	EPDM Roofing	Complete
07 62 00	Sheet Metal Flashing & Trim	Complete
07 92 00	Joint Sealants	As It Applies
07 84 00	Firestopping	As It Applies
07 95 13	Expansion Joint Cover Assemblies	As It Applies
08 91 19	Fixed Metal Wall Louvers	Complete

#### 1.02 PROJECT SPECIFIC SCOPE CLARIFICATIONS

- A. **General Requirements for All Work Scope Categories:** Refer to Specifications Parts 1–7 and 10-11 for additional requirements affecting this Work Scope.
- B. **Scope: Including but not limited to:** Furnish complete labor and materials (unless noted otherwise) for all Work Scope indicated on the contract documents, specifically the specification sections identified above. Include all necessary layout of lines and elevations, field measurements, equipment and tools, material handling/hoisting equipment, receiving/off-loading/storing of materials (as coordinated with the Construction Manager Superintendent), freight and delivery charges, and sales and use taxes. Direct coordination and cooperation with other Work Scope contractors, other trades, code enforcement officials, regulatory government personnel, owner representatives, and the Construction Manager are considered part of the Work Scope. Quality control and self-inspections/corrections of completed work provided by this Work Scope is the responsibility of this scope. The establishment and enforcement of a safety program that complies with all applicable regulations (including OSHA) and the project specifications/contract documents is a part of the Work Scope. Any temporary lighting beyond the normal OSHA requirements to properly complete this Work Scope is to be included as a part of the scope.
- Excluding:** Dumpsters, temporary toilets, temporary electrical power and lighting to OSHA standards, temporary heat/equipment/fuel (required enclosures by this Work Scope), snow plowing of parking lots and roads to access site (snow removal specific to this Work Scope is to be included in this scope) will be provided by others.
- C. **Work Hours:** A typical workweek will be (5) 8-hour shifts from 7:00 AM to 3:30 PM, Monday through Friday (subject to change). However, all trade contractors are required to furnish the appropriate manpower count and work the required number of hours and days per week to fulfill the contract and schedule obligations.
- D. **Project Labor Agreement:** This project is governed by a Project Labor Agreement (PLA), requiring all labor to comply with the applicable contract documents.
- E. **Schedule:** The enclosed construction schedule prepared by the Construction Manager is a guideline of the approximate sequence of events that must occur to meet the targeted start and completion dates. Various milestone dates throughout the project will be fine-tuned with the assistance of the trade contractors and suppliers:
- Also review Civil Phasing Plan Sheet C008 for additional information.
  - Liquidated damages will be assessed per contract documents.
  - Skywalk Construction:** Due to funding requirements, all work associated with the construction of the



## Work Scope 7.10D – Metal Panels & Roofing

### KA SPECIAL REQUIREMENTS

skywalk will not start until June 2014.

- F. **Contract Duration:** This Work Scope will have 30 working days to complete this work.
- G. **Winter Conditions:** Include temporary enclosures, shelters, blankets, snow removal as required specific to the work/storage of materials and any other winter conditions costs specific to the work in accordance with the specifications and project schedule. Winter heat, fuel, and equipment as required:
  - 1. **NOTE:** The Construction Manager will provide enclosures, heat, and fuel as required to heat the DAA Parking Area and stair towers. All other winter conditions are the responsibility of this Work Scope.
- H. **Protection of Your Work:** Until final acceptance by the Owner team, any necessary protection of in progress or completed scope is incidental to this Work Scope.
- I. **Coordination:** Coordinate all work with the Construction Manager and other trade contractors and suppliers that may interface with your work.
- J. **Submissions:** Provide timely submission of insurance certificates, schedule of values, shop drawings, product data, samples, and mock-ups.
- K. **Compliance:** Comply with all Federal, State, and Local building codes and regulations, include OSHA, FAA, TSA, CBP, and DAA requirements.
- L. **Clean-Up:** Provide continuous and on-going housekeeping and clean-up as required to maintain a clean and safe jobsite. Clean-up related to this Work Scope is considered a part of the Work Scope, and provided at no additional cost. At a minimum, one (1) day per week will be designated as the Clean-Up day. Upon completion of the work described in this Work Scope, the contractor must verify with the Construction Manager that all construction debris, tools, and equipment have been removed and the work site is left in a satisfactory condition as determined by the Construction Manager.
- M. **Buy American Certification:** Contractors are required to adhere to all Buy American requirements in the Specifications as it pertains to the skywalk.
- N. **Removal of Temporary Barricades and Railing Systems:** Include removal and reinstallation of the temporary barricades at the end of each work day as required to complete your work.
- O. **Rough Carpentry:** Provide (furnish and install) rough carpentry and related work items including, but not limited to:
  - 1. Wood backing/blocking material within metal panel and roofing assembly.
- P. **Composite Metal Wall Panels and Louvers:** Provide metal wall panels and louvers in accordance with Sections 07 42 13.23 and 08 91 19 including, but not limited to:
  - 1. Special warranty as specified in specifications.
  - 2. Subgirts and secondary framing behind panels as indicated or required to maintain deflection requirements from primary steel indicated:
    - a. **NOTE:** Studs, insulation, sheathing, and vapor barrier behind metal panels is by Work Scope 9.20D.
    - b. Coordinate support installation with Work Scope 9.20D. Include shimming and built-up supports as required to provide a straight and plumb installation.
    - c. Provide Delegated Design requirements as per specifications.
  - 3. Provide complete assembly with prefabricated mitered corners as per specifications.
  - 4. Related perimeter flashing and trim as indicated or required for complete assembly.
  - 5. Include all sealants and expansion joint assemblies integral with panels and louvers as indicated.
- Q. **EPDM Roofing (EPDM, PVC):** Provide EPDM membrane roofing systems in accordance with Section 07 53 13, including, but not limited to:
  - 1. Special submittal requirements specified under this Section.
  - 2. Vapor barrier where indicated or required by specifications.
  - 3. Roof insulation as required to achieve manufacturer's roof warranty as specified.
  - 4. This includes all insulation and vapor barrier concealed by vapor work which cannot be accessed after your work is complete.
- R. **Complete Assembly:** Provide fasteners, sealant, trim, flashing, and counter flashings for a complete system, including but not limited to, flashings, counter flashing, sheet metal, and sealants necessary within your systems and adjacent to other dissimilar materials.
- S. **System Engineering:** Provide complete design, supply, and installation of required anchorage/support systems necessary for the complete installation of your work (including engineered calculations) above and beyond what is depicted on the drawings and specifications.

## Work Scope 7.10D – Metal Panels & Roofing

### KA SPECIAL REQUIREMENTS

#### 1.03 SPECIAL COORDINATION OR INSTALLATION REQUIREMENTS

- A. **Field Engineering:** The Construction Manager will provide the standard surveying for the building, including staking all of the gridlines and offsets. (One initial set, one set of offsets, and a benchmark per floor). This Work Scope will be required to take the offsets and transfer as required. The Construction Manager may double check random elevations and locations at no cost to this Work Scope:
  - 1. This Work Scope is responsible for all remaining layout.
  - 2. Layout and engineering for shoring and temporary supports shall be included.
- B. **Acceptance of Substrates and Existing Conditions:** Starting work constitutes acceptances of existing conditions, preparatory work, and substrates that may affect the performance of this Work Scope.
- C. **Special Safety Requirements:** This Work Scope is responsible to follow all OSHA regulations for your required work areas.
- D. **Special Coordination:** Provide a qualified representative to coordinate with other trades:
  - 1. Ensure interface between interrelated products are compatible with one another.
- E. **Special Coordination at Exterior Envelope (Vapor Barriers/Thermal Enclosure):** Construct exterior enclosure to ensure continuous thermal insulation and vapor barrier as indicated or required for a fully functioning system.
- F. **Sealants:** Provide sealants required for work associated with this Work Scope in accordance with Section 07 92 00.
- G. **Construction Cleaning:** Perform daily construction cleaning operations for debris generated by this Work Scope:
  - 1. Materials to be removed and disposed in appropriate Kraus-Anderson® Construction Company dumpster.
- H. **Special Protection:** Take special care while working above other trades and to provide protection necessary to protect trades below from falling objects and sparks.
- I. **Roofing Insulation:** Provide roofing insulation at locations integral with roofing as indicated below. All other thermal insulation will be the responsibility of other Work Scopes:
  - 1. Insulation in connection with roofing work including insulation between other dissimilar material.
  - 2. Include tapered insulation where indicated and as required to achieve positive slope and drainage:
    - a. Standing water, or visual indications of standing water, are not acceptable and additional tapered insulation shall be added to eliminate standing water.
  - 3. Roof curbs as indicated and required (both field fabricated and prefabricated curbs).
  - 4. Gypsum board, gypsum sheathing, or other material required to go over metal deck or underneath roof insulation.
  - 5. Include roofing material on the backside and top of parapet walls per documents.
- J. **Roof Penetrations:** Includes architectural, structural, mechanical and electrical penetrations indicated or required, including penetrations and supports for tie-backs and equipment screen bases:
  - 1. Refer to structural, mechanical, and electrical drawings for scope of additional penetration not indicated on architectural documents.
- K. **Metal Flashing:** Provide flashing for a complete system including, but not limited to:
  - 1. Sheet metal flashing, drip edges, inside, and outside corners.
  - 2. Copings, gravel stops, scuppers, and down spouts.
  - 3. Counter flashing, copings, flashings for mechanical equipment, and penetrations by other trades work.
  - 4. Sheetmetal work necessary or required to complete the roofing systems and achieve a watertight assembly.
  - 5. Roof control joints and related materials as specified.
  - 6. Reglets and inserts into adjacent construction required to achieve watertight assembly is part of this Work Scope.
- L. **Roof Expansion Assemblies:** Provide at locations indicated and in compliance with manufacturer's requirements. If manufacturer's requirements are different from Contract documents submit RFI for clarification:
  - 1. Provide roof expansion assemblies.
  - 2. Provide compressible insulation or fire safing insulation within roof expansion joint assemblies.
  - 3. Provide pre-formed foam sealant expansion joints at all locations required.
- M. **Roof Drains:** Proper connection of roofing to drains is by this Work Scope. Setting of drains to elevations is by Mechanical Work Scope.
- N. **Roof Walkway Pads:** Install at locations indicated, but not less than that required to provide protected access to mechanical and electrical equipment:
  - 1. Adjust configuration as directed by Architect or Kraus-Anderson® Construction Company.
  - 2. Coordinate extent with mechanical and electrical prior to submitting shop drawings.
- O. **Perimeter and Opening Protection:** This Work Scope is responsible for removal and replacement of perimeter protection, and removal and replacement of protection at all floor openings if required for the installation of its work.



## **Work Scope 7.10D – Metal Panels & Roofing**

### **KA SPECIAL REQUIREMENTS**

Provide temporary perimeter and opening protection and other required safety devices when working at floor openings and perimeters:

1. Provide and maintain OSHA approved temporary guardrails and fall protection as required.

#### **1.04 QUALITY ASSURANCE REQUIREMENTS**

- A. **Manufacturer's Field Services:** Include coordination and related costs to include membrane manufacturer's technical representative services as specified, but not less than the following:
  1. After installation is complete, arrange for representative of roofing membrane manufacturer to inspect roof to verify materials and installation comply with roofing membrane manufacturer's specifications.
  2. Issue report to Kraus-Anderson® Construction Company indicating installation complies with manufacturer's requirement to achieve specified warranties and requirements of Contract Documents.
    - a. If manufacturer's field representative cannot issue above report, roofing contractor shall make necessary modifications to comply at no cost to contract.
- B. **Roof Warranties:** Include special warranties as specified. Coordinate terms and conditions with system manufacturer to comply with Contract Documents.
- C. **Testing:** Cooperate fully with the Owner's testing agent:
  1. Include cost for labor to support field inspection and subsequent patching of test areas for testing or inspections required by Owner's testing agency, municipal, or insurance entities.

#### **1.05 MATERIAL HANDLING AND STORAGE**

- A. **Delivery and Receiving of Materials:** Include necessary provisions as required.
- B. **Hoisting and Scaffolding:** Work Scope is responsible for all working platforms, scaffolding, hoisting, and equipment necessary to access and complete work.
- C. **On-Site Storage:** Storing materials on site and possible relocating materials will be necessary. Coordinate with Construction Manager.

#### **1.06 SUBMITTAL REQUIREMENTS**

- A. In accordance with individual specification section requiring Submittals and Division 01 requirements, subcontractor shall coordinate, prepare, and submit a complete package of design submittals in accordance with the Project Schedule and requirements of the Contract Documents. Timely submission of insurance certificates, schedules of values, shop drawings, product data, samples, mock-ups, Disadvantaged Business DBE submittals, "Buy American" submittals, and final red-lined "As-Built" drawings as required, are considered a part of this Work Scope.
- B. **Quality Control Submittals:** In accordance with specification sections, submit mill reports and concrete trip tickets to Kraus-Anderson® Construction Company's Superintendent with each delivery. All contractors are to provide their own quality control measures for their Work Scope, to include self-inspections and correction of substandard work that does not meet the specification standards.

#### **1.07 ALLOWANCES**

- A. Not applicable.

#### **1.08 UNIT PRICES AND COST BREAK DOWNS**

- A. **Cost Breakdown No. 1:** Provide a breakout price on the Construction Manager issued Bid Form for all work associated with the construction of the skywalk. This price should include all material, labor, equipment, and overhead and profit:
  1. Due to funding requirements, the construction of the skywalk will not start until the summer of 2014.

#### **1.09 ALTERNATES**

- A. Include alternate per Specifications Section 01 23 00 – Alternates.

-- End --

## Work Scope 8.22D – Overhead Coiling Doors

### KA SPECIAL REQUIREMENTS

#### 1.01 OVERHEAD COILING DOORS

- A. **Specific Work Scope:** This Work Scope consists of the Work directly and indirectly required by the specification sections listed below, plus all project drawings, addenda, and other documents identified as part of this Work Scope package, regardless of design discipline, drawing sheet identification, or jurisdictional requirements. In the event of a conflict between the General Provisions and Special Provisions, the Special Provisions will prevail.

1. Specific Specifications Sections that are the responsibility of the Work Scope:

Part 1	Title	Complete
Part 2	Bid Information and Proposal Forms	Complete
Part 3	Mandatory Contract Provisions	Complete
Part 4	General Provisions	Complete
Part 5	Supplementary General Conditions	Complete
Part 6	Safety & Security	Complete
Part 7	Special Conditions	Complete
Part 10	Appendix	Complete
Part 11	Division 01 - General Requirements	Complete
05 50 00	Metal Fabrications	As It Relates To Coiling Door Supports
08 33 23	Overhead Coiling Doors	Complete

#### 1.02 PROJECT SPECIFIC SCOPE CLARIFICATIONS

- A. **General Requirements for All Work Scope Categories:** Refer to Specifications Parts 1–7 and 10-11 for additional requirements affecting this Work Scope.

**Scope: Including but not limited to:** Furnish complete labor and materials (unless noted otherwise) for all Work Scope indicated on the contract documents, specifically the specification sections identified above. Include all necessary layout of lines and elevations, field measurements, equipment and tools, material handling/hoisting equipment, receiving/off-loading/storing of materials (as coordinated with the Construction Manager Superintendent), freight and delivery charges, and sales and use taxes. Direct coordination and cooperation with other Work Scope contractors, other trades, code enforcement officials, regulatory government personnel, owner representatives, and the Construction Manager are considered part of the Work Scope. Quality control and self-inspections/corrections of completed work provided by this Work Scope is the responsibility of this scope. The establishment and enforcement of a safety program that complies with all applicable regulations (including OSHA) and the project specifications/contract documents is a part of the Work Scope. Any temporary lighting beyond the normal OSHA requirements to properly complete this Work Scope is to be included as a part of the scope.

**Excluding:** Dumpsters, temporary toilets, temporary electrical power and lighting to OSHA standards, temporary heat/equipment/fuel (required enclosures by this Work Scope), snow plowing of parking lots and roads to access site (snow removal specific to this Work Scope is to be included in this scope) will be provided by others.

- B. **Work Hours:** A typical workweek will be (5) 8-hour shifts from 7:00 AM to 3:30 PM, Monday through Friday (subject to change). However, all trade contractors are required to furnish the appropriate manpower count and work the required number of hours and days per week to fulfill the contract and schedule obligations.
- C. **Project Labor Agreement:** This project is governed by a Project Labor Agreement (PLA), requiring all labor to comply with the applicable contract documents.
- D. **Schedule:** The enclosed construction schedule prepared by the Construction Manager is a guideline of the approximate sequence of events that must occur to meet the targeted start and completion dates. Various milestone dates throughout the project will be fine-tuned with the assistance of the trade contractors and suppliers:
1. Also review Civil Phasing Plan Sheet C008 for additional information.
  2. Liquidated damages will be assessed per contract documents.
  3. **Skywalk Construction: Due to funding requirements, all work associated with the construction of the skywalk will not start until June 2014.**
- E. **Contract Duration:** This Work Scope will have 10 working days to complete this work.
- F. **Winter Conditions:** Include temporary enclosures, shelters, blankets, snow removal as required specific to the work/storage of materials and any other winter conditions costs specific to the work in accordance with the specifications and project schedule. Winter heat, fuel, and equipment as required:

## Work Scope 8.22D – Overhead Coiling Doors

### KA SPECIAL REQUIREMENTS

1. **NOTE:** The Construction Manager will provide enclosures, heat, and fuel as required to heat the DAA Parking Area and stair towers. All other winter conditions are the responsibility of this Work Scope.
- G. **Protection of Your Work:** Until final acceptance by the Owner team, any necessary protection of in progress or completed scope is incidental to this Work Scope.
- H. **Coordination:** Coordinate all work with the Construction Manager and other trade contractors and suppliers that may interface with your work.
- I. **Submissions:** Provide timely submission of insurance certificates, schedule of values, shop drawings, product data, samples, and mock-ups.
- J. **Compliance:** Comply with all Federal, State, and Local building codes and regulations, include OSHA, FAA, TSA, CBP, and DAA requirements.
- K. **Clean-Up:** Provide continuous and on-going housekeeping and clean-up as required to maintain a clean and safe jobsite. Clean-up related to this Work Scope is considered a part of the Work Scope, and provided at no additional cost. At a minimum, one (1) day per week will be designated as the Clean-Up day. Upon completion of the work described in this Work Scope, the contractor must verify with the Construction Manager that all construction debris, tools, and equipment have been removed and the work site is left in a satisfactory condition as determined by the Construction Manager.
- L. **Removal of Temporary Barricades and Railing Systems:** Include removal and reinstallation of the temporary barricades at the end of each work day as required to complete your work.
- M. **Specialty Door:** Provide complete assemblies in accordance with the specifications, including, but not limited to:
  1. Coiling doors.
  2. In-wall blocking or embeds required to secure door frame assembly.
  3. Final adjusting to ensure smooth operation.
  4. Operator equipment.
  5. Door controls.
  6. All support steel necessary for installation of coiling door as indicated on Architectural plans:
    - a. Steel at jamb is by Work Scope 5.10D.
- N. **Complete and Functional Assembly:** Provide miscellaneous accessories, fasteners, and trim for a complete system, including but not limited to:
  1. Items not shown but necessary to provide a properly functioning system shall be included in this Work Scope.
  2. Coordinate power requirements with Work Scope 26.10D.
  3. This Work Scope is responsible for all low voltage control work (control wiring, switches, etc.) providing all high voltage controls to the Electrician for the project to install.
  4. Coordinate controlled access system with door operations with Work Scope 2.20D and 26.10D.

### 1.03 SPECIAL COORDINATION OR INSTALLATION REQUIREMENTS

- A. **Field Engineering:** The Construction Manager will provide the standard surveying for the building, including staking all of the gridlines and offsets. (One initial set, one set of offsets, and a benchmark per floor). This Work Scope will be required to take the offsets and transfer as required. The Construction Manager may double check random elevations and locations at no cost to this Work Scope:
  1. This Work Scope is responsible for all remaining layout.
  2. Layout and engineering for shoring and temporary supports shall be included.
- B. **Acceptance of Substrates and Existing Conditions:** Starting work constitutes acceptances of existing conditions, preparatory work, and substrates that may affect the performance of this Work Scope.
- C. **Special Safety Requirements:** This Work Scope is responsible to follow all OSHA regulations for your required work areas.
- D. **Special Coordination:** Provide a qualified representative to coordinate with other trades:
  1. Ensure interface between interrelated products are compatible with one another.
- E. **Construction Cleaning:** Perform daily construction cleaning operations for debris generated by this Work Scope:
  1. Materials to be removed and disposed in appropriate Kraus-Anderson® Construction Company dumpster.
- F. **Special Protection:** Take special care while working above other trades and to provide protection necessary to protect trades below from falling objects and sparks.

## **Work Scope 8.22D – Overhead Coiling Doors**

### **KA SPECIAL REQUIREMENTS**

- G. **Surface Preparation for Concrete and Precast to Receive Final Finishes:** Provide blocking, shims, or grinding of new or existing concrete and precast surfaces necessary to achieve acceptable substrate for final finishes specified in accordance with Contract Documents.

#### **1.04 MATERIAL HANDLING AND STORAGE**

- A. **Delivery and Receiving of Materials:** Include necessary provisions as required.
- B. **Hoisting and Scaffolding:** Work Scope is responsible for all working platforms, scaffolding, hoisting, and equipment necessary to access and complete work.
- C. **On-Site Storage:** Storing materials on site and possible relocating materials will be necessary. Coordinate with Construction Manager.

#### **1.05 SUBMITTAL REQUIREMENTS**

- A. In accordance with individual specification section requiring Submittals and Division 01 requirements, subcontractor shall coordinate, prepare, and submit a complete package of design submittals in accordance with the Project Schedule and requirements of the Contract Documents. Timely submission of insurance certificates, schedules of values, shop drawings, product data, samples, mock-ups, Disadvantaged Business DBE submittals, "Buy American" submittals, and final red-lined "As-Built" drawings as required, are considered a part of this Work Scope.
- B. **Quality Control Submittals:** In accordance with specification sections, submit mill reports and concrete trip tickets to Kraus-Anderson® Construction Company's Superintendent with each delivery. All contractors are to provide their own quality control measures for their Work Scope, to include self-inspections and correction of substandard work that does not meet the specification standards.

#### **1.06 ALLOWANCES**

- A. Not applicable.

#### **1.07 UNIT PRICES AND COST BREAK DOWNS**

- A. **Cost Breakdown No. 1:** Provide a breakout price on the Construction Manager issued Bid Form for all work associated with the construction of the skywalk. This price should include all material, labor, equipment, and overhead and profit:
1. Due to funding requirements, the construction of the skywalk will not start until the summer of 2014.

#### **1.08 ALTERNATES**

- A. Include alternate per Specifications Section 01 23 00 – Alternates.

-- End --

## Work Scope 8.30D – Doors, Frames, Hardware, & Misc. Specialties (Materials Only)

### KA SPECIAL REQUIREMENTS

#### 1.01 DOORS, FRAMES, HARDWARE, & MISC. SPECIALTIES (MATERIALS ONLY)

- A. **Specific Work Scope:** This Work Scope consists of the Work directly and indirectly required by the specification sections listed below, plus all project drawings, addenda, and other documents identified as part of this Work Scope package, regardless of design discipline, drawing sheet identification, or jurisdictional requirements. In the event of a conflict between the General Provisions and Special Provisions, the Special Provisions will prevail.

1. Specific Specifications Sections that are the responsibility of the Work Scope:

Part 1	Title	Complete
Part 2	Bid Information and Proposal Forms	Complete
Part 3	Mandatory Contract Provisions	Complete
Part 4	General Provisions	Complete
Part 5	Supplementary General Conditions	Complete
Part 6	Safety & Security	Complete
Part 7	Special Conditions	Complete
Part 10	Appendix	Complete
Part 11	Division 01 - General Requirements	Complete
08 11 00	Standard Steel Doors & Frames	Material Only
08 71 00	Door Hardware	Material Only – Steel Doors
10 26 13	Corner Guards	Material Only
10 44 00	Fire Extinguisher, Cabinets, and Accessories	Material Only

#### 1.02 PROJECT SPECIFIC SCOPE CLARIFICATIONS

- A. **General Requirements for All Work Scope Categories:** Refer to Specifications Parts 1–7 and 10-11 for additional requirements affecting this Work Scope.
- B. **Scope: Including but not limited to:** Furnish complete labor and materials (unless noted otherwise) for all Work Scope indicated on the contract documents, specifically the specification sections identified above. Include all necessary layout of lines and elevations, field measurements, equipment and tools, material handling/hoisting equipment, receiving/off-loading/storing of materials (as coordinated with the Construction Manager Superintendent), freight and delivery charges, and sales and use taxes. Direct coordination and cooperation with other Work Scope contractors, other trades, code enforcement officials, regulatory government personnel, owner representatives, and the Construction Manager are considered part of the Work Scope. Quality control and self-inspections/corrections of completed work provided by this Work Scope is the responsibility of this scope. The establishment and enforcement of a safety program that complies with all applicable regulations (including OSHA) and the project specifications/contract documents is a part of the Work Scope. Any temporary lighting beyond the normal OSHA requirements to properly complete this Work Scope is to be included as a part of the scope.
- Excluding:** Glass, glazing, aluminum storefronts, automatic entry doors, aluminum framed glass entries are NIC – by others. Dumpsters, temporary toilets, temporary electrical power and lighting to OSHA standards, temporary heat/equipment/fuel (required enclosures by this Work Scope), snow plowing of parking lots and roads to access site (snow removal specific to this Work Scope is to be included in this scope) will be provided by others.
- C. **Work Hours:** A typical workweek will be (5) 8-hour shifts from 7:00 AM to 3:30 PM, Monday through Friday (subject to change). However, all trade contractors are required to furnish the appropriate manpower count and work the required number of hours and days per week to fulfill the contract and schedule obligations.
- D. **Project Labor Agreement:** This project is governed by a Project Labor Agreement (PLA), requiring all labor to comply with the applicable contract documents.
- E. **Schedule:** The enclosed construction schedule prepared by the Construction Manager is a guideline of the approximate sequence of events that must occur to meet the targeted start and completion dates. Various milestone dates throughout the project will be fine-tuned with the assistance of the trade contractors and suppliers:
1. Also review Civil Phasing Plan Sheet C008 for additional information.
  2. Liquidated damages will be assessed per contract documents.
  3. **Skywalk Construction: Due to funding requirements, all work associated with the construction of the skywalk will not start until June 2014.**
- F. **Contract Duration:** This Work Scope will have 20 working days after approved shop drawings to deliver the materials to the site.

## **Work Scope 8.30D – Doors, Frames, Hardware, & Misc. Specialties (Materials Only)**

### **KA SPECIAL REQUIREMENTS**

- G. **Protection of Your Work:** Until final acceptance by the Owner team, any necessary protection of in progress or completed scope is incidental to this Work Scope.
- H. **Coordination:** Coordinate all work with the Construction Manager and other trade contractors and suppliers that may interface with your work.
- I. **Submissions:** Provide timely submission of insurance certificates, schedule of values, shop drawings, product data, samples, and mock-ups.
- J. **Compliance:** Comply with all Federal, State, and Local building codes and regulations, include OSHA, FAA, TSA, CBP, and DAA requirements.
- K. **Buy American Certification:** Contractors are required to adhere to all Buy American requirements in the Specifications as it pertains to the skywalk.
- L. **Steel Doors and Frames:** Furnish "Material Only" package for steel doors and frames in accordance with Section 08 11 10, including, but not limited to:
  - 1. Complete submittals as per Part 1 of each section.
  - 2. Fabrication, hardware preparation and reinforcements and delivery to Site.
  - 3. Materials and accessories for including, but not limited to:
    - a. Hollow metal doors.
    - b. Hollow metal frames, borrowed light, and sidelight frames.
    - c. Transom panels.
    - d. Door louvers, vision lite frames (no glass – by others), and related trim.
    - e. Miscellaneous anchors and accessories required for a complete installation.
- M. **Miscellaneous Specialties:**
  - 1. Complete submittals as per Part 1 of each section.
    - a. Installation diagrams for each specialty item.
    - b. Field measurements for each specialty item.
  - 2. Delivery to site. Coordinate hand-off with Work Scope 9.20D
  - 3. Miscellaneous anchors and accessories required for a complete installation.
- N. **Finish Hardware:** Furnish "Material Only" package for door hardware in accordance with Section 08 71 00, including, but not limited to:
  - 1. Complete submittals as per Part 1 of specification section, including:
    - a. Wiring diagrams for each opening requiring electrified hardware.
    - b. Coordinate power suppliers with Electrical.
    - c. Keying schedule coordinated with Owner.
  - 2. Fabrication and delivery to site. Coordinate hand-off with Work Scope 9.20D.
  - 3. Materials and accessories for including, but not limited to:
    - a. Door hardware as per Section 08 71 00 (steel doors only complete & aluminum cylinders):
      - 1) **All cylinders will be provided by this Work Scope. Cylinders for aluminum doors will be installed by Work Scope 8.40D. Cylinders for steel doors will be installed by Work Scope 9.20D.**
    - b. Door hardware for aluminum doors is included in Work Scope 8.40D. See above note for cylinders.
    - c. Maintenance materials and tools as per specifications.
    - d. Key cabinet as specified.
    - e. Miscellaneous anchors and accessories required for a complete installation.
  - 4. Door hardware for "use during construction" shall include, but not limited to:
    - a. Include temporary construction cylinders as directed by Kraus-Anderson® Construction Company.

### **1.03 SPECIAL COORDINATION OR INSTALLATION REQUIREMENTS**

- A. **Field Engineering:** The Construction Manager will provide the standard surveying for the building, including staking all of the gridlines and offsets. (One initial set, one set of offsets, and a benchmark per floor). This Work Scope will be required to take the offsets and transfer as required. The Construction Manager may double check random elevations and locations at no cost to this Work Scope:
  - 1. This Work Scope is responsible for all remaining layout.
  - 2. Layout and engineering for shoring and temporary supports shall be included.
- B. **Special Coordination:** Provide a qualified representative to coordinate with other trades.



**Work Scope 8.30D – Doors, Frames, Hardware, &  
Misc. Specialties (Materials Only)**  
**KA SPECIAL REQUIREMENTS**

**1.04 MATERIAL HANDLING AND STORAGE**

- A. **Delivery and Receiving of Materials:** Include coordination with Work Scope 9.20D.

**1.05 SUBMITTAL REQUIREMENTS**

- A. In accordance with individual specification section requiring Submittals and Division 01 requirements, subcontractor shall coordinate, prepare, and submit a complete package of design submittals in accordance with the Project Schedule and requirements of the Contract Documents. Timely submission of insurance certificates, schedules of values, shop drawings, product data, samples, mock-ups, Disadvantaged Business DBE submittals, "Buy American" submittals, and final red-lined "As-Built" drawings as required, are considered a part of this Work Scope.
- B. **Quality Control Submittals:** In accordance with specification sections, submit mill reports and concrete trip tickets to Kraus-Anderson® Construction Company's Superintendent with each delivery. All contractors are to provide their own quality control measures for their Work Scope, to include self-inspections and correction of substandard work that does not meet the specification standards.

**1.06 ALLOWANCES**

- A. Not applicable.

**1.07 UNIT PRICES AND COST BREAK DOWNS**

- A. **Cost Breakdown No. 1:** Provide a breakout price on the Construction Manager issued Bid Form for all work associated with the construction of the skywalk. This price should include all material, labor, equipment, and overhead and profit:
1. Due to funding requirements, the construction of the skywalk will not start until the summer of 2014.

**1.08 ALTERNATES**

- A. Include alternate per Specifications Section 01 23 00 – Alternates.

-- End --

## Work Scope 8.40D – Aluminum Framed Automatic Entrances, Storefronts, and Glass KA SPECIAL REQUIREMENTS

### **1.01 ALUMINUM FRAMED AUTOMATIC ENTRANCES, STOREFRONTS, AND GLASS**

- A. **Specific Work Scope:** This Work Scope consists of the Work directly and indirectly required by the specification sections listed below, plus all project drawings, addenda, and other documents identified as part of this Work Scope package, regardless of design discipline, drawing sheet identification, or jurisdictional requirements. In the event of a conflict between the General Provisions and Special Provisions, the Special Provisions will prevail.

1. Specific Specifications Sections that are the responsibility of the Work Scope:

Part 1	Title	Complete
Part 2	Bid Information and Proposal Forms	Complete
Part 3	Mandatory Contract Provisions	Complete
Part 4	General Provisions	Complete
Part 5	Supplementary General Conditions	Complete
Part 6	Safety & Security	Complete
Part 7	Special Conditions	Complete
Part 10	Appendix	Complete
Part 11	Division 01 - General Requirements	Complete
05 73 13	Glazed Decorative Metal Railing	Complete
06 10 00	Rough Carpentry	As It Applies
07 21 00	Thermal Insulation	As It Applies
07 84 00	Firestopping	As It Applies
07 92 00	Joint Sealants	As It Applies
07 95 13	Expansion Joint Cover Assemblies	As It Applies
08 41 13	Aluminum-Framed Entrances & Storefronts	Complete
08 42 29.23	Sliding Automatic Entrances	Complete
08 71 00	Door Hardware	Complete – Aluminum Entrances
08 81 00	Glass	Complete
Division 5	Steel	As It Applies

### **1.02 PROJECT SPECIFIC SCOPE CLARIFICATIONS**

- A. **General Requirements for All Work Scope Categories:** Refer to Specifications Parts 1–7 and 10-11 for additional requirements affecting this Work Scope.

**Scope: Including but not limited to:** Furnish complete labor and materials (unless noted otherwise) for all Work Scope indicated on the contract documents, specifically the specification sections identified above. Include all necessary layout of lines and elevations, field measurements, equipment and tools, material handling/hoisting equipment, receiving/off-loading/storing of materials (as coordinated with the Construction Manager Superintendent), freight and delivery charges, and sales and use taxes. Direct coordination and cooperation with other Work Scope contractors, other trades, code enforcement officials, regulatory government personnel, owner representatives, and the Construction Manager are considered part of the Work Scope. Quality control and self-inspections/corrections of completed work provided by this Work Scope is the responsibility of this scope. The establishment and enforcement of a safety program that complies with all applicable regulations (including OSHA) and the project specifications/contract documents is a part of the Work Scope. Any temporary lighting beyond the normal OSHA requirements to properly complete this Work Scope is to be included as a part of the scope.

**Excluding:** Dumpsters, temporary toilets, temporary electrical power and lighting to OSHA standards, temporary heat/equipment/fuel (required enclosures by this Work Scope), snow plowing of parking lots and roads to access site (snow removal specific to this Work Scope is to be included in this scope) will be provided by others.

- B. **Work Hours:** A typical workweek will be (5) 8-hour shifts from 7:00 AM to 3:30 PM, Monday through Friday (subject to change). However, all trade contractors are required to furnish the appropriate manpower count and work the required number of hours and days per week to fulfill the contract and schedule obligations.
- C. **Project Labor Agreement:** This project is governed by a Project Labor Agreement (PLA), requiring all labor to comply with the applicable contract documents.
- D. **Schedule:** The enclosed construction schedule prepared by the Construction Manager is a guideline of the approximate sequence of events that must occur to meet the targeted start and completion dates. Various milestone dates throughout the project will be fine-tuned with the assistance of the trade contractors and suppliers:



## Work Scope 8.40D – Aluminum Framed Automatic Entrances, Storefronts, and Glass *KA SPECIAL REQUIREMENTS*

1. Also review Civil Phasing Plan Sheet C008 for additional information.
  2. Liquidated damages will be assessed per contract documents.
  3. **Skywalk Construction:** Due to funding requirements, all work associated with the construction of the skywalk will not start until June 2014.
- E. **Contract Duration:** This Work Scope will have 40 working days to complete their work.
- F. **Winter Conditions:** Include temporary enclosures, shelters, blankets, snow removal as required specific to the work/storage of materials and any other winter conditions costs specific to the work in accordance with the specifications and project schedule. Winter heat, fuel, and equipment as required:
1. **NOTE:** The Construction Manager will provide enclosures, heat, and fuel as required to heat the DAA Parking Area and stair towers. All other winter conditions are the responsibility of this Work Scope.
- G. **Protection of Your Work:** Until final acceptance by the Owner team, any necessary protection of in progress or completed scope is incidental to this Work Scope.
- H. **Coordination:** Coordinate all work with the Construction Manager and other trade contractors and suppliers that may interface with your work.
- I. **Submissions:** Provide timely submission of insurance certificates, schedule of values, shop drawings, product data, samples, and mock-ups.
- J. **Compliance:** Comply with all Federal, State, and Local building codes and regulations, include OSHA, FAA, TSA, CBP, and DAA requirements.
- K. **Clean-Up:** Provide continuous and on-going housekeeping and clean-up as required to maintain a clean and safe jobsite. Clean-up related to this Work Scope is considered a part of the Work Scope, and provided at no additional cost. At a minimum, one (1) day per week will be designated as the Clean-Up day. Upon completion of the work described in this Work Scope, the contractor must verify with the Construction Manager that all construction debris, tools, and equipment have been removed and the work site is left in a satisfactory condition as determined by the Construction Manager.
- L. **Buy American Certification:** Contractors are required to adhere to all Buy American requirements in the Specifications as it pertains to the skywalk.
- M. **Removal of Temporary Barricades and Railing Systems:** Include removal and reinstallation of the temporary barricades at the end of each work day as required to complete your work.
- N. **Aluminum Storefront and Entrance Assemblies:** Provide complete assemblies in accordance with Section 08 41 13, including, but not limited to:
1. Aluminum framing systems.
  2. Thresholds as indicated.
  3. All hardware required for aluminum entrances except cylinders – supply and install. Cylinders will be provided by Work Scope 8.30D. Installation of cylinders is by this Work Scope.
  4. Glazed in metal panel and back panel to match storefront.
  5. Thermal insulation and firestopping directly related to aluminum storefront and entrances.
  6. Primary and secondary weather seals and continuity of vapor barriers between curtain wall assemblies and adjacent wall construction.
  7. Blocking and backing required for storefront and entrance installation.
- O. **Modifications to Existing Curtain Wall for Skywalk Connection:** The existing curtain wall must be modified to receive the skywalk connection. Refer to the plans and specifications for details. This work includes, but is not limited to:
1. All temporary supports required until permanent bracing is installed.
  2. Steel supports as indicated for curtain wall bracing.
  3. Protection of existing finishes.
  4. Temporary enclosures that at a minimum provide a water tight barrier that meets code for fire-rated exterior construction.
  5. Primary and secondary weather seals between curtain wall assemblies and adjacent wall construction.
  6. Close coordination with Kraus-Anderson® Construction Company on sequence of installation.
  7. Glazed in metal panel and back panel to match storefront.
- P. **Complete Assembly:** Provide fasteners, sealant, trim, flashing, and counter flashings for a complete system, including but not limited to, flat metal panels, ribbed metal panels, louvers, counter flashing, and accessories:

## **Work Scope 8.40D – Aluminum Framed Automatic Entrances, Storefronts, and Glass**

### **KA SPECIAL REQUIREMENTS**

1. Provide flashings, counter flashing, sheet metal, and caulking necessary within your systems and adjacent to other dissimilar materials.
  2. Metal Panels: Provide metal panels occurring within existing curtain wall, storefront framing, and window systems.
  3. Aluminum Profiles and Trim: Provide concealed and exposed trim.
  4. Thermal Insulation: Provide semi-rigid insulation, and spray foam insulation for a complete system.
  5. Sealants and Expansion Joints: Provide sealants, caulking, and expansion joints necessary for sealing of the window system:
    - a. Include exterior and interior cosmetic caulking at perimeter of frames and to other dissimilar materials.
    - c. Include expansion material and insulation within, behind, or immediately abutting to the window or framing.
    - d. End dams must be sealed before frame installation.
  6. Steel where necessary for the installation of storefronts and entrances.
- Q. **Glazed Decorative Metal Railing:** Including but not limited to:
1. Match existing edge detail.
  2. Removal and reinstallation of existing glass and railing system as required.
  3. Modifications to existing railing as required to make existing railing “time out” with skywalk entrance from Terminal.
  4. Coordination with St. Germain’s Glass, Inc., (installer of existing railing system) will be required to maintain warranty of existing railing system.
- R. **System Engineering:** Provide complete design, supply, and installation of required anchorage/support systems necessary for the complete installation of your work (including engineered calculations) above and beyond what is depicted on the drawings and specifications.

### **1.03 SPECIAL COORDINATION OR INSTALLATION REQUIREMENTS**

- A. **Field Engineering:** The Construction Manager will provide the standard surveying for the building, including staking all of the gridlines and offsets. (One initial set, one set of offsets, and a benchmark per floor). This Work Scope will be required to take the offsets and transfer as required. The Construction Manager may double check random elevations and locations at no cost to this Work Scope:
1. This Work Scope is responsible for all remaining layout.
  2. Layout and engineering for shoring and temporary supports shall be included.
- B. **Acceptance of Substrates and Existing Conditions:** Starting work constitutes acceptances of existing conditions, preparatory work, and substrates that may affect the performance of this Work Scope.
- C. **Special Safety Requirements:** This Work Scope is responsible to follow all OSHA regulations for your required work areas.
- D. **Special Coordination:** Provide a qualified representative to coordinate with other trades:
1. Ensure interface between interrelated products are compatible with one another.
- E. **Special Coordination at Exterior Envelope (Vapor Barriers/Thermal Enclosure):** Construct exterior enclosure to ensure continuous thermal insulation and vapor barrier as indicated or required for a fully functioning system.
- F. **Sealants:** Provide sealants required for work associated with this Work Scope in accordance with Section 07 92 00..
- G. **Construction Cleaning:** Perform daily construction cleaning operations for debris generated by this Work Scope:
1. Materials to be removed and disposed in appropriate Kraus-Anderson® Construction Company dumpster.
- H. **Special Protection:** Take special care while working above other trades and to provide protection necessary to protect trades below from falling objects and sparks.

### **1.04 MATERIAL HANDLING AND STORAGE**

- A. **Delivery and Receiving of Materials:** Include necessary provisions as required.
- B. **Hoisting and Scaffolding:** Work Scope is responsible for all working platforms, scaffolding, hoisting, and equipment necessary to access and complete work.
- C. **On-Site Storage:** Storing materials on site and possible relocating materials will be necessary. Coordinate with Construction Manager.

## **Work Scope 8.40D – Aluminum Framed Automatic Entrances, Storefronts, and Glass KA SPECIAL REQUIREMENTS**

### **1.05 SUBMITTAL REQUIREMENTS**

- A. In accordance with individual specification section requiring Submittals and Division 01 requirements, subcontractor shall coordinate, prepare, and submit a complete package of design submittals in accordance with the Project Schedule and requirements of the Contract Documents. Timely submission of insurance certificates, schedules of values, shop drawings, product data, samples, mock-ups, Disadvantaged Business DBE submittals, "Buy American" submittals, and final red-lined "As-Built" drawings as required, are considered a part of this Work Scope.
- B. **Quality Control Submittals:** In accordance with specification sections, submit mill reports and concrete trip tickets to Kraus-Anderson® Construction Company's Superintendent with each delivery. All contractors are to provide their own quality control measures for their Work Scope, to include self-inspections and correction of substandard work that does not meet the specification standards.

### **1.06 ALLOWANCES**

- A. Not applicable.

### **1.07 UNIT PRICES AND COST BREAK DOWNS**

- A. **Cost Breakdown No. 1:** Provide a breakout price on the Construction Manager issued Bid Form for all work associated with the construction of the skywalk. This price should include all material, labor, equipment, and overhead and profit:
  - 1. Due to funding requirements, the construction of the skywalk will not start until the summer of 2014.

### **1.08 ALTERNATES**

- A. Include alternate per Specifications Section 01 23 00 – Alternates.

-- End --

## Work Scope 9.20D – Metal Studs & Drywall

### KA SPECIAL REQUIREMENTS

#### 1.01 METAL STUDS & DRYWALL

- A. **Specific Work Scope:** This Work Scope consists of the Work directly and indirectly required by the specification sections listed below, plus all project drawings, addenda, and other documents identified as part of this Work Scope package, regardless of design discipline, drawing sheet identification, or jurisdictional requirements. In the event of a conflict between the General Provisions and Special Provisions, the Special Provisions will prevail.

1. Specific Specifications Sections that are the responsibility of the Work Scope:

Part 1	Title	Complete
Part 2	Bid Information and Proposal Forms	Complete
Part 3	Mandatory Contract Provisions	Complete
Part 4	General Provisions	Complete
Part 5	Supplementary General Conditions	Complete
Part 6	Safety & Security	Complete
Part 7	Special Conditions	Complete
Part 10	Appendix	Complete
Part 11	Division 01 - General Requirements	Complete
05 40 00	Cold-Formed Metal Framing	Complete
06 10 00	Rough Carpentry	As It Applies
07 21 00	Thermal Insulation	As It Applies
07 21 39	Sprayed Insulation	Complete
07 84 00	Firestopping	As It Applies
07 92 00	Joint Sealants	As It Applies
07 95 13	Expansion Joint Cover Assemblies	As It Applies
08 11 00	Standard Steel Doors & Frames	Installation Only
08 71 00	Door Hardware	Installation Only – Steel Doors
09 22 16	Non-Structural Metal Framing	Complete
09 29 00	Gypsum Board	Complete
10 26 13	Corner Guards	Install Only
10 44 00	Fire Extinguisher, Cabinets, & Accessories	Install Only
34 71 13.26	Vehicle Guide Rails	As It Applies

#### 1.02 PROJECT SPECIFIC SCOPE CLARIFICATIONS

- A. **General Requirements for All Work Scope Categories:** Refer to Specifications Parts 1–7 and 10-11 for additional requirements affecting this Work Scope.
- B. **Scope: Including but not limited to:** Furnish complete labor and materials (unless noted otherwise) for all Work Scope indicated on the contract documents, specifically the specification sections identified above. Include all necessary layout of lines and elevations, field measurements, equipment and tools, material handling/hoisting equipment, receiving/off-loading/storing of materials (as coordinated with the Construction Manager Superintendent), freight and delivery charges, and sales and use taxes. Direct coordination and cooperation with other Work Scope contractors, other trades, code enforcement officials, regulatory government personnel, owner representatives, and the Construction Manager are considered part of the Work Scope. Quality control and self-inspections/corrections of completed work provided by this Work Scope is the responsibility of this scope. The establishment and enforcement of a safety program that complies with all applicable regulations (including OSHA) and the project specifications/contract documents is a part of the Work Scope. Any temporary lighting beyond the normal OSHA requirements to properly complete this Work Scope is to be included as a part of the scope.  
**Excluding:** Dumpsters, temporary toilets, temporary electrical power and lighting to OSHA standards, temporary heat/equipment/fuel (required enclosures by this Work Scope), snow plowing of parking lots and roads to access site (snow removal specific to this Work Scope is to be included in this scope) will be provided by others.
- C. **Work Hours:** A typical workweek will be (5) 8-hour shifts from 7:00 AM to 3:30 PM, Monday through Friday (subject to change). However, all trade contractors are required to furnish the appropriate manpower count and work the required number of hours and days per week to fulfill the contract and schedule obligations.
- D. **Project Labor Agreement:** This project is governed by a Project Labor Agreement (PLA), requiring all labor to comply with the applicable contract documents.

## Work Scope 9.20D – Metal Studs & Drywall

### KA SPECIAL REQUIREMENTS

- E. **Schedule:** The enclosed construction schedule prepared by the Construction Manager is a guideline of the approximate sequence of events that must occur to meet the targeted start and completion dates. Various milestone dates throughout the project will be fine-tuned with the assistance of the trade contractors and suppliers:
1. Also review Civil Phasing Plan Sheet C008 for additional information.
  2. Liquidated damages will be assessed per contract documents.
  3. **Skywalk Construction: Due to funding requirements, all work associated with the construction of the skywalk will not start until June 2014.**
- F. **Contract Duration:** This Work Scope will have 30 working days to complete their work.
- G. **Winter Conditions:** Include temporary enclosures, shelters, blankets, snow removal as required specific to the work/storage of materials and any other winter conditions costs specific to the work in accordance with the specifications and project schedule. Winter heat, fuel, and equipment as required:
1. **NOTE:** The Construction Manager will provide enclosures, heat, and fuel as required to heat the DAA Parking Area and stair towers. All other winter conditions are the responsibility of this Work Scope.
- H. **Protection of Your Work:** Until final acceptance by the Owner team, any necessary protection of in progress or completed scope is incidental to this Work Scope.
- I. **Coordination:** Coordinate all work with the Construction Manager and other trade contractors and suppliers that may interface with your work.
1. Coordinate with Work Scope 8.30D Doors, Frames, Hardware, & Misc. Specialties (Materials Only) for blocking/grounds, hollow metal door frame installation, and access doors that are supplied by their bid scope.
- J. **Submissions:** Provide timely submission of insurance certificates, schedule of values, shop drawings, product data, samples, and mock-ups.
- K. **Compliance:** Comply with all Federal, State, and Local building codes and regulations, include OSHA, FAA, TSA, CBP, and DAA requirements.
- L. **Clean-Up:** Provide continuous and on-going housekeeping and clean-up as required to maintain a clean and safe jobsite. Clean-up related to this Work Scope is considered a part of the Work Scope, and provided at no additional cost. At a minimum, one (1) day per week will be designated as the Clean-Up day. Upon completion of the work described in this Work Scope, the contractor must verify with the Construction Manager that all construction debris, tools, and equipment have been removed and the work site is left in a satisfactory condition as determined by the Construction Manager.
- M. **Buy American Certification:** Contractors are required to adhere to all Buy American requirements in the Specifications as it pertains to the skywalk.
- N. **Removal of Temporary Barricades and Railing Systems:** Include removal and reinstallation of the temporary barricades at the end of each work day as required to complete your work.
- O. **Cold-Formed Metal Framing (Steel Studs):** Provide cold-formed metal framing including, but not limited to:
1. Metal stud framing.
  2. All vapor barriers, joint sealants, thermal insulation, and sheathing behind metal panels and parapet as indicated for the skywalk.
- P. **Gypsum Drywall Assemblies:** Provide interior and exterior gypsum wall board assemblies in accordance with Sections 09 29 00, including, but not limited to:
1. Non-load bearing metal stud framing.
  2. Walls, shafts, furring, etc.:
    - a. **NOTE:** Spray foam insulation at skywalk parapet is by this Work Scope.
  3. Soffits, coves, chases, and other drywall features, complete with framing.
  4. As a minimum comply with recommendations of Gypsum Association "Levels of Finish", unless higher level of finish is required by the Contract Documents.
  5. All furring and rigid insulation included on wall types indicated to receive gypsum drywall.
  7. Include all gypsum board on exterior walls and soffits.
- Q. **Thermal and Spray Insulation:** Provide insulation assemblies in accordance with Sections 07 21 00 and 07 21 39, including, but not limited to:
1. All rigid and batt. insulation concealed by this Work Scope.
  2. Spray foam insulation on precast deck.
  3. Roofing contractor will provide and install all insulation required for the roof system.
  4. Storefront contractor will provide and install all insulation required for the storefront and entrance systems. This includes the rigid insulation at the skywalk connection.

## **Work Scope 9.20D – Metal Studs & Drywall**

### ***KA SPECIAL REQUIREMENTS***

5. Masonry contractor will provide and install all insulation that is concealed by masonry.
- R. **Steel Door, Frame, Hardware, & Specialty Installation:** Install doors, frames, hardware, and specialties in accordance with specifications, including, but not limited to:
  1. Coordination with Work Scope 8.30D for delivery.
  2. Grouting of steel frames shown to be grouted.
  3. Miscellaneous fasteners may be required.
  4. Glass for side lights is supplied and installed by Work Scope 8.40D.
  5. Setting of frames in masonry construction.
  6. Door hardware as per Section 08 71 00 (steel doors only complete):
    - a. **Cylinders for steel doors will be installed by Work Scope 9.20D. Keys must be tagged and turned over to Kraus-Anderson® Construction Company once installation is complete.**
- S. **Rough Carpentry:** This Work Scope is responsible for all rough carpentry indicated except the following:
  1. Roof blocking and curbing.
  2. Blocking required for aluminum storefront and entrances.
- T. **Vehicular Guide Rails:** This Work Scope is responsible for all backing, blocking, and wood spacers required for the installation of the vehicle guide rails. Coordinate with Work Scope 5.10D.

### ***1.03 SPECIAL COORDINATION OR INSTALLATION REQUIREMENTS***

- A. **Field Engineering:** The Construction Manager will provide the standard surveying for the building, including staking all of the gridlines and offsets. (One initial set, one set of offsets, and a benchmark per floor). This Work Scope will be required to take the offsets and transfer as required. The Construction Manager may double check random elevations and locations at no cost to this Work Scope:
  1. This Work Scope is responsible for all remaining layout.
  2. Layout and engineering for shoring and temporary supports shall be included.
- B. **Acceptance of Substrates and Existing Conditions:** Starting work constitutes acceptances of existing conditions, preparatory work, and substrates that may affect the performance of this Work Scope.
- C. **Special Safety Requirements:** This Work Scope is responsible to follow all OSHA regulations for your required work areas.
- D. **Special Coordination:** Provide a qualified representative to coordinate with other trades:
  1. Ensure interface between interrelated products are compatible with one another.
- E. **Special Coordination at Exterior Envelope (Vapor Barriers/Thermal Enclosure):** Construct exterior enclosure to ensure continuous thermal insulation and vapor barrier as indicated or required for a fully functioning system.
- F. **Sealants:** Provide sealants required for work associated with this Work Scope in accordance with Section 07 92 00.
- G. **Construction Cleaning:** Perform daily construction cleaning operations for debris generated by this Work Scope:
  1. Materials to be removed and disposed in appropriate Kraus-Anderson® Construction Company dumpster.
- H. **Special Protection:** Take special care while working above other trades and to provide protection necessary to protect trades below from falling objects and sparks.
- I. **Control Joints:** Provide drywall expansion and control joints as indicated, but not less than the following:
  1. At fire-rated applications provide installed systems in accordance with established assembly rating requirements.
  2. As indicated on Drawings and at locations and spacing specified.
  3. As a minimum, comply with Gypsum Association requirements, however more stringent requirements indicated by the drawings or specifications shall govern.
- J. **Acoustical Sealants:** Provide acoustical sealants and caulks within field and around perimeter of assemblies to achieve acoustical rating/separation required by the Contract Documents.
- K. **Fire-Stopping Assemblies Occurring Within and Around Drywall Assemblies:** Provide head-of-wall and perimeter fire-stopping assemblies where indicated, or as required by Code in accordance with requirements of Section 07 84 00:
  1. **Special Note:** Project will select a single fire-stopping manufacturer for use throughout the Project. Coordinate requirements with Kraus-Anderson® Construction Company.
- L. **Acoustical Drywall Ceiling Assemblies:** Provide complete assembly, including but not limited to isolation hangers, acoustical materials and batts, perimeter and penetration sealants as indicated.
- M. **Drywall Assemblies:** Provide complete assembly as detailed, including but not limited to coves, soffits, bulkheads, duct enclosures complete with duct liners, vented trim, and other special detailing as indicated.
- N. **Drywall Specialties and Trim:** Provide formed and extruded profiles and trim components as indicated.



## **Work Scope 9.20D – Metal Studs & Drywall**

### **KA SPECIAL REQUIREMENTS**

- O. **Partition Labels:** Provide partition labeling and identification as required by the Contract Documents.
- P. **Construction Cleaning After Final Sanding:** Immediately following final taping and sanding, provide a final sweep of the area to remove sanding dust from floors, walls, ledges, coves, and sills:
  - 1. Coordinate final sanding and clean-up to allow painting operations to progress per the Project Schedule.
  - 2. Comply with special phasing and sequencing requirements to accommodate completion of areas as directed by Kraus-Anderson® Construction Company.

#### **1.04 MATERIAL HANDLING AND STORAGE**

- A. **Delivery and Receiving of Materials:** Include necessary provisions as required.
- B. **Hoisting and Scaffolding:** Work Scope is responsible for all working platforms, scaffolding, hoisting, and equipment necessary to access and complete work.
- C. **On-Site Storage:** Storing materials on site and possible relocating materials will be necessary. Coordinate with Construction Manager.

#### **1.05 SUBMITTAL REQUIREMENTS**

- A. In accordance with individual specification section requiring Submittals and Division 01 requirements, subcontractor shall coordinate, prepare, and submit a complete package of design submittals in accordance with the Project Schedule and requirements of the Contract Documents. Timely submission of insurance certificates, schedules of values, shop drawings, product data, samples, mock-ups, Disadvantaged Business DBE submittals, "Buy American" submittals, and final red-lined "As-Built" drawings as required, are considered a part of this Work Scope.
- B. **Quality Control Submittals:** In accordance with specification sections, submit mill reports and concrete trip tickets to Kraus-Anderson® Construction Company's Superintendent with each delivery. All contractors are to provide their own quality control measures for their Work Scope, to include self-inspections and correction of substandard work that does not meet the specification standards.

#### **1.06 ALLOWANCES**

- A. Not applicable.

#### **1.07 UNIT PRICES AND COST BREAK DOWNS**

- A. **Cost Breakdown No. 1:** Provide a breakout price on the Construction Manager issued Bid Form for all work associated with the construction of the skywalk. This price should include all material, labor, equipment, and overhead and profit:
  - 1. Due to funding requirements, the construction of the skywalk will not start until the summer of 2014.

#### **1.08 ALTERNATES**

- A. Include alternate per Specifications Section 01 23 00 – Alternates.

-- End --

## Work Scope 9.60D – Terrazzo KA SPECIAL REQUIREMENTS

### 1.01 TERRAZZO

- A. **Specific Work Scope:** This Work Scope consists of the Work directly and indirectly required by the specification sections listed below, plus all project drawings, addenda, and other documents identified as part of this Work Scope package, regardless of design discipline, drawing sheet identification, or jurisdictional requirements. In the event of a conflict between the General Provisions and Special Provisions, the Special Provisions will prevail.

1. Specific Specifications Sections that are the responsibility of the Work Scope:

Part 1	Title	Complete
Part 2	Bid Information and Proposal Forms	Complete
Part 3	Mandatory Contract Provisions	Complete
Part 4	General Provisions	Complete
Part 5	Supplementary General Conditions	Complete
Part 6	Safety & Security	Complete
Part 7	Special Conditions	Complete
Part 10	Appendix	Complete
Part 11	Division 01 - General Requirements	Complete
07 92 00	Joint Sealants	As It Applies
09 66 23	Resinous Matrix Terrazzo Flooring	Complete

### 1.02 PROJECT SPECIFIC SCOPE CLARIFICATIONS

- A. **General Requirements for All Work Scope Categories:** Refer to Specifications Parts 1–7 and 10–11 for additional requirements affecting this Work Scope.
- B. **Scope: Including but not limited to:** Furnish complete labor and materials (unless noted otherwise) for all Work Scope indicated on the contract documents, specifically the specification sections identified above. Include all necessary layout of lines and elevations, field measurements, equipment and tools, material handling/hoisting equipment, receiving/off-loading/storing of materials (as coordinated with the Construction Manager Superintendent), freight and delivery charges, and sales and use taxes. Direct coordination and cooperation with other Work Scope contractors, other trades, code enforcement officials, regulatory government personnel, owner representatives, and the Construction Manager are considered part of the Work Scope. Quality control and self-inspections/corrections of completed work provided by this Work Scope is the responsibility of this scope. The establishment and enforcement of a safety program that complies with all applicable regulations (including OSHA) and the project specifications/contract documents is a part of the Work Scope. Any temporary lighting beyond the normal OSHA requirements to properly complete this Work Scope is to be included as a part of the scope.
- Excluding:** Dumpsters, temporary toilets, temporary electrical power and lighting to OSHA standards, temporary heat/equipment/fuel (required enclosures by this Work Scope), snow plowing of parking lots and roads to access site (snow removal specific to this Work Scope is to be included in this scope) will be provided by others.
- C. **Work Hours:** A typical workweek will be (5) 8-hour shifts from 7:00 AM to 3:30 PM, Monday through Friday (subject to change). However, all trade contractors are required to furnish the appropriate manpower count and work the required number of hours and days per week to fulfill the contract and schedule obligations.
- D. **Project Labor Agreement:** This project is governed by a Project Labor Agreement (PLA), requiring all labor to comply with the applicable contract documents.
- E. **Schedule:** The enclosed construction schedule prepared by the Construction Manager is a guideline of the approximate sequence of events that must occur to meet the targeted start and completion dates. Various milestone dates throughout the project will be fine-tuned with the assistance of the trade contractors and suppliers:
1. Also review Civil Phasing Plan Sheet C008 for additional information.
  2. Liquidated damages will be assessed per contract documents.
  3. **Skywalk Construction: Due to funding requirements, all work associated with the construction of the skywalk will not start until June 2014.**
- F. **Contract Duration:** This Work Scope will have 10 working days to complete their work.
- G. **Winter Conditions:** Include temporary enclosures, shelters, blankets, snow removal as required specific to the work/storage of materials and any other winter conditions costs specific to the work in accordance with the specifications and project schedule. Winter heat, fuel, and equipment as required:
1. **NOTE:** The Construction Manager will provide enclosures, heat, and fuel as required to heat the DAA Parking Area and stair towers. All other winter conditions are the responsibility of this Work Scope.



## **Work Scope 9.60D – Terrazzo KA SPECIAL REQUIREMENTS**

- H. **Protection of Your Work:** Until final acceptance by the Owner team, any necessary protection of in progress or completed scope is incidental to this Work Scope.
- I. **Coordination:** Coordinate all work with the Construction Manager and other trade contractors and suppliers that may interface with your work.
- J. **Submissions:** Provide timely submission of insurance certificates, schedule of values, shop drawings, product data, samples, and mock-ups.
- K. **Compliance:** Comply with all Federal, State, and Local building codes and regulations, include OSHA, FAA, TSA, CBP, and DAA requirements.
- L. **Clean-Up:** Provide continuous and on-going housekeeping and clean-up as required to maintain a clean and safe jobsite. Clean-up related to this Work Scope is considered a part of the Work Scope, and provided at no additional cost. At a minimum, one (1) day per week will be designated as the Clean-Up day. Upon completion of the work described in this Work Scope, the contractor must verify with the Construction Manager that all construction debris, tools, and equipment have been removed and the work site is left in a satisfactory condition as determined by the Construction Manager.
- M. **Buy American Certification:** Contractors are required to adhere to all Buy American requirements in the Specifications as it pertains to the skywalk.
- N. **Removal of Temporary Barricades and Railing Systems:** Include removal and reinstallation of the temporary barricades at the end of each work day as required to complete your work.

### **1.03 SPECIAL COORDINATION OR INSTALLATION REQUIREMENTS**

- A. **Field Engineering:** The Construction Manager will provide the standard surveying for the building, including staking all of the gridlines and offsets. (One initial set, one set of offsets, and a benchmark per floor). This Work Scope will be required to take the offsets and transfer as required. The Construction Manager may double check random elevations and locations at no cost to this Work Scope:
  - 1. This Work Scope is responsible for all remaining layout.
  - 2. Layout and engineering for shoring and temporary supports shall be included.
- B. **Acceptance of Substrates and Existing Conditions:** Starting work constitutes acceptances of existing conditions, preparatory work, and substrates that may affect the performance of this Work Scope.
- C. **Special Safety Requirements:** This Work Scope is responsible to follow all OSHA regulations for your required work areas.
- D. **Special Coordination:** Provide a qualified representative to coordinate with other trades:
  - 1. Ensure interface between interrelated products are compatible with one another.
- E. **Sealants:** Provide sealants required for work associated with this Work Scope in accordance with Section 07 92 00.
- F. **Construction Cleaning:** Perform daily construction cleaning operations for debris generated by this Work Scope:
  - 1. Materials to be removed and disposed in appropriate Kraus-Anderson® Construction Company dumpster.
- G. **Special Protection:** Take special care while working above other trades and to provide protection necessary to protect trades below from falling objects and sparks.
- H. **Minimum Floor Protection Requirements:** Upon completion of the flooring installation, the contractor shall provide a complete edge to edge floor protection system consisting of particle board and taped seams.
- I. **Control Joints:** Provide expansion and control joints as indicated, but not less than the following:
  - 1. As indicated on Drawings and at locations and spacing specified.

### **1.04 MATERIAL HANDLING AND STORAGE**

- A. **Delivery and Receiving of Materials:** Include necessary provisions as required.
- B. **Hoisting and Scaffolding:** Work Scope is responsible for all working platforms, scaffolding, hoisting, and equipment necessary to access and complete work.
- C. **On-Site Storage:** Storing materials on site and possible relocating materials will be necessary. Coordinate with Construction Manager.

### **1.05 SUBMITTAL REQUIREMENTS**

- A. In accordance with individual specification section requiring Submittals and Division 01 requirements, subcontractor shall coordinate, prepare, and submit a complete package of design submittals in accordance with the Project Schedule and requirements of the Contract Documents. Timely submission of insurance certificates, schedules of

## **Work Scope 9.60D – Terrazzo**

### **KA SPECIAL REQUIREMENTS**

values, shop drawings, product data, samples, mock-ups, Disadvantaged Business DBE submittals, "Buy American" submittals, and final red-lined "As-Built" drawings as required, are considered a part of this Work Scope.

- B. **Quality Control Submittals:** In accordance with specification sections, submit mill reports and concrete trip tickets to Kraus-Anderson® Construction Company's Superintendent with each delivery. All contractors are to provide their own quality control measures for their Work Scope, to include self-inspections and correction of substandard work that does not meet the specification standards.

#### **1.06 ALLOWANCES**

- A. Not applicable.

#### **1.07 UNIT PRICES AND COST BREAK DOWNS**

- A. **Cost Breakdown No. 1:** Provide a breakout price on the Construction Manager issued Bid Form for all work associated with the construction of the skywalk. This price should include all material, labor, equipment, and overhead and profit:
  - 1. Due to funding requirements, the construction of the skywalk will not start until the summer of 2014.

#### **1.08 ALTERNATES**

- A. Include alternate per Specifications Section 01 23 00 – Alternates.

-- End --

## Work Scope 9.65D – Flooring KA SPECIAL REQUIREMENTS

### 1.01 TERRAZZO

- A. **Specific Work Scope:** This Work Scope consists of the Work directly and indirectly required by the specification sections listed below, plus all project drawings, addenda, and other documents identified as part of this Work Scope package, regardless of design discipline, drawing sheet identification, or jurisdictional requirements. In the event of a conflict between the General Provisions and Special Provisions, the Special Provisions will prevail.

1. Specific Specifications Sections that are the responsibility of the Work Scope:

Part 1	Title	Complete
Part 2	Bid Information and Proposal Forms	Complete
Part 3	Mandatory Contract Provisions	Complete
Part 4	General Provisions	Complete
Part 5	Supplementary General Conditions	Complete
Part 6	Safety & Security	Complete
Part 7	Special Conditions	Complete
Part 10	Appendix	Complete
Part 11	Division 01 - General Requirements	Complete
07 92 00	Joint Sealants	As It Applies
09 65 43	Linoleum Flooring	Complete
09 66 23	Resinous Matrix Terrazzo Flooring	Complete

### 1.02 PROJECT SPECIFIC SCOPE CLARIFICATIONS

- A. **General Requirements for All Work Scope Categories:** Refer to Specifications Parts 1–7 and 10-11 for additional requirements affecting this Work Scope.
- B. **Scope: Including but not limited to:** Furnish complete labor and materials (unless noted otherwise) for all Work Scope indicated on the contract documents, specifically the specification sections identified above. Include all necessary layout of lines and elevations, field measurements, equipment and tools, material handling/hoisting equipment, receiving/off-loading/storing of materials (as coordinated with the Construction Manager Superintendent), freight and delivery charges, and sales and use taxes. Direct coordination and cooperation with other Work Scope contractors, other trades, code enforcement officials, regulatory government personnel, owner representatives, and the Construction Manager are considered part of the Work Scope. Quality control and self-inspections/corrections of completed work provided by this Work Scope is the responsibility of this scope. The establishment and enforcement of a safety program that complies with all applicable regulations (including OSHA) and the project specifications/contract documents is a part of the Work Scope. Any temporary lighting beyond the normal OSHA requirements to properly complete this Work Scope is to be included as a part of the scope.
- Excluding:** Dumpsters, temporary toilets, temporary electrical power and lighting to OSHA standards, temporary heat/equipment/fuel (required enclosures by this Work Scope), snow plowing of parking lots and roads to access site (snow removal specific to this Work Scope is to be included in this scope) will be provided by others.
- C. **Work Hours:** A typical workweek will be (5) 8-hour shifts from 7:00 AM to 3:30 PM, Monday through Friday (subject to change). However, all trade contractors are required to furnish the appropriate manpower count and work the required number of hours and days per week to fulfill the contract and schedule obligations.
- D. **Project Labor Agreement:** This project is governed by a Project Labor Agreement (PLA), requiring all labor to comply with the applicable contract documents.
- E. **Schedule:** The enclosed construction schedule prepared by the Construction Manager is a guideline of the approximate sequence of events that must occur to meet the targeted start and completion dates. Various milestone dates throughout the project will be fine-tuned with the assistance of the trade contractors and suppliers:
1. Also review Civil Phasing Plan Sheet C008 for additional information.
  2. Liquidated damages will be assessed per contract documents.
  3. **Skywalk Construction: Due to funding requirements, all work associated with the construction of the skywalk will not start until June 2014.**
- F. **Contract Duration:** This Work Scope will have 10 working days to complete their work.
- G. **Winter Conditions:** Include temporary enclosures, shelters, blankets, snow removal as required specific to the work/storage of materials and any other winter conditions costs specific to the work in accordance with the specifications and project schedule. Winter heat, fuel, and equipment as required:

## **Work Scope 9.65D – Flooring KA SPECIAL REQUIREMENTS**

1. **NOTE:** The Construction Manager will provide enclosures, heat, and fuel as required to heat the DAA Parking Area and stair towers. All other winter conditions are the responsibility of this Work Scope.
- H. **Protection of Your Work:** Until final acceptance by the Owner team, any necessary protection of in progress or completed scope is incidental to this Work Scope.
- I. **Coordination:** Coordinate all work with the Construction Manager and other trade contractors and suppliers that may interface with your work.
- J. **Submissions:** Provide timely submission of insurance certificates, schedule of values, shop drawings, product data, samples, and mock-ups.
- K. **Compliance:** Comply with all Federal, State, and Local building codes and regulations, include OSHA, FAA, TSA, CBP, and DAA requirements.
- L. **Clean-Up:** Provide continuous and on-going housekeeping and clean-up as required to maintain a clean and safe jobsite. Clean-up related to this Work Scope is considered a part of the Work Scope, and provided at no additional cost. At a minimum, one (1) day per week will be designated as the Clean-Up day. Upon completion of the work described in this Work Scope, the contractor must verify with the Construction Manager that all construction debris, tools, and equipment have been removed and the work site is left in a satisfactory condition as determined by the Construction Manager.
- M. **Buy American Certification:** Contractors are required to adhere to all Buy American requirements in the Specifications as it pertains to the skywalk.
- N. **Removal of Temporary Barricades and Railing Systems:** Include removal and reinstallation of the temporary barricades at the end of each work day as required to complete your work.

### **1.03 SPECIAL COORDINATION OR INSTALLATION REQUIREMENTS**

- A. **Field Engineering:** The Construction Manager will provide the standard surveying for the building, including staking all of the gridlines and offsets. (One initial set, one set of offsets, and a benchmark per floor). This Work Scope will be required to take the offsets and transfer as required. The Construction Manager may double check random elevations and locations at no cost to this Work Scope:
  1. This Work Scope is responsible for all remaining layout.
  2. Layout and engineering for shoring and temporary supports shall be included.
- B. **Acceptance of Substrates and Existing Conditions:** Starting work constitutes acceptances of existing conditions, preparatory work, and substrates that may affect the performance of this Work Scope.
- C. **Special Safety Requirements:** This Work Scope is responsible to follow all OSHA regulations for your required work areas.
- D. **Special Coordination:** Provide a qualified representative to coordinate with other trades:
  1. Ensure interface between interrelated products are compatible with one another.
- E. **Sealants:** Provide sealants required for work associated with this Work Scope in accordance with Section 07 92 00.
- F. **Construction Cleaning:** Perform daily construction cleaning operations for debris generated by this Work Scope:
  1. Materials to be removed and disposed in appropriate Kraus-Anderson® Construction Company dumpster.
- G. **Special Protection:** Take special care while working above other trades and to provide protection necessary to protect trades below from falling objects and sparks.
- H. **Minimum Floor Protection Requirements:** Upon completion of the flooring installation, the contractor shall provide a complete edge to edge floor protection system consisting of particle board and taped seams.
- I. **Control Joints:** Provide expansion and control joints as indicated, but not less than the following:
  1. As indicated on Drawings and at locations and spacing specified.

### **1.04 MATERIAL HANDLING AND STORAGE**

- A. **Delivery and Receiving of Materials:** Include necessary provisions as required.
- B. **Hoisting and Scaffolding:** Work Scope is responsible for all working platforms, scaffolding, hoisting, and equipment necessary to access and complete work.
- C. **On-Site Storage:** Storing materials on site and possible relocating materials will be necessary. Coordinate with Construction Manager.

## **Work Scope 9.65D – Flooring KA SPECIAL REQUIREMENTS**

### **1.05 SUBMITTAL REQUIREMENTS**

- A. In accordance with individual specification section requiring Submittals and Division 01 requirements, subcontractor shall coordinate, prepare, and submit a complete package of design submittals in accordance with the Project Schedule and requirements of the Contract Documents. Timely submission of insurance certificates, schedules of values, shop drawings, product data, samples, mock-ups, Disadvantaged Business DBE submittals, "Buy American" submittals, and final red-lined "As-Built" drawings as required, are considered a part of this Work Scope.
- B. **Quality Control Submittals:** In accordance with specification sections, submit mill reports and concrete trip tickets to Kraus-Anderson® Construction Company's Superintendent with each delivery. All contractors are to provide their own quality control measures for their Work Scope, to include self-inspections and correction of substandard work that does not meet the specification standards.

### **1.06 ALLOWANCES**

- A. Not applicable.

### **1.07 UNIT PRICES AND COST BREAK DOWNS**

- A. **Cost Breakdown No. 1:** Provide a breakout price on the Construction Manager issued Bid Form for all work associated with the construction of the skywalk. This price should include all material, labor, equipment, and overhead and profit:
  - 1. Due to funding requirements, the construction of the skywalk will not start until the summer of 2014.

### **1.08 ALTERNATES**

- A. Include alternate per Specifications Section 01 23 00 – Alternates.

-- End --

## Work Scope 9.90D – Painting KA SPECIAL REQUIREMENTS

### 1.01 PAINTING

- A. **Specific Work Scope:** This Work Scope consists of the Work directly and indirectly required by the specification sections listed below, plus all project drawings, addenda, and other documents identified as part of this Work Scope package, regardless of design discipline, drawing sheet identification, or jurisdictional requirements. In the event of a conflict between the General Provisions and Special Provisions, the Special Provisions will prevail.

1. Specific Specifications Sections that are the responsibility of the Work Scope:

Part 1	Title	Complete
Part 2	Bid Information and Proposal Forms	Complete
Part 3	Mandatory Contract Provisions	Complete
Part 4	General Provisions	Complete
Part 5	Supplementary General Conditions	Complete
Part 6	Safety & Security	Complete
Part 7	Special Conditions	Complete
Part 10	Appendix	Complete
Part 11	Division 01 - General Requirements	Complete
07 18 16	Vehicular Traffic Coatings	Complete
07 92 00	Joint Sealants	As It Applies
09 91 00	Painting	Complete

### 1.02 PROJECT SPECIFIC SCOPE CLARIFICATIONS

- A. **General Requirements for All Work Scope Categories:** Refer to Specifications Parts 1–7 and 10-11 for additional requirements affecting this Work Scope.

- B. **Scope: Including but not limited to:** Furnish complete labor and materials (unless noted otherwise) for all Work Scope indicated on the contract documents, specifically the specification sections identified above. Include all necessary layout of lines and elevations, field measurements, equipment and tools, material handling/hoisting equipment, receiving/off-loading/storing of materials (as coordinated with the Construction Manager Superintendent), freight and delivery charges, and sales and use taxes. Direct coordination and cooperation with other Work Scope contractors, other trades, code enforcement officials, regulatory government personnel, owner representatives, and the Construction Manager are considered part of the Work Scope. Quality control and self-inspections/corrections of completed work provided by this Work Scope is the responsibility of this scope. The establishment and enforcement of a safety program that complies with all applicable regulations (including OSHA) and the project specifications/contract documents is a part of the Work Scope. Any temporary lighting beyond the normal OSHA requirements to properly complete this Work Scope is to be included as a part of the scope. Additional scope clarifications:

1. All interior and exterior painting.
2. Include all painting of bollards.
3. Include all interior pavement markings and stripping as indicated on the Architectural plans.
4. It is the responsibility of this Work Scope to prep (bondo, sanding, etc.) all steel stairs and steel doors and frames prior to painting.

**Excluding:** Dumpsters, temporary toilets, temporary electrical power and lighting to OSHA standards, temporary heat/equipment/fuel (required enclosures by this Work Scope), snow plowing of parking lots and roads to access site (snow removal specific to this Work Scope is to be included in this scope) will be provided by others.

- C. **Work Hours:** A typical workweek will be (5) 8-hour shifts from 7:00 AM to 3:30 PM, Monday through Friday (subject to change). However, all trade contractors are required to furnish the appropriate manpower count and work the required number of hours and days per week to fulfill the contract and schedule obligations.
- D. **Project Labor Agreement:** This project is governed by a Project Labor Agreement (PLA), requiring all labor to comply with the applicable contract documents.
- E. **Schedule:** The enclosed construction schedule prepared by the Construction Manager is a guideline of the approximate sequence of events that must occur to meet the targeted start and completion dates. Various milestone dates throughout the project will be fine-tuned with the assistance of the trade contractors and suppliers:
1. Also review Civil Phasing Plan Sheet C008 for additional information.
  2. Liquidated damages will be assessed per contract documents.
  3. **Skywalk Construction: Due to funding requirements, all work associated with the construction of the skywalk will not start until June 2014.**



## **Work Scope 9.90D – Painting KA SPECIAL REQUIREMENTS**

- F. **Contract Duration:** This Work Scope will have 20 working days to complete their work.
- G. **Winter Conditions:** Include temporary enclosures, shelters, blankets, snow removal as required specific to the work/storage of materials and any other winter conditions costs specific to the work in accordance with the specifications and project schedule. Winter heat, fuel, and equipment as required:
  - 1. **NOTE:** The Construction Manager will provide enclosures, heat, and fuel as required to heat the DAA Parking Area and stair towers. All other winter conditions are the responsibility of this Work Scope.
- H. **Protection of Your Work:** Until final acceptance by the Owner team, any necessary protection of in progress or completed scope is incidental to this Work Scope.
- I. **Coordination:** Coordinate all work with the Construction Manager and other trade contractors and suppliers that may interface with your work.
- J. **Submissions:** Provide timely submission of insurance certificates, schedule of values, shop drawings, product data, samples, and mock-ups.
- K. **Compliance:** Comply with all Federal, State, and Local building codes and regulations, include OSHA, FAA, TSA, CBP, and DAA requirements.
- L. **Clean-Up:** Provide continuous and on-going housekeeping and clean-up as required to maintain a clean and safe jobsite. Clean-up related to this Work Scope is considered a part of the Work Scope, and provided at no additional cost. At a minimum, one (1) day per week will be designated as the Clean-Up day. Upon completion of the work described in this Work Scope, the contractor must verify with the Construction Manager that all construction debris, tools, and equipment have been removed and the work site is left in a satisfactory condition as determined by the Construction Manager.
- M. **Buy American Certification:** Contractors are required to adhere to all Buy American requirements in the Specifications as it pertains to the skywalk.
- N. **Removal of Temporary Barricades and Railing Systems:** Include removal and reinstallation of the temporary barricades at the end of each work day as required to complete your work.

### **1.03 SPECIAL COORDINATION OR INSTALLATION REQUIREMENTS**

- A. **Field Engineering:** The Construction Manager will provide the standard surveying for the building, including staking all of the gridlines and offsets. (One initial set, one set of offsets, and a benchmark per floor). This Work Scope will be required to take the offsets and transfer as required. The Construction Manager may double check random elevations and locations at no cost to this Work Scope:
  - 1. This Work Scope is responsible for all remaining layout.
  - 2. Layout and engineering for shoring and temporary supports shall be included.
- B. **Acceptance of Substrates and Existing Conditions:** Starting work constitutes acceptances of existing conditions, preparatory work, and substrates that may affect the performance of this Work Scope.
- C. **Special Safety Requirements:** This Work Scope is responsible to follow all OSHA regulations for your required work areas.
- D. **Special Coordination:** Provide a qualified representative to coordinate with other trades:
  - 1. Ensure interface between interrelated products are compatible with one another.
- E. **Special Coordination at Exterior Envelope (Vapor Barriers/Thermal Enclosure):** Construct exterior enclosure to ensure continuous thermal insulation and vapor barrier as indicated or required for a fully functioning system.
- F. **Sealants:** Provide sealants required for work associated with this Work Scope in accordance with Section 07 92 00.
  - 1. Provide joint sealants around perimeter of steel frames and stairs prior to painting.
- G. **Construction Cleaning:** Perform daily construction cleaning operations for debris generated by this Work Scope:
  - 1. Materials to be removed and disposed in appropriate Kraus-Anderson® Construction Company dumpster.
- H. **Special Protection:** Take special care while working above other trades and to provide protection necessary to protect trades below from falling objects and sparks.
- I. **Miscellaneous Metals:** Provided, installed, and finish painted under previous contracts. Include refinishing work prior to building occupancy. Stair railings and treads/risers.

### **1.04 MATERIAL HANDLING AND STORAGE**

- A. **Delivery and Receiving of Materials:** Include necessary provisions as required.
- B. **Hoisting and Scaffolding:** Work Scope is responsible for all working platforms, scaffolding, hoisting, and equipment necessary to access and complete work.

## **Work Scope 9.90D – Painting KA SPECIAL REQUIREMENTS**

- C. **On-Site Storage:** Storing materials on site and possible relocating materials will be necessary. Coordinate with Construction Manager.

### **1.05 SUBMITTAL REQUIREMENTS**

- A. In accordance with individual specification section requiring Submittals and Division 01 requirements, subcontractor shall coordinate, prepare, and submit a complete package of design submittals in accordance with the Project Schedule and requirements of the Contract Documents. Timely submission of insurance certificates, schedules of values, shop drawings, product data, samples, mock-ups, Disadvantaged Business DBE submittals, "Buy American" submittals, and final red-lined "As-Built" drawings as required, are considered a part of this Work Scope.
- B. **Quality Control Submittals:** In accordance with specification sections, submit mill reports and concrete trip tickets to Kraus-Anderson® Construction Company's Superintendent with each delivery. All contractors are to provide their own quality control measures for their Work Scope, to include self-inspections and correction of substandard work that does not meet the specification standards.

### **1.06 ALLOWANCES**

- A. Not applicable.

### **1.07 UNIT PRICES AND COST BREAK DOWNS**

- A. **Cost Breakdown No. 1:** Provide a breakout price on the Construction Manager issued Bid Form for all work associated with the construction of the skywalk. This price should include all material, labor, equipment, and overhead and profit:
1. Due to funding requirements, the construction of the skywalk will not start until the summer of 2014.

### **1.08 ALTERNATES**

- A. Include alternate per Specifications Section 01 23 00 – Alternates.

-- End --



## Work Scope 10.20D – Interior & Exterior Wayfinding Signage

### KA SPECIAL REQUIREMENTS

#### 1.01 INTERIOR & EXTERIOR WAYFINDING SIGNAGE

- A. **Specific Work Scope:** This Work Scope consists of the Work directly and indirectly required by the specification sections listed below, plus all project drawings, addenda, and other documents identified as part of this Work Scope package, regardless of design discipline, drawing sheet identification, or jurisdictional requirements. In the event of a conflict between the General Provisions and Special Provisions, the Special Provisions will prevail.

1. Specific Specifications Sections that are the responsibility of the Work Scope:

Part 1	Title	Complete
Part 2	Bid Information and Proposal Forms	Complete
Part 3	Mandatory Contract Provisions	Complete
Part 4	General Provisions	Complete
Part 5	Supplementary General Conditions	Complete
Part 6	Safety & Security	Complete
Part 7	Special Conditions	Complete
Part 10	Appendix	Complete
Part 11	Division 01 - General Requirements	Complete
06 10 00	Rough Carpentry	As It Applies
10 14 00	Signage	Complete

#### 1.02 PROJECT SPECIFIC SCOPE CLARIFICATIONS

- A. **General Requirements for All Work Scope Categories:** Refer to Specifications Parts 1–7 and 10-11 for additional requirements affecting this Work Scope.
- B. **Scope: Including but not limited to:** Furnish complete labor and materials (unless noted otherwise) for all Work Scope indicated on the contract documents, specifically the specification sections identified above. Include all necessary layout of lines and elevations, field measurements, equipment and tools, material handling/hoisting equipment, receiving/off-loading/storing of materials (as coordinated with the Construction Manager Superintendent), freight and delivery charges, and sales and use taxes. Direct coordination and cooperation with other Work Scope contractors, other trades, code enforcement officials, regulatory government personnel, owner representatives, and the Construction Manager are considered part of the Work Scope. Quality control and self-inspections/corrections of completed work provided by this Work Scope is the responsibility of this scope. The establishment and enforcement of a safety program that complies with all applicable regulations (including OSHA) and the project specifications/contract documents is a part of the Work Scope. Any temporary lighting beyond the normal OSHA requirements to properly complete this Work Scope is to be included as a part of the scope.
1. This Work Scope is responsible for the design and engineering of all signage foundations. Provide stamped drawing by an Engineer registered in the state of Minnesota.
  2. This Work Scope is responsible for the design and engineering of all sign structures to support signage. Provide stamped drawing by an Engineer registered in the state of Minnesota.
  3. This Work Scope is responsible for the excavation, backfill, restoration of existing turf areas, below and above grade concrete foundations, structural steel fabrication and installation, painting of all sign supports.
  4. This Work Scope is responsible for providing and installing three (3) programmable LED signs by Daktronics Model Number AF-3200-32X96-8-A or equal. Install per manufacturer's recommendations. Electrical power provided by others. Refer to Plan Sheets W724 for additional notes for these signs.
  5. This Work Scope is responsible for supports, embeds, blocking, etc., for installation of interior signage.
- Excluding:** Electrical work is by Work Scope 26.10D. Dumpsters, temporary toilets, temporary electrical power and lighting to OSHA standards, temporary heat/equipment/fuel (required enclosures by this Work Scope), snow plowing of parking lots and roads to access site (snow removal specific to this Work Scope is to be included in this scope) will be provided by others.
- C. **Work Hours:** A typical workweek will be (5) 8-hour shifts from 7:00 AM to 3:30 PM, Monday through Friday (subject to change). However, all trade contractors are required to furnish the appropriate manpower count and work the required number of hours and days per week to fulfill the contract and schedule obligations.
- D. **Project Labor Agreement:** This project is governed by a Project Labor Agreement (PLA), requiring all labor to comply with the applicable contract documents.

## Work Scope 10.20D – Interior & Exterior Wayfinding Signage

### KA SPECIAL REQUIREMENTS

- E. **Schedule:** The enclosed construction schedule prepared by the Construction Manager is a guideline of the approximate sequence of events that must occur to meet the targeted start and completion dates. Various milestone dates throughout the project will be fine-tuned with the assistance of the trade contractors and suppliers:
  - 1. Also review Civil Phasing Plan Sheet C008 for additional information.
  - 2. Liquidated damages will be assessed per contract documents.
  - 3. **Skywalk Construction: Due to funding requirements, all work associated with the construction of the skywalk will not start until June 2014.**
- F. **Contract Duration:** This Work Scope will have 20 working days to complete their work.
- G. **Winter Conditions:** Include temporary enclosures, shelters, blankets, snow removal as required specific to the work/storage of materials and any other winter conditions costs specific to the work in accordance with the specifications and project schedule. Winter heat, fuel, and equipment as required:
  - 1. **NOTE:** The Construction Manager will provide enclosures, heat, and fuel as required to heat the DAA Parking Area and stair towers. All other winter conditions are the responsibility of this Work Scope.
- H. **Protection of Your Work:** Until final acceptance by the Owner team, any necessary protection of in progress or completed scope is incidental to this Work Scope.
- I. **Coordination:** Coordinate all work with the Construction Manager and other trade contractors and suppliers that may interface with your work.
- J. **Submissions:** Provide timely submission of insurance certificates, schedule of values, shop drawings, product data, samples, and mock-ups.
- K. **Compliance:** Comply with all Federal, State, and Local building codes and regulations, include OSHA, FAA, TSA, CBP, and DAA requirements.
- L. **Clean-Up:** Provide continuous and on-going housekeeping and clean-up as required to maintain a clean and safe jobsite. Clean-up related to this Work Scope is considered a part of the Work Scope, and provided at no additional cost. At a minimum, one (1) day per week will be designated as the Clean-Up day. Upon completion of the work described in this Work Scope, the contractor must verify with the Construction Manager that all construction debris, tools, and equipment have been removed and the work site is left in a satisfactory condition as determined by the Construction Manager.
- M. **Buy American Certification:** Contractors are required to adhere to all Buy American requirements in the Specifications as it pertains to the skywalk.
- N. **Removal of Temporary Barricades and Railing Systems:** Include removal and reinstallation of the temporary barricades at the end of each work day as required to complete your work.

### 1.03 SPECIAL COORDINATION OR INSTALLATION REQUIREMENTS

- A. **Field Engineering:** The Construction Manager will provide the standard surveying for the building, including staking all of the gridlines and offsets. (One initial set, one set of offsets, and a benchmark per floor). This Work Scope will be required to take the offsets and transfer as required. The Construction Manager may double check random elevations and locations at no cost to this Work Scope:
  - 1. This Work Scope is responsible for all remaining layout.
  - 2. Layout and engineering for shoring and temporary supports shall be included.
- B. **Acceptance of Substrates and Existing Conditions:** Starting work constitutes acceptances of existing conditions, preparatory work, and substrates that may affect the performance of this Work Scope.
- C. **Special Safety Requirements:** This Work Scope is responsible to follow all OSHA regulations for your required work areas.
- D. **Special Coordination:** Provide a qualified representative to coordinate with other trades:
  - 1. Ensure interface between interrelated products are compatible with one another.
- E. **Special Coordination at Exterior Envelope (Vapor Barriers/Thermal Enclosure):** Construct exterior enclosure to ensure continuous thermal insulation and vapor barrier as indicated or required for a fully functioning system.
- F. **Sealants:** Provide sealants required for work associated with this Work Scope in accordance with Section 07 92 00.
- G. **Construction Cleaning:** Perform daily construction cleaning operations for debris generated by this Work Scope:
  - 1. Materials to be removed and disposed in appropriate Kraus-Anderson® Construction Company dumpster.
- H. **Special Protection:** Take special care while working above other trades and to provide protection necessary to protect trades below from falling objects and sparks.

## **Work Scope 10.20D – Interior & Exterior Wayfinding Signage**

### **KA SPECIAL REQUIREMENTS**

#### **1.04 MATERIAL HANDLING AND STORAGE**

- A. **Delivery and Receiving of Materials:** Include necessary provisions as required.
- B. **Hoisting and Scaffolding:** Work Scope is responsible for all working platforms, scaffolding, hoisting, and equipment necessary to access and complete work.
- C. **On-Site Storage:** Storing materials on site and possible relocating materials will be necessary. Coordinate with Construction Manager.

#### **1.05 SUBMITTAL REQUIREMENTS**

- A. In accordance with individual specification section requiring Submittals and Division 01 requirements, subcontractor shall coordinate, prepare, and submit a complete package of design submittals in accordance with the Project Schedule and requirements of the Contract Documents. Timely submission of insurance certificates, schedules of values, shop drawings, product data, samples, mock-ups, Disadvantaged Business DBE submittals, "Buy American" submittals, and final red-lined "As-Built" drawings as required, are considered a part of this Work Scope.
- B. **Quality Control Submittals:** In accordance with specification sections, submit mill reports and concrete trip tickets to Kraus-Anderson® Construction Company's Superintendent with each delivery. All contractors are to provide their own quality control measures for their Work Scope, to include self-inspections and correction of substandard work that does not meet the specification standards.

#### **1.06 ALLOWANCES**

- A. Not applicable.

#### **1.07 UNIT PRICES AND COST BREAK DOWNS**

- A. **Cost Breakdown No. 1:** Provide a breakout price on the Construction Manager issued Bid Form for all work associated with the construction of the skywalk. This price should include all material, labor, equipment, and overhead and profit:
  - 1. Due to funding requirements, the construction of the skywalk will not start until the summer of 2014.

#### **1.08 ALTERNATES**

- A. Include alternate per Specifications Section 01 23 00 – Alternates.

-- End --

## Work Scope 14.20D – Elevator KA SPECIAL REQUIREMENTS

### 1.01 ELEVATOR

- A. **Specific Work Scope:** This Work Scope consists of the Work directly and indirectly required by the specification sections listed below, plus all project drawings, addenda, and other documents identified as part of this Work Scope package, regardless of design discipline, drawing sheet identification, or jurisdictional requirements. In the event of a conflict between the General Provisions and Special Provisions, the Special Provisions will prevail.

1. Specific Specifications Sections that are the responsibility of the Work Scope:

Part 1	Title	Complete
Part 2	Bid Information and Proposal Forms	Complete
Part 3	Mandatory Contract Provisions	Complete
Part 4	General Provisions	Complete
Part 5	Supplementary General Conditions	Complete
Part 6	Safety & Security	Complete
Part 7	Special Conditions	Complete
Part 10	Appendix	Complete
Part 11	Division 01 - General Requirements	Complete
07 62 00	Sheet Metal Flashing and Trim	As It Applies
14 24 23	Hydraulic Elevator-Passenger	Complete

### 1.02 PROJECT SPECIFIC SCOPE CLARIFICATIONS

- A. **General Requirements for All Work Scope Categories:** Refer to Specifications Parts 1–7 and 10-11 for additional requirements affecting this Work Scope.
- B. **Scope: Including but not limited to:** Furnish complete labor and materials (unless noted otherwise) for all Work Scope indicated on the contract documents, specifically the specification sections identified above. Include all necessary layout of lines and elevations, field measurements, equipment and tools, material handling/hoisting equipment, receiving/off-loading/storing of materials (as coordinated with the Construction Manager Superintendent), freight and delivery charges, and sales and use taxes. Direct coordination and cooperation with other Work Scope contractors, other trades, code enforcement officials, regulatory government personnel, owner representatives, and the Construction Manager are considered part of the Work Scope. Quality control and self-inspections/corrections of completed work provided by this Work Scope is the responsibility of this scope. The establishment and enforcement of a safety program that complies with all applicable regulations (including OSHA) and the project specifications/contract documents is a part of the Work Scope. Any temporary lighting beyond the normal OSHA requirements to properly complete this Work Scope is to be included as a part of the scope.  
Provide and install complete and fully functioning elevator systems per the specifications. Work includes the preparation of the installation area, moving of components into place, installation, test running and adjusting of the equipment, and certifying of equipment for safe operation.  
**Excluding:** Dumpsters, temporary toilets, temporary electrical power and lighting to OSHA standards, temporary heat/equipment/fuel (required enclosures by this Work Scope), snow plowing of parking lots and roads to access site (snow removal specific to this Work Scope is to be included in this scope) will be provided by others.
- C. **Work Hours:** A typical workweek will be (5) 8-hour shifts from 7:00 AM to 3:30 PM, Monday through Friday (subject to change). However, all trade contractors are required to furnish the appropriate manpower count and work the required number of hours and days per week to fulfill the contract and schedule obligations.
- D. **Project Labor Agreement:** This project is governed by a Project Labor Agreement (PLA), requiring all labor to comply with the applicable contract documents.
- E. **Schedule:** The enclosed construction schedule prepared by the Construction Manager is a guideline of the approximate sequence of events that must occur to meet the targeted start and completion dates. Various milestone dates throughout the project will be fine-tuned with the assistance of the trade contractors and suppliers:
1. Also review Civil Phasing Plan Sheet C008 for additional information.
  2. Liquidated damages will be assessed per contract documents.
  3. **Skywalk Construction: Due to funding requirements, all work associated with the construction of the skywalk will not start until June 2014.**
- F. **Contract Duration:** This Work Scope will have 20 working days to complete their work.

## Work Scope 14.20D – Elevator KA SPECIAL REQUIREMENTS

- G. **Winter Conditions:** Include temporary enclosures, shelters, blankets, snow removal as required specific to the work/storage of materials and any other winter conditions costs specific to the work in accordance with the specifications and project schedule. Winter heat, fuel, and equipment as required:
1. **NOTE:** The Construction Manager will provide enclosures, heat, and fuel as required to heat the DAA Parking Area and stair towers. All other winter conditions are the responsibility of this Work Scope.
- H. **Protection of Your Work:** Until final acceptance by the Owner team, any necessary protection of in progress or completed scope is incidental to this Work Scope.
- I. **Coordination:** Coordinate all work with the Construction Manager and other trade contractors and suppliers that may interface with your work.
- J. **Submissions:** Provide timely submission of insurance certificates, schedule of values, shop drawings, product data, samples, and mock-ups.
- K. **Compliance:** Comply with all Federal, State, and Local building codes and regulations, include OSHA, FAA, TSA, CBP, and DAA requirements.
- L. **Clean-Up:** Provide continuous and on-going housekeeping and clean-up as required to maintain a clean and safe jobsite. Clean-up related to this Work Scope is considered a part of the Work Scope, and provided at no additional cost. At a minimum, one (1) day per week will be designated as the Clean-Up day. Upon completion of the work described in this Work Scope, the contractor must verify with the Construction Manager that all construction debris, tools, and equipment have been removed and the work site is left in a satisfactory condition as determined by the Construction Manager.
- M. **Buy American Certification:** Contractors are required to adhere to all Buy American requirements in the Specifications as it pertains to the skywalk.
- N. **Removal of Temporary Barricades and Railing Systems:** Include removal and reinstallation of the temporary barricades at the end of each work day as required to complete your work.
- O. **Functional System:** Provide complete functional system consistent with the design intent of the specifications sections identified above and other project documents:
1. Items not shown but necessary to provide a properly functioning system shall be included in this Work Scope.
- P. **Elevator:** Provide complete system in accordance with Sections 14 24 23 including, but not limited to the following:
1. Shaft size restrictions: The elevator hoistway sizes are fixed and cannot change. Modify elevator cabs size to comply with hoistway and minimum interior car sizes indicated. Field verifications are necessary.
  2. Required modifications for the hoistway or elevator necessary to comply with the Elevator Code or Building Code is the responsibility of this Work Scope:
    - a. Including sloped enclosures, toe guards, visual site guards within the hoistway.
    - b. Any grouting or cover plates necessary for complete system.
  3. Power Requirements: Coordination with electrical subcontractor to ensure proper power requirements.
  4. Fire Alarm Requirements: Coordination with the fire alarm system to ensure proper requirements are provided.
  5. Miscellaneous metals not indicated, but required by elevator supplier, shall be responsibility of this Work Scope:
    - a. To include all furring and sheet metal required by code between openings.
  6. Subfloor Requirements: Finished floor material will be provided (furnished and installed) under other Work Scopes. This Work Scope is responsible to provide a subfloor assembly acceptable to receive the finish flooring provided by others.
- Q. **Embeds and Supports:** Include sleeves, embeds, beams, supports, and anchorage necessary for complete installation of the elevator, guide rails, and accessories in addition to the steel indicated on the Documents to achieve specified performance requirements:
1. Embedments or inserts that need to be incorporated into the precast or masonry structure are to be supplied by this contractor for installation by others:
    - a. Deliver embedments in a timely manner and provide complete drawings indicating setting locations and orientation of all embedments.
    - b. Include all anchors, fasteners, and grout required for a complete installation.
    - c. Confirm installed locations of embedments prior to the concrete being poured or masonry installed.
- R. **Primary and Secondary Steel:** Provide (furnish and install) structural and secondary steel within or adjacent to hoistway or machine room that is necessary or required by this Work Scope to install or support your Work, including support platform or maintenance platform required within the machine room to install and service equipment as indicated or required by applicable codes.
- S. **Pit Ladders:** Provide (furnish and install) elevator pit ladders as indicated or required by applicable codes.



## **Work Scope 14.20D – Elevator** **KA SPECIAL REQUIREMENTS**

- T. **Fire-Stopping Assemblies:** Provide firestopping for penetrations required by this Work Scope through fire-rated assemblies in accordance with requirements of Section 07 84 00 to maintain the integrity of the fire-rated assembly:
1. Special Note: Project will select a single fire-stopping manufacturer for use throughout the Project.

### **1.03 SPECIAL COORDINATION OR INSTALLATION REQUIREMENTS**

- A. **Field Engineering:** The Construction Manager will provide the standard surveying for the building, including staking all of the gridlines and offsets. (One initial set, one set of offsets, and a benchmark per floor). This Work Scope will be required to take the offsets and transfer as required. The Construction Manager may double check random elevations and locations at no cost to this Work Scope:
1. This Work Scope is responsible for all remaining layout.
  2. Layout and engineering for shoring and temporary supports shall be included.
- B. **Acceptance of Substrates and Existing Conditions:** Starting work constitutes acceptances of existing conditions, preparatory work, and substrates that may affect the performance of this Work Scope.
- C. **Special Safety Requirements:** This Work Scope is responsible to follow all OSHA regulations for your required work areas.
- D. **Special Coordination:** Provide a qualified representative to coordinate with other trades:
1. Ensure interface between interrelated products are compatible with one another.
- E. **Special Coordination at Exterior Envelope (Vapor Barriers/Thermal Enclosure):** Construct exterior enclosure to ensure continuous thermal insulation and vapor barrier as indicated or required for a fully functioning system.
- F. **Sealants:** Provide sealants required for work associated with this Work Scope in accordance with Section 07 92 00.
- G. **Construction Cleaning:** Perform daily construction cleaning operations for debris generated by this Work Scope:
1. Materials to be removed and disposed in appropriate Kraus-Anderson® Construction Company dumpster.
- H. **Special Protection:** Take special care while working above other trades and to provide protection necessary to protect trades below from falling objects and sparks.
- I. **Scheduling Requirements:** Schedule field operations to complete elevators concurrently allowing for testing and inspection procedures prior to Substantial Completion in accordance with the Project Schedule:
1. Work associated with elevators shall begin prior to machine room enclosure, including but not limited to, dropping plumb lines, installation of pit and hoistway equipment, and installation of car platforms.
  2. Coordinate requirements and timing of availability of permanent power within the machine room in order to comply with the Project Schedule.
- J. **Equipment and System Start-Up:** Start, test, and adjust equipment and systems prior to completion:
1. Adjust motors to operate at proper nameplate amperage, tighten belts, and adjust sheaves.
  2. Provide complete code required testing in accordance with project requirements, and as requested by Elevator Inspector.

### **1.04 MATERIAL HANDLING AND STORAGE**

- A. **Delivery and Receiving of Materials:** Include necessary provisions as required.
- B. **Hoisting and Scaffolding:** Work Scope is responsible for all working platforms, scaffolding, hoisting, and equipment necessary to access and complete work.
- C. **On-Site Storage:** Storing materials on site and possible relocating materials will be necessary. Coordinate with Construction Manager.

### **1.05 SUBMITTAL REQUIREMENTS**

- A. In accordance with individual specification section requiring Submittals and Division 01 requirements, subcontractor shall coordinate, prepare, and submit a complete package of design submittals in accordance with the Project Schedule and requirements of the Contract Documents. Timely submission of insurance certificates, schedules of values, shop drawings, product data, samples, mock-ups, Disadvantaged Business DBE submittals, "Buy American" submittals, and final red-lined "As-Built" drawings as required, are considered a part of this Work Scope.
- B. **Quality Control Submittals:** In accordance with specification sections, submit mill reports and concrete trip tickets to Kraus-Anderson® Construction Company's Superintendent with each delivery. All contractors are to provide their own quality control measures for their Work Scope, to include self-inspections and correction of substandard work that does not meet the specification standards.

**Work Scope 14.20D – Elevator**  
**KA SPECIAL REQUIREMENTS**

**1.06 ALLOWANCES**

- A. Not applicable.

**1.07 UNIT PRICES AND COST BREAK DOWNS**

- A. **Cost Breakdown No. 1:** Provide a breakout price on the Construction Manager issued Bid Form for all work associated with the construction of the skywalk. This price should include all material, labor, equipment, and overhead and profit:
1. Due to funding requirements, the construction of the skywalk will not start until the summer of 2014.

**1.08 ALTERNATES**

- A. Include alternate per Specifications Section 01 23 00 – Alternates.

-- End --

## Work Scope 21.10D – Fire Suppression System KA SPECIAL REQUIREMENTS

### 1.01 FIRE SUPPRESSION SYSTEM

- A. **Specific Work Scope:** This Work Scope consists of the Work directly and indirectly required by the specification sections listed below, plus all project drawings, addenda, and other documents identified as part of this Work Scope package, regardless of design discipline, drawing sheet identification, or jurisdictional requirements. In the event of a conflict between the General Provisions and Special Provisions, the Special Provisions will prevail.

1. Specific Specifications Sections that are the responsibility of the Work Scope:

Part 1	Title	Complete
Part 2	Bid Information and Proposal Forms	Complete
Part 3	Mandatory Contract Provisions	Complete
Part 4	General Provisions	Complete
Part 5	Supplementary General Conditions	Complete
Part 6	Safety & Security	Complete
Part 7	Special Conditions	Complete
Part 10	Appendix	Complete
Part 11	Division 01 - General Requirements	Complete
07 84 00	Firestopping	As It Applies
07 92 00	Joint Sealants	As It Applies
Division 21	Fire Suppression (All Sections Within Division 21)	Complete

### 1.02 PROJECT SPECIFIC SCOPE CLARIFICATIONS

- A. **General Requirements for All Work Scope Categories:** Refer to Specifications Parts 1–7 and 10-11 for additional requirements affecting this Work Scope.
- B. **Scope: Including but not limited to:** Furnish complete labor and materials (unless noted otherwise) for all Work Scope indicated on the contract documents, specifically the specification sections identified above. Include all necessary layout of lines and elevations, field measurements, equipment and tools, material handling/hoisting equipment, receiving/off-loading/storing of materials (as coordinated with the Construction Manager Superintendent), freight and delivery charges, and sales and use taxes. Direct coordination and cooperation with other Work Scope contractors, other trades, code enforcement officials, regulatory government personnel, owner representatives, and the Construction Manager are considered part of the Work Scope. Quality control and self-inspections/corrections of completed work provided by this Work Scope is the responsibility of this scope. The establishment and enforcement of a safety program that complies with all applicable regulations (including OSHA) and the project specifications/contract documents is a part of the Work Scope. Any temporary lighting beyond the normal OSHA requirements to properly complete this Work Scope is to be included as a part of the scope.  
**Excluding:** Dumpsters, temporary toilets, temporary electrical power and lighting to OSHA standards, temporary heat/equipment/fuel (required enclosures by this Work Scope), snow plowing of parking lots and roads to access site (snow removal specific to this Work Scope is to be included in this scope) will be provided by others.
- C. **Work Hours:** A typical workweek will be (5) 8-hour shifts from 7:00 AM to 3:30 PM, Monday through Friday (subject to change). However, all trade contractors are required to furnish the appropriate manpower count and work the required number of hours and days per week to fulfill the contract and schedule obligations.
- D. **Project Labor Agreement:** This project is governed by a Project Labor Agreement (PLA), requiring all labor to comply with the applicable contract documents.
- E. **Schedule:** The enclosed construction schedule prepared by the Construction Manager is a guideline of the approximate sequence of events that must occur to meet the targeted start and completion dates. Various milestone dates throughout the project will be fine-tuned with the assistance of the trade contractors and suppliers:
1. Also review Civil Phasing Plan Sheet C008 for additional information.
  2. Liquidated damages will be assessed per contract documents.
  3. **Skywalk Construction: Due to funding requirements, all work associated with the construction of the skywalk will not start until June 2014.**
- F. **Contract Duration:** This Work Scope will have 30 working days to complete their work
- G. **Winter Conditions:** Include temporary enclosures, shelters, blankets, snow removal as required specific to the work/storage of materials and any other winter conditions costs specific to the work in accordance with the specifications and project schedule. Winter heat, fuel, and equipment as required:



## Work Scope 21.10D – Fire Suppression System

### *KA SPECIAL REQUIREMENTS*

1. **NOTE:** The Construction Manager will provide enclosures, heat, and fuel as required to heat the DAA Parking Area and stair towers. All other winter conditions are the responsibility of this Work Scope.
- H. **Protection of Your Work:** Until final acceptance by the Owner team, any necessary protection of in progress or completed scope is incidental to this Work Scope.
- I. **Coordination:** Coordinate all work with the Construction Manager and other trade contractors and suppliers that may interface with your work.
- J. **Submissions:** Provide timely submission of insurance certificates, schedule of values, shop drawings, product data, samples, and mock-ups.
- K. **Compliance:** Comply with all Federal, State, and Local building codes and regulations, include OSHA, FAA, TSA, CBP, and DAA requirements.
- L. **Clean-Up:** Provide continuous and on-going housekeeping and clean-up as required to maintain a clean and safe jobsite. Clean-up related to this Work Scope is considered a part of the Work Scope, and provided at no additional cost. At a minimum, one (1) day per week will be designated as the Clean-Up day. Upon completion of the work described in this Work Scope, the contractor must verify with the Construction Manager that all construction debris, tools, and equipment have been removed and the work site is left in a satisfactory condition as determined by the Construction Manager.
- M. **Buy American Certification:** Contractors are required to adhere to all Buy American requirements in the Specifications as it pertains to the skywalk.
- N. **Removal of Temporary Barricades and Railing Systems:** Include removal and reinstallation of the temporary barricades at the end of each work day as required to complete your work.
- O. **Functional System:** Provide complete functional system consistent with the design intent of the specifications sections identified above and other project documents, including but not limited to:
  1. Items not shown but necessary to provide a properly functioning system shall be included in this Work Scope.
  2. Compliance with applicable Building Codes related to fire protection requirements, including accommodation for project specific hazardous, responsible to satisfy concerns from the city fire marshal or building inspector.
  3. Required permits and inspections fees.
- P. **Professional Design Insurance:** If any portion of this Work Scope includes, without limitation, the design of a building system, in addition to the construction of such system, or other professional services, including surveying, then the Prime Contractor shall purchase and maintain Professional Errors and Omission coverage insurance on a "Claims Made" basis in an amount of not less than Two Million Dollars (\$2,000,000) per claim and Two Million Dollars (\$2,000,000) aggregate, with a deductible and/or self-insured retention, including those relating to defense costs, not in excess of \$50,000, with insurance companies rated A or better by AM Best or other carrier acceptable to the Owner (Duluth Airport Authority). The retroactive date shall be prior to the start of the Work. This awarded Contractor shall continue to carry such insurance for at least three (3) years after final completion of the Project and issuance of the final Certificate for Payment. The Owner (Duluth Airport Authority) shall be the beneficiary of the provisions of this paragraph.
- Q. **Water Pressure:** This Work Scope is to provide a flow test and verification of water pressure to the project team.
- R. **Standpipes During Construction:** Coordinate with City Fire Marshal to clarify scope and requirements for standpipes during construction phase.
- S. **Housekeeping and Equipment Pads:** Provide concrete housekeeping pads for your work.
- T. **Sleeve:** Layout, cutting openings, and setting sleeves and embeds required by this Work Scope.
- U. **Fire-Stopping Assemblies Occurring Within and Around Drywall Assemblies:** Provide firestopping for penetrations required by this Work Scope through fire-rated assemblies and where indicated in accordance with requirements of Section 07 84 00.
  1. Special Note: Project will select a single fire-stopping manufacturer for use throughout the Project. Coordinate requirements with Kraus-Anderson® Construction Company.
- V. **System Start-Up:** Start, test, and adjust systems prior to completion.
- W. **Site Utility Coordination:** Including, but no limited to:
  1. The installation of the fire department connection.
  2. The installation of the flange connection on the fire protection line.

## **Work Scope 21.10D – Fire Suppression System** **KA SPECIAL REQUIREMENTS**

### **1.03 SPECIAL COORDINATION OR INSTALLATION REQUIREMENTS**

- A. **Field Engineering:** The Construction Manager will provide the standard surveying for the building, including staking all of the gridlines and offsets. (One initial set, one set of offsets, and a benchmark per floor). This Work Scope will be required to take the offsets and transfer as required. The Construction Manager may double check random elevations and locations at no cost to this Work Scope:
  - 1. This Work Scope is responsible for all remaining layout.
  - 2. Layout and engineering for shoring and temporary supports shall be included.
- B. **Acceptance of Substrates and Existing Conditions:** Starting work constitutes acceptances of existing conditions, preparatory work, and substrates that may affect the performance of this Work Scope.
- C. **Special Safety Requirements:** This Work Scope is responsible to follow all OSHA regulations for your required work areas.
- D. **Special Coordination:** Provide a qualified representative to coordinate with other trades:
  - 1. Prior to installation, contractor needs to coordinate with other trades to avoid interference:
    - a. Shop drawings indicating penetrations, supports, etc., need to be provided for coordination with other trade contractors.
- E. **Sealants:** Provide sealants required for work associated with this Work Scope in accordance with Section 07 92 00.
- F. **Construction Cleaning:** Perform daily construction cleaning operations for debris generated by this Work Scope:
  - 1. Materials to be removed and disposed in appropriate Kraus-Anderson® Construction Company dumpster.
- G. **Special Protection:** Take special care while working above other trades and to provide protection necessary to protect trades below from falling objects and sparks.

### **1.04 MATERIAL HANDLING AND STORAGE**

- A. **Delivery and Receiving of Materials:** Include necessary provisions as required.
- B. **Hoisting and Scaffolding:** Work Scope is responsible for all working platforms, scaffolding, hoisting, and equipment necessary to access and complete work.
- C. **On-Site Storage:** Storing materials on site and possible relocating materials will be necessary. Coordinate with Construction Manager.

### **1.05 SUBMITTAL REQUIREMENTS**

- A. In accordance with individual specification section requiring Submittals and Division 01 requirements, subcontractor shall coordinate, prepare, and submit a complete package of design submittals in accordance with the Project Schedule and requirements of the Contract Documents. Timely submission of insurance certificates, schedules of values, shop drawings, product data, samples, mock-ups, Disadvantaged Business DBE submittals, "Buy American" submittals, and final red-lined "As-Built" drawings as required, are considered a part of this Work Scope.
- B. **Quality Control Submittals:** In accordance with specification sections, submit mill reports and concrete trip tickets to Kraus-Anderson® Construction Company's Superintendent with each delivery. All contractors are to provide their own quality control measures for their Work Scope, to include self-inspections and correction of substandard work that does not meet the specification standards.

### **1.06 ALLOWANCES**

- A. Not applicable.

### **1.07 UNIT PRICES AND COST BREAK DOWNS**

- A. **Cost Breakdown No. 1:** Provide a breakout price on the Construction Manager issued Bid Form for all work associated with the construction of the skywalk. This price should include all material, labor, equipment, and overhead and profit:
  - 1. Due to funding requirements, the construction of the skywalk will not start until the summer of 2014.

### **1.08 ALTERNATES**

- A. Include alternate per Specifications Section 01 23 00 – Alternates.

-- End --

## Work Scope 22.10D – Mechanical Systems

### KA SPECIAL REQUIREMENTS

#### 1.01 MECHANICAL SYSTEMS

- A. **Specific Work Scope:** This Work Scope consists of the Work directly and indirectly required by the specification sections listed below, plus all project drawings, addenda, and other documents identified as part of this Work Scope package, regardless of design discipline, drawing sheet identification, or jurisdictional requirements. In the event of a conflict between the General Provisions and Special Provisions, the Special Provisions will prevail.

1. Specific Specifications Sections that are the responsibility of the Work Scope:

Part 1	Title	Complete
Part 2	Bid Information and Proposal Forms	Complete
Part 3	Mandatory Contract Provisions	Complete
Part 4	General Provisions	Complete
Part 5	Supplementary General Conditions	Complete
Part 6	Safety & Security	Complete
Part 7	Special Conditions	Complete
Part 10	Appendix	Complete
Part 11	Division 01 - General Requirements	Complete
07 84 00	Firestopping	As It Applies
07 92 00	Joint Sealants	As It Applies
Division 22	Plumbing (All Sections Within Division 22)	Complete
Division 23	HVAC (All Sections Within Division 23)	Complete

#### 1.02 PROJECT SPECIFIC SCOPE CLARIFICATIONS

- A. **General Requirements for All Work Scope Categories:** Refer to Specifications Parts 1–7 and 10-11 for additional requirements affecting this Work Scope.
- B. **Scope: Including but not limited to:** Furnish complete labor and materials (unless noted otherwise) for all Work Scope indicated on the contract documents, specifically the specification sections identified above. Include all necessary layout of lines and elevations, field measurements, equipment and tools, material handling/hoisting equipment, receiving/off-loading/storing of materials (as coordinated with the Construction Manager Superintendent), freight and delivery charges, and sales and use taxes. Direct coordination and cooperation with other Work Scope contractors, other trades, code enforcement officials, regulatory government personnel, owner representatives, and the Construction Manager are considered part of the Work Scope. Quality control and self-inspections/corrections of completed work provided by this Work Scope is the responsibility of this scope. The establishment and enforcement of a safety program that complies with all applicable regulations (including OSHA) and the project specifications/contract documents is a part of the Work Scope. Any temporary lighting beyond the normal OSHA requirements to properly complete this Work Scope is to be included as a part of the scope.
- Excluding:** Dumpsters, temporary toilets, temporary electrical power and lighting to OSHA standards, temporary heat/equipment/fuel (required enclosures by this Work Scope), snow plowing of parking lots and roads to access site (snow removal specific to this Work Scope is to be included in this scope) will be provided by others.
- C. **Work Hours:** A typical workweek will be (5) 8-hour shifts from 7:00 AM to 3:30 PM, Monday through Friday (subject to change). However, all trade contractors are required to furnish the appropriate manpower count and work the required number of hours and days per week to fulfill the contract and schedule obligations.
- D. **Project Labor Agreement:** This project is governed by a Project Labor Agreement (PLA), requiring all labor to comply with the applicable contract documents.
- E. **Schedule:** The enclosed construction schedule prepared by the Construction Manager is a guideline of the approximate sequence of events that must occur to meet the targeted start and completion dates. Various milestone dates throughout the project will be fine-tuned with the assistance of the trade contractors and suppliers:
1. Also review Civil Phasing Plan Sheet C008 for additional information.
  2. Liquidated damages will be assessed per contract documents.
  3. **Skywalk Construction: Due to funding requirements, all work associated with the construction of the skywalk will not start until June 2014.**
- F. **Contract Duration:** This Work Scope will have 60 working days to complete their work.
- G. **Winter Conditions:** Include temporary enclosures, shelters, blankets, snow removal as required specific to the work/storage of materials and any other winter conditions costs specific to the work in accordance with the specifications and project schedule. Winter heat, fuel, and equipment as required:

## Work Scope 22.10D – Mechanical Systems

### KA SPECIAL REQUIREMENTS

1. **NOTE:** The Construction Manager will provide enclosures, heat, and fuel as required to heat the DAA Parking Area and stair towers. All other winter conditions are the responsibility of this Work Scope.
- H. **Protection of Your Work:** Until final acceptance by the Owner team, any necessary protection of in progress or completed scope is incidental to this Work Scope.
- I. **Coordination:** Coordinate all work with the Construction Manager and other trade contractors and suppliers that may interface with your work.
- J. **Submissions:** Provide timely submission of insurance certificates, schedule of values, shop drawings, product data, samples, and mock-ups.
- K. **Compliance:** Comply with all Federal, State, and Local building codes and regulations, include OSHA, FAA, TSA, CBP, and DAA requirements.
- L. **Clean-Up:** Provide continuous and on-going housekeeping and clean-up as required to maintain a clean and safe jobsite. Clean-up related to this Work Scope is considered a part of the Work Scope, and provided at no additional cost. At a minimum, one (1) day per week will be designated as the Clean-Up day. Upon completion of the work described in this Work Scope, the contractor must verify with the Construction Manager that all construction debris, tools, and equipment have been removed and the work site is left in a satisfactory condition as determined by the Construction Manager.
- M. **Buy American Certification:** Contractors are required to adhere to all Buy American requirements in the Specifications **Buy American Certification:** Contractors are required to adhere to all Buy American requirements in the Specifications as it pertains to the skywalk.
- N. **Removal of Temporary Barricades and Railing Systems:** Include removal and reinstallation of the temporary barricades at the end of each work day as required to complete your work.
- O. **Functional System:** Provide complete functional system consistent with the design intent of the specifications sections identified above and other project documents, including but not limited to:
  1. Items not shown but necessary to provide a properly functioning system shall be included in this Work Scope.
  2. Extension to outside of building and connecting to site utilities shall be included in this Work Scope.
  3. Required permits and inspections fees.
- P. **Housekeeping and Equipment Pads:** Provide concrete housekeeping pads for your work.
- Q. **Roof Drains, Curbs, and Supports:** Provide roof drains, curbs, and supports required for your work, unless specifically indicated to be provided by another Work Scope.
- R. **Sleeve:** Layout, cutting openings, and setting sleeves and embeds required by this Work Scope.
- S. **Fire-Stopping Assemblies:** Provide firestopping for penetrations required by this Work Scope through fire-rated assemblies in accordance with requirements of Section 07 84 00 to maintain the integrity of the fire-rated assembly:
  1. Special Note: Project will select a single fire-stopping manufacturer for use throughout the Project.
  2. Coordinate with Kraus-Anderson® Construction Company to minimum the number of penetrations required.
- T. **Sealant Around Pipe Penetrations:** Provide sealant in accordance with Section 07 92 00 around piping penetrations fixtures and accessories installed by this Work Scope.
- U. **Equipment and System Start-Up:** Start, test, and adjust equipment and systems prior to completion:
  1. Adjust motors to operate at proper nameplate amperage, tighten belts, and adjust sheaves.
- V. **Professional Design Insurance:** If any portion of this Work Scope includes, without limitation, the design of a building system, in addition to the construction of such system, or other professional services, including surveying, then the Prime Contractor shall purchase and maintain Professional Errors and Omission coverage insurance on a "Claims Made" basis in an amount of not less than Two Million Dollars (\$2,000,000) per claim and Two Million Dollars (\$2,000,000) aggregate, with a deductible and/or self-insured retention, including those relating to defense costs, not in excess of \$50,000, with insurance companies rated A or better by AM Best or other carrier acceptable to the Owner (Duluth Airport Authority). The retroactive date shall be prior to the start of the Work. This awarded Contractor shall continue to carry such insurance for at least three (3) years after final completion of the Project and issuance of the final Certificate for Payment. The Owner (Duluth Airport Authority) shall be the beneficiary of the provisions of this paragraph.
- W. **Site Utility Coordination:** This Work Scope is responsible to bring utilities from 5'0" outside the building into designated rooms:
  1. Coordinate with Work Scope 2.20D for backfill operations.
  2. Coordinate with Work Scope 3.30D for slab-on-grade and catch basin installation.
    - a. This Work Scope is responsible for all pumps, piping, and wiring required for sump pumps.

## **Work Scope 22.10D – Mechanical Systems**

### **KA SPECIAL REQUIREMENTS**

3. This includes the installation of clean outs and oil separators indicated on P101 and the below grade storm drain shown on P101 at southwest circulation tower.
4. Include all excavation and backfill necessary.
5. This Work Scope will bring fire protection service into building as indicated on F100:
  - a. NOTE: Work Scope 21.10D will provide and install the flange for the fire protection system.

#### **1.03 SPECIAL COORDINATION OR INSTALLATION REQUIREMENTS**

- A. **Field Engineering:** The Construction Manager will provide the standard surveying for the building, including staking all of the gridlines and offsets. (One initial set, one set of offsets, and a benchmark per floor). This Work Scope will be required to take the offsets and transfer as required. The Construction Manager may double check random elevations and locations at no cost to this Work Scope:
  1. This Work Scope is responsible for all remaining layout.
  2. Layout and engineering for shoring and temporary supports shall be included.
- B. **Acceptance of Substrates and Existing Conditions:** Starting work constitutes acceptances of existing conditions, preparatory work, and substrates that may affect the performance of this Work Scope.
- C. **Special Safety Requirements:** This Work Scope is responsible to follow all OSHA regulations for your required work areas.
- D. **Special Coordination:** Provide a qualified representative to coordinate with other trades:
  1. Ensure interface between interrelated products are compatible with one another.
  2. Prior to installation, contractor needs to coordinate with other trades to avoid interference:
    - a. Shop drawings indicating penetrations, supports, etc., need to be provided for coordination with other trade contractors.
- E. **Sealants:** Provide sealants required for work associated with this Work Scope in accordance with Section 07 92 00.
- F. **Construction Cleaning:** Perform daily construction cleaning operations for debris generated by this Work Scope:
  1. Materials to be removed and disposed in appropriate Kraus-Anderson® Construction Company dumpster.
- G. **Special Protection:** Take special care while working above other trades and to provide protection necessary to protect trades below from falling objects and sparks.
- H. **Special Inspections:** Special and structural inspections will be done in accordance with the Contract Documents.
- I. **System Coordination:** Provide a qualified representative to coordinate other trades:
  1. Ensure interface between interrelated products are compatible with one another.
- J. **Utility Company Coordination:** Coordination with utility company to install required services and pay for costs associated with connections, unless specifically indicated otherwise. This includes water and gas meters.

#### **1.04 MATERIAL HANDLING AND STORAGE**

- A. **Delivery and Receiving of Materials:** Include necessary provisions as required.
- B. **Hoisting and Scaffolding:** Work Scope is responsible for all working platforms, scaffolding, hoisting, and equipment necessary to access and complete work.
- C. **On-Site Storage:** Storing materials on site and possible relocating materials will be necessary. Coordinate with Construction Manager.

#### **1.05 SUBMITTAL REQUIREMENTS**

- A. In accordance with individual specification section requiring Submittals and Division 01 requirements, subcontractor shall coordinate, prepare, and submit a complete package of design submittals in accordance with the Project Schedule and requirements of the Contract Documents. Timely submission of insurance certificates, schedules of values, shop drawings, product data, samples, mock-ups, Disadvantaged Business DBE submittals, "Buy American" submittals, and final red-lined "As-Built" drawings as required, are considered a part of this Work Scope.
- B. **Quality Control Submittals:** In accordance with specification sections, submit mill reports and concrete trip tickets to Kraus-Anderson® Construction Company's Superintendent with each delivery. All contractors are to provide their own quality control measures for their Work Scope, to include self-inspections and correction of substandard work that does not meet the specification standards.

#### **1.06 ALLOWANCES**

- A. Not applicable.

## **Work Scope 22.10D – Mechanical Systems**

### ***KA SPECIAL REQUIREMENTS***

#### ***1.07 UNIT PRICES AND COST BREAK DOWNS***

- A. **Cost Breakdown No. 1:** Provide a breakout price on the Construction Manager issued Bid Form for all work associated with the construction of the skywalk. This price should include all material, labor, equipment, and overhead and profit:
1. Due to funding requirements, the construction of the skywalk will not start until the summer of 2014.

#### ***1.08 ALTERNATES***

- A. Include alternate per Specifications Section 01 23 00 – Alternates.

-- End --



## Work Scope 26.10D – Electrical Systems

### KA SPECIAL REQUIREMENTS

#### 1.01 ELECTRICAL SYSTEMS

- A. **Specific Work Scope:** This Work Scope consists of the Work directly and indirectly required by the specification sections listed below, plus all project drawings, addenda, and other documents identified as part of this Work Scope package, regardless of design discipline, drawing sheet identification, or jurisdictional requirements. In the event of a conflict between the General Provisions and Special Provisions, the Special Provisions will prevail.

1. Specific Specifications Sections that are the responsibility of the Work Scope:

Part 1	Title	Complete
Part 2	Bid Information and Proposal Forms	Complete
Part 3	Mandatory Contract Provisions	Complete
Part 4	General Provisions	Complete
Part 5	Supplementary General Conditions	Complete
Part 6	Safety & Security	Complete
Part 7	Special Conditions	Complete
Part 10	Appendix	Complete
Part 11	Division 01 - General Requirements	Complete
07 84 00	Firestopping	As It Applies
07 92 00	Joint Sealants	As It Applies
Division 26	Electrical (All Sections Within Division 26)	Complete
Division 28	Electrical Safety and Security (All Sections Within Division 28)	Complete

#### 1.02 PROJECT SPECIFIC SCOPE CLARIFICATIONS

- A. **General Requirements for All Work Scope Categories:** Refer to Specifications Parts 1–7 and 10-11 for additional requirements affecting this Work Scope.
- B. **Scope: Including but not limited to:** Furnish complete labor and materials (unless noted otherwise) for all Work Scope indicated on the contract documents, specifically the specification sections identified above. Include all necessary layout of lines and elevations, field measurements, equipment and tools, material handling/hoisting equipment, receiving/off-loading/storing of materials (as coordinated with the Construction Manager Superintendent), freight and delivery charges, and sales and use taxes. Direct coordination and cooperation with other Work Scope contractors, other trades, code enforcement officials, regulatory government personnel, owner representatives, and the Construction Manager are considered part of the Work Scope. Quality control and self-inspections/corrections of completed work provided by this Work Scope is the responsibility of this scope. The establishment and enforcement of a safety program that complies with all applicable regulations (including OSHA) and the project specifications/contract documents is a part of the Work Scope. Any temporary lighting beyond the normal OSHA requirements to properly complete this Work Scope is to be included as a part of the scope. Supply and install a complete and fully functional electrical system that is well coordinated with other Work Scopes.
- Excluding:** All work associated with Datronix LED signs at Revenue Control Booth as shown on W724. Dumpsters, temporary toilets, temporary electrical power and lighting to OSHA standards, temporary heat/equipment/fuel (required enclosures by this Work Scope), snow plowing of parking lots and roads to access site (snow removal specific to this Work Scope is to be included in this scope) will be provided by others.
- C. **Work Hours:** A typical workweek will be (5) 8-hour shifts from 7:00 AM to 3:30 PM, Monday through Friday (subject to change). However, all trade contractors are required to furnish the appropriate manpower count and work the required number of hours and days per week to fulfill the contract and schedule obligations.
- D. **Project Labor Agreement:** This project is governed by a Project Labor Agreement (PLA), requiring all labor to comply with the applicable contract documents.
- E. **Schedule:** The enclosed construction schedule prepared by the Construction Manager is a guideline of the approximate sequence of events that must occur to meet the targeted start and completion dates. Various milestone dates throughout the project will be fine-tuned with the assistance of the trade contractors and suppliers:
1. Also review Civil Phasing Plan Sheet C008 for additional information.
  2. Liquidated damages will be assessed per contract documents.
  3. **Skywalk Construction: Due to funding requirements, all work associated with the construction of the skywalk will not start until June 2014.**
- F. **Contract Duration:** This Work Scope will have 60 working days to complete their work.

## Work Scope 26.10D – Electrical Systems

### KA SPECIAL REQUIREMENTS

- G. **Winter Conditions:** Include temporary enclosures, shelters, blankets, snow removal as required specific to the work/storage of materials and any other winter conditions costs specific to the work in accordance with the specifications and project schedule. Winter heat, fuel, and equipment as required:
  - 1. **NOTE:** The Construction Manager will provide enclosures, heat, and fuel as required to heat the DAA Parking Area and stair towers. All other winter conditions are the responsibility of this Work Scope.
- H. **Protection of Your Work:** Until final acceptance by the Owner team, any necessary protection of in progress or completed scope is incidental to this Work Scope.
- I. **Coordination:** Coordinate all work with the Construction Manager and other trade contractors and suppliers that may interface with your work.
- J. **Submissions:** Provide timely submission of insurance certificates, schedule of values, shop drawings, product data, samples, and mock-ups.
- K. **Compliance:** Comply with all Federal, State, and Local building codes and regulations, include OSHA, FAA, TSA, CBP, and DAA requirements.
- L. **Clean-Up:** Provide continuous and on-going housekeeping and clean-up as required to maintain a clean and safe jobsite. Clean-up related to this Work Scope is considered a part of the Work Scope, and provided at no additional cost. At a minimum, one (1) day per week will be designated as the Clean-Up day. Upon completion of the work described in this Work Scope, the contractor must verify with the Construction Manager that all construction debris, tools, and equipment have been removed and the work site is left in a satisfactory condition as determined by the Construction Manager.
- M. **Buy American Certification:** Contractors are required to adhere to all Buy American requirements in the Specifications as it pertains to the skywalk.
- N. **Removal of Temporary Barricades and Railing Systems:** Include removal and reinstallation of the temporary barricades at the end of each work day as required to complete your work.
- O. **Functional System:** Provide complete functional system consistent with the design intent of the specifications sections identified above and other project documents, including but not limited to:
  - 1. Items not shown but necessary to provide a properly functioning system shall be included in this Work Scope.
  - 2. Main power, power distribution, and lighting systems.
  - 3. Required permits and inspections fees.
- P. **Housekeeping and Equipment Pads:** Provide concrete housekeeping pads for your work.
  - 1. Including Power Company transformer pads.
- Q. **Sleeve:** Layout, cutting openings, and setting sleeves and embeds required by this Work Scope.
- R. **Fire-Stopping Assemblies:** Provide firestopping for penetrations required by this Work Scope through fire-rated assemblies in accordance with requirements of Section 07841 to maintain the integrity of the fire-rated assembly:
  - 1. Special Note: Project will select a single fire-stopping manufacturer for use throughout the Project.
  - 2. Coordinate with Kraus-Anderson® Construction Company to minimum the number of penetrations required.
- S. **Sealant Around Electrical Components:** Provide sealant in accordance with Section 07 92 00 around electrical conduits and comments penetrating exterior walls, sound rated partitions, smoke-tight or vapor-tight assemblies.
- T. **Automatic and Electrified Doors:** Provide power supply and connection for automatic doors and coiling doors.
- U. **System Start-Up:** Start, test, and adjust systems prior to completion.
- V. **Utility Company Coordination:** Coordination with utility/electrical company to install required services and pay for costs associated with connections, unless specifically indicated otherwise:
  - 1. MN Power to supply and install transformer.
- W. **Site Electrical:** Provide all site electrical as indicated on the electrical plans:
  - 1. Include all excavation and backfill necessary.
  - 2. Include all locates.
  - 3. All site electrical indicated on CE101 is not in this Work Scope:
    - a. Coordinate with Work Scope 2.20D for interface.
  - 4. All site electrical required for exterior wayfinding signage as indicated on W100 is included in this Work Scope:
    - a. Electrical contractor is to provide and install all exterior signage light fixtures.
- X. **Temporary Electrical Services:** This Work Scope is responsible to provide temporary electrical for the entire project. This includes installation and removal.
  - 1. Electrical energy will be paid for by the Owner.



## **Work Scope 26.10D – Electrical Systems** **KA SPECIAL REQUIREMENTS**

### **1.03 SPECIAL COORDINATION OR INSTALLATION REQUIREMENTS**

- A. **Field Engineering:** The Construction Manager will provide the standard surveying for the building, including staking all of the gridlines and offsets. (One initial set, one set of offsets, and a benchmark per floor). This Work Scope will be required to take the offsets and transfer as required. The Construction Manager may double check random elevations and locations at no cost to this Work Scope:
  - 1. This Work Scope is responsible for all remaining layout.
  - 2. Layout and engineering for shoring and temporary supports shall be included.
- B. **Acceptance of Substrates and Existing Conditions:** Starting work constitutes acceptances of existing conditions, preparatory work, and substrates that may affect the performance of this Work Scope.
- C. **Special Safety Requirements:** This Work Scope is responsible to follow all OSHA regulations for your required work areas.
- D. **Special Coordination:** Provide a qualified representative to coordinate with other trades:
  - 1. Ensure interface between interrelated products are compatible with one another.
- E. **Sealants:** Provide sealants required for work associated with this Work Scope in accordance with Section 07 92 00.
- F. **Construction Cleaning:** Perform daily construction cleaning operations for debris generated by this Work Scope:
  - 1. Materials to be removed and disposed in appropriate Kraus-Anderson® Construction Company dumpster.
- G. **Special Protection:** Take special care while working above other trades and to provide protection necessary to protect trades below from falling objects and sparks.
- H. **Special Inspections:** Special and structural inspections will be done in accordance with the Contract Documents.
- I. **System Coordination:** Provide a qualified representative to coordinate other trades:
  - 1. Ensure interface between interrelated products are compatible with one another.

### **1.04 MATERIAL HANDLING AND STORAGE**

- A. **Delivery and Receiving of Materials:** Include necessary provisions as required.
- B. **Hoisting and Scaffolding:** Work Scope is responsible for all working platforms, scaffolding, hoisting, and equipment necessary to access and complete work.
- C. **On-Site Storage:** Storing materials on site and possible relocating materials will be necessary. Coordinate with Construction Manager.

### **1.05 SUBMITTAL REQUIREMENTS**

- A. In accordance with individual specification section requiring Submittals and Division 01 requirements, subcontractor shall coordinate, prepare, and submit a complete package of design submittals in accordance with the Project Schedule and requirements of the Contract Documents. Timely submission of insurance certificates, schedules of values, shop drawings, product data, samples, mock-ups, Disadvantaged Business DBE submittals, "Buy American" submittals, and final red-lined "As-Built" drawings as required, are considered a part of this Work Scope.
- B. **Quality Control Submittals:** In accordance with specification sections, submit mill reports and concrete trip tickets to Kraus-Anderson® Construction Company's Superintendent with each delivery. All contractors are to provide their own quality control measures for their Work Scope, to include self-inspections and correction of substandard work that does not meet the specification standards.

### **1.06 ALLOWANCES**

- A. Not applicable.

### **1.07 UNIT PRICES AND COST BREAK DOWNS**

- A. **Cost Breakdown No. 1:** Provide a breakout price on the Construction Manager issued Bid Form for all work associated with the construction of the skywalk. This price should include all material, labor, equipment, and overhead and profit:
  - 1. Due to funding requirements, the construction of the skywalk will not start until the summer of 2014.

### **1.08 ALTERNATES**

- A. Include alternate per Specifications Section 01 23 00 – Alternates.

-- End --

# NEW PARKING STRUCTURE & EXTERIOR WAYFINDING SIGNAGE BP-2D

## 01 01 40 Work Scope Index

**Note: All work described is furnish and install unless noted otherwise.**

PC (Work by Prime Contractors)					
May 22, 2013					
Work Scope No.	Work Scope Description	Work By	Spec #	Spec Section	Remarks
2.20D	Civil, Site Work, & Building Earthwork	PC	07 13 00 07 21 23 31 05 16 31 20 00 33 46 13	Sheet Membrane Waterproofing Foundation/Slab-On-Grade Insulation Aggregate Materials Earth Moving Foundation Drainage System	Complete As It Applies Complete Complete Complete - For Reference Only - Will Be Paid At Unit Costs
2.90D	Landscaping	PC	32 92 00 32 93 00 32 94 43	Turf & Grasses Plants Tree Grates	Complete Complete Complete
3.30D	Concrete	PC	03 10 00 03 20 00 03 30 00 07 21 23 07 26 16 07 92 00 07 95 13 Division 5	Concrete Formwork Concrete Reinforcement Cast-In-Place Concrete Foundation/Slab-On-Grade Insulation Under-Slab Vapor Barrier Joint Sealants Expansion Joint Cover Assemblies Embeds and Bollards (Pipe)	Complete Complete Complete As It Applies Complete As It Applies As It Applies Installation Only
3.40D	Precast Wall Panel & Floor Plank	PC	03 41 00 03 41 01 03 45 00 07 84 00 07 92 00 07 95 13	Precast Structural Concrete Precast Hollow Core Slabs Precast Architectural Wall Panels Firestopping Joint Sealants Expansion Joint Cover Assemblies	Complete Complete Complete As It Applies As It Applies As It Applies
4.20D	Unit Masonry	PC	04 05 13 04 05 16 04 05 19 04 05 20 04 22 00 07 21 00 07 65 00 07 84 00 07 92 00 07 95 13	Masonry Mortaring Masonry Grouts Masonry Anchors Joint Reinforcement and Bars Concrete Unit Masonry Thermal Insulation Flexible Flashing Firestopping Joint Sealants Expansion Joint Cover Assemblies	Complete Complete Complete Complete Complete As It Applies Complete As It Applies As It Applies As It Applies
5.10D	Struct. Steel & Misc. Metal Fabrication & Erection	PC	05 05 13 05 12 00 05 31 13 05 31 23 05 50 00 05 51 00 05 51 33 05 52 00 05 73 16 05 75 12 34 71 13.26	Hot Dip Galvanizing Structural Steel Steel Floor Deck Steel Roof Deck Metal Fabrications Metal Stairs Metal Ladders Handrails and Railings Cable Railing Wire Cloth Vehicle Guide Rails	Complete Complete Complete Complete Complete Complete Complete Complete Complete Complete Complete
7.10D	Metal Panels & Roofing	PC	06 10 00 07 22 16 07 42 13.23 07 53 23 07 62 00 07 92 00 07 84 00 07 95 13 08 91 19	Rough Carpentry Roof Deck Insulation Composite Metal Building Panels EPDM Roofing Sheet Metal Flashing & Trim Joint Sealants Firestopping Expansion Joint Cover Assemblies Fixed Metal Wall Louvers	As It Applies Complete Complete Complete Complete As It Applies As It Applies As It Applies Complete
8.22D	Overhead Coiling Doors	PC	05 50 00 08 33 23	Metal Fabrications Overhead Coiling Doors	As It Relates To Coiling Door Supports Complete
8.30D	Doors, Frames, Hardware, & Misc. Specialties (Materials Only)	PC	08 11 00 08 71 00 10 26 13 10 44 00	Standard Steel Doors & Frames Door Hardware Corner Guards Fire Extinguisher, Cabinets, & Accessories	Material Only Material Only - Steel Doors Material Only Material Only
8.40D	Aluminum Framed Automatic Entrances, Storefronts, and Glass	PC	05 73 13 06 10 00 07 21 00 07 84 00 07 92 00 07 95 13 08 41 13 08 42 29.23 08 71 00 08 81 00 Division 5	Glazed Decorative Metal Railing Rough Carpentry Thermal Insulation Firestopping Joint Sealants Expansion Joint Cover Assemblies Aluminum-Framed Entrances & Storefronts Sliding Automatic Entrances Door Hardware Glass Steel	Complete As It Applies As It Applies As It Applies As It Applies As It Applies Complete Complete Complete - Aluminum Entrances Complete As It Applies

# NEW PARKING STRUCTURE & EXTERIOR WAYFINDING SIGNAGE BP-2D

## 01 01 40 Work Scope Index

**Note: All work described is furnish and install unless noted otherwise.**

		PC (Work by Prime Contractors)			May 22, 2013
Work Scope No.	Work Scope Description	Work By	Spec Sections Included		Remarks
			Spec #	Spec Section	
9.20D	Metal Studs & Drywall	PC	05 40 00	Cold-Formed Metal Framing	Complete
			06 10 00	Rough Carpentry	As It Applies
			07 21 00	Thermal Insulation	As It Applies
			07 21 39	Sprayed Insulation	Complete
			07 84 00	Firestopping	As It Applies
			07 92 00	Joint Sealants	As It Applies
			07 95 13	Expansion Joint Cover Assemblies	As It Applies
			08 11 00	Standard Steel Doors & Frames	Installation Only
			08 71 00	Door Hardware	Installation Only - Steel Doors
			09 22 16	Non-Structural Metal Framing	Complete
			09 29 00	Gypsum Board	Complete
			10 26 13	Corner Guards	Install Only
			10 44 00	Fire Extinguisher, Cabinets, & Accessories	Install Only
			34 71 13.26	Vehicle Guide Rails	As It Applies
			9.60D	Terrazzo	PC
9.65D	Flooring	PC	07 92 00 09 65 43 09 66 23	Joint Sealants Linoleum Flooring Resinous Matrix Terrazzo Flooring	As It Applies Complete Complete
9.90D	Painting	PC	07 18 16 07 92 00 09 91 00	Vehicular Traffic Coatings Joint Sealants Painting	Complete As It Applies Complete
10.20D	Interior & Exterior Wayfinding Signage	PC	06 10 00 10 14 00	Rough Carpentry Signage	As It Applies Complete
14.20D	Elevator	PC	07 62 00 14 24 23	Sheet Metal Flashing and Trim Hydraulic Elevator-Passenger	As It Applies Complete
21.10D	Fire Suppression System	PC	07 84 00 07 92 00 Division 21	Firestopping Joint Sealants Fire Suppression (All Sections Within Division 21)	As It Applies As It Applies Complete
22.10D	Mechanical Systems	PC	07 84 00 07 92 00 Division 22 Division 23	Firestopping Joint Sealants Plumbing (All Sections Within Division 22) HVAC (All Sections Within Division 23)	As It Applies As It Applies Complete Complete
26.10D	Electrical Systems	PC	07 84 00 07 92 00 Division 26 Division 28	Firestopping Joint Sealants Electrical (All Sections Within Division 26) Electrical Safety and Security (All Sections Within Division 28)	As It Applies As It Applies Complete Complete

**CERTIFICATION OF BIDDER REGARDING  
EQUAL EMPLOYMENT OPPORTUNITY**

**GENERAL**

In accordance with Executive Order 11246 (30 F.R. 12319-25), the implementing rules and regulations thereof, and orders of the Secretary of Labor, a Certification regarding Equal Opportunity is required of bidders or prospective contractors and their proposed subcontractors prior to the award of contracts or subcontracts.

**CERTIFICATION OF BIDDER**

Bidder's Name \_\_\_\_\_

Address \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

1. Participation in a previously Federally assisted contract or subcontract.
  - a. The Bidder (Proposer) shall complete the following statement by checking the appropriate boxes.
    - (1) The Bidder (Proposer) has ( ) has not ( ) participated in a previous contract subject to the equal opportunity clause prescribed by Executive Order 10925, or Executive Order 11114, or Executive Order 11246, as amended.
    - (2) The Bidder (Proposer) has ( ) has not ( ) submitted all compliance reports in connection with any such contract due under the applicable filing requirements; and that representations indicating submission of required compliance reports signed by proposed subcontractors will be obtained to award of subcontractors.
  - b. If the Bidder (Proposer) has participated in a previous contract subject to the equal opportunity clause and has not submitted compliance reports due under applicable filing requirements, the Bidder (Proposer) shall submit a compliance report on Standard Form 100, "Employee Information Report EEO-1" prior to the award of contract.
  - c. When a determination has been made to award the contract to a specific contractor, such contractor may be required, prior to award, or after the award, or both, to furnish such other pertinent information regarding its own employment practice and policies as well as of its proposed subcontractors as the FAA, the Sponsor, or the Director of OFCC may require. (41 CFR Chapter 60; FAR 152.6(c).)

## CERTIFICATION OF NONSEGREGATED FACILITIES

The federally assisted construction contractor certifies that he does not maintain or provide, for his employees, any segregated facilities at any of his establishments and that he does not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. The federally assisted construction contractor certifies that he will not maintain or provide, for his employees, segregated facilities at any of his establishments and that he will not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. The federally assisted construction contractor agrees that a breach of this certification is a violation of the equal opportunity clause in this contract. As used in this certification, the term "segregated facilities" means any waiting rooms, work area, restrooms and washrooms, restaurants and other eating areas, timeclocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directives or are in fact segregated on the basis of race, color, religion, or national origin because of habit, local custom, or any other reason. The federally assisted construction contractor agrees that (except where he has obtained identical certifications from proposed subcontractors for specific time periods) he will obtain identical certifications from proposed subcontractors prior to the award of subcontracts exceeding \$10,000 which are not exempt from the provisions of the equal opportunity clause and that he will retain such certifications in his files.

### REMARKS:

Certification - The information above is true and complete to the best of my knowledge and belief.

Name and Title of Signer

(Please Type)

( ) Contractor

( ) Subcontractor

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

Note: The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001.

Airport Name: Duluth International Airport

Location: Duluth, MN

Sponsor: Duluth Airport Authority

FAA AIP Number: 3-27-24-55-13

## **AFFIDAVIT AND INFORMATION REQUIRED OF BIDDERS**

Affidavit of Non-Collusion:

I hereby swear (or affirm) under penalty of perjury:

1. That I am the bidder (if the bidder is an individual), a partner in the bidder (if the bidder is a partnership), or an officer or employee of the bidding corporation having authority to sign on its behalf (if the bidder is a corporation);
2. That the attached bid or bids have been arrived at by the bidder independently and have been submitted without collusion with and without agreement, understanding, or planned common course of action with any other vendor or materials, supplied, equipment or services described in the invitation to bid, designed to limit independent bidding or competition;
3. That the contents of the bid or bids have not been communicated by the bidder or its employees or agents to any person not an employee or agent of the bidder or its surety on any bond furnished with the bid or bids and will not be communicated to any such person prior to the official opening of the bid or bids; and
4. That I have fully informed myself regarding the accuracy of the statements made in this affidavit.

Signed: \_\_\_\_\_

Firm Name: \_\_\_\_\_

Subscribed and sworn to me before this \_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_

NOTARY PUBLIC \_\_\_\_\_

My commission expires: \_\_\_\_\_

Bidder's E.I. Number \_\_\_\_\_  
(Number used on employer's quarterly Federal Tax return)

Airport Name: Duluth International Airport

Location: Duluth, MN

Sponsor: Duluth Airport Authority

FAA AIP Number: 3-27-24-55-13

### **CERTIFICATION FOR CONTRACTS, GRANTS, LOANS AND COOPERATIVE AGREEMENTS**

The undersigned certifies, to the best of his or her knowledge and belief, that:

1. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal Contract, grant, loan or cooperative agreement.
2. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee or any agency, a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure of Lobby Activities," in accordance with its instructions.
3. The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

Contractor \_\_\_\_\_ Dated \_\_\_\_\_

Signed \_\_\_\_\_

Airport Name: Duluth International Airport

Location: Duluth, MN

Sponsor: Duluth Airport Authority

FAA AIP Number: 3-27-24-55-13

**CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY, AND  
VOLUNTARY EXCLUSION - 49 CFR PART 29  
(VERSION 1, 1/5/90)**

The bidder/offerer certifies, by submission of this proposal or acceptance of this contract, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency. It further agrees by submitting this proposal that it will include this clause without modification in all lower tier transactions, solicitations, proposals, contracts, and subcontracts. Where the bidder/offerer/contractor or any lower tier participant is unable to certify to this statement, it shall attach an explanation to this solicitation/proposal.

Contractor \_\_\_\_\_ Dated \_\_\_\_\_

Signed \_\_\_\_\_



Airport Name: Duluth International Airport

Location: Duluth, MN

Sponsor: Duluth Airport Authority

FAA AIP Number: 3-27-24-55-13

### **RESTRICTIONS ON FEDERAL PUBLIC WORKS PROJECTS CERTIFICATION**

The undersigned CONTRACTOR or SUBCONTRACTOR, hereby certifies that it:

- a. Is not owned or controlled by one or more citizens or nationals of a foreign country included in the list of countries that discriminate against U.S. firms published by the Office of the United States Trade Representative (USTR):
- b. has not knowingly entered into any contract or subcontract for this project with a CONTRACTOR that is a citizen or national of a foreign country on said list, or is owned or controlled directly or indirectly by one or more citizens or nationals of a foreign country on said list.
- c. has not procured any product nor subcontracted for the supply of any product for use on the project that is produced in a foreign country on said list.

Unless the restrictions of this clause are waived by the Secretary of Transportation in accordance with 49 CFR 30.17 no contract shall be awarded to a CONTRACTOR or SUBCONTRACTOR who is unable to certify to the above. If the CONTRACTOR knowingly procures or subcontracts for the supply of any product or service of a foreign country on the said list for use on the project, the Federal Aviation Administration may direct, through the sponsor, cancellation of the contract at no cost to the Government.

Further, the CONTRACTOR agrees that, if awarded a contract resulting from this solicitation, it will incorporate this provision for certification without modification in each contract and in all lower tier subcontracts. The CONTRACTOR may rely upon the certification of a prospective SUBCONTRACTOR unless it has knowledge that the certification is erroneous.

The CONTRACTOR shall provide immediate written notice to the sponsor if the CONTRACTOR learns that its certification or that of a SUBCONTRACTOR was erroneous when submitted or has become erroneous by reason of changed circumstances. The SUBCONTRACTOR agrees to provide immediate written notice to the CONTRACTOR, if at any time it learns that its certification was erroneous by reason of changed circumstances.

This certification is a material representation of fact upon which reliance was placed when making the award. If it is later determined that the CONTRACTOR or SUBCONTRACTOR knowingly rendered an erroneous certification, the Federal Aviation Administration may direct, through the sponsor, cancellation of the contract or subcontract for default at no cost to the Government.

Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render, in good faith, the certification required by this provision. The knowledge and information of a CONTRACTOR is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

This certification concerns a matter within the jurisdiction of an agency of the United States of America and the making of a false, fictitious, or fraudulent certification may render the maker subject to prosecution under Title 18, United States Code, Section 1001.

Contractor \_\_\_\_\_ Dated \_\_\_\_\_

Signed \_\_\_\_\_

Airport Name: Duluth International Airport

Location: Duluth, MN

Sponsor: Duluth Airport Authority

FAA AIP Number: 3-27-24-55-13

### **DBE ATTACHMENT**

Each bidder shall submit with the proposal a written assurance of its ability to meet the prescribed DBE goal of **3.2 %** in its bid or of its "good faith efforts" to meet that goal. Bids received that do not contain this assurance or have not given acceptable evidence of "good faith efforts" to meet the DBE goal may be considered nonresponsive and may be ineligible for award of the contract at the discretion of the DAA.

Exclusive agreements between DBEs and Bidder/Proposers are forbidden. Bidders will submit, in writing, the names of the DBEs included in the bid, a description of the work the DBEs will perform and the dollar value of each DBE subcontract.

<u>DBE Firm</u>	<u>Description of Work</u>	<u>Dollar Value</u>
-----------------	----------------------------	---------------------



**DULUTH INTERNATIONAL AIRPORT**

Closer to everywhere.

## **DAA DISADVANTAGED BUSINESS ENTERPRISE POLICY STATEMENT**

The Duluth Airport Authority has established a Disadvantage Business Enterprise (DBE) program in accordance with regulations of the U.S. Department of Transportation (DOT), 49 CFR Part 26. The Duluth Airport Authority has received Federal financial assistance from the Department of Transportation, and as a condition of receiving this assistance, the Duluth Airport Authority has signed an assurance that it will comply with 49 CFR part 26.

It is the policy of the Duluth Airport Authority to ensure that DBEs, as defined in part 26, have an equal opportunity to receive and participate in DOT assisted contracts. It is also our policy to ensure nondiscrimination in the award and administration of DOT assisted contracts; to create a level playing field on which DBEs can compete fairly for DOT assisted contracts; to ensure that the DBE program is narrowly tailored in accordance with applicable law; to ensure that only firms that fully meet 49 CFR part 26 eligibility standards are permitted to participate as DBEs; to help remove barriers to the participation of DBEs in DOT assisted contracts; and to assist the development of firms that can compete successfully in the market place outside the DBE Program.

The Blaine Peterson, Director of Operations, has been delegated as the DBE Liaison Officer. In that capacity, the Director of Operations, is responsible for implementing all aspects of the DBE program. The Sky Harbor Airport Manager will be the assistant to the DBELO. Implementation of the DBE program is accorded the same priority as compliance with all other legal obligations incurred by the Duluth Airport Authority in its financial assistance agreements with the Department of Transportation.

Blaine Peterson  
DBE Liaison Officer  
Duluth Airport Authority  
4701 Grinden Drive  
Duluth, MN 55811  
(218) 727-2968  
[bpeterson@duluthairport.com](mailto:bpeterson@duluthairport.com)

Brian Madsen  
DBELO Assistant  
Duluth Airport Authority  
4701 Grinden Drive  
Duluth, MN 55811  
(218) 391-8073  
[bmadsen@duluthairport.com](mailto:bmadsen@duluthairport.com)

**DEPARTMENT OF TRANSPORTATION  
DBE PROGRAM – 49 CFR PART 26  
DULUTH AIRPORT AUTHORITY**

**POLICY STATEMENT**

**Section 26.1, 26.23****Objectives/Policy Statement**

The Duluth Airport Authority has established a Disadvantaged Business Enterprise (DBE) program in accordance with regulations of the U.S. Department of Transportation (DOT), 49 CFR Part 26. The Duluth Airport Authority has received Federal financial assistance from the Department of Transportation, and as a condition of receiving this assistance, the Duluth Airport Authority has signed an assurance that it will comply with 49 CFR Part 26.

It is the policy of the Duluth Airport Authority to ensure that DBEs are defined in part 26, have an equal opportunity to receive and participate in DOT-assisted contracts. It is also our policy:

1. To ensure nondiscrimination in the award and administration of DOT – assisted contracts;
2. To create a level playing field on which DBEs can compete fairly for DOT-assisted contracts;
3. To ensure that the DBE Program is narrowly tailored in accordance with applicable law;
4. To ensure that only firms that fully meet 49 CFR Part 26 eligibility standards are permitted to participate as DBEs;
5. To help remove barriers to the participation of DBEs in DOT assisted contracts;
6. To assist the development of firms that can compete successfully in the market place outside the DBE Program.

*The Director of Operations, Blaine Peterson, has been delegated as the DBE Liaison Officer. In that capacity, the Director of Operations is responsible for implementing all aspects of the DBE program. The Sky Harbor Airport Manager has been delegated as the assistant to the DBELO. Implementation of the DBE program is accorded the same priority as compliance with all other legal obligations incurred by the Duluth Airport Authority in its financial assistance agreements with the Department of Transportation.*

The Duluth Airport Authority has disseminated this policy statement to the Board of Directors and all of the components of our organization. We have distributed this statement to DBE and non-DBE business communities that perform work for us on DOT-assisted contracts by including this statement in our bid documents along with our advertisements in minority and majority publications.

  
\_\_\_\_\_  
Tom Werner, Executive Director

6 Feb 13  
\_\_\_\_\_  
Date

  
\_\_\_\_\_  
Blaine Peterson, DBELO

6 Feb 13  
\_\_\_\_\_  
Date

## **SUBPART A – GENERAL REQUIREMENTS**

### **Section 26.1 Objectives**

The objectives are found in the policy statement on the first page of this program.

### **Section 26.3 Applicability**

The Duluth Airport Authority is the recipient of federal airport funds authorized by 49 U.S.C. 47101, *et seq.*

### **Section 26.5 Definitions**

The Duluth Airport Authority will adopt the definitions contained in Section 26.5 for this program.

### **Section 26.7 Non-discrimination Requirements**

The Duluth Airport Authority will never exclude any person from participation in, deny any person the benefits of, or otherwise discriminate against anyone in connection with the award and performance of any contract covered by 49 CFR part 26 on the basis of race, color, sex, or national origin.

In administering its DBE program, the Duluth Airport Authority will not, directly or through contractual or other arrangements, use criteria or methods of administration that have the effect of defeating or substantially impairing accomplishment of the objectives of the DBE program with respect to individuals of a particular race, color, sex, or national origin.

### **Section 26.11 Record Keeping Requirements**

#### **Reporting to DOT: 26.11(b)**

The Duluth Airport Authority will report DBE participation to DOT as follows:

We will submit annually DOT Form 4630, as modified for use by FAA recipients.

#### **Bidders List: 26.11(c)**

The Duluth Airport Authority will create a bidders list, consisting of information about all DBE and non-DBE firms that bid or quote on DOT-assisted contracts. The purpose of this requirement is to allow use of the bidder's list approach to calculating overall goals. The bidder list will include the name, address, DBE / non-DBE status, age, and annual gross receipts of firms.

The Duluth Airport Authority will collect this information by obtaining the Minnesota DOT Certified DBE Directory, utilizing past record information maintained by the City of Duluth Purchasing Department and obtaining information provided by firms quoting on projects.

### **Section 26.13 Federal Financial Assistance Agreement**

The Duluth Airport Authority has signed the following assurances, applicable to all DOT-assisted contracts and their administration:

Assurance: 26.13(a)

Duluth Airport Authority shall not discriminate on the basis of race, color, national origin, or sex in the award and performance of any DOT assisted contract or in the administration of its DBE Program or the requirements of 49 CFR part 26. The recipient shall take all necessary and reasonable steps under 49 CFR part 26 to ensure nondiscrimination in the award and administration of DOT assisted contracts. The recipient's DBE Program, as required by 49 CFR part 26 and as approved by DOT, is incorporated by reference in this agreement. Implementation of this program is a legal obligation and failure to carry out its terms shall be treated as a violation of this agreement. Upon notification to the Duluth Airport Authority of its failure to carry out its approved program, the Department may impose sanction as provided for under part 26 and may, in appropriate cases, refer the matter for enforcement under 18 U.S.C. 1001 and/or the Program Fraud Civil Remedies Act of 1986 (31 U.S.C. 3801 *et seq.*).

This language will appear in financial assistance agreements with sub-recipients.

Contract Assurance: 26.13b

The Duluth Airport Authority will ensure that the following clause is placed in every DOT-assisted contract and subcontract:

The contractor, sub-recipient, or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR part 26 in the award and administration of DOT assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy, as the recipient deems appropriate.

## **SUBPART B - ADMINISTRATIVE REQUIREMENTS**

### **Section 26.21 DBE Program Updates**

Since the Duluth Airport Authority has received a grant of \$250,000 or more for airport planning or development, we will continue to carry out this program until all funds from DOT financial assistance have been expended. We will provide to DOT updates representing significant changes in the program.

### **Section 26.23 Policy Statement**

The Policy Statement is elaborated on the first page of this program.

### **Section 26.25 DBE Liaison Officer (DBELO)**

We have designated the following individual as our DBE Liaison Officer:

*Blaine Peterson, Director of Operations*  
*Duluth Airport Authority*  
*4701 Grinden Drive*  
*(218) 727-2968*  
*e-mail: [bpeterson@duluthairport.com](mailto:bpeterson@duluthairport.com)*



In that capacity, the DBELO is responsible for implementing all aspects of the DBE program and ensuring that the Duluth Airport Authority complies with all provision of 49 CFR Part 26. The DBELO has direct, independent access to the *Executive Director* concerning DBE program matters. An organization chart displaying the DBELO's position in the organization is found in *Attachment 1* to this program.

The DBELO is responsible for developing, implementing and monitoring the DBE program, in coordination with other appropriate officials. The DBELO will administer the program and has access to additional staff and legal council if needed to assist in the administration of the program. The duties and responsibilities include the following:

1. Gathers and reports statistical data and other information as required by DOT.
2. Reviews third party contracts and purchase requisitions for compliance with this program.
3. Works with all departments to set overall annual goals.
4. Ensures that bid notices and requests for proposals are available to DBEs in a timely manner.
5. Identifies contracts and procurements so that DBE goals are included in solicitations (both race-neutral methods and contract specific goals attainment and identifies ways to improve progress.
6. Analyzes Duluth Airport Authority's progress toward attainment and identifies ways to improve progress.
7. Participates in pre-bid meetings.
8. Advises the *Executive Director* on DBE matters and achievement.
9. Chairs the DBE Advisory Committee.
10. Participates in pre-bid meetings.
11. Provides DBEs with information and assistance in preparing bids, obtaining bonding and insurance.
12. Plans and participates in DBE training seminars.
13. Certifies DBEs according to the criteria set by DOT and acts as liaison to the Uniform Certification Process in Minnesota.
14. Provides outreach to DBEs and community organizations to advise them of opportunities.
15. Maintains the Duluth Airport Authority's updated directory on certified DBEs.

### **Section 26.27 DBE Financial Institutions**

It is the policy of the Duluth Airport Authority to investigate the full extent of services offered by financial institutions owned and controlled by socially and economically disadvantaged individuals in the community, to make reasonable efforts to use these institutions, and to encourage prime contractors on DOT-assisted contract to make use of these institutions.

### **Section 26.29 Prompt Payment Mechanisms**

The Duluth Airport Authority will include the following clause in each DOT-assisted prime contract:

The prime contractor agrees to pay each subcontractor under this prime contract for satisfactory performance of its contract no later than 10 days from the receipt of each payment the prime contract receives from Duluth Airport Authority. The prime contractor agrees further to return retainage payments to each subcontractor within 30 days after the subcontractors work is satisfactorily completed.

Any delay or postponement of payment from the above referenced time frame may occur only for good cause following written approval of the Duluth Airport Authority. This clause applies to both DBE and non-DBE subcontracts.

### Section 26.31 Directory

The Duluth Airport Authority maintains a directory identifying all firms eligible to participate as DBEs. The directory lists the firm's name, address, phone number, date of the most recent certification, and the type of work the firm has been certified to perform as a DBE. We revise the Directory annually. We make the Directory available as follows: *Duluth Airport Authority, 4701 Grinden Drive, Duluth, MN 55811; (218) 727-2968; e-mail: [daa@duluthairport.com](mailto:daa@duluthairport.com)* The Directory may be found in **Attachment 2** to this program document.

### Section 26.33 Overconcentration

Duluth Airport Authority has not identified that overconcentration exists in the types of work that DBEs perform.

### Section 26.35 Business Development Programs

Duluth Airport Authority has not established a business development program.

### Section 26.37 Monitoring and Enforcement Mechanisms

The Duluth Airport Authority will take the following monitoring and enforcement mechanisms to ensure compliance with 49 CFR Part 26.

1. We will bring to the attention of the Department of Transportation any false, fraudulent, or dishonest conduct in connection with the program, so that DOT can take the steps (e.g., referral to the Department of Justice for criminal prosecution, referral to the DOT Inspector General, action under suspension and debarment or Program Fraud and Civil Penalties rules) provided in 26.109.
2. We will consider similar action under our own legal authorities, including responsibility determinations in future contracts. **Attachment 3** lists the regulation, provisions, and contract remedies available to us in the events of non-compliance with the DBE regulation by a participant in our procurement activities.
3. We will also provide a monitoring and enforcement mechanism to verify that work committed to DBEs at contract award is actually performed by the DBEs. This will be accomplished by verifying payroll reports and verifying work performed.
4. We will keep a running tally of actual payments to DBE firms for work committed to them at the time of contract award.

### Section 26.39 Fostering Small Business Participation

The *Duluth Airport Authority* has included an element to structure contracting requirements to facilitate competition by small business concerns, taking all reasonable steps to eliminate obstacles to their participation, including unnecessary and unjustified bundling of contract requirements that may preclude small business participation in procurements as prime contractors or subcontractors.

As part of this program element the *Duluth Airport Authority* has included the following strategies:

- (1) Establishing a race-neutral small business set-aside for prime contracts under a stated amount ( e.g., \$1 million).
- (2) In multi-year design-build contracts or other large contracts ( e.g., for "megaprojects"), requiring bidders on the prime contract to specify elements of the contract or specific subcontracts that are of a size that small businesses, including DBEs, can reasonably perform.
- (3) On prime contracts not having **DBE** contract goals, requiring the prime contractor to provide subcontracting opportunities of a size that small businesses, including DBEs, can reasonably perform, rather than self-performing all the work involved.

(4) Identifying alternative acquisition strategies and structuring procurements to facilitate the ability of consortia or joint ventures consisting of small businesses, including DBEs, to compete for and perform prime contracts.

(5) To meet the portion of our overall goal we project to meet through race-neutral measures, ensuring that a reasonable number of prime contracts are of a size that small businesses, including DBEs, can reasonably perform.

## **SUBPART C – GOALS, GOOD FAITH EFFORTS, AND COUNTING**

### **Section 26.43 Set-asides or Quotas**

The Duluth Airport Authority does not use quotas in any way in the administration of this DBE program.

### **Section 26.45 Overall Goals**

*Duluth Airport Authority* will annually establish overall goals if we anticipate that we will award prime contracts exceeding \$250,000 in FAA funds in a Federal fiscal year in accordance with the 2-step process as specified in 49 CFR Part 26.45. If the *Duluth Airport Authority* does not anticipate awarding more than \$250,000 in FAA funds in prime contracts within the Federal fiscal year, we will not develop an overall goal; however the existing DBE program will remain in effect and the *Duluth Airport Authority* will seek to fulfill the objectives outlined in 49 CFR Part 26.1.

*Duluth Airport Authority* will annually establish overall goals in accordance with the 2-Step process as specified in 49 CFR Part 26.45. The first step is to determine the relative availability of DBEs in the market area, “base figure”. The second step is to adjust the “base figure” percentage from Step 1 so that it reflects as accurately as possible the DBE participation the recipient would expect in the absence of discrimination based on past participation, a disparity study and/or information about barriers to entry to past competitiveness of DBEs on projects.

A description of the methodology to calculate the overall goal and the goal calculations can be found in [\*Attachment 5\*](#) to this program. This section of the program will be updated annually.

In accordance with Section 26.45(f) the Duluth Airport Authority will submit its overall goal to DOT on August 1 of each year. Before establishing the overall goal each year, Duluth Airport Authority will consult with the *compliance officer for the City of Duluth, along with the Builders Exchange officials of Northern Minnesota, Minnesota Small Business Development Cooperation, Minnesota Department of transportation, and the Local Office of Economic Security* to obtain information concerning the availability of disadvantaged and non-disadvantaged businesses, the effects of discrimination on opportunities for DBEs, and the Duluth Airport Authority's efforts to establish a level playing field for the participation of DBEs.

Following this consultation, we will publish a notice of the proposed overall goals, informing the public that the proposed goal and its rationale are available for inspection during normal business hours at your principal office for 30 days following the date of the notice, and informing the public that you and DOT will accept comments on the goals for 45 days from the date of the notice. This notice will be published in both local general circulation newspapers and a local minority publication. Normally, we will issue this notice by June 1 of each year. The notice must include addresses to which comments may be sent and addresses (including offices and websites) where the proposal may be reviewed.

Our overall goal submission to DOT will include a summary of information and comments received during this public participation process and our responses.

We will begin using our overall goal on October 1 of each year, unless we have received other instructions from DOT. If we establish a goal on a project basis, we will begin using our goal by the time of the first solicitation for a DOT-assisted contract for the project.

#### **Section 26.51(a-c) Breakout of Estimated Race-Neutral & Race-Conscious Participation**

The breakout of estimated race-neutral and race-conscious participation can be found in *Attachment 5* to this program. This section of the program will be updated annually when the goal calculation is updated.

#### **Section 26.51(d-g) Contract Goals**

The Duluth Airport Authority will use contract goals to meet any portion of the overall goal Duluth Airport Authority does not project being able to meet using race-neutral means. Contract goals are established so that, over the period to which the overall goal applies, they will cumulatively result in meeting any portion of our overall goal that is not projected to be met through the use of race-neutral means.

We will establish contract goals only on those DOT-assisted contracts that have subcontracting possibilities. We need not establish a contract goal on every such contract, and the size of contract goals will be adapted to the circumstances of each such contract (e.g., type and location of work, availability of DBEs to perform the particular type of work.)

We will express our contract goals as a percentage of the Federal share of a DOT-assisted contract.

#### **Section 26.53 Good Faith Efforts Procedures**

##### Demonstration of good faith efforts (26.53(a) & (c))

The obligation of the bidder/offeror is to make good faith efforts. The bidder/offeror can demonstrate that it has done so either by meeting the contract goal or documenting good faith efforts. Examples of good faith efforts are found in Attachment 5

The following personnel are responsible for determining whether a bidder/offeror who has not met the contract goal has documented sufficient good faith efforts regarded as a responsive approach.

DBELO  
City Attorney

We will ensure that all information is complete and accurate and adequately documents the bidder/offer's good faith efforts before we commit to the performance of the contract by the bidder/offeror.

##### Information to be submitted (26.53(b))

Duluth Airport Authority treats bidder/offers' compliance with good faith efforts' requirements as a matter of responsiveness.

Each solicitation for which a contract goal has been established will require the bidders/offerors to submit the following information:

1. The names and addresses of DBE firms that will participate in the contract;
2. A description of the work that each DBE will perform;
3. The dollar amount of the participation of each DBE firm participating;
4. Written and signed documentation of commitment to use a DBE subcontractor whose participation it submits to meet a contract goal;

5. Written and signed confirmation from the DBE that it is participating in the contract as provided in the prime contractors commitment and
6. If the contract goal is not met, evidence of good faith efforts.

#### Administrative reconsideration (26.53(d))

Within 10 days of being informed by Duluth Airport Authority that it is not responsive because it has not documented sufficient good faith efforts, a bidder/offeror may request administrative reconsideration. Bidder/offerors should make this request in writing to the following reconsideration official: *Mary Prescott Director, Office of EEO Contract Management, 395 John Ireland Boulevard, St. Paul, MN 55155 (651) 366-3150.*

As part of this reconsideration, the bidder/offeror will have the opportunity to provide written documentation or argument concerning the issue of whether it met the goal or made adequate good faith efforts to do so. The bidder/offeror will have the opportunity to meet in person with our reconsideration official to discuss the issue of whether it met the goal or made adequate good faith efforts to do. We will send the bidder/offeror a written decision on reconsideration, explaining the basis for finding that the bidder did or did not meet the goal or make adequate good faith efforts to do so. The result of the reconsideration process is not administratively appealable to the Department of Transportation.

#### Good Faith Efforts when a DBE is replaced on a contract (26.53(f))

Duluth Airport Authority will require a contractor to make good faith efforts to replace a DBE that is terminated or has otherwise failed to complete its work on a contract with another certified DBE, to the extent needed to meet the contract goal. We will require the prime contractor to notify the DBE Liaison Officer immediately of the DBE's inability or unwillingness to perform and provide reasonable documentation.

In this situation, we will require the prime contractor to obtain our prior approval of the substitute DBE and to provide copies of new or amended subcontracts, or documentation of good faith efforts. If the contractor fails or refuses to comply in the time specified, our contracting office will issue an order stopping all or part of payment/work until satisfactory action has been taken. If the contractor still fails to comply, the contracting officer may issue a termination for default proceeding.

#### Sample Bid Specification:

The requirements of 49 CFR Part 26, Regulations of the U.S. Department of Transportation, apply to this contract. It is the policy of the Duluth Airport Authority to practice nondiscrimination based on race, color, sex, or national origin in the award or performance of this contract. All firms qualifying under this solicitation are encouraged to submit bids/proposals. Award of this contract will be conditioned upon satisfying the requirements of this bid specification. These requirements apply to all bidders/offerors, including those who qualify as a DBE. A DBE contract goal of 2.1% percent has been established for this contract. The bidder/offeror shall make good faith efforts, as defined in Appendix A, 49 CFR Part 26 (*Attachment 6*), to meet the contract goal for DBE participation in the performance of this contract.

The bidder/offeror will be required to submit the following information: (1) the names and addresses of DBE firms that will participate in the contract; (2) a description of the work that each DBE firm will perform; (3) the dollar amount of the participation of each DBE firm participating; (4) Written documentation of the bidder/offeror's commitment to use a DBE subcontractor whose participation it submits to meet the contract goal; (5) Written confirmation from the DBE that it is participating in the contract as provided in the commitment made under (4); and (5) if the contract goal is not met, evidence of good faith efforts.

**Section 26.55 Counting DBE Participation**

We will count DBE participation toward overall and contract goals as provided in 49 CFR 26.55.

**SUBPART D – CERTIFICATION STANDARDS****Section 26.61 – 26.73 Certification Process**

Duluth Airport Authority will use the certification standards of Subpart D of Part 26 to determine the eligibility of firms to participate as DBEs in DOT-assisted contracts. To be certified as a DBE, a firm must meet all certification eligibility standards. We will use the Minnesota Unified Certification Program (Mn/UCP) to certify firms under Part 26 requirements.

For information about the certification process or to apply for certification, firms should contact:

*Minnesota Department of Transportation  
Office of EEO Contract Management  
395 John Ireland Boulevard  
St. Paul, MN 55155-1899  
(651) 366-3073*

**SUBPART E – CERTIFICATION PROCEDURES****Section 26.81 Unified Certification Programs**

Duluth Airport Authority is the member of a Unified Certification Program (UCP) administered by *Minnesota Department of Transportation*. The UPC will meet all of the requirements of this section. The following is a description of the UCP:

*The Minnesota Uniform Certification Program (Mn/UCP) has established a Disadvantaged Business Enterprise (DBE) program in accordance with regulations of the U.S. Department of Transportation (DOT), 49 CFR Part 26. Agencies that comprise the Mn/UCP have received Federal financial assistance from DOT and, as a condition of receiving this assistance, have signed an assurance that they will comply with 49 CFR Part 26. The Mn/UCP was submitted March 2002 and was approved.*

**Section 26.83 Procedures for Certification Decisions****Re-certifications 26.83(a) & (c)**

We will for recertifications use the Mn/UCP certification process that has been updated to Part 26 requirements.

**“No Change” Affidavits and Notices of Change (26.83(j))**

We require all DBEs to inform us, in a written affidavit, of any change in its circumstances affecting its ability to meet size, disadvantaged status, ownership or control criteria of 49 CFR Part 26 or of any material changes in the information provided with DBE's application for certification.

We will use the Mn/UCP certification process that meets the Part 26 requirements.

The UCP requires DBEs to submit with this affidavit documentation of the firm's size and gross receipts.

The UCP will notify all currently certified DBE firms of these obligations. This notification will inform DBEs that to submit the "no change" affidavit, their owners must swear or affirm that they meet all regulatory requirements of Part 26, including personal net worth. Likewise, if a firm's owner knows or should know that he or she, or the firm, fails to meet a Part 26 eligibility requirement (e.g. personal net worth), the obligation to submit a notice of change applies.

Personal Net Worth, (26.67(b))

All disadvantaged owners of applicant firms and currently certified DBE firms whose eligibility under Part 26 is reviewed are required to submit a statement of personal net worth. Attachment 4 sets forth our personal net worth form (*you are required to use SBA Form 413*) and the documentation respondents must submit with it.

**Section 26.85 Denials of Initial Requests for Certification**

We will use the Mn/UCP process for this requirement that meets the Part 26 requirements.

**Section 26.86 Denials of Initial Requests for Certification**

If we deny a firm's application or decertify it, it may not reapply until 12 months have passed from our action.

**Section 26.87 Removal of a DBE's Eligibility**

We will use the Mn/UCP process for this requirement that meets the Part 26 requirements.

**Section 26.89 Certification Appeals**

Any firm or complainant may appeal our decision in a certification matter to DOT. Such appeals may be sent to:

Department of Transportation  
Office of Civil Rights Certification Appeals Branch  
400 7<sup>th</sup> Street, SW  
Room 2104  
Washington, D.C. 20590

We will promptly implement any DOT certification appeal decisions affecting the eligibility of DBEs for our DOT-assisted contracting (e.g., certify a firm if DOT has determined that our denial of its application was erroneous).

**SUBPART F – COMPLIANCE AND ENFORCEMENT**

**Section 26.109 Information, Confidentiality, Cooperation**

We will safeguard from disclosure to third parties information that may reasonably be regarded as confidential business information, consistent with Federal, state, and local law. Notwithstanding any contrary provisions of state or local law, we will not release personal financial information submitted in response to the personal net worth requirement to a third party (other than DOT) without the written consent of the submitter.

### Monitoring Payments to DBEs

We will require prime contractors to maintain records and documents of payments to DBEs for three years following the performance of the contract. These records will be made available for inspection upon request by any authorized representative of the Duluth Airport Authority, MnDOT or DOT. This reporting requirement also extends to any certified DBE subcontractor.

We will perform interim audits of contract payments to DBEs. The audit will review payments to DBE subcontractors to ensure that the actual amount paid to DBE subcontractors equals or exceeds the dollar amounts states in the schedule of DBE participation.

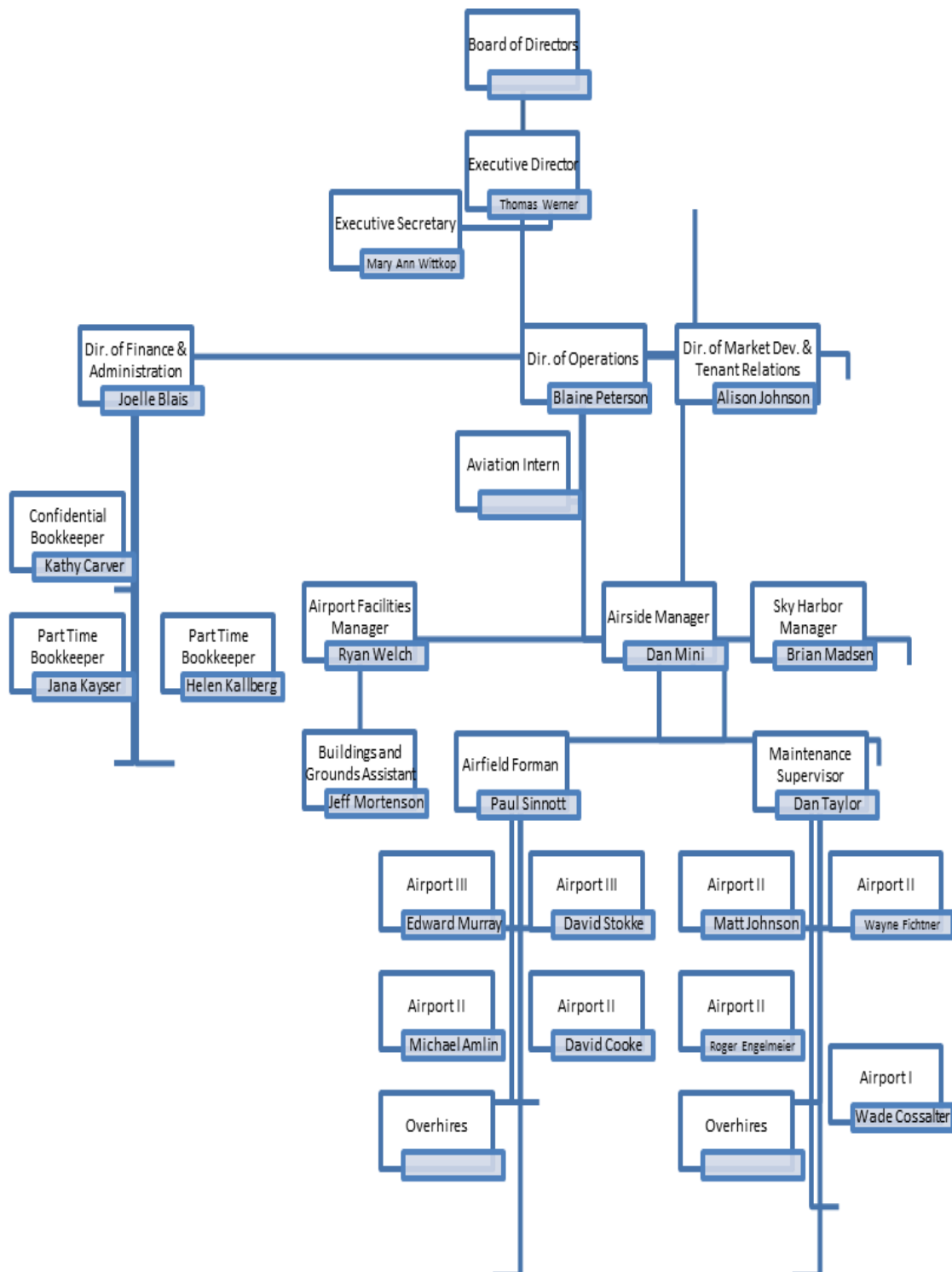
### **ATTACHMENTS**

Regulations: 49 CFR Part 26 [include the e-version of the regulations, dated 12/2/03, found at <http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&sid=19d94f5dd55c8d6dff1de8ec3a9c1ea3&rgn=div5&view=text&node=49:1.0.1.1.20&idno=49>

Attachment 1	Organizational Chart
Attachment 2	DBE Directory
Attachment 3	Monitoring and Enforcement Mechanisms
Attachment 4	Bidders List
Attachment 5	Overall Goal Calculations
Attachment 6	Form 1 & 2 for Demonstration of Good Faith Efforts
Attachment 7	Certification Application Form
Attachment 8	Procedures for Removal of DBE's Eligibility or copy of the State's UCP Uniform Report of DBE Awards & Commitment [from the Final Rule from Federal Register, Volume 68, No. 115, dated 6/16/03—Forms can be found at: <a href="http://www.osdbu.dot.gov/Documents/pdf/dbe/03-14989.pdf">http://www.osdbu.dot.gov/Documents/pdf/dbe/03-14989.pdf</a>



**Attachment 1**  
**Organizational Chart**



**Attachment 2**

**DBE Directory**

The Duluth Airport Authority utilizes the Minnesota Department of Transportation's Certified DBE Directory. This directory is maintained by the Mn DOT Office of EEO Contract Management and can be viewed or downloaded by visiting:

<http://www.dot.state.mn.us/civilrights/dbedirectory.html>

**Attachment 3**

**Monitoring and Enforcement Mechanisms**

The Airport Authority has available several remedies to enforce the DBE requirements contained in its contracts, including, but not limited to, the following:

1. Breach of contract action, pursuant to the terms of the contract;
2. Breach of contract action, pursuant to State Codes and / or Local Laws.

In addition, the federal government has available several enforcement mechanisms that it may apply to firms participating in the DBE problem, including, but not limited to, the following:

1. Suspension or debarment proceedings pursuant to 49 CFR part 26
2. Enforcement action pursuant to 49 CFR part 31
3. Prosecution pursuant to 18 USC 1001.

### Bidder's List

[illegible]

## **Attachment 5**

### **Section 26.45: Overall Goal Calculation**

#### **Amount of Goal**

The Duluth Airport Authority's overall three year goal for FY's 2013-2015 is the following: 3.2% of the Federal Financial assistance we will expend in DOT-assisted contracts.

1. Terminal Bid Pack 2D Overhead Walkway
2. Wildlife Assessment
3. Taxiway "A" Rehab, Phase 1
4. Taxiway "A" Rehab, Phase 2
5. Airfield Electrical Drainage
6. Sign Upgrade Airfield
7. Obstruction Removal
8. Sky Harbor Apron Rehab
9. Sky Harbor Pavement Maintenance
10. Sky Harbor Runway Shift – Phase 1
11. Sky Harbor Pavement Maintenance

Although some of these projects are not guaranteed to occur in FY's 2013-2015 depending on the availability of discretionary funding, DBE goals were set and factored into the overall DBE goal for FY's 2013-2015.

Given the amount of DOT-assisted contracts the Authority could expect to let during this fiscal year, which is approximately **\$9,770,000.00** (federal share only), the Duluth Airport Authority has set a goal of expending \$1,630,460 with DBEs during the three year period.

#### **Methodology used to Calculate Overall Goal**

##### **Step 1: 26.45(c)**

The following is a summary of the method the Duluth Airport Authority utilized to calculate the three year goal.

Determine the base figure for the relative availability of DBEs. The base figure for the relative availability of DBE's was calculated as follows:

$$\text{Base figure} = \frac{\text{Ready, willing and able DBEs}}{\text{All firms ready, willing and able}}$$

The data source or demonstrable evidence used to derive the numerator was: Minnesota Certified DBE Directory <http://www.dot.state.mn.us/bidlet/misfiles/pdf/dbedirec.pdf>, and any known DBE contractor information and the United States Census Bureau Information <http://www.census.gov/epcd/cbp/view/cbpview.html>

The data source or demonstrable evidence used to derive the denominator was: Northern Minnesota Builder's Exchange Directory and the yellow pages of the telephone books from the area, the number of firms with these NAICS codes was determined 379.

The Duluth Airport Authority decided to weight the projects by utilizing an engineer's estimate to more accurately depict the DBE goal. Based on the engineer's estimate, the following three pages summarize the DBE goal calculation for each project

**DULUTH INTERNATIONAL AIRPORT  
TERMINAL BID PACK 2D OVERHEAD WALKWAY**

**FY 2013-2015 DBE GOAL**

This project is expected to utilize \$790,000 in AIP FY 2013 funds for the Improvements

Weighted value based on Engineer's Estimate

	<b>% of Project</b>	<b>**DBE *RWA</b>	<b>Non-DBE RWA</b>	<b>Anticipated DBE Participation</b>
<b>Architect/Engineering</b>	3.9%	0	9	0.00%
<b>Geotechnical Engineering</b>	0.4%	1	5	0.07%
<b>Erosion Sediment Control</b>	1.3%	13	80	0.21%
<b>Building Construction</b>	38.9%	25	93	10.45%
<b>Trucking</b>	3.2%	50	2842	0.06%
<b>Survey</b>	0.6%	6	100	0.04%
<b>Electrical</b>	11.4%	22	163	1.54%
<b>Total</b>	<b>59%</b>	<b>117</b>	<b>3292</b>	<b>12.354%</b>

<b>Total Project Cost</b>	<b>\$ 470,000.00</b>
<b>Anticipated DBE Participation</b>	<b>12.35%</b>
<b>***DBE Adjustment Factor</b>	<b>0.25</b>
<b>DBE Project Goal</b>	<b>3.1%</b>
<b>Race/Gender-Neutral</b>	<b>1.8%</b>
<b>Race/Gender-Conscious</b>	<b>1.0%</b>

\*RWA = Ready Willing and Able

\*\*DBE= Disadvantaged Business Enterprise

\*\*\*DBE Adjustment Factor = Factor based on the following

Previous Years Participation  
Current Bidding Climate  
Project  
Schedule  
Project Size

**DULUTH INTERNATIONAL AIRPORT  
WILDLIFE ASSESSMENT**

**FY 2013-2015 DBE GOAL**

This project is expected to utilize \$30,000 in AIP FY 2014 funds for the Improvements

Weighted value based on Engineer's Estimate

	<b>% of Project</b>	<b>**DBE *RWA</b>	<b>Non-DBE RWA</b>	<b>Anticipated DBE Participation</b>
<b>Architect/Engineering</b>	100.0%	0	9	0.00%
<b>Geotechnical Engineering</b>	0.0%	1	5	0.00%
<b>Erosion Sediment Control</b>	0.0%	13	80	0.00%
<b>Site Work/Demolition</b>	0.0%	6	95	0.00%
<b>Trucking</b>	0.0%	50	2842	0.00%
<b>Survey</b>	0.0%	6	100	0.00%
<b>Electrical</b>	0.0%	22	163	0.00%
<b>Total</b>	<b>100%</b>	<b>98</b>	<b>3294</b>	<b>0.000%</b>

<b>Total Project Cost</b>	<b>\$ 30,000.00</b>
<b>Anticipated DBE Participation</b>	<b>0.00%</b>
<b>***DBE Adjustment Factor</b>	<b>0.00</b>
<b>DBE Project Goal</b>	<b>0.0%</b>
<b>Race/Gender-Neutral</b>	<b>1.8%</b>
<b>Race/Gender-Conscious</b>	<b>1.0%</b>

\*RWA = Ready Willing and Able

\*\*DBE= Disadvantaged Business Enterprise

\*\*\*DBE Adjustment Factor = Factor based on the following

Previous Years Participation  
Current Bidding Climate  
Project  
Schedule  
Project Size

**DULUTH INTERNATIONAL AIRPORT  
TAXIWAY "A" REHAB. PHASE 1**

**FY 2013-2015 DBE GOAL**

This project is expected to utilize \$1,900,000 in AIP FY 2014 funds for the Improvements

Weighted value based on Engineer's Estimate

	<b>% of Project</b>	<b>**DBE *RWA</b>	<b>Non-DBE RWA</b>	<b>Anticipated DBE Participation</b>
<b>Architect/Engineering</b>	14.5%	0	9	0.00%
<b>Geotechnical Engineering</b>	2.6%	1	5	0.53%
<b>Erosion Sediment Control</b>	1.3%	13	80	0.21%
<b>Site Work/Demolition</b>	57.9%	6	95	3.66%
<b>Trucking</b>	6.6%	50	2842	0.12%
<b>Survey</b>	1.8%	6	100	0.11%
<b>Electrical</b>	15.3%	22	163	2.06%
<b>Total</b>	<b>100%</b>	<b>98</b>	<b>3294</b>	<b>6.683%</b>

<b>Total Project Cost</b>	<b>\$ 1,900,000.00</b>
<b>Anticipated DBE Participation</b>	<b>6.68%</b>
<b>***DBE Adjustment Factor</b>	<b>0.50</b>
<b>DBE Project Goal</b>	<b>3.3%</b>
<b>Race/Gender-Neutral</b>	<b>1.8%</b>
<b>Race/Gender-Conscious</b>	<b>1.0%</b>

\*RWA = Ready Willing and  
Able

\*\*DBE= Disadvantaged Business Enterprise

\*\*\*DBE Adjustment Factor = Factor based on the following  
     Previous Years Participation  
     Current Bidding Climate  
     Project  
     Schedule  
     Project Size



**DULUTH INTERNATIONAL AIRPORT  
TAXIWAY "A" REHAB. PHASE 2**

**FY 2013-2015 DBE GOAL**

This project is expected to utilize \$1,900,000 in AIP FY 2015 funds for the Improvements

Weighted value based on Engineer's Estimate

	<b>% of Project</b>	<b>**DBE *RWA</b>	<b>Non-DBE RWA</b>	<b>Anticipated DBE Participation</b>
<b>Architect/Engineering</b>	14.5%	0	9	0.00%
<b>Geotechnical Engineering</b>	2.6%	1	5	0.53%
<b>Erosion Sediment Control</b>	1.3%	13	80	0.21%
<b>Site Work/Demolition</b>	57.9%	6	95	3.66%
<b>Trucking</b>	6.6%	50	2842	0.12%
<b>Survey</b>	1.8%	6	100	0.11%
<b>Electrical</b>	15.3%	22	163	2.06%
<b>Total</b>	<b>100%</b>	<b>98</b>	<b>3294</b>	<b>6.683%</b>

<b>Total Project Cost</b>	<b>\$ 1,900,000.00</b>
<b>Anticipated DBE Participation</b>	<b>6.68%</b>
<b>***DBE Adjustment Factor</b>	<b>0.50</b>
<b>DBE Project Goal</b>	<b>3.3%</b>
<b>Race/Gender-Neutral</b>	<b>1.8%</b>
<b>Race/Gender-Conscious</b>	<b>1.0%</b>

\*RWA = Ready Willing and  
Able

\*\*DBE= Disadvantaged Business Enterprise

\*\*\*DBE Adjustment Factor = Factor based on the following

Previous Years Participation

Current Bidding Climate

Project

Schedule

Project Size

**DULUTH INTERNATIONAL AIRPORT  
AIRFIELD ELECTRICAL DRAINAGE**

**FY 2013-2015 DBE GOAL**

This project is expected to utilize \$100,000 in AIP FY 2014 funds for the Improvements

Weighted value based on Engineer's Estimate

	<b>% of Project</b>	<b>**DBE *RWA</b>	<b>Non-DBE RWA</b>	<b>Anticipated DBE Participation</b>
<b>Architect/Engineering</b>	10.0%	0	9	0.00%
<b>Geotechnical Engineering</b>	0.7%	1	5	0.14%
<b>Erosion Sediment Control</b>	1.0%	13	80	0.16%
<b>Site Work/Demolition</b>	64.3%	6	95	4.06%
<b>Trucking</b>	2.1%	50	2842	0.04%
<b>Survey</b>	1.0%	6	100	0.06%
<b>Electrical</b>	20.9%	22	163	2.82%
<b>Total</b>	<b>100%</b>	<b>98</b>	<b>3294</b>	<b>7.278%</b>

<b>Total Project Cost</b>	<b>\$ 350,000.00</b>
<b>Anticipated DBE Participation</b>	<b>7.28%</b>
<b>***DBE Adjustment Factor</b>	<b>0.50</b>
<b>DBE Project Goal</b>	<b>3.6%</b>
<b>Race/Gender-Neutral</b>	<b>1.8%</b>
<b>Race/Gender-Conscious</b>	<b>1.0%</b>

\*RWA = Ready Willing and Able

\*\*DBE= Disadvantaged Business Enterprise

\*\*\*DBE Adjustment Factor = Factor based on the following

Previous Years Participation  
Current Bidding Climate  
Project  
Schedule  
Project Size

**DULUTH INTERNATIONAL AIRPORT  
AIRFIELD SIGN UPGRADE**

**FY 2013-2015 DBE GOAL**

This project is expected to utilize \$100,000 in AIP FY 2015 funds for the Improvements

Weighted value based on Engineer's Estimate

	<b>% of Project</b>	<b>**DBE *RWA</b>	<b>Non-DBE RWA</b>	<b>Anticipated DBE Participation</b>
<b>Architect/Engineering</b>	10.0%	0	9	0.00%
<b>Geotechnical Engineering</b>	0.0%	1	5	0.00%
<b>Erosion Sediment Control</b>	0.0%	13	80	0.00%
<b>Site Work/Demolition</b>	0.0%	6	95	0.00%
<b>Trucking</b>	0.0%	50	2842	0.00%
<b>Survey</b>	0.0%	6	100	0.00%
<b>Electrical</b>	90.0%	22	163	12.15%
<b>Total</b>	<b>100%</b>	<b>98</b>	<b>3294</b>	<b>12.147%</b>

<b>Total Project Cost</b>	<b>\$ 100,000.00</b>
<b>Anticipated DBE Participation</b>	<b>12.15%</b>
<b>***DBE Adjustment Factor</b>	<b>0.25</b>
<b>DBE Project Goal</b>	<b>3.0%</b>
<b>Race/Gender-Neutral</b>	<b>1.8%</b>
<b>Race/Gender-Conscious</b>	<b>1.0%</b>

\*RWA = Ready Willing and Able

\*\*DBE= Disadvantaged Business Enterprise

\*\*\*DBE Adjustment Factor = Factor based on the following

Previous Years Participation  
Current Bidding Climate  
Project  
Schedule  
Project Size

**DULUTH INTERNATIONAL AIRPORT  
OBSTRUCTION REMOVAL**

**FY 2013-2015 DBE GOAL**

This project is expected to utilize \$100,000 in AIP FY 2015 funds for the Improvements

Weighted value based on Engineer's Estimate

	<b>% of Project</b>	<b>**DBE *RWA</b>	<b>Non-DBE RWA</b>	<b>Anticipated DBE Participation</b>
<b>Architect/Engineering</b>	15.0%	0	9	0.00%
<b>Geotechnical Engineering</b>	0.0%	1	4	0.00%
<b>Erosion Sediment Control</b>	0.0%	3	6	0.00%
<b>Site Work/Demolition</b>	0.0%	1	12	0.00%
<b>Trucking</b>	0.0%	8	130	0.00%
<b>Survey</b>	5.0%	8	14	2.86%
<b>Tree Trimming</b>	80.0%	8	14	45.71%
<b>Total</b>	<b>100%</b>	<b>29</b>	<b>189</b>	<b>48.571%</b>

<b>Total Project Cost</b>	<b>\$ 100,000.00</b>
<b>Anticipated DBE Participation</b>	<b>48.57%</b>
<b>***DBE Adjustment Factor</b>	<b>0.15</b>
<b>DBE Project Goal</b>	<b>7.3%</b>
<b>Race/Gender-Neutral</b>	<b>1.8%</b>
<b>Race/Gender-Conscious</b>	<b>1.0%</b>

\*RWA = Ready Willing and  
Able

\*\*DBE= Disadvantaged Business Enterprise

\*\*\*DBE Adjustment Factor = Factor based on the following

Previous Years Participation

Current Bidding Climate

Project

Schedule

Project Size

**DULUTH SKY HARBOR AIRPORT  
APRON REHAB**

**FY 2013-2015 DBE GOAL**

This project is expected to utilize \$705,000 in AIP FY 2014 funds for the Improvements

Weighted value based on Engineer's Estimate

	<b>% of Project</b>	<b>**DBE *RWA</b>	<b>Non-DBE RWA</b>	<b>Anticipated DBE Participation</b>
<b>Architect/Engineering</b>	15.6%	0	9	0.00%
<b>Geotechnical Engineering</b>	1.7%	1	4	0.43%
<b>Erosion Sediment Control</b>	1.4%	3	6	0.71%
<b>Site Work/Demolition</b>	72.6%	1	12	6.05%
<b>Trucking</b>	7.8%	8	130	0.48%
<b>Survey</b>	0.9%	8	14	0.53%
<b>Total</b>	<b>100%</b>	<b>21</b>	<b>175</b>	<b>8.188%</b>

<b>Total Project Cost</b>	<b>\$ 705,000.00</b>
<b>Anticipated DBE Participation</b>	<b>8.19%</b>
<b>***DBE Adjustment Factor</b>	<b>0.50</b>
<b>DBE Project Goal</b>	<b>4.1%</b>
<b>Race/Gender-Neutral</b>	<b>1.8%</b>
<b>Race/Gender-Conscious</b>	<b>1.0%</b>

\*RWA = Ready Willing and  
Able

\*\*DBE= Disadvantaged Business Enterprise

\*\*\*DBE Adjustment Factor = Factor based on the following

Previous Years Participation

Current Bidding Climate

Project

Schedule

Project Size

**DULUTH SKY HARBOR AIRPORT  
PAVEMENT MAINTENANCE**

**FY 2013-2015 DBE GOAL**

This project is expected to utilize \$30,000 in AIP FY 2014 funds for the Improvements

Weighted value based on Engineer's Estimate

	<b>% of Project</b>	<b>**DBE *RWA</b>	<b>Non-DBE RWA</b>	<b>Anticipated DBE Participation</b>
<b>Architect/Engineering</b>	16.7%	0	9	0.00%
<b>Geotechnical Engineering</b>	1.7%	1	5	0.33%
<b>Erosion Sediment Control</b>	0.0%	13	80	0.00%
<b>Site Work/Demolition</b>	66.7%	6	95	4.21%
<b>Trucking</b>	15.0%	50	2842	0.26%
<b>Survey</b>	0.0%	6	100	0.00%
<b>Total</b>	<b>100%</b>	<b>76</b>	<b>3131</b>	<b>4.808%</b>

<b>Total Project Cost</b>	<b>\$ 30,000.00</b>
<b>Anticipated DBE Participation</b>	<b>4.81%</b>
<b>***DBE Adjustment Factor</b>	<b>0.50</b>
<b>DBE Project Goal</b>	<b>2.4%</b>
<b>Race/Gender-Neutral</b>	<b>1.8%</b>
<b>Race/Gender-Conscious</b>	<b>1.0%</b>

\*RWA = Ready Willing and  
Able

\*\*DBE= Disadvantaged Business Enterprise

\*\*\*DBE Adjustment Factor = Factor based on the following

Previous Years Participation

Current Bidding Climate

Project

Schedule

Project Size

**DULUTH SKY HARBOR AIRPORT  
RUNWAY SHIFT PHASE 1**

**FY 2013-2015 DBE GOAL**

This project is expected to utilize \$3,450,000 in AIP FY 2015 funds for the Improvements

Weighted value based on Engineer's Estimate

	<b>% of Project</b>	<b>**DBE *RWA</b>	<b>Non- DBE RWA</b>	<b>Anticipated DBE Participation</b>
<b>Architect/Engineering</b>	11.6%	0	9	0.00%
<b>Geotechnical Engineering</b>	0.7%	1	5	0.14%
<b>Erosion Sediment Control</b>	7.2%	13	80	1.18%
<b>Site Work/Demolition</b>	63.8%	6	95	4.03%
<b>Trucking</b>	4.3%	50	2842	0.08%
<b>Survey</b>	0.7%	6	100	0.04%
<b>Electrical</b>	11.6%	22	163	1.56%
<b>Total</b>	<b>100%</b>	<b>98</b>	<b>3294</b>	<b>7.035%</b>

	<b>\$</b>
<b>Total Project Cost</b>	<b>3,450,000.00</b>
<b>Anticipated DBE Participation</b>	<b>7.03%</b>
<b>***DBE Adjustment Factor</b>	<b>0.25</b>
<b>DBE Project Goal</b>	<b>1.8%</b>
<b>Race/Gender-Neutral</b>	<b>1.8%</b>
<b>Race/Gender-Conscious</b>	<b>1.0%</b>

\*RWA = Ready Willing and  
Able

\*\*DBE= Disadvantaged Business Enterprise

\*\*\*DBE Adjustment Factor = Factor based on the following

Previous Years Participation  
Current Bidding Climate  
Project  
Schedule  
Project Size

**DULUTH SKY HARBOR AIRPORT  
PAVEMENT MAINTENANCE**

**FY 2013-2015 DBE GOAL**

This project is expected to utilize \$30,000 in AIP FY 2015 funds for the Improvements

Weighted value based on Engineer's Estimate

	<b>% of Project</b>	<b>**DBE *RWA</b>	<b>Non-DBE RWA</b>	<b>Anticipated DBE Participation</b>
<b>Architect/Engineering</b>	16.7%	0	9	0.00%
<b>Geotechnical Engineering</b>	1.7%	1	5	0.33%
<b>Erosion Sediment Control</b>	0.0%	13	80	0.00%
<b>Site Work/Demolition</b>	66.7%	6	95	4.21%
<b>Trucking</b>	15.0%	50	2842	0.26%
<b>Survey</b>	0.0%	6	100	0.00%
<b>Total</b>	<b>100%</b>	<b>76</b>	<b>3131</b>	<b>4.808%</b>

<b>Total Project Cost</b>	<b>\$ 30,000.00</b>
<b>Anticipated DBE Participation</b>	<b>4.81%</b>
<b>***DBE Adjustment Factor</b>	<b>0.50</b>
<b>DBE Project Goal</b>	<b>2.4%</b>
<b>Race/Gender-Neutral</b>	<b>1.8%</b>
<b>Race/Gender-Conscious</b>	<b>1.0%</b>

\*RWA = Ready Willing and  
Able

\*\*DBE= Disadvantaged Business Enterprise

\*\*\*DBE Adjustment Factor = Factor based on the following

Previous Years Participation  
Current Bidding Climate  
Project  
Schedule  
Project Size



**Step 2: 26.45(d)**

The Duluth Airport Authority past goal history was reviewed. The following projects are listed for reference.

1. Terminal Bid Pack 2D Overhead Walkway	3.1%
2. Wildlife Assessment	0.0%
3. Taxiway "A" Rehab – Phase 1	3.3%
4. Taxiway "A": Rehab – Phase 2	3.3%
5. Airfield Electrical Drainage	3.6%
6. Airfield Signage Upgrade	3.0%
7. Obstruction Removal	7.3%
8. Sky Harbor Apron Rehab	4.1%
9. Sky Harbor Pavement Maintenance	2.4%
10. Sky Harbor Runway Shift Phase 1	1.8%
11. Sky Harbor Pavement Maintenance	2.4

TOTAL: 38.4% AVERAGE: 3.2%

These past projects utilized the same SIC codes to compare past DBE participation with this year's goals. Because our base goal of 3.2% is close to past DBE participation with a similar project (Construct New Passenger Terminal 4.95%), the DAA will maintain this figure.

**Public Participation**

We published our goal information in these publications: Duluth News Tribune, Duluth, MN

Copies of the newspaper advertisements and any public comments received will be forwarded for review and included in this **Attachment 5**.

**LEGAL ADVERTISING****NOTICE OF 2013/2014/-2015  
DBE CONSTRUCTION GOAL**

THE DULUTH AIRPORT AUTHORITY HAS SET A DISADVANTAGED BUSINESS ENTERPRISE THREE YEAR GOAL OF 3.2% FOR THE FY's 2013-2015 FEDERALLY FUNDED PROJECTS. THE FEDERALLY FUNDED PROJECTS INCLUDE: TERMINAL BID PACK 2D OVERHEAD WALKWAY; WILDLIFE ASSESSMENT; TAXIWAY "A" REHAB-PHASE 1; TAXIWAY "A" REHAB – PHASE 2; AIRFIELD ELECTRICAL DRAINAGE; AIRFIELD SIGN UPGRADE; OBSTRUCTION REMOVAL; SKY HARBOR APRON REHAB; SKY HARBOR PAVEMENT MAINTENANCE; SKY HARBOR RUNWAY SHIFT-PHASE 1. THE GOALS AND RATIONALE ARE AVAILABLE FOR INSPECTION AND COMMENT DURING NORMAL BUSINESS HOURS AT THE AIRPORT ADMINISTRATION OFFICE, 4701 GRINDEN DRIVE, DULUTH, MN 55811 UNTIL MARCH 1, 2013. THE DULUTH AIRPORT WILL ACCEPT COMMENTS ON THE CONSTRUCTION GOAL UNTIL MARCH 1, 2013 AT THE ABOVE ADDRESS OR EMAIL: [bpeterson@duluthairport.com](mailto:bpeterson@duluthairport.com)

**Attachment 5****Section 26.51: Breakout of Estimated  
Race-Neutral & Race Conscious Participation**

Duluth Airport Authority will meet the maximum feasible portion of its overall goal by using race-neutral means of facilitating DBE participation. The Duluth Airport Authority uses the following race-neutral means to increase DBE participation: (1) Solicitation dates are scheduled to give potential participants ample time to direct questions and respond to bid requests. Bid advertisements are published in minority and non-minority publications to insure that potential participants are aware of the project. (2) While bonding is required of prime contractors to meet federal requirement the DAA does not impose these requirements on subcontractors and material suppliers. (3) Pre-bid conferences are held to explain the DBE program and make prime contractors aware of potential sources. (4) We will participate in local presentations or programs to explain contracting opportunities when such opportunities are available. (5) Copies of all plan holders are made available to all contractors in accordance with our standard copy policy.

We estimate that, in meeting our overall goal of 3.2%, we will obtain 0 to 1% from race-neutral participation and the majority (1.8%) through race-conscious measures (contract goals). An analysis (see next page – “DBE Participation Summary”) was done of the overall goal accomplishments during the last few years to determine the airport’s ability to achieve DBE participation on DOT assisted projects.

This analysis showed that less than 1% of our DBE accomplishments were beyond those required by contract goals. Because of the size of our organization, it is not feasible to devote extensive additional staffing or other resources to concentrate solely on the use of race-neutral means beyond what we have mentioned in this program. Should we become successful in obtaining higher than anticipated DBE participation, we will adjust the estimated breakout of race-neutral and race-conscious participation as needed to reflect actual DBE participation (see 26.51(0) and we will track and report race-neutral and race conscious participation separately. For reporting purposes, race-neutral DBE participation includes, but is not necessarily limited to, the following: DBE participation through a prime contract a DBE obtains through customary competitive procurement procedures; DBE participation through a subcontract on a prime contract that does not carry a DBE goal; DBE participation on a prime contract exceeding a contract goal; and DBE participation through a subcontract from a prime contractor that did not consider a firm’s DBE status in making the award.

**Attachment 6**

**Forms 1 & 2 for Demonstration of Good Faith Efforts**

*[Forms 1 and 2 should be provided as part of the solicitation documents.]*

**FORM 1: DISADVANTAGED BUSINESS ENTERPRISE (DBE) UTILIZATION**

The undersigned bidder/offeror has satisfied the requirements of the bid specification in the following manner (please check the appropriate space):

\_\_\_\_\_ The bidder/offeror is committed to a minimum of \_\_\_\_\_ % DBE utilization on this contract.

\_\_\_\_\_ The bidder/offeror (if unable to meet the DBE goal of \_\_\_\_\_%) is committed to a minimum of \_\_\_\_\_% DBE utilization on this contract and should submit documentation demonstrating good faith efforts.

Name of bidder/offeror's firm:

\_\_\_\_\_

State Registration No. \_\_\_\_\_

By \_\_\_\_\_

\_\_\_\_\_  
(Signature) Title

**FORM 2: LETTER OF INTENT**

Name of bidder/offeror's firm: \_\_\_\_\_

Address:  
\_\_\_\_\_  
\_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Name of DBE firm:  
\_\_\_\_\_Address:  
\_\_\_\_\_  
\_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Telephone: \_\_\_\_\_

Description of work to be performed by DBE firm:  
.....  
.....  
.....  
.....

The bidder/offeror is committed to utilizing the above-named DBE firm for the work described above.  
The estimated dollar value of this work is \$ \_\_\_\_\_.

**Affirmation**

The above-named DBE firm affirms that it will perform the portion of the contract for the estimated dollar value as stated above.

By \_\_\_\_\_

\_\_\_\_\_  
(Signature) Title

**If the bidder/offeror does not receive award of the prime contract, any and all representations in this Letter of Intent and Affirmation shall be null and void.**

[Submit this page for each DBE subcontractor.]

**Attachment 7**

**Certification Application Form**

For UCP certification and application procedures contact:

Minnesota Department of Transportation, Office of Civil Rights

395 John Ireland Boulevard Mail Stop 170

Minneapolis, MN 55155

612-366-3073

<http://mnucp.org/NewApplicants.html>

**Attachment 8**

**Procedures for Removal of DBE's Eligibility or Copy of the State's UCP Procedure**

Report any and all violations and contract breaches to the Minnesota DOT Office Civil Rights

<http://www.dot.state.mn.us/civilrights/>

# Withholding Affidavit for Contractors

This affidavit must be approved by the Minnesota Department of Revenue before the state of Minnesota or any of its subdivisions can make final payment to contractors. For more detailed information, see the instructions on the back of this form.

Please type or print clearly. This will be your mailing label for returning the completed form.

Company name		Daytime phone	Minnesota tax ID number
Address		Total contract amount	Month/year work began
City	State	ZIP code	
		\$	
		Amount still due	Month/year work ended
		\$	

Project Information	Project number	Project location		
	Project owner	Address	City	State ZIP code
	Did you have employees work on this project? <input type="checkbox"/> Yes <input type="checkbox"/> No. If no, who did the work?			
	Check the box that describes your involvement in the project and fill in all information requested.			

☐ **Sole contractor**

☐ **Subcontractor**

Name of contractor who hired you

Address

☐ **Prime contractor**—If you subcontracted out any work on this project, all of your subcontractors must file their own IC134 affidavits and have them certified by the Department of Revenue *before* you can file your affidavit. For each subcontractor you had, fill in the information below and attach a copy of each subcontractor's certified IC134. If you need more space, attach a separate sheet.

Business name

Address

Owner/Officer

Sign Here	I declare that all information I have filled in on this form is true and complete to the best of my knowledge and belief. I authorize the Department of Revenue to disclose pertinent information relating to this project, including sending copies of this form, to the prime contractor if I am a subcontractor, and to any subcontractors if I am a prime contractor, and to the contracting agency.		
	Contractor's signature	Title	Date

**Mail to:** Minnesota Revenue, Mail Station 6610, St. Paul, MN 55146-6610  
Phone: 651-282-9999 or 1-800-657-3594 (TTY: Call 711 for Minnesota Relay).

## Certificate of Compliance

Based on records of the Minnesota Department of Revenue, I certify that the contractor who has signed this certificate has fulfilled all the requirements of Minnesota Statutes 290.92 and 270C.66 concerning the withholding of Minnesota income tax from wages paid to employees relating to contract services with the state of Minnesota and/or its subdivisions.

Department of Revenue approval

Date



## Form IC134 Instructions

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### Withholding Affidavit

No state agency or local unit of government can make final payment to a contractor until the Department of Revenue has certified that the contractor and any subcontractor have fulfilled the requirements of Minnesota withholding tax laws.

### Who Must File

If you are a prime contractor, a contractor or a subcontractor who did work on a project for the state of Minnesota or any of its local government subdivisions — such as a county, city or school district — you must submit an affidavit to the Department of Revenue to receive a confirmation of compliance.

### Use of Information

The Department of Revenue needs **all** the requested information to determine if you have met the state income tax withholding requirements. If all required information is not provided, Form IC134 will be returned to you for completion.

All information on this affidavit is private by state law. It cannot be given to others without your permission, except to the Internal Revenue Service, other states that guarantee the same privacy and certain government agencies as provided by law.

### Minnesota Tax ID Number

You must have a Minnesota tax ID number if you have employees who work in Minnesota. You must enter your Minnesota tax ID number on Form IC134.

If you don't have a Minnesota tax ID number, apply online at [www.revenue.state.mn.us](http://www.revenue.state.mn.us) or by calling our Business Registration Office at 651-282-5225 or 1-800-657-3605.

If you have no employees and did all the work yourself, you do not need a Minnesota tax ID number. Instead, enter your Social Security number in the space for Minnesota tax ID number and explain who did the work.

### Submit Affidavit

Form IC134 cannot be processed by the Department of Revenue until you finish the work. If you submit the form before the project is completed, it will be returned to you unprocessed.

If any withholding payments are due to the state, Minnesota law requires certified payments before we approve your Form IC134.

If you are a subcontractor or sole contractor, submit the form when you have completed your part of the project.

If you are a prime contractor, submit the form when the entire project is completed and you have received certified affidavits from all of your subcontractors.

### If you're a prime contractor and a subcontractor on the same project

If you were hired as a subcontractor to do work on a project, and you subcontracted all or a part of your portion of the project to another contractor, you are a prime contractor as well. Complete both the subcontractor and prime contractor areas on a single Form IC134.

You may submit your withholding affidavit either electronically **or** by mail. This affidavit must be certified and returned before the state or any of its subdivisions can make final payment for your work.

**For an immediate response:** Complete and submit your withholding affidavit electronically. Go to [www.revenue.state.mn.us](http://www.revenue.state.mn.us) and choose Withholding Tax. Under the File and Pay tab, click on IC134 Affidavit for Contractors.

**You may complete and mail Form IC134 to:** Minnesota Revenue, Mail Station 6610, St. Paul, MN, 55146-6610. If you have fulfilled the requirements of Minnesota withholding tax laws, the department will sign your affidavit and return it to you.

To receive your final payment, submit the certified affidavit to the government unit for which the work was done. If you are a subcontractor, submit the certified affidavit to your prime contractor to receive your final payment.

### Information and Assistance

Additional forms and information, including fact sheets and frequently asked questions, are available on our website.

Website: [www.revenue.state.mn.us](http://www.revenue.state.mn.us)

Email: [withholding.tax@state.mn.us](mailto:withholding.tax@state.mn.us)

Phone: 651-282 9999 or 1-800-657-3594.

(TTY: Call 711 for Minnesota Relay)

We'll provide information in other formats upon request to persons with disabilities.

# Surety Deposits for Non-Minnesota Construction Contractors

12

## Withholding Fact Sheet 12

## Fact Sheet

### Note: Law Change for Individual Construction Contractors

After June 30, 2012, businesses are no longer required to withhold 2 percent from payments made to individual construction contractors. For details, go to our website at [www.revenue.state.mn.us](http://www.revenue.state.mn.us) and see “Law Change for Individual Construction Contractors” under the What’s New tab in Withholding Tax.

*This fact sheet explains the Minnesota law requiring surety deposits for many non-Minnesota construction contractors (M.S. 290.9705).*

### Surety Deposit Law

If you hire or contract with a non-Minnesota contractor to perform construction work in Minnesota, you must withhold 8 percent (.08) of their compensation as a Minnesota surety deposit. Payments are subject to 8 percent withholding only if the work was performed in Minnesota and the total payments during the year exceed \$50,000. If the total payments exceed \$50,000 in a calendar year, all of the payments, even the first \$50,000, are subject to the 8 percent.

The cash surety is deposited with the department and is used as a surety to guarantee that the contractor has fulfilled the requirements for withholding, sales and use, franchise and income taxes.

### Exemption

A non-Minnesota construction contractor may qualify for an exemption from the surety deposit if one of the following requirements are met:

- The contractor gives the department a bond that is secured by an insurance company licensed in Minnesota and is equal to 8 percent of the contract. The bond remains in effect until the contractor satisfies all tax liabilities. You may choose to complete Form SDB, *Non-Minnesota Contractor’s Bond*, to submit to the department.
- The contractor gives the department a cash surety. A cash surety is evidence of a savings account, deposit or certificate of deposit in, or issued by, a state bank, national bank or savings and loan association doing business in Minnesota. Interest and dividends earned on the principal amount may be retained by the contractor.
- The contractor is performing work for a government agency and has a payment and performance bond.

- The contractor has done construction work in Minnesota during the past three calendar years and has fully complied with Minnesota laws regarding withholding, sales and use, franchise and income taxes.

### How a Contractor Applies for Exemption

To apply for an exemption from the surety deposit, the non-Minnesota construction contractor must complete and file Form SDE, *Exemption from Surety Deposits for Non-Minnesota Contractors*, with the department.

If approved, a department representative will sign the form and return it to the contractor. The contractor must then make a copy and give the original Form SDE to the person or business for whom they are doing the work to show they are exempt from the 8 percent surety deposit.

### How to Pay the Surety Deposit

If you are required to withhold 8 percent from a non-Minnesota construction contractor’s pay, complete and file Form SDD, *Surety Deposits for Non-Minnesota Contractors*, with the department. The department will hold the surety deposits until the contractor’s state tax obligations are considered fulfilled.

After the project has been completed, the construction contractor can apply for a refund using Form SDR, *Refund of Surety Deposits for Non-Minnesota Contractors*. The department will refund any amounts held as surety, including interest.

### Additional Requirements

In addition, non-Minnesota construction contractors who are carrying on a trade or business as a sole proprietor and who work in Minnesota, are required to have 2 percent withheld from payments of \$600 or more. See Fact Sheet 18 for details.

Non-Minnesota construction contractors doing work for Minnesota subdivisions (counties, cities, school districts, etc.) must file Form IC134, *Withholding Affidavit for Contractors*, in addition to complying with the surety provision.

### Information and Assistance

Additional forms and information, including fact sheets and frequently asked questions, are available on our website.

Website: [www.revenue.state.mn.us](http://www.revenue.state.mn.us)

Email: [withholding.tax@state.mn.us](mailto:withholding.tax@state.mn.us)

Phone: 651-282-9999 or 1-800-657-3594

(TTY: Call 711 for Minnesota Relay)

We will provide information in other formats upon request to persons with disabilities.

Income Tax and Withholding Division  
Mail Station 6501, St. Paul, MN 55146-6501  
Phone: 651-282-9999 or 1-800-657-3594  
Minnesota Relay 711 (TTY)  
Fax: 651-556-5152  
E-mail: [withholding.tax@state.mn.us](mailto:withholding.tax@state.mn.us)  
(Rev. 06/12)

This fact sheet is intended to help you become more familiar with Minnesota tax laws and your rights and responsibilities under the laws. Nothing in this fact sheet supersedes, alters or otherwise changes any provisions of the tax law, administrative rules, court decisions or revenue notices. Alternative formats available upon request.



## Minnesota Department of Transportation

**Request to Sublet Form (Standard Specification 1801)****Prime Contractor Information**

Prime Contractor:	Telephone Number: (     )
State Project Number:	Fax Number: (     )
Project Location:	Email:

**Important Notices and Instructions**

1. The Prime Contractor must complete all sections of this form, acquire all applicable signatures, and submit it to the Project Engineer (P.E.) **10 days** prior to the first day of work for each Subcontractor. The Prime Contractor may attach additional sheets, or use the *Request to Sublet Summary Form* on the Labor Compliance Unit website (LCU); <http://www.dot.state.mn.us/const/labor/documents/contractdocs/rtssummary.xls>
2. The Prime Contractor will ensure compliance with MnDOT's subcontracting requirements under MnDOT *Standard Specifications for Construction*, Section 1801 *Subletting of a Contract*, applicable to the contract and any additional supplemental 1801 provisions listed in the contracts. .
3. A First Tier Subcontractor may sublet up to 50 percent of its original Contract.
4. A Second Tier Subcontractor may not sublet any portion of its work under the Contract.
5. Upon approval, the P.E. will sign the form and provide a copy to the Prime Contractor.
6. Upon request, the Prime Contractor will provide a copy of its written subcontracts to the P.E. or the Department.
7. Each Subcontractor must submit an IC-134 form to the Prime contractor and the Prime contractor shall submit the necessary IC-134 forms to the Department before the State of Minnesota or its Subdivisions will issue final payment.

**First Tier Subcontractor Information**

First Tier Subcontractor:	SWIFT Vendor ID:
Street Address:	Federal Tax I.D. Number:
City, State, Zip Code:	State Tax I.D. Number:
Telephone Number: (     )	Email:
Fax Number: (     )	Certified DBE Contractor: <input type="checkbox"/> Yes <input type="checkbox"/> No

Specification or Item No.	Specification or Item Description	Quantity	Unit of Measurement	Unit Price	Amount
The Prime Contractor and/or First Tier Subcontractors shall not sublet any portion of its Contract without prior written consent from the P.E.				<u>Total</u> %	<u>Total</u> \$

**Second Tier Subcontractor Information**

Second Tier Subcontractor:			SWIFT Vendor ID:		
Street Address:			Federal Tax I.D. Number:		
City, State, Zip Code:			State Tax I.D. Number:		
Telephone Number: (      )			Email:		
Fax Number: (      )			Certified DBE Contractor: <input type="checkbox"/> Yes <input type="checkbox"/> No		
Specification or Item No.	Specification or Item Description	Quantity	Unit of Measurement	Unit Price	Amount
					<u>Total</u>
					\$

**CONTRACTOR'S STATEMENT OF COMPLIANCE**

<b><u>Print Name and Title of Prime Contractor Representative</u></b>	<b><u>Signature</u></b>	<b><u>Date</u></b>
As a representative of the Prime Contractor, I hereby certify that the information described on this form is truthful and accurate to the best of my knowledge and that: All subcontracts are in writing and contain the appropriate requirements and provisions from the prime contract for the work performed by the individual subcontractor which includes: Special Provisions Division A, Federal and/or State wage determinations and the State certified truck rental rates. All subcontractors have viewed the Prevailing Wage Pre-construction videos and meeting agenda located on the MnDOT, LCU website prior to signing this document. All subcontractors are meeting the requirements of <a href="#">Minn. Stat. 16C.075</a> E-Verify and I have verified that all subcontractors have not been suspended or debarred by any governmental agency.		
<b><u>Print Name and Title of First Tier Subcontractor Representative</u></b>	<b><u>Signature</u></b>	<b><u>Date</u></b>
As a representative of the First Tier Subcontractor, I hereby certify that: All company information listed in the First Tier Subcontractor Information area above is true and accurate, I've reviewed our written subcontract with the prime contractor and understand all applicable contract requirements and specifications for the work we will be performing on the contract, which include but are not limited to: Special Provisions Division A, Federal and/or State wage determinations, State certified truck rental rates, I have also viewed the Prevailing Wage Pre-construction video and meeting agenda on the MnDOT, LCU website and I have passed all appropriate prime contract requirements and specifications in a written subcontract onto all Second Tier Subcontractors.		
<b><u>Print Name and Title of Second Tier Subcontractor Representative</u></b>	<b><u>Signature</u></b>	<b><u>Date</u></b>
As a representative of the Second Tier Subcontractor, I hereby certify that: All company information listed in the Second Tier Subcontractor Information area above is true and accurate, I've reviewed our written subcontract with the First Tier Subcontractor and understand all applicable prime contract requirements and specifications for the work we will be performing on the contract, which include but are not limited to: Special Provisions Division A, Federal and/or State certified prevailing wage determinations, State certified truck rental rates. I have also viewed the Prevailing Wage Pre-construction video and meeting agenda on the MnDOT, LCU website.		
<b><u>Print Name and Title of Project Engineer</u></b>	<b><u>Signature</u></b>	<b><u>Date</u></b>
As a representative of the Department, I approve the Prime Contractor's utilization of the above-mentioned Subcontractors. Additionally, the Prime Contractor has complied with the terms established in Mn/DOT Standard Specifications for Construction, Section 1801.		

All persons signing this form understand that willful falsification of this document may result in civil and/or criminal prosecution under federal and/or state law. See Minnesota Statutes 16B, 161.315 Subdivision 2, 177.43 Subdivision 5, 177.44 Subdivision 6, 609.63; or the United States Code 18 U.S.C. 1001, 31 U.S.C. 231, CFR 5.12.

For additional information, visit the Labor Compliance website at: <http://www.dot.state.mn.us/const/labor/>  
 Pre-Construction Meeting Videos and Agenda link: <http://www.dot.state.mn.us/const/labor/resources.html#pre-construction>  
 Debarment links; State: <http://www.mmd.admin.state.mn.us/debarredreport.asp> Federal: <https://www.epls.gov/>

**DEPARTMENT OF LABOR AND INDUSTRY  
LABOR STANDARDS UNIT**

**March 12, 2012**

**NOTICE OF DETERMINATION OF MINIMUM TRUCK RENTAL RATES  
AND NOTICE OF INFORMAL CONFERENCE PURSUANT TO  
*MINNESOTA RULES, PART 5200.1105***

On March 12, 2012, the commissioner determined the minimum truck rental rates for state funded highway construction projects.

The truck rental rate is determined for each equipment type by adding the average of the itemized costs of operating the vehicle as submitted by survey respondents to the certified prevailing wage rate for the driver. The determination of the minimum truck rental rates by region are as follows:

**3 Axle Units**

	<b>Effective Date</b>	<b>607 Driver Rate</b>	<b>Operating Cost</b>	<b>Truck Rental Rate</b>
Region 1	certification date	39.70	37.35	77.05
	May 1, 2012	40.10	37.35	77.45
Region 2	certification date	33.36	37.35	70.71
	May 1, 2012	33.76	37.35	71.11
Region 3	certification date	25.40	37.35	62.75
	May 1, 2012	25.40	37.35	62.75
Region 4	certification date	33.36	37.35	70.71
	May 1, 2012	33.76	37.35	71.11
Region 5	certification date	40.10	37.35	77.45
	May 1, 2012	40.50	37.35	77.85
Region 6	certification date	37.90	37.35	75.25
	May 1, 2012	38.30	37.35	75.65
Region 7	certification date	33.36	37.35	70.71
	May 1, 2012	33.76	37.35	71.11
Region 8	certification date	33.36	37.35	70.71
	May 1, 2012	33.76	37.35	71.11
Region 9	certification date	40.10	37.35	77.45
	May 1, 2012	40.50	37.35	77.85
Region 10	certification date	13.22	37.35	50.57
	May 1, 2012	13.22	37.35	50.57

**4 or more Axle Units**

	<b>Effective Date</b>	<b>604 Driver Rate</b>	<b>Operating Cost</b>	<b>Truck Rental Rate</b>
Region 1	certification date	39.80	45.62	85.42
	May 1, 2012	40.20	45.62	85.82
Region 2	certification date	33.51	45.62	79.13
	May 1, 2012	33.91	45.62	79.53
Region 3	certification date	24.71	45.62	70.33
	May 1, 2012	24.71	45.62	70.33
Region 4	certification date	33.51	45.62	79.13
	May 1, 2012	33.91	45.62	79.53
Region 5	certification date	26.34	45.62	71.96
	May 1, 2012	26.34	45.62	71.96
Region 6	certification date	38.00	45.62	83.62
	May 1, 2012	38.40	45.62	84.02
Region 7	certification date	20.87	45.62	66.49
	May 1, 2012	20.87	45.62	66.49
Region 8	certification date	20.87	45.62	66.49
	May 1, 2012	20.87	45.62	66.49
Region 9	certification date	40.20	45.62	85.82
	May 1, 2012	40.60	45.62	86.22
Region 10	certification date	32.91	45.62	78.53
	May 1, 2012	32.91	45.62	78.53

**Tractor**

	Effective Date	602 Driver Rate	Operating Cost	Tractor Only Truck Rental Rate	Plus Trailer Operating Cost	Tractor Trailer Rental Rate
Region 1	certification date	40.35	35.82	76.17	11.46	87.63
	May 1, 2012	40.75	35.82	76.57	11.46	88.03
Region 2	certification date	34.02	35.82	69.84	11.46	81.30
	May 1, 2012	34.42	35.82	70.24	11.46	81.70
Region 3	certification date	22.37	35.82	58.19	11.46	69.65
	May 1, 2012	22.37	35.82	58.19	11.46	69.65
Region 4	certification date	34.02	35.82	69.84	11.46	81.30
	May 1, 2012	34.42	35.82	70.24	11.46	81.70
Region 5	certification date	21.38	35.82	57.20	11.46	68.66
	May 1, 2012	21.38	35.82	57.20	11.46	68.66
Region 6	certification date	37.95	35.82	73.77	11.46	85.23
	May 1, 2012	37.95	35.82	73.77	11.46	85.23
Region 7	certification date	25.85	35.82	61.67	11.46	73.13
	May 1, 2012	25.85	35.82	61.67	11.46	73.13
Region 8	certification date	34.02	35.82	69.84	11.46	81.30
	May 1, 2012	34.42	35.82	70.24	11.46	81.70
Region 9	certification date	40.75	35.82	76.57	11.46	88.03
	May 1, 2012	41.15	35.82	76.97	11.46	88.43
Region 10	certification date	33.42	35.82	69.24	11.46	80.70
	May 1, 2012	33.42	35.82	69.24	11.46	80.70

The truck driver prevailing wage rates, operating costs and truck rental rates may also be reviewed by accessing the department's web site at [www.dli.mn.gov](http://www.dli.mn.gov). Questions regarding the truck rental rates or the informal conference noticed below can be answered by calling (651) 284-5091.

**PLEASE TAKE NOTICE** that on Wednesday, April 4, 2012, from 10:00AM to 11:00AM in the Minnesota Room, at the Minnesota Department of Labor and Industry, 443 Lafayette Road North, St. Paul, Minnesota, 55155, the department will hold the informal conference pursuant to *Minnesota Rules*, part 5200.1105. The informal conference is a public meeting and its purpose is to receive further input about construction truck operational costs prior to the certification and publication of the minimum truck rental rates.

The truck operational cost data used in the determination is 2010 data submitted to the department by survey in 2011. Fuel costs have continued to be volatile from 2010 to the present and interested parties may wish to provide input regarding fuel costs or other truck operational costs from 2010 to the present. The Department will consider all such input prior to certifying the truck rental rates for 2012.

Written input on construction truck operational costs may be submitted in advance of the informal conference by sending them to: Michelle Dreier, State Program Administrative Director, Prevailing Wage, Minnesota Department of Labor and Industry, 443 Lafayette Road N. St Paul MN 55155-4341. Written input must be received by March 28, 2012 in order to assure it is considered prior to the informal conference. Written input may also be submitted at the informal conference and persons may provide oral input at the informal conference as time allows.

The data, survey summary sheets and other documents used in determining truck operating costs will be reviewed and available for inspection at the informal conference. Copies may be obtained by contacting the department's prevailing unit at (651) 284-5091.

Subsequent to the informal conference the minimum truck rental rates for these four types of trucks will be certified and notice of the certification will be published in the *State Register*.

The minimum truck rental rates for these four types of trucks in the state's ten highway and heavy construction areas will be effective for all highway and heavy construction projects financed in whole or part with state funds advertised for bid on or after the day the notice of certification is published in the *State Register*.

A handwritten signature in black ink, appearing to read 'KB Peterson', with a long horizontal line extending to the right.

**Ken B. Peterson,**  
**COMMISSIONER**



**DEPARTMENT OF LABOR AND INDUSTRY  
LABOR STANDARDS UNIT**

**May 1, 2012**

**NOTICE OF CERTIFICATION OF TRUCK RENTAL RATES AND EFFECTIVE  
DATE PURSUANT TO MINNESOTA RULES, PART 5200.1105**

On May 1, 2012, the Commissioner of the Department of Labor and Industry ("DLI") certified the minimum truck rental rates for highway projects in the state's ten highway and heavy construction areas for trucks and drivers operating "four or more axle units, straight body trucks," "three axle units," "tractor only" and "tractor trailers." The certification followed publication of the Notice of Determination of Truck Rental Rates in the *State Register* on March 12, 2012, and the informal conference held pursuant to Minnesota Rules, part 5200.1105 on April 4, 2012.

According to Minnesota Rules, part 5200.1105, the purpose of the informal conference is for DLI to obtain further input regarding the proposed rates before the rates are certified. Approximately 18 individuals attended the informal conference. Many of the attendees voiced strong concerns regarding the inadequacy of the proposed rates. Among the concerns raised was the fact that the proposed rates were based on 2010 costs, including the 2010 price of fuel. Speakers indicated that because of the dramatic increase in the price of diesel in recent months, the published rates were far below the operators' current costs. As stated by some attendees:

"This year, right now yesterday we were paying \$4.10...I know when fuel went up that last time, a lot of us had to eat the cost because there was no way of recouping it."

Testimony of Colleen Donovan, Transcript of Informal Conference, pp. 13, 14.

Ms. Donovan provided DLI written information that her 2010 average cost for fuel was \$2.99 per gallon.

"And, like the price of fuel, \$4.25, \$4.30. That's what it is down by my place, anyway."

Testimony of Bob Dornsbach, Transcript of Informal Conference, p. 32.

Mr. Bob Dornsbach provided DLI written information that in October 2010 his fuel cost was \$3.15 per gallon.

In response to the informal conference Jim Lloyd provided written information that his 2010 fuel cost was close to \$3.00 per gallon and "now is at \$4.00 plus and it does not look like it is going to decrease."

After the informal conference, Tom Barnes provided written information that his fuel costs in March 2010 were \$2.82 per gallon and that his fuel costs for March 2012 were \$4.07 per gallon.

Following the informal conference, DLI staff obtained data from the United States Department of Energy ("DOE") regarding the price of diesel during 2010 as compared to current costs.<sup>1</sup> That data, available at [www.eia.doe.gov](http://www.eia.doe.gov), show that the average price of diesel during 2010 was \$2.964 per gallon. The average price of diesel during January, February, and March 2012 was \$3.862 per gallon. Consequently, the average price of diesel for the first three months of this year was 30.4% higher than the average cost of diesel during 2010.

The purpose of Minnesota Rules, part 5200.1105, as stated in its Statement of Need and Reasonableness, is to "provide equitable compensation" to independent truck operators. The commissioner finds that in order to carry out the purpose of the rule, it is appropriate to consider the concerns expressed at the informal conference<sup>2</sup> and to use average 2012 diesel costs in computing and certifying 2012 truck rental rates. Specifically, the commissioner finds that the extreme disparity between 2010 and current fuel costs warrants this adjustment in order for truck operators to be equitably compensated.<sup>3</sup>

Construction truck operating costs were initially determined by survey on a statewide basis and were the subject of further input by interested parties attending the informal conference pursuant to Minnesota Rules, part 5200.1105 on April 4, 2012 and further data on fuel prices from the DOE for 2010 and 2012. In light of the discussion above, fuel costs stated in the surveys were adjusted upward by 30.4% to determine statewide operating costs. As a result of this adjustment, the operating cost for "four axle units, straight body trucks" is determined to be \$51.58 per hour; the operating cost for "three axle units" is determined to be \$37.35 per hour; the operating cost for "tractor only" is determined to be \$41.43 per hour; and the operating cost for "tractor trailers" is determined to be \$52.89 per hour.

Adding the prevailing wage for drivers of these four types of trucks from each of the State's ten highway and heavy construction areas to the operating costs, the minimum

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<sup>1</sup> U.S. Energy Information Administration Midwest No. 2 Retail Prices (Dollars per Gallon)

<sup>2</sup> The DLI has historically used input from the informal conferences to establish certified rates. For example, truck rental rates certified in 2009 varied from the proposed rates based on information gathered at the informal conference.

<sup>3</sup> The commissioner notes that the Minnesota Department of Transportation incorporates a fuel adjustment clause in certain of its contracts to accommodate the fluctuating price of fuel. That clause generally provides for the adjustment of contract payments when the cost of fuel increases or decreases by more than 15% from an indexed rate during the term of the contract. By using 2012 fuel costs in certifying 2012 truck rental rates, the commissioner is not intending to adopt or establish a similar fuel adjustment mechanism. Rather, he is taking this action to effectuate the purpose of Part 5200.1105 in light of the concerns raised at the informal conference and the dramatic increase in the price of diesel between 2010 and effective date of 2012 truck rental rates.

hourly truck rental rate for the four types of trucks in each area is certified to be as follows:

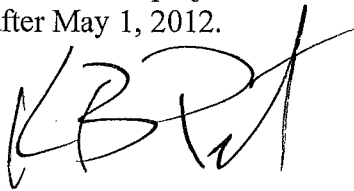
		3 Axle Units		
	Effective Date	607 Driver Rate	Operating Cost	Truck Rental Rate
Region 1	May 1, 2012	40.10	37.35	77.45
Region 2	May 1, 2012	33.76	37.35	71.11
Region 3	May 1, 2012	25.40	37.35	62.75
Region 4	May 1, 2012	33.76	37.35	71.11
Region 5	May 1, 2012	40.50	37.35	77.85
Region 6	May 1, 2012	38.30	37.35	75.65
Region 7	May 1, 2012	33.76	37.35	71.11
Region 8	May 1, 2012	33.76	37.35	71.11
Region 9	May 1, 2012	40.50	37.35	77.85
Region 10	May 1, 2012	13.22	37.35	50.57

		4 or more Axle Units		
	Effective Date	604 Driver Rate	Operating Cost	Truck Rental Rate
Region 1	May 1, 2012	40.20	51.58	91.78
Region 2	May 1, 2012	33.91	51.58	85.49
Region 3	May 1, 2012	24.71	51.58	76.29
Region 4	May 1, 2012	33.91	51.58	85.49
Region 5	May 1, 2012	26.34	51.58	77.92
Region 6	May 1, 2012	38.40	51.58	89.98
Region 7	May 1, 2012	20.87	51.58	72.45
Region 8	May 1, 2012	20.87	51.58	72.45
Region 9	May 1, 2012	40.60	51.58	92.18
Region 10	May 1, 2012	32.91	51.58	84.49

		Tractor				
	Effective Date	602 Driver Rate	Operating Cost	Tractor Only Truck Rental Rate	Plus Trailer Operating Cost	Tractor Trail Rental Rate
Region 1	May 1, 2012	40.75	41.43	82.18	11.46	93.64
Region 2	May 1, 2012	34.42	41.43	75.85	11.46	87.31
Region 3	May 1, 2012	22.37	41.43	63.80	11.46	75.26
Region 4	May 1, 2012	34.42	41.43	75.85	11.46	87.31
Region 5	May 1, 2012	21.38	41.43	62.81	11.46	74.27
Region 6	May 1, 2012	37.95	41.43	79.38	11.46	90.84
Region 7	May 1, 2012	25.85	41.43	67.28	11.46	78.74
Region 8	May 1, 2012	34.42	41.43	75.85	11.46	87.31
Region 9	May 1, 2012	41.15	41.43	82.58	11.46	94.04
Region 10	May 1, 2012	33.42	41.43	74.85	11.46	86.31

The operating costs, including the average truck broker fees paid by those survey respondents who reported paying truck broker fees, and the truck rental rates may also be reviewed by accessing DLI's website at [www.dli.mn.gov](http://www.dli.mn.gov). Questions regarding the operational costs and truck rental rates can be answered by calling (651) 284-5091.

The minimum truck rental rates certified for these four types of trucks in the state's ten highway and heavy construction areas will be effective for all highway and heavy construction projects financed in whole or part with state funds advertised for bid on or after May 1, 2012.

  
 KEN B. PETERSON  
 COMMISSIONER

NOTICE TO BIDDERS

SUSPENSIONS/DEBARMENTS

April 1, 2013

Page 1 of 2

**DEPARTMENT OF TRANSPORTATION**

**NOTICE OF DEBARMENT**

**NOTICE IS HEREBY GIVEN** that MnDOT has ordered that the following vendors be debarred for a period of three (3) years, effective March 25, 2011 until March 25, 2014:

- Philip Joseph Franklin, Leesburg, VA
- Franklin Drywall, Inc. and its affiliates, Little Canada, MN
- Master Drywall, Inc. and its affiliates, Little Canada, MN

**NOTICE OF SUSPENSION**

**NOTICE IS HEREBY GIVEN** that the Department of Transportation ("MnDOT") has ordered that the following vendors be suspended for a period of sixty (60) days, effective April 1, 2013 until May 31, 2013:

- Marlon Louis Danner and his affiliates, South St. Paul, MN
- Danner, Inc. and its affiliates, South St. Paul, MN
- Bull Dog Leasing, Inc. and its affiliates, Inver Grove Heights, MN
- Danner Family Limited Partnership and its affiliates, South St. Paul, MN
- Ell-Z Trucking, Inc. and its affiliates, South St. Paul, MN
- Danner Environmental, Inc. and its affiliates, South St. Paul, MN

**NOTICE IS HEREBY GIVEN** that the Department of Transportation ("MnDOT") has ordered that the following vendors be suspended for a period of sixty (60) days, effective March 13, 2013 until May 12, 2013:

- Gary Francis Bauerly and his affiliates, Rice, MN
- Gary Bauerly, LLC and its affiliates, Rice, MN
- Watab Hauling Co. and its affiliates, Rice, MN

Minnesota Statute section 161.315 prohibits the Commissioner, counties, towns, or home rule or statutory cities from awarding or approving the award of a contract for goods or services to a person who is suspended or debarred, including:

- 1) any contract under which a debarred or suspended person will serve as a subcontractor or material supplier,
- 2) any business or affiliate which the debarred or suspended person exercises substantial influence or control, and
- 3) any business or entity, which is sold or transferred by a debarred person to a relative or any other party over whose actions the debarred person exercises substantial influence or control, remains ineligible during the duration of the seller's or transfer's debarment.

## NOTICE TO BIDDERS

### SUSPENSIONS/DEBARMENTS

April 1, 2013

Page 2 of 2

#### **DEPARTMENT OF ADMINISTRATION**

As of the date of this notice and in accordance with Minnesota Rules 1230.1150, the Minnesota Department of Administration has debarred and disqualified the following persons and businesses from entering into or receiving a State of Minnesota contract:

<b>NAME</b>	<b>DATE OF DEBARMENT</b>
Best Used Trucks of Minnesota, Inc. 635 Marin Ave. Crookston, MN 56716	Nov. 20, 2012 through Nov. 20, 2015 (eligible for reinstatement on Nov. 20, 2016)
Bull Dog Leasing, Inc. 7854 Danner Court Inver Grove Heights, MN 55076	Aug. 30, 2011 through Aug. 30, 2014 (eligible for reinstatement on Aug. 30, 2015)
Danner Family Ltd. Ptnship. 843 Hardman Ave. S. S. St. Paul, MN 55075	Aug. 30, 2011 through Aug. 30, 2014 (eligible for reinstatement on Aug. 30, 2015)
Danner, Inc. 843 Hardman Ave. S. S. St. Paul, MN 55075	Aug. 30, 2011 through Aug. 30, 2014 (eligible for reinstatement on Aug. 30, 2015)
Ell-Z Trucking, Inc. 843 Hardman Ave. S. S. St. Paul, MN 55075	Aug. 30, 2011 through Aug. 30, 2014 (eligible for reinstatement on Aug. 30, 2015)
Franklin Drywall, Inc. 43279 Fieldsview Crt. Leesburg, VA 20176	March 25, 2011 through March 25, 2014 (eligible for reinstatement on March 25, 2015)
Master Drywall, Inc. 43279 Fieldsview Crt. Leesburg, VA 20176	March 25, 2011 through March 25, 2014 (eligible for reinstatement on March 25, 2015)
Watab Hauling Co. Gary Francis Bauerly 9695 Deerwood Rd. NE Rice, MN 56367	Jan. 14, 2013 through Jan. 14, 2016 (eligible for reinstatement on Jan. 14, 2017)

Minnesota Administrative Rule part 1230.1150, subpart 6 requires the Materials Management Division to maintain a master list of all suspensions and debarments. The master list must retain all information concerning suspensions and debarments as a public record for at least three (3) years following the end of a suspension or debarment. Refer to the following website for the master list: <http://www.mmd.admin.state.mn.us/debarredreport.asp>.

If the project is financed in whole or in part with federal funds, refer to the following website for vendors debarred by federal government agencies: <http://sam.gov>.

**INFORMATION TO BE GIVEN TO GOPHER STATE ONE-CALL SYSTEM  
FOR LOCATIONS OF ALL UTILITIES (1-800-252-1166)**

**CALL 48 HOURS (2 WORKING DAYS) IN ADVANCE OF ANY EXCAVATION.**  
**The ONE-CALL Operator will require the following information:**

- |                                     |  |
|-------------------------------------|--|
| 1. Type of request being placed.    | 9. Duration of work                    |
| 2. Telephone/Caller I.D. Number     | 10. Type of work                       |
| 3. Caller name and company name     | 11. Who the work is being done for     |
| 4. Mailing address                  | 12. County and City/Place name         |
| 5. Alternate contact name & phone # | 13. Street address of work site        |
| 6. Date work is to begin            | 14. Marking instructions               |
| 7. Whether explosives will be used  | 15. Remarks                            |
| 8. Is work in Right of Way (R.O.W.) | 16. Township, Range, Section & Quarter |

**WARNING**  
**BEFORE DIGGING CALL 1-800-252-1166**  
**TO NOTIFY LOCAL UTILITIES**  
**== REQUIRED BY LAW ==**

**UTILITY LOCATION & COORDINATION COUNCIL**  
**UNIFORM COLOR CODE**

<b>RED</b>	ELECTRIC POWER LINES, CABLES, CONDUIT AND LIGHTING CABLES.
<b>YELLOW</b>	GAS, OIL, STEAM, PETROLEUM OR GASEOUS MATERIALS.
<b>ORANGE</b>	COMMUNICATION, ALARM OR SIGNAL LANES, CABLES OR CONDUIT.
<b>BLUE</b>	WATER, IRRIGATION AND SLURRY LINES
<b>GREEN</b>	SEWERS AND DRAIN LINES.
<b>FLUORESCENT PINK</b>	FOR SURVEYING PURPOSES
<b>WHITE</b>	PROPOSED EXCAVATION

**GUIDELINES FOR UNIFORM  
TEMPORARY MARKING  
OF UNDERGROUND FACILITIES**

This marking guide provides for universal use and understanding of the temporary marking of subsurface facilities to prevent accidental damage or service interruption by contractors, utility companies or any others working on or near those underground facilities.

**USE OF MARKINGS**

Use color-coded surface marks (paint or similar coating) to indicate the location, change in direction and deadends of buried lines. To increase visibility, color-coded vertical markers (temporary stakes or flags) should supplement surface marks. All marks and markers should indicate the name, initials or logo of the company that owns or operates the line, and the width of the facility if it is greater than two inches.

If the surface over the buried line is to be removed, supplemental offset marking may be used. Offset markings should be on a uniform alignment and must clearly indicate that the actual facility is a specific distance away.

**LOCATION TOLERANCE ZONE**

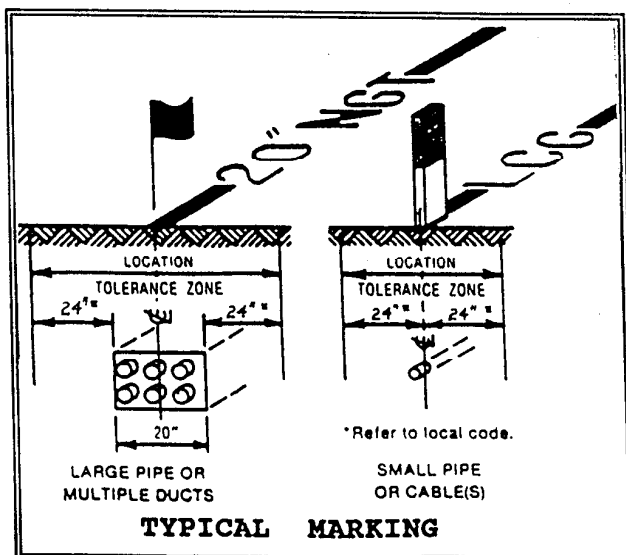
Usually, any excavation within the location tolerance zone must be performed with hand tools until the marked facility is exposed.

**PROPOSED EXCAVATION**

The location or the boundary of proposed excavations should be indicated in a color (usually white) which does not conflict with the Uniform Color Code.

**ONE-CALL DAMAGE PREVENTION SYSTEMS**

Existing ONE-CALL systems must be used to minimize damage to buried lines.



## **SPECIAL INSTRUCTIONS TO BIDDERS REGARDING EEO**

### **Notice of Requirement for Affirmative Action (41 CFR Part 60-2 and Executive Order 11246, as amended)**

1. The Offeror's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Opportunity Construction Contract Specifications" set forth herein.
2. The goals and timetables for minority and female participation, expressed in percentage terms for the contractor's aggregate work force in each trade on all construction work in the covered area, are as follows:

#### TIMETABLES

Goals of minority participation in each trade	Goals for female participation in each trade
1.0%	6.9%
(Vol. 45, Fed. Reg., Pg. 65984, 10/03/80)	

These goals are applicable to all the contractor's construction work (whether or not it is Federal or Federally assisted) performed in the covered area. If the contractor performs construction work in a geographical area located outside the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the contractor also is subject to the goals for both its federally involved and nonfederally involved construction.

The contractor's compliance with the executive order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR Part 60-4.3(a), and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from contractor to contractor or from project to project, for the sole purpose of meeting the contractor's goals, shall be a violation of the contract, the Executive Order, and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The contractor shall provide written notification to the Director, OFCCP, within 10 working days of award of any construction subcontract in excess of \$10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address, and telephone number of the subcontractor; employer identification number; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and, the geographical area in which the contract is to be performed.
4. As used in this notice and in the contract resulting from this solicitation, the "covered area" is **Duluth, Minnesota.**



**Certification Regarding Debarment, Suspension,  
Ineligibility and Voluntary Exclusion  
(49 CFR PART 29)**

The bidder (offeror) certifies, by submission of this proposal or acceptance of this contract, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency. It further agrees that by submitting this proposal that it will include this clause without modification in all lower tier transactions, solicitations, proposals, contracts, and subcontracts. Where the bidder/offeror/contractor or any lower tier participant is unable to certify to this statement, it shall attach an explanation to this solicitation/proposal.

**Certification Regarding Foreign Trade Restrictions  
(49 CFR PART 30)**

The contractor or subcontractor, by submission of an offer and/or execution of a contract, certifies that it:

a. is not owned or controlled by one or more citizens of a foreign country included in the list of countries that discriminate against U.S. firms published by the Office of the United States Trade Representative (USTR);

b. has not knowingly entered into any contract or subcontract for this project with a person that is a citizen or national of a foreign country on said list, or is owned or controlled directly or indirectly by one or more citizens or nationals of a foreign country on said list.

c. has not procured any product nor subcontracted for the supply of any product for use on the project that is produced in a foreign country on said list.

Unless the restrictions of this clause are waived by the Secretary of Transportation in accordance with 49 CFR 30.17, no contract shall be awarded to a contractor or subcontractor who is unable to certify to the above. If the contractor knowingly procures or subcontracts for the supply of any product or service of a foreign country on said list for use on the project; the Federal Aviation Administration may direct, through the Sponsor, cancellation of the contract at no cost to the Government.

Further, the contractor agrees that, if awarded a contract resulting from this solicitation, it will incorporate this provision for certification without modification in each contract and in all lower tier subcontracts. The contractor may rely upon the certification of a prospective subcontractor unless it has knowledge that the certification is erroneous.

The contractor shall provide immediate written notice to the sponsor if the contractor learns that its certification or that of a subcontractor was erroneous when submitted or has become erroneous by reason of changed circumstances. The subcontractor agrees to provide immediate written notice to the contractor, if at any time it learns that its certification was erroneous by reason of changed circumstances.

This certification is a material representation of fact upon which reliance was placed when making the award. If it is later determined that the contractor or subcontractor knowingly rendered an erroneous certification, the Federal Aviation Administration may direct, through the Sponsor, cancellation of the contract or subcontract for default at no cost to the Government.

07/25/03

Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render, in good faith, the certification required by this provision. The knowledge and information of a contractor is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

This certification concerns a matter within the jurisdiction of an agency of the United States of America and the making of a false, fictitious, or fraudulent certification may render the maker subject to prosecution under Title 18, United States Code, Section 1001.

**Buy American Certification**  
**(Aviation Safety and Capacity Expansion Act of 1990)**

By submitting a bid/proposal under this solicitation, except for those items listed by the offeror below or on a separate and clearly identified attachment to this bid/proposal, the offeror certifies that steel and each manufactured product, is produced in the United States, as defined in the clause Buy American - Steel and Manufactured Products for Construction Contracts, and that components of unknown origin are considered to have been produced or manufactured outside the United States.

Offerors may obtain from **The City of Duluth, Minnesota** (insert sponsor representative) a listing of articles, materials, and supplies excepted from this provision.

**PRODUCT**

**COUNTRY OF ORIGIN**


## APPENDIX D

List of Supplies/Materials that the U.S. Government has determined are not produced in the United States in sufficient and reasonably available quantities and of sufficient quality. (January 1991)

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>• Acetylene, black</li> <li>• Agar, bulk</li> <li>• Anise</li> <li>• Antimony, as metal or oxide</li> <li>• Asbestos, amosite, chrysolite and crocidolite</li> </ul>  | <ul style="list-style-type: none"> <li>• Emetine, bulk</li> <li>• Ergot, crude</li> <li>• Erthrityl tetranitrate</li> <li>• Fair linen, altar</li> <li>• Fibers of the following type: abaca, abace, agave, coir, flax, jute, jute burlaps, palmyra and sisal</li> <li>• Goat and kidskins</li> <li>• Graphite, natural, chrystalline, crucible grade</li> <li>• Handsewing needles</li> <li>• Hemp yarn</li> <li>• Hog bristles for brushes</li> <li>• Hyoscine, bulk</li> <li>• Ipecac, root</li> </ul>   |
| <ul style="list-style-type: none"> <li>• Bananas</li> <li>• Bauxite</li> <li>• Beef, corned, canned</li> <li>• Beef extract</li> <li>• Bephenium Hydroxynapthoate</li> <li>• Bismuth</li> <li>• Books, trade, text, technical, or scientific; newspapers; pamphlets; magazines; periodicals; printed briefs and films; not printed in the United States and for which domestics editions are not available</li> <li>• Brazil nuts, unroasted</li> <li>• Cadmium, ores and flue dust</li> <li>• Calcium cyanamide</li> <li>• Capers</li> <li>• Cashew nuts</li> <li>• Castor beans and castor oil</li> <li>• Chalk, English</li> <li>• Chestnuts</li> <li>• Chicle</li> </ul> | <ul style="list-style-type: none"> <li>• Iodine, crude</li> <li>• Kaurigum</li> <li>• Lac</li> <li>• Leather, sheepskin, hair type</li> <li>• Lavender oil</li> <li>• Manganese</li> <li>• Menthol, natural bulk</li> <li>• Mica</li> <li>• Microprocessor chips (brought onto a construction site as separate units for incorporation into building systems during construction or repair and alteration of real property)</li> <li>• Nickel, primary, in ingots, pigs, shots, cathodes, or similar forms; nickel oxide and nickel salts</li> <li>• Nitroguanidine (also known as picrite)</li> <li>• Nux vomica, crude</li> </ul> |
| <ul style="list-style-type: none"> <li>• Chrome ore or chromite</li> </ul>   | <ul style="list-style-type: none"> <li>• Oiticica oil</li> <li>• Olive oil</li> </ul>   |
| <ul style="list-style-type: none"> <li>• Cinchona bark</li> <li>• Cobalt, in cathodes, rondelles, or other primary ore and metal forms</li> <li>• Cocoa beans</li> <li>• Coconut and coconut meat, unsweetened, in shredded, desiccated or similarly prepared form</li> <li>• Coffee, raw or green bean</li> <li>• Colchicine alkaloid, raw</li> <li>• Copra</li> <li>• Cork, wood or bark and waste</li> </ul>  | <ul style="list-style-type: none"> <li>• Olives (green), pitted or unpitted, or stuffed, in bulk</li> <li>• Opium, crude</li> <li>• Oranges, mandarin, canned</li> <li>• Petroleum, crude oil, unfinished oils, and finished products (see definitions below)</li> </ul>  |

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- Cover glass, microscope slide
- Cryolite, natural
- Dammar gum
- Diamonds, industrial, stones and abrasives
- Pine needle oil
- Platinum and related group metals, refined, as sponge, powder, ingots, or cast bars
- Pyrethrum flowers
- Quartz crystals

## APPENDIX D

List of Supplies/Materials that the U.S. Government has determined are not produced in the United States in sufficient and reasonably available quantities and of sufficient quality. (January 1991) (CONTINUED)

- Quebracho
- Quinidine
- Quinine
- Rabbit fur felt
- Radium salts, source and special nuclear materials
- Rosettes
- Rubber, crude and latex
- Rutile
- Santonin, crude
- Secretin
- Shellac
- Silk, raw and unmanufactured
- Spare and replacement parts for equipment of foreign manufacture, and for which domestic parts are not available
- Spices and herbs, in bulk
- Sugars, raw
- Swords and scabbards
- Talc, block, steatite
- Tantalum
- Tapioca flour and cassava
- Tartar, crude; tartaric acid and cream of tartar in bulk
- Tea in bulk
- Thread, metallic (gold)
- Thyme oil
- Tin in bars, blocks, and pigs
- Triprolidine hydrochloride
- Tungsten
- Vanilla beans
- Venom, cobra
- Wax, canauba
- Woods; logs, veneer, and lumber of the following species: Alaskan yellow cedar, angelique, balsa, ekki, greenhart, lignum vitae, mahogany, and teak
- Yarn, 50 Denier rayon

## APPENDIX D

List of Supplies/Materials that the U.S. Government has determined are not produced in the United States in sufficient and reasonably available quantities and of sufficient quality. (January 1991) (CONTINUED)

Petroleum terms are used as follows:

“Crude oil” means crude petroleum, as it is produced at the well head, and liquids (under atmospheric conditions) that have been recovered from mixtures of hydrocarbons that existed in a vaporous phase in a reservoir and that are not natural gas products.

“Finished products” means any one or more of the following petroleum oils, or a mixture or combination of these oils, to be used without further process except blending by mechanical means:

- (A) “Asphalt” – a solid or semi-solid cementitious material that (1) gradually liquefies when heated, (2) has bitumens as its predominating constituents, and (3) is obtained in refining crude oil.
- (B) “Fuel oil” – a liquid or liquefiable petroleum product burned for lighting or for the generation of heat or power and derived directly or indirectly from crude oil, such as kerosene, range oil, distillate fuel oils, gas oil, diesel fuel, topped crude oil, or residues.
- (C) “Gasoline” – a refined petroleum distillate that, by its consumption, is suitable for use as a carburant in internal combustion engines.
- (D) “Jet fuel” – a refined petroleum distillate used to fuel jet propulsion engines.
- (E) “Liquefied gases” – hydrocarbon gases recovered from natural gas or produced from petroleum refining and kept under pressure to maintain a liquid state at ambient temperatures.
- (F) “Lubricating oil” – a refined petroleum distillate or specially treated petroleum residue used to lessen friction between surfaces.
- (G) “Naphtha” – a refined petroleum distillate falling within a distillation range overlapping the higher gasoline and the lower kerosenes.
- (H) “Natural gas products” – liquids (under atmospheric conditions; including natural gasoline, that -
  - (1) are recovered by a process of absorption, compression, refrigeration, cycling, or a combination of these processes, from mixtures of hydrocarbons that existed in a vaporous phase in a reservoir, and
  - (2) when recovered and without processing in a refinery, definitions of products contained in subdivision (B), (C), and (G) above.
- (I) “Residual fuel oil” – a topped crude oil or viscous residuum that, as obtained in refining or after blending with other fuel oil, meets or is the equivalent of MILSPEC

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Mil-F-859 for Navy Special Fuel Oil and any more viscous fuel oil, such as No. 5 or Bunker C.

- (J) "Unfinished oils" means one or more the petroleum oils listed under "Finished products" above, or a mixture or combination of these oils, that are to be further processed other than by blending by mechanical means.



**CERTIFICATION OF BIDDER REGARDING  
EQUAL EMPLOYMENT OPPORTUNITY  
GENERAL**

**BIDDER'S NAME** \_\_\_\_\_  
**ADDRESS** \_\_\_\_\_

**INTERNAL REVENUE SERVICE EMPLOYER IDENTIFICATION NO.** \_\_\_\_\_

**NONSEGREGATED FACILITIES**

**NOTICE TO PROSPECTIVE FEDERALLY ASSISTED  
CONSTRUCTION CONTRACTORS  
(41 CFR Part 60-1.8)**

1 A Certification of Nonsegregated Facilities must be submitted prior to the award of a federally assisted construction contract exceeding \$10,000 which is not exempt from the provisions of the Equal Opportunity Clause.

2 Contractors receiving federally assisted construction contract awards exceeding \$10,000 which are not exempt from the provisions of the Equal Opportunity Clause will be required to provide for the forwarding of the following notice to prospective subcontractors for supplies and construction contracts where the subcontracts exceed \$10,000 and are not exempt from the provisions of the Equal Opportunity Clause.

NOTE: The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001.

**NOTICE TO PROSPECTIVE SUBCONTRACTORS OF REQUIREMENTS FOR  
CERTIFICATION OF NONSEGREGATED FACILITIES**

1 A Certification of Nonsegregated Facilities must be submitted prior to the award of a subcontract exceeding \$10,000 which is not exempt from the provisions of the Equal Opportunity Clause.

2 Contractors receiving subcontract awards exceeding \$10,000 which are not exempt from the provisions of the Equal Opportunity Clause will be required to provide for the forwarding of this notice to prospective subcontractors for supplies and construction contracts where the subcontracts exceed \$10,000 and are not exempt from the provisions of the Equal Opportunity Clause.

NOTE: The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001.

**CERTIFICATION OF NONSEGREGATED FACILITIES**

The federally assisted construction contractor certifies that he does not maintain or provide for his employees any segregated facilities at any of his establishments, and that she or he does not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. The federally assisted construction contractor certifies that she or he will not maintain or provide for his employees any segregated facilities at any of his establishments, and that he will not permit his employees to perform their services at any location, under his control, where segregated facilities are

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maintained. The federally assisted construction contractor agrees that a breach of this certification is a violation of the Equal Opportunity Clause in this contract.

As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, restrooms and washrooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directives or are, in fact, segregated on the basis of race, color, religion, sex, or national origin, because of habit, local custom, or any other reason. The federally assisted construction contractor agrees that (except where she or he has obtained identical certifications from proposed subcontractors for specific time periods) she or he will obtain identical certifications from proposed subcontractors prior to the award of subcontracts exceeding \$10,000 which are not exempt from the provisions of the Equal Opportunity Clause, and that she or he will retain such certifications in his files.

**NOTICE TO PROSPECTIVE CONTRACTORS OF REQUIREMENT FOR  
CERTIFICATION OF NONSEGREGATED FACILITIES**

A Certification of Nonsegregated Facilities must be submitted prior to the award of a contract or subcontract exceeding \$10,000 which is not exempt from the provisions of the Equal Opportunity Clause.

Certification - The information above is true and complete to the best of my knowledge and belief.

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**Name and Title of Signer (Please Type)**

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**Signature**

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**Date**

NOTE: The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001.

## SECTION A

### **WAGE, LABOR, EEO, SAFETY AND GENERAL REQUIREMENTS (Federal Aviation Administration (FAA) Requirements)**

#### **A-1 Airport and Airway Improvement Program Project.**

The work in this contract is included in **AIP: 3-27-0024-55-13** which is being undertaken and accomplished by the **Duluth Airport Authority, Duluth, Minnesota** (Sponsor) in accordance with the terms and conditions of a grant agreement between the Sponsor and the United States, under the Airport and Airway Improvement Act of 1982 (P.L. 97-248) as amended by the Airport and Airway Safety and Capacity Expansion Act of 1987 (P.L. 100-223) and Part 152 of the Federal Aviation Regulations (14 CFR Part 152), pursuant to which the United States has agreed to pay a certain percentage of the costs under those Acts. The United States is not a party to this contract and no reference in this contract to the FAA or any representative thereof, or the United States, by the contract, makes the United States a party to this contract.

#### **A-2 Consent to Assignment.**

The contractor shall obtain the prior written consent of the Sponsor to any proposed assignment of any interest in or part of this contract.

#### **A-3 Convict Labor.**

No convict labor may be employed under this contract.

#### **A-4 Veterans Preference.**

In the employment of labor (except in executive, administrative, and supervisory positions), preference shall be given to veterans of the Vietnam era and disabled veterans as defined in Section 515(c)(1) and (2) of the Airport and Airway Improvement Act of 1982. However, this preference shall apply only where the individuals are available and qualified to perform the work to which the employment relates.

#### **A-5 Withholding: Sponsor from Contractor.**

Whether or not payments or advances to the **Duluth Airport Authority, Duluth, Minnesota (Sponsor)** are withheld or suspended by the FAA, the Sponsor may withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics employed by the contractor or any subcontractor on the work, the full amount of wages required by this contract.

#### **A-6 Nonpayment of Wages.**

If the contractor or subcontractor fails to pay any laborer or mechanic employed or working on the site of the work any of the wages required by this contract, the **Duluth Airport Authority, Duluth, Minnesota, (Sponsor)** may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment or advance of funds until the violations cease.

#### **A-7 FAA inspection and review.**

The contractor shall allow any authorized representative of the FAA to inspect and review any work or materials used in the performance of this contract.

**A-8 Subcontracts.**

The contractor shall insert in each of his subcontracts the provisions contained in paragraphs A-1, A-3, A-4, A-5, A-6, and A-7 requiring the subcontractors to include these provisions in any lower tier subcontracts which they may enter into, together with a clause requiring this insertion in any further subcontracts that may in turn be made.

**A-9 Contract termination.**

Any violation or breach of the terms of this contract on the part of the contractor or their subcontractors may result in the suspension or termination of this contract or such other action that may be necessary to enforce the rights of the parties of this agreement. He duties and obligations imposed by the Contract Documents and the rights and remedies available thereunder shall be in addition to and not a limitation of any duties, obligations, rights and remedies otherwise imposed or available by law. (49 CFR Part 18).

**A-10 Inspection of Records.**

The contractor shall maintain an acceptable cost accounting system. The Contractor agrees to provide the Sponsor, the Federal Aviation Administration and the Comptroller General of the United States or any of their duly authorized representatives access to any books, documents, papers, and records of the contractor which are directly pertinent to the specific contract for the purposes of making audit, examination, excerpts and transcriptions. The Contractor agrees to maintain all books, records and reports required under this contract for a period of not less than three years after final payment is made and all other pending matters are closed. (49 CFR Part 18.36(i)).

**A-11 Rights to Inventions.**

All rights to inventions and materials generated under this contract are subject to regulations issued by the FAA and the Sponsor of the Federal grant under which this contract is executed. Information regarding these rights is available from the FAA and the Sponsor. (49 CFR Part 18.36(i)(8)).

**A-12 General Civil Rights Provisions.**

The contractor assures that it will comply with pertinent statutes, Executive orders and such rules as are promulgated to assure that no person shall, on the grounds of race, creed, color, national origin, sex, age, or handicap be excluded from participating in any activity conducted with or benefiting from Federal assistance. This provision obligates the tenant/concessionaire/lessee or its transferee for the period during which Federal assistance is extended to the airport a program, except where Federal assistance is to provide, or is in the form of personal property or real property or interest therein or structures or improvements thereon. In these cases the provision obligates the party or any transferee for the longer of the following periods: (a) the period during which the property is used by the airport sponsor or any transferee for a purpose for which Federal assistance is extended, or for another purpose involving the provision of similar services or benefits or (b) the period during which the airport sponsor or any transferee retains ownership or possession of the property. In the case of contractors, this provision binds the contractors from the bid solicitation period through the completion of the contract. This provision is in addition to that required of Title VI of the Civil Rights Act of 1964.

## SECTION B

### DAVIS-BACON ACT REQUIREMENTS (29 CFR PART 5)

#### B-1 Minimum Wages.

(i) All laborers and mechanics employed or working upon the site of the work will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by the Secretary of Labor under the Copeland Act (29 CFR Part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalent thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (1)(iv) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR Part 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: *Provided*, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under (1)(ii) of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can easily be seen by the workers.

(ii)(A) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

- (1) The work to be performed by the classification requested is not performed by a classification in the wage determinations; and
- (2) The classification is utilized in the area by the construction industry; and
- (3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(B) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, D.C. 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of

receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(C) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(D) The wage rate (including fringe benefits where appropriate) determined pursuant to subparagraphs (1)(ii)(B) or (C) of this paragraph, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv) If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program. (Approved by the Office of Management and Budget under OMB Control Number 1215-0140).

## **B-2 Withholding.**

The Federal Aviation Administration or the Sponsor shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld from the contractor under this contract or any other Federal contract with the same prime contractor, or any other Federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of work, all or part of the wages required by the contract, the Federal Aviation Administration may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

## **B-3 Payrolls and basic records.**

(i) Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or

mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual costs incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(ii)(A) The contractor shall submit weekly, for each week in which any contract work is performed, a copy of all payrolls to the applicant, sponsor, or owner, as the case may be, for transmission to the Federal Aviation Administration. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under paragraph 5.5(a)(3)(i) above. This information may be submitted in any form desired. Optional Form WH-347 is available for this purpose and may be purchased from the Superintendent of Documents (Federal Stock Number 029-005-00014-1), U.S. Government Printing Office, Washington, D.C. 20402. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors.

(B) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(1) That the payroll for the payroll period contains the information required to be maintained under paragraph (3)(i) above and that such information is correct and complete;

(2) That each laborer and mechanic (including each helper, apprentice and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations 29 CFR Part 3;

(3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(C) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph (3)(ii)(B) of this section.

(D) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under Section 1001 of Title 18 and Section 231 of Title 31 of the United States Code.

(iii) The contractor or subcontractor shall make the records required under paragraph (3)(i) of this section available for inspection, copying or transcription by authorized representatives of the Sponsor, the Federal Aviation Administration or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the Federal agency may, after written notice to the contractor, sponsor, applicant or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

**B-4 Apprentices and Trainees.**

(i) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Bureau of Apprenticeship and Training, or with a State Apprenticeship Agency recognized by the Bureau, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Bureau of Apprenticeship and Training or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Bureau of Apprenticeship and Training, or a State Apprenticeship Agency recognized by the Bureau, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(ii) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor



will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable programs approved.

(iii) Equal Employment Opportunity (EEO). The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR Part 30.

#### **B-5 Compliance With Copeland Act Requirements.**

The contractor shall comply with the requirements of 29 CFR Part 3, which are incorporated by reference in this contract.

#### **B-6 Subcontracts.**

The contractor or subcontractor shall insert in any subcontracts the clauses contained in 29 CFR Part 5.5(a)(1) through (10) and such other clauses as the Federal Aviation Administration may by appropriate instructions require, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR Part 5.5.

#### **B-7 Contract Termination: Debarment.**

A breach of the contract clauses in paragraph 1 through 10 of this section may be grounds for termination of the contract, and for the debarment as a contractor and a subcontractor as provided in 29 CFR 5.12

#### **B-8 Compliance With Davis-Bacon and Related Act Requirements.**

All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR Parts 1, 3, and 5 are herein incorporated by reference in this contract.

#### **B-9 Disputes Concerning Labor Standards.**

Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR Parts 5, 6 and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

#### **B-10 Certification of Eligibility.**

(i) By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

## **SECTION C**

### **CONTRACT WORKHOURS AND SAFETY STANDARDS ACT REQUIREMENTS (29 CFR PART 5)**

#### **C-1 Overtime Requirements.**

No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic, including watchmen and guards, in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

#### **C-2 Violation; Liability for Unpaid Wages; Liquidated Damages.**

In the event of any violation of the clause set forth in paragraph C-1 above, the contractor or any subcontractor responsible therefore shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph C-1 above, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph C-1 above.

#### **C-3 Withholding for Unpaid Wages and Liquidated Damages.**

The Federal Aviation Administration or the Sponsor shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any monies payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other Federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph C-2 above.

#### **C-4 Subcontractors.**

The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraphs C-1 through C-4 and also a clause requiring the subcontractor to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs C-1 through C-4 of this section.

#### **C-5 Working Conditions.**

No contractor or subcontractor may require any laborer or mechanic employed in the performance of any contract to work in surroundings or under working conditions that are unsanitary, hazardous or dangerous to his health or safety as determined under construction safety and health standards (29 CFR Part 1926) issued by the Department of Labor.

## SECTION D

### CLEAN AIR AND WATER POLLUTION CONTROL REQUIREMENTS

**D-1** Any other provision herein to the contrary notwithstanding, the contractor in carrying out work under this contract, shall at all times comply with all applicable state and federal air and water quality standards; with all pollution control laws; and with such rules, regulations, and directives as may be lawfully issued by a local, state, or federal agency having within its jurisdiction the protection of the environment in the area surrounding where work under this contract will be performed. In addition, the contractor shall comply with directives given by the Project Engineer in implementation of the letter and intent of FAA Advisory Circular 150/5370-10, Item P-156, Temporary Air and Water Pollution, Soil Erosion and Siltation Control. Copies of this Advisory Circular can be obtained from Department of Transportation, Distribution Unit, TAD-484.3, Washington, D.C. 20590.

**D-2 Contractors and subcontractors agree:**

a. That any facility to be used in the performance of the contract or subcontract or to benefit from the contract is not listed on the Environmental Protection Agency (EPA) List of Violating Facilities;

b. To comply with all the requirements of Section 114 of the Clean Air Act, as amended, 42 U.S.C. 1857 et seq. and Section 308 of the Federal Water Pollution Control Act, as amended, 33 U.S.C. 1251 et seq. relating to inspection, monitoring, entry, reports, and information, as well as all other requirements specified in Section 114 and Section 308 of the Acts, respectively, and all other regulations and guidelines issued thereunder;

c. That, as a condition for the award of this contract, the contractor or subcontractor will notify the awarding official of the receipt of any communication from the EPA indicating that a facility to be used for the performance of or benefit from the contract is under consideration to be listed on the EPA List of Violating Facilities;

d. To include or cause to be included in any construction contract or subcontract which exceeds \$100,000 the aforementioned criteria and requirements.

## SECTION E

### CONTRACTOR CONTRACTUAL REQUIREMENTS PURSUANT TO CIVIL RIGHTS ACT OF 1964, TITLE VI (49 CFR PART 21)

During the performance of this contract, the contractor, for itself, its assignees and successors in interest (hereinafter referred to as the "contractor") agrees as follows:

**E-1 Compliance with Regulations.** The contractor shall comply with the Regulations relative to nondiscrimination in federally assisted programs of the Department of Transportation (hereinafter, "DOT") Title 49, Code of Federal Regulations, Part 21, as they may be amended from time to time (hereinafter referred to as the Regulations), which are herein incorporated by reference and made a part of this contract.

**E-2 Nondiscrimination.** The contractor, with regard to the work performed by it during the contract, shall not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor shall not participate either directly or indirectly in the discrimination prohibited by section 21.5 of the Regulations, including employment practices when the contract covers a program set forth in Appendix B of the Regulations.

**E-3 Solicitations for Subcontracts, Including Procurements of Materials and Equipment.** In all solicitations either by competitive bidding or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials or leases of equipment, each potential subcontractor or supplier shall be notified by the contractor of the contractor's obligations under this contract and the Regulations relative to nondiscrimination on the grounds of race, color, or national origin.

**E-4 Information and Reports.** The contractor shall provide all information and reports required by the Regulations or directives issued pursuant thereto and shall permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Sponsor or the Federal Aviation Administration (FAA) to be pertinent to ascertain compliance with such Regulations, orders, and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish this information, the contractor shall so certify to the sponsor or the FAA, as appropriate, and shall set forth what efforts it has made to obtain the information.

**E-5 Sanctions for Noncompliance.** In the event of the contractor's noncompliance with the nondiscrimination provisions of this contract, the sponsor shall impose such contract sanctions as it or the FAA may determine to be appropriate, including, but not limited to:

- a. Withholding of payments to the contractor under the contract until the contractor complies, and/or
- b. Cancellation, termination, or suspension of the contract, in whole or in part.

**E-6 Incorporation of Provisions.** The contractor shall include the provisions of paragraphs 1 through 5 in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Regulations or directives issued pursuant thereto. The contractor shall take such action with respect to any subcontract or procurement as the sponsor or the FAA may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, however, that in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or supplier as a result of such direction, the contractor may request the Sponsor to enter into such litigation to protect the interests of the sponsor and,

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in addition, the contractor may request the United States to enter into such litigation to protect the interests of the United States.

## **SECTION F**

### **TERMINATION OF CONTRACT (49 CFR PART 18)**

**F-1** The Sponsor may, by written notice, terminate this contract in whole or in part at any time, either for the Sponsor's convenience or because of failure to fulfill the contract obligations. Upon receipt of such notice services shall be immediately discontinued (unless the notice directs otherwise) and all materials as may have been accumulated in performing this contract, whether completed or in progress, delivered to the Sponsor.

**F-2** If the termination is for the convenience of the Sponsor, an equitable adjustment in the contract price shall be made, but no amount shall be allowed for anticipated profit on unperformed services.

**F-3** If the termination is due to failure to fulfill the contractor's obligations, the Sponsor may take over the work and prosecute the same to completion by contract or otherwise. In such case, the contractor shall be liable to the Sponsor for any additional cost occasioned to the Sponsor thereby.

**F-4** If, after notice of termination for failure to fulfill contract obligations, it is determined that the contractor had not so failed, the termination shall be deemed to have been effected for the convenience of the Sponsor. In such event, adjustment in the contract price shall be made as provided in paragraph 2 of this clause.

**F-5** The rights and remedies of the sponsor provided in this clause are in addition to any other rights and remedies provided by law or under this contract.

**SECTION G****BUY AMERICAN - STEEL AND MANUFACTURED PRODUCTS  
FOR CONSTRUCTION CONTRACTS  
(Aviation Safety and Capacity Expansion Act of 1990)**

(a) The Aviation Safety and Capacity Expansion Act of 1990 provides that preference be given to steel and manufactured products produced in the United States when funds are expended pursuant to a grant issued under the Airport Improvement Program. The following terms apply:

1. Steel and manufactured products. As used in this clause, steel and manufactured products include (1) those produced in the United States or (2) a manufactured product produced in the United States, if the cost of its components mined, produced or manufactured in the United States exceeds 60 percent of the cost of all its components and final assembly has taken place in the United States. Components of foreign origin of the same class or kind as the products referred to in subparagraphs b. (1) or (2) shall be treated as domestic.

2. Components. As used in this clause, components means those articles, materials, and supplies incorporated directly into steel and manufactured products.

3. Cost of Components. This means the cost for production of the components, exclusive of final assembly labor costs.

(b) The successful bidder will be required to assure that only domestic steel and manufactured products will be used by the Contractor, subcontractors, materialmen, and suppliers in the performance of this contract, except those:

1. that the U.S. Department of Transportation has determined, under the Aviation Safety and Capacity Expansion Act of 1990, are not produced in the United States in sufficient and reasonably available quantities and of a satisfactory quality;

2. that the U.S. Department of Transportation has determined, under the Aviation Safety and Capacity Expansion Act of 1990, that domestic preference would be inconsistent with the public interest; or

3. that inclusion of domestic material will increase the cost of the overall project contract by more than 25 percent.

## SECTION H

### EQUAL EMPLOYMENT OPPORTUNITY (41 CFR PART 60-1.4(b))

During the performance of this contract, the contractor agrees as follows:

**H-1** The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to the following:

Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.

**H-2** The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive considerations for employment without regard to race, color, religion, sex, or national origin.

**H-3** The contractor will send to each labor union or representative of workers with which s/he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representatives of the contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

**H-4** The contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, as amended, and of the rules, regulations, and relevant orders of the Secretary of Labor.

**H-5** The contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

**H-6** In the event of the contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedure authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

**H-7** The contractor will include the portion of the sentence immediately preceding paragraph D-1 and the provisions of paragraphs D-1 through D-7 in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provision, including sanctions for noncompliance: *Provided, however*, that in the event a contractor becomes involved in, or is threatened with, litigation with a



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subcontractor or vendor as a result of such direction by the administering agency the contractor may request the United States to enter into such litigation to protect the interests of the United States.

## SECTION I

### STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY CONSTRUCTION CONTRACT SPECIFICATIONS (41 CFR 60-4.3)

**I-1** As used in these specifications:

a. "Covered area" means the geographical area described in the solicitation from which this contract resulted;

b. "Director" means Director, Office of Federal Contract Compliance Programs (OFCCP), U.S. Department of Labor, or any person to whom the Director delegates authority;

c. "Employer identification number" means the Federal social security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941;

d. "Minority" includes:

(1) Black (all) persons having origins in any of the Black African racial groups not of Hispanic origin);

(2) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin regardless of race);

(3) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and

(4) American Indian or Alaskan native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).

**I-2** Whenever the contractor, or any subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of \$10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.

**I-3** If the contractor is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors shall be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each contractor or subcontractor participating in an approved plan is individually required to comply with its obligations under the EEO clause and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other contractors or subcontractors toward a goal in an approved Plan does not excuse any covered contractor's or subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.

**I-4** The contractor shall implement the specific affirmative action standards provided in paragraphs 7a through 7p of these specifications. The goals set forth in the solicitation from which this contract resulted

are expressed as percentages of the total hours of employment and training of minority and female utilization the contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. Covered construction contractors performing construction work in a geographical area where they do not have a Federal or federally assisted construction contract shall apply the minority and female goals established for the geographical area where the work is being performed. Goals are published periodically in the Federal Register in notice form, and such notices may be obtained from any Office of Federal Contract Compliance Programs office or from Federal procurement contracting officers. The contractor is expected to make substantially uniform progress in meeting its goals in each craft during the period specified.

**I-5** Neither the provisions of any collective bargaining agreement nor the failure by a union with whom the contractor has a collective bargaining agreement to refer either minorities or women shall excuse the contractor's obligations under these specifications, Executive Order 11246 or the regulations promulgated pursuant thereto.

**I-6** In order for the non-working training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees shall be employed by the contractor during the training period and the contractor shall have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees shall be trained pursuant to training programs approved by the U.S. Department of Labor.

**I-7** The contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The contractor shall document these efforts fully and shall implement affirmative action steps at least as extensive as the following:

a. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the contractor's employees are assigned to work. The contractor, where possible, will assign two or more women to each construction project. The contractor shall specifically ensure that all foremen, superintendents, and other onsite supervisory personnel are aware of and carry out the contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.

b. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.

c. Maintain a current file of the names, addresses, and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source, or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the contractor by the union or, if referred, not employed by the contractor, this shall be documented in the file with the reason therefore along with whatever additional actions the contractor may have taken.

d. Provide immediate written notification to the Director when the union or unions with which the contractor has a collective bargaining agreement has not referred to the contractor a minority person or female sent by the contractor, or when the contractor has other information that the union referral process has impeded the contractor's efforts to meet its obligations.

e. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the contractor's employment needs, especially those programs funded or approved by the Department of Labor. The contractor shall provide notice of these programs to the sources compiled under 7b above.

f. Disseminate the contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.

g. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination, or other employment decisions including specific review of these items with onsite supervisory personnel such as superintendents, general foremen, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.

h. Disseminate the contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the contractor's EEO policy with other contractors and subcontractors with whom the contractor does or anticipates doing business.

i. Direct its recruitment efforts, both oral and written, to minority, female, and community organizations, to schools with minority and female students; and to minority and female recruitment and training organizations serving the contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the contractor shall send written notification to organizations, such as the above, describing the openings, screening procedures, and tests to be used in the selection process.

j. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable provide after school, summer, and vacation employment to minority and female youth both on the site and in other areas of a contractor's workforce.

k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.

l. Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel, for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.

m. Ensure that seniority practices, job classifications, work assignments, and other personnel practices do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the contractor's obligations under these specifications are being carried out.

n. Ensure that all facilities and company activities are nonsegregated except that separate or single user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.

o. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.

p. Conduct a review, at least annually, of all supervisor's adherence to and performance under the contractor's EEO policies and affirmative action obligations.

**I-8** Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations (7a through 7p). The efforts of a contractor association, joint contractor union, contractor community, or other similar groups of which the contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under 7a through 7p of these specifications provided that the contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the contractor's minority and female workforce participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the contractor. The obligation to comply, however, is the contractor's and failure of such a group to fulfill an obligation shall not be a defense for the contractor's noncompliance.

**I-9** A single goal for minorities and a separate single goal for women have been established. The contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non minority. Consequently, if the particular group is employed in a substantially disparate manner (for example, even though the contractor has achieved its goals for women generally,) the contractor may be in violation of the Executive Order if a specific minority group of women is underutilized.

**I-10** The contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex, or national origin.

**I-11** The contractor shall not enter into any subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.

**I-12** The contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination, and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.

**I-13** The contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.8.

**I-14** The contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government, and to keep records. Records shall at least include for each employee, the name, address, telephone number, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of

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pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.

**I-15** Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

**SECTION J****MANDATORY REQUIREMENT FOR ALL AIP FUNDED CONSTRUCTION  
PROJECTS INVOLVING ELECTRICAL ENERGY OR OTHER  
HAZARDOUS ENERGY SOURCES**

For projects involving electrical energy or other hazardous energy source, the contractor shall submit a copy of their Lockout/Tagout program which meets the requirements of 29 CFR 1910.331, Safety Related Work Practices (OSHA). During the performance of electrical work, it is recommended that an unannounced inspection be performed by the airport sponsor or his agent to determine if the Lockout/Tagout program is being followed. Immediate action shall be taken to correct noncompliance, including suspension of work when necessary.

## SECTION K

### DISADVANTAGED BUSINESS ENTERPRISE CONTRACT PROVISIONS (49 CFR PART 26)

#### PART A

**Policy.** The requirements of 49 CFR Part 26, Regulations of the U.S. Department of Transportation, apply to this contract. It is the policy of the City of Pensacola, Florida, to practice nondiscrimination based on race, color, sex, or national origin in the award or performance of this contract. All firms qualifying under this solicitation are encouraged to submit bids/proposals. Award of this contract will be conditioned upon satisfying the requirements of this bid specification. These requirements apply to all bidders/offerors, including those who qualify as a DBE. A DBE contract goal of **3.2 percent** has been established for this contract. The bidder/offeror shall make good faith efforts, as defined in Appendix A, 49 CFR Part 26 (Attachment 1), to meet the contract goal for DBE participation in the performance of this contract.

**Contract Assurance (§26.13).** The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy, as the recipient deems appropriate.

**Prompt Payment (§26.29).** The prime contractor agrees to pay each subcontractor under this prime contract for satisfactory performance of its contract no later than 7 days from the receipt of each payment the prime contractor receives from the Duluth Airport Authority, Duluth, Minnesota. The prime contractor agrees further to return retainage payments to each subcontractor within 7 days after the subcontractor's work is satisfactorily completed. Any delay or postponement of payment from the above referenced time frame may occur only for good cause following written approval of the Duluth Airport Authority, Duluth, Minnesota. This clause applies to both DBE and non-DBE subcontractors.

**DBE Participation.** DBE Participation in this contract may be in form of a prime contract, subcontract, joint venture, or another arrangement that qualifies under 49 CFR Sections 26.55, "How is DBE participation counted toward goals?" or 26.53(g), both of which are included as Attachment 1.

**Subcontract Clauses.** All bidders and potential contractors hereby assure that they will include the above clauses in all subcontracts which offers further subcontracting opportunities.

#### PART B

##### It is further understood and agreed:

The award procedure for this solicitation will include the selection criteria of 49 CFR Part 26 to ensure that prime contracts are awarded to competitors that meet Disadvantaged Business Enterprise (DBE) goals.

Notification is hereby given that DBE goals are established for this prime contract. The goal for firms owned and controlled by socially and economically disadvantaged individuals is **3.2 percent** of the dollar value of this contract.



The bidder/offeror will be required to submit the following information: (1) the names and addresses of DBE firms that will participate in the contract; (2) a description of the work that each DBE firm will perform; (3) the dollar amount of the participation of each DBE firm participating; (4) written documentation of the bidder/offeror's commitment to use a DBE subcontractor whose participation it submits to meet the contract goal; (5) written confirmation from the DBE that it is participating in the contract as provided in the commitment made under (4); and (6) if the contract goal is not met, evidence of good faith efforts.

Agreements between bidder/proposer and a DBE in which the DBE promises not to provide sub-contracting quotations to other bidders/proposers are prohibited. All bidders and proposers shall make a good faith effort to replace a DBE subcontractor that is unable to perform successfully with another DBE subcontractor.

The bidder shall establish and maintain records and submit regular reports, as required, which will identify and assess progress in achieving DBE subcontract goals and other DBE affirmative action efforts.

## **SECTION L**

### **ENERGY CONSERVATION REQUIREMENTS (49 CFR PART 18.36(i)(13))**

The contractor agrees to comply with mandatory standards and policies relating to energy efficiency that are contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act (Public Law 94-163).

## **SECTION M**

### **LOBBYING AND INFLUENCING FEDERAL EMPLOYEES (49 CFR PART 20, APPENDIX A)**

(1) No Federal appropriated funds shall be paid, by or on behalf of the contractor, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the making of any Federal grant and the amendment or modification of any Federal grant.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with any Federal grant, the contractor shall complete and submit Standard Form-LLL, "Disclosure of Lobby Activities", in accordance with its instructions.

## GENERAL PROVISIONS

### SECTION 10

#### DEFINITION OF TERMS

Where portions of text have been lined through (~~example~~) this text has been deleted and does not apply to this project. Where portions of text have been added with shading (example), this text has been added and is binding to this project. This process is utilized throughout the specifications and contract documents (excluding the plans).

Whenever the following terms are used in these specifications, in the contract, or in any documents or other instruments pertaining to construction where these specifications govern, the intent and meaning shall be interpreted as follows:

**10-01 AASHTO.** The American Association of State Highway and Transportation Officials, the successor association to AASHO.

**10-02 ACCESS ROAD.** The right-of-way, the roadway and all improvements constructed thereon connecting the airport to a public highway.

**10-03 ADVERTISEMENT.** A public announcement, as required by local law, inviting bids for work to be performed and materials to be furnished.

**10-04 AIP.** The Airport Improvement Program, a grant-in-aid program, administered by the Federal Aviation Administration.

**10-05 AIR OPERATIONS AREA.** For the purpose of these specifications, the term air operations area shall mean any area of the airport used or intended to be used for the landing, takeoff, or surface maneuvering of aircraft. An air operation area shall include such paved or unpaved areas that are used or intended to be used for the unobstructed movement of aircraft in addition to its associated runway, taxiway, or apron.

**10-06 AIRPORT.** Airport means an area of land or water which is used or intended to be used for the landing and takeoff of aircraft; an appurtenant area used or intended to be used for airport buildings or other airport facilities or rights of way; and airport buildings and facilities located in any of these areas, and includes a heliport.

**10-07 ASTM.** The American Society for Testing and Materials.

**10-08 AWARD.** The acceptance, by the Owner, of the successful bidder's proposal.

**10-09 BIDDER.** Any individual, partnership, firm, or corporation, acting directly or through a duly authorized representative, who submits a proposal for the work contemplated.

**10-10 BUILDING AREA.** An area on the airport to be used, considered, or intended to be used for airport buildings or other airport facilities or rights-of-way together with all airport buildings and facilities located thereon.

**10-11 CALENDAR DAY.** Every day shown on the calendar. The contract duration and phase durations set forth in the Contract Documents include inclement weather days normally encountered at the Project site, as well as observed holidays defined below. The Contractor shall be charged for each calendar day during the term of construction including observed holidays defined below and inclement weather days normally encountered at the Project site. Normal inclement weather days shall be established by the Contractor obtaining the previous ten (10) years of inclement weather data from the National

Oceanographic and Atmospheric Administration (NOAA) and averaging the previous ten (10) years of each type of inclement weather for each month and comparing it to each month of construction activities to determine if the number of inclement weather days occurring in any given month exceeds the average for that month over the past ten (10) years for that type of inclement weather, i.e. rain, snow, etc. If the Contractor is unable to work at least 50% of the normal work day on pre-determined controlling work items due to abnormal inclement weather conditions, the Contractor may not be charged a calendar day provided the Contractor submits data and records to justify not charging a calendar day for that specific day. Contract time shall be based upon calendar days counting from the effective date of the Notice to Proceed and including Saturdays, Sundays, observed holidays defined below, and other non-work days.

Legal Holidays for which a calendar day shall be charged but which the Contractor shall not be allowed to work are as follows:

New Year's Day

Memorial Day and the Saturday/Sunday prior to Memorial Day

July 4<sup>th</sup>

Labor Day and the Saturday/Sunday prior to Labor Day

Thanksgiving and the Friday and Saturday after Thanksgiving

Christmas Day

**10-12 CHANGE ORDER.** A written order to the Contractor covering changes in the plans, specifications, or proposal quantities and establishing the basis of payment and contract time adjustment, if any, for the work affected by such changes. The work, covered by a change order, shall be within the scope of the contract.

**10-13 CONTRACT.** The written agreement covering the work to be performed. The awarded contract shall include, but is not limited to: The Advertisement; The Contract Form; The Proposal; The Performance Bond; The Payment Bond; any required insurance certificates; The Specifications; The Plans, and any addenda issued to bidders.

**10-14 CONTRACT ITEM (PAY ITEM).** A specific unit of work for which a price is provided in the contract.

**10-15 CONTRACT TIME.** The number of calendar days ~~or working days~~, stated in the proposal, allowed for completion of the contract, including authorized time extensions. ~~If a calendar date of completion is stated in the proposal, in lieu of a number of calendar or working days, the contract shall be completed by that date.~~

**10-16 CONTRACTOR.** The individual, partnership, firm, or corporation primarily liable for the acceptable performance of the work contracted and for the payment of all legal debts pertaining to the work who acts directly or through lawful agents or employees to complete the contract work.

**10-17 DRAINAGE SYSTEM.** The system of pipes, ditches, and structures by which surface or subsurface waters are collected and conducted from the airport area.

**10-18 ENGINEER.** The individual, partnership, firm, or corporation duly authorized by the Owner to be responsible for engineering inspection of the contract work and acting directly or through an authorized representative. The Engineer shall be understood to be the Engineer of the Owner or the Owner's duly authorized representative.

**10-19 EQUIPMENT.** All machinery, together with the necessary supplies for upkeep and maintenance, and also all tools and apparatus necessary for the proper construction and acceptable completion of the work.

**10-20 EXTRA WORK.** An item of work not provided for in the awarded contract as previously modified by change order or supplemental agreement, but which is found by the Engineer to be necessary to complete the work within the intended scope of the contract as previously modified.

**10-21 FAA.** The Federal Aviation Administration of the U.S. Department of Transportation. When used to designate a person, FAA shall mean the Administrator or his/her duly authorized representative.

**10-22 FEDERAL SPECIFICATIONS.** The Federal Specifications and Standards, Commercial Item Descriptions, and supplements, amendments, and indices thereto are prepared and issued by the General Services Administration of the Federal Government.

**10-23 FORCE ACCOUNT.** Force account construction work is construction that is accomplished through the use of material, equipment, labor, and supervision provided by the Owner or by another public agency pursuant to an agreement with the Owner. It is also construction performed by the Contractor through the use of material, equipment, labor, and supervision which includes an allowance for overhead and profit where no bid item or established payment provision is provided within the contract documents.

**10-24 INSPECTOR.** An authorized representative of the Engineer assigned to make all necessary inspections and/or tests of the work performed or being performed, or of the materials furnished or being furnished by the Contractor.

**10-25 INTENTION OF TERMS.** Whenever, in these specifications or on the plans, the words "directed," "required," "permitted," "ordered," "designated," "prescribed," or words of like import are used, it shall be understood that the direction, requirement, permission, order, designation, or prescription of the Engineer is intended; and similarly, the words "approved," "acceptable," "satisfactory," or words of like import, shall mean approved by, or acceptable to, or satisfactory to the Engineer, subject in each case to the final determination of the Owner.

Any reference to a specific requirement of a numbered paragraph of the contract specifications or a cited standard shall be interpreted to include all general requirements of the entire section, specification item, or cited standard that may be pertinent to such specific reference.

**10-26 LABORATORY.** The official testing laboratories of the Owner or such other laboratories as may be designated by the Engineer.

**10-27 LIGHTING.** A system of fixtures providing or controlling the light sources used on or near the airport or within the airport buildings. The field lighting includes all luminous signals, markers, floodlights, and illuminating devices used on or near the airport or to aid in the operation of aircraft landing at, taking off from, or taxiing on the airport surface.

**10-27A LIQUIDATED DAMAGES TO BE CHARGED.** The Contractor shall be charged liquidated damages in the amounts defined below for each calendar day or night after the applicable time has elapsed until the work is completed and accepted by the Owner and Engineer and as defined in General Provisions Section 80-08.

**10-28 MAJOR AND MINOR CONTRACT ITEMS.** A major contract item shall be any item that is listed in the proposal, the total cost of which is equal to or greater than 20 percent of the total amount of the award contract. All other items shall be considered minor contract items.

**10-29 MATERIALS.** Any substance specified for use in the construction of the contract work.

**10-30 NOTICE TO PROCEED.** A written notice to the Contractor to begin the actual contract work on a previously agreed to date. If applicable, the Notice to Proceed shall state the date on which the contract time begins.

**10-31 OWNER.** The term "Owner" shall mean the party of the first part or the contracting agency signatory to the contract. For AIP contracts, the term "sponsor" shall have the same meaning as the term "Owner." Where the term "Owner" is capitalized in this document, it shall mean airport owner or sponsor only.

**10-32 PAVEMENT.** The combined surface course, base course, and subbase course, if any, considered as a single unit.

**10-33 PAYMENT BOND.** The approved form of security furnished by the Contractor and his/her surety as a guaranty that he will pay in full all bills and accounts for materials and labor used in the construction of the work.

**10-34 PERFORMANCE BOND.** The approved form of security furnished by the Contractor and his/her surety as a guaranty that the Contractor will complete the work in accordance with the terms of the contract.

**10-35 PLANS.** The official drawings or exact reproductions which show the location, character, dimensions and details of the airport and the work to be done and which are to be considered as a part of the contract, supplementary to the specifications.

**10-36 PROJECT.** The agreed scope of work for accomplishing specific airport development with respect to a particular airport.

**10-37 PROPOSAL.** The written offer of the bidder (when submitted on the approved proposal form) to perform the contemplated work and furnish the necessary materials in accordance with the provisions of the plans and specifications.

**10-38 PROPOSAL GUARANTY.** The security furnished with a proposal to guarantee that the bidder will enter into a contract if his/her proposal is accepted by the Owner.

**10-38A RESIDENT PROJECT REPRESENTATIVE.** An authorized representative of the Engineer or Owner assigned to make all necessary inspections and/or tests of the work performed or being performed, or of the materials furnished or being furnished by the Contractor.

**10-39 RUNWAY.** The area on the airport prepared for the landing and takeoff of aircraft.

**10-40 SPECIFICATIONS.** A part of the contract containing the written directions and requirements for completing the contract work. Standards for specifying materials or testing which are cited in the contract specifications by reference shall have the same force and effect as if included in the contract physically.

**10-41 SPONSOR.** See definition above of "Owner."

**10-42 STRUCTURES.** Airport facilities such as bridges; culverts; catch basins, inlets, retaining walls, cribbing; storm and sanitary sewer lines; water lines; underdrains; electrical ducts, manholes, handholes, lighting fixtures and bases; transformers; flexible and rigid pavements; navigational aids; buildings; vaults; and, other manmade features of the airport that may be encountered in the work and not otherwise classified herein.

**10-43 SUBGRADE.** The soil that forms the pavement foundation.

**10-44 SUPERINTENDENT.** The Contractor's executive representative who is present on the work during progress, authorized to receive and fulfill instructions from the Engineer, and who shall supervise and direct the construction.

**10-45 SUPPLEMENTAL AGREEMENT.** A written agreement between the Contractor and the Owner covering (1) work that would increase or decrease the total amount of the awarded contract, or any major contract item, by more than 25 percent, such increased or decreased work being within the scope of the originally awarded contract; or (2) work that is not within the scope of the originally awarded contract.

**10-46 SURETY.** The corporation, partnership, or individual, other than the Contractor, executing payment or performance bonds that are furnished to the Owner by the Contractor.

**10-47 TAXIWAY.** For the purpose of this document, the term taxiway means the portion of the air operations area of an airport that has been designated by competent airport authority for movement of aircraft to and from the airport's runways or aircraft parking areas.

**10-48 WORK.** The furnishing of all labor, materials, tools, equipment, and incidentals necessary or convenient to the Contractor's performance of all duties and obligations imposed by the contract, plans, and specifications.

~~**10-49 WORKING DAY.** A working day shall be any day other than a legal holiday, Saturday, or Sunday on which the normal working forces of the Contractor may proceed with regular work for at least 6 hours toward completion of the contract. When work is suspended for causes beyond the Contractor's control, Saturdays, Sundays and holidays on which the Contractor's forces engage in regular work, requiring the presence of an inspector, will be considered as working days.~~

#### END OF SECTION 10



## SECTION 20

## PROPOSAL REQUIREMENTS AND CONDITIONS

**20-01 ADVERTISEMENT (Notice to Bidders).**

~~**20-02 PREQUALIFICATION OF BIDDERS.** Each bidder shall furnish the owner satisfactory evidence of his/her competency to perform the proposed work. Such evidence of competency, unless otherwise specified, shall consist of statements covering the bidder's past experience on similar work, a list of equipment that would be available for the work, and a list of key personnel that would be available. In addition, each bidder shall furnish the owner satisfactory evidence of his/her financial responsibility. Such evidence of financial responsibility, unless otherwise specified, shall consist of a confidential statement or report of the bidder's financial resources and liabilities as of the last calendar year or the Contractor's last fiscal year. Such statements or reports shall be certified by a public accountant. At the time of submitting such financial statements or reports, the bidder shall further certify whether his/her financial responsibility is approximately the same as stated or reported by the public accountant. If the bidder's financial responsibility has changed, the bidder shall qualify the public accountant's statement or report to reflect his/her (bidder's) true financial condition at the time such qualified statement or report is submitted to the Owner.~~

~~Unless otherwise specified, a bidder may submit evidence that he is prequalified with the State Highway Division and is on the current "bidder's list" of the state in which the proposed work is located. Such evidence of State Highway Division prequalification may be submitted as evidence of financial responsibility in lieu of the certified statements or reports hereinbefore specified, provided the costs of projects submitted as evidence of prequalification is equal to the estimated costs of the project for which the bidder is submitting a bid.~~

~~Each bidder shall submit "evidence of competency" and "evidence of financial responsibility" to the Owner at the time of bid opening.~~

**20-03 CONTENTS OF PROPOSAL FORMS.** The Owner shall furnish bidders with proposal forms. All papers bound with or attached to the proposal forms are necessary parts and must not be detached.

The plans specifications, and other documents designated in the proposal form shall be considered a part of the proposal whether attached or not.

**20-04 ISSUANCE OF PROPOSAL FORMS.** ~~The Owner reserves the right to refuse to issue a proposal form to a prospective bidder should such bidder be in default for any of the following reasons:~~ The Owner reserves the right to refuse to issue a proposal form to a prospective bidder should such bidder be in default for any of the following, but not limited to, reasons:

- a. Failure to comply with any prequalification regulations of the Owner, if such regulations are cited, or otherwise included, in the proposal as a requirement for bidding.
- b. Failure to pay, or satisfactorily settle, all bills due for labor and materials on former contracts in force (with the Owner) at the time the Owner issues the proposal to a prospective bidder.
- c. Contractor default under previous contracts with the Owner.
- d. Unsatisfactory work on previous contracts with the Owner.
- e. Contractor has an interest in any litigation or arbitration or other type claim against the Owner or Engineer.

**20-05 INTERPRETATION OF ESTIMATED PROPOSAL QUANTITIES.** An estimate of quantities of work to be done and materials to be furnished under these specifications is given in the proposal. It is the result of careful calculations and is believed to be correct. It is given only as a basis for comparison of proposals and the award of the contract. The Owner does not expressly or by implication agree that the actual quantities involved will correspond exactly therewith; nor shall the bidder plead misunderstanding or deception because of such estimates of quantities, or of the character, location, or other conditions pertaining to the work. Payment to the Contractor will be made only for the actual quantities of work performed or materials furnished in accordance with the plans and specifications. It is understood that the quantities may be increased or decreased as hereinafter provided in the subsection titled ALTERATION OF WORK AND QUANTITIES of Section 40 without in any way invalidating the unit bid prices.

**20-06 EXAMINATION OF PLANS, SPECIFICATIONS, AND SITE.** The bidder is expected to carefully examine the site of the proposed work, the proposal, plans specifications, and contract forms. He shall satisfy himself as to the character, quality, and quantities of work to be performed, materials to be furnished, and as to the requirements of the proposed contract. The submission of a proposal shall be prima facie evidence that the bidder has made such examination and is satisfied as to the conditions to be encountered in performing the work and as to the requirements of the proposed contract, plans, and specifications.

Boring logs and other records of subsurface investigations and tests are available for inspection of bidders. It is understood and agreed that such subsurface information, whether included in the plans, specifications, or otherwise made available to the bidder, was obtained and is intended for the Owner's design and estimating purposes only. Such information has been made available for the convenience of all bidders. It is further understood and agreed that each bidder is solely responsible for all assumptions, deductions, or conclusions which he/she may make or obtain from his/her examination of the boring logs and other records of subsurface investigations and tests that are furnished by the Owner.

**20-07 PREPARATION OF PROPOSAL.** The bidder shall submit his/her proposal on the forms furnished by the Owner. All blank spaces in the proposal forms must be correctly filled in where indicated for each and every item for which a quantity is given. The bidder shall state the price (written in ink or typed) both in words and numerals for which he proposes to do each pay item furnished in the proposal. In case of conflict between words and numerals, the words, unless obviously incorrect, shall govern.

The bidder shall sign his/her proposal correctly and in ink. If the proposal is made by an individual, his/her name and post office address must be shown. If made by a partnership, the name and post office address of each member of the partnership must be shown. If made by a corporation, the person signing the proposal shall give the name of the state under the laws of which the corporation was chartered and the name, titles, and business address of the president, secretary, and the treasurer. Anyone signing a proposal as an agent shall file evidence of his/her authority to do so and that the signature is binding upon the firm or corporation.

**20-08 IRREGULAR PROPOSALS.** ~~Proposals shall be considered irregular for the following reasons:~~ Proposals shall be considered irregular for the following, but not limited to, reasons:  
**a.** If the proposal is on a form other than that furnished by the Owner, or if the Owner's form is altered, or if any part of the proposal form is detached.

**b.** If there are unauthorized additions, conditional or alternate pay items, or irregularities of any kind that make the proposal incomplete, indefinite, or otherwise ambiguous.

**c.** If the proposal does not contain a unit price for each pay item listed in the proposal, except in the case of authorized alternate pay items, for which the bidder is not required to furnish a unit price.

**d.** If the proposal contains unit prices that are obviously unbalanced unbalanced as interpreted by the Owner and Engineer.

**e.** If the proposal is not accompanied by the proposal guaranty specified by the Owner.

The Owner reserves the right to reject any irregular proposal and the right to waive technicalities if such waiver is in the best interest of the Owner and conforms to local laws and ordinances pertaining to the letting of construction contracts.

**20-09 BID GUARANTEE.** Each separate proposal shall be accompanied by a certified check, or other specified acceptable collateral, in the amount specified in the proposal form. Such check, or collateral, shall be made payable to the Owner. The proposal guarantee shall be in the amount of 5% of the maximum bid price submitted unless a different amount is required by the Owner.

**20-10 DELIVERY OF PROPOSAL.** Each proposal submitted shall be placed in a sealed envelope plainly marked with the project number, location of airport, and name and business address of the bidder on the outside. When sent by mail, preferably registered, the sealed proposal, marked as indicated above, should be enclosed in an additional envelope. No proposal will be considered unless received at the place specified in the advertisement before the time specified for opening all bids. Proposals received after the bid opening time shall be returned to the bidder unopened.

**20-11 WITHDRAWAL OR REVISION OF PROPOSALS.** A bidder may withdraw or revise (by withdrawal of one proposal and submission of another) a proposal provided that the bidder's request for withdrawal is received by the Owner in writing or by telegram before the time specified for opening bids. Revised proposals must be received at the place specified in the advertisement before the time specified for opening all bids.

**20-12 PUBLIC OPENING OF PROPOSALS.** Proposals shall be opened, and read, publicly at the time and place specified in the advertisement. Bidders, their authorized agents, and other interested persons are invited to attend. Proposals that have been withdrawn (by written or telegraphic request) or received after the time specified for opening bids shall be returned to the bidder unopened.

**20-13 DISQUALIFICATION OF BIDDERS.** A bidder shall be considered disqualified for any of the following, but not limited to, reasons:

a. Submitting more than one proposal from the same partnership, firm, or corporation under the same or different name.

b. Evidence of collusion among bidders. Bidders participating in such collusion shall be disqualified as bidders for any future work of the Owner until any such participating bidder has been reinstated by the Owner as a qualified bidder.

c. If the bidder is considered to be in "default" for any reason specified in the subsection titled ISSUANCE OF PROPOSAL FORMS of this section.

d. Where the Bidder has an interest in any litigation or arbitration or other type claim against the Owner or Engineer.

e. Lack of competency as revealed by the Statement of Bidder's Qualifications.

f. Uncompleted work which, in the judgment of the Owner, will hinder or prevent the prompt completion of additional work, if awarded.

g. Previous projects where, in the judgment of the Owner, the Bidder performed unsatisfactorily and did not complete and close out the project in a timely manner resulting in the Owner not being able to close out the project with various funding agencies and resulting in the Owner potentially or actually losing planned funding for other projects.

## END OF SECTION 20

## SECTION 30

### AWARD AND EXECUTION OF CONTRACT

**30-01 CONSIDERATION OF PROPOSALS.** After the proposals are publicly opened and read, they will be compared on the basis of the summation of the products obtained by multiplying the estimated quantities shown in the proposal by the unit bid prices. If a bidder's proposal contains a discrepancy between unit bid prices written in words and unit bid prices written in numbers, the unit price written in words shall govern.

Until the award of a contract is made, the Owner reserves the right to reject a bidder's proposal for any of the following reasons:

a. If the proposal is irregular as specified in the subsection titled IRREGULAR PROPOSALS of Section 20.

b. If the bidder is disqualified for any of the reasons specified in the subsection titled DISQUALIFICATION OF BIDDERS of Section 20.

In addition, until the award of a contract is made, the Owner reserves the right to reject any or all proposals, waive technicalities, if such waiver is in the best interest of the Owner and is in conformance with applicable state and local laws or regulations pertaining to the letting of construction contracts; advertise for new proposals; or proceed with the work otherwise. All such actions shall promote the Owner's best interests.

**30-02 AWARD OF CONTRACT.** The award of a contract, if it is to be awarded, shall be made within [ ] calendar days of the date specified for publicly opening proposals, unless otherwise specified herein.

Award of the contract shall be made by the Owner to the lowest, qualified bidder whose proposal conforms to the cited requirements of the Owner.

**30-03 CANCELLATION OF AWARD.** The Owner reserves the right to cancel the award without liability to the bidder, except return of proposal guaranty, at any time before a contract has been fully executed by all parties and is approved by the Owner in accordance with the subsection titled APPROVAL OF CONTRACT of this section.

**30-04 RETURN OF PROPOSAL GUARANTY.** All proposal guaranties, except those of the ~~two~~ **three** (3) lowest bidders, will be returned immediately after the Owner has made a comparison of bids as hereinbefore specified in the subsection titled CONSIDERATION OF PROPOSALS of this section. Proposal guaranties of the ~~two~~ **three** lowest bidders will be retained by the Owner until such time as an award is made, at which time, the unsuccessful bidder's proposal guaranty will be returned. The successful bidder's proposal guaranty will be returned as soon as the Owner receives the contracts bonds as specified in the subsection titled REQUIREMENTS OF CONTRACT BONDS of this section.

**30-05 REQUIREMENTS OF CONTRACT BONDS.** At the time of the execution of the contract, the successful bidder shall furnish the Owner a surety bond or bonds that have been fully executed by the bidder and the surety guaranteeing the performance of the work and the payment of all legal debts that may be incurred by reason of the Contractor's performance of the work. The surety and the form of the bond or bonds shall be acceptable to the Owner. Unless otherwise specified in this subsection, the surety bond or bonds shall be in a sum equal to the full amount of the contract.

**30-06 EXECUTION OF CONTRACT.** The successful bidder shall sign (execute) the necessary agreements for entering into the contract and return such signed contract to the owner, along with the fully executed surety bond or bonds specified in the subsection titled REQUIREMENTS OF CONTRACT BONDS of this section, within 45 ~~20~~ calendar days from the date mailed or otherwise delivered to the successful bidder. If the contract is mailed, special handling is recommended.

The contract executed by the successful bidder shall have within the body of the contract the following language that documents the following assurances:

“The contractor, sub-recipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate.”

**30-07 APPROVAL OF CONTRACT.** Upon receipt of the contract and contract bond or bonds that have been executed by the successful bidder, the Owner shall complete the execution of the contract in accordance with local laws or ordinances, and return the fully executed contract to the Contractor. Delivery of the fully executed contract to the Contractor shall constitute the Owner’s approval to be bound by the successful bidder’s proposal and the terms of the contract.

**30-08 FAILURE TO EXECUTE CONTRACT.** Failure of the successful bidder to execute the contract and furnish an acceptable surety bond or bonds within the 45 ~~20~~ calendar day period specified in the subsection titled REQUIREMENTS OF CONTRACT BONDS of this section shall be just cause for cancellation of the award and forfeiture of the proposal guaranty, not as a penalty, but as liquidation of damages to the Owner.

**END OF SECTION 30**

## SECTION 40

### SCOPE OF WORK

**40-01 INTENT OF CONTRACT.** The intent of the contract is to provide for construction and completion, in every detail, of the work described. It is further intended that the Contractor shall furnish all labor, materials, equipment, tools, transportation, and supplies and incidentals required to complete the work in accordance with the plans, specifications, and terms of the contract.

**40-02 ALTERATION OF WORK AND QUANTITIES.** The owner reserves and shall have the right to make such alterations in the work as may be necessary or desirable to complete the work originally intended in an acceptable manner. Unless otherwise specified herein, the Engineer shall be and is hereby authorized to make such alterations in the work as may increase or decrease the originally awarded contract quantities, provided that the aggregate of such alterations does not change the total contract cost or the total cost of any major contract item by more than 25 percent (total cost being based on the unit prices and estimated quantities in the awarded contract). Alterations that do not exceed the 25 percent limitation shall not invalidate the contract nor release the surety, and the Contractor agrees to accept payment for such alterations as if the altered work had been a part of the original contract. These alterations that are for work within the general scope of the contract shall be covered by "Change Orders" issued by the Engineer. Change orders for altered work shall include extensions of contract time where, in the Engineer's opinion, such extensions are commensurate with the amount and difficulty of added work.

Should the aggregate amount of altered work exceed the 25 percent limitation hereinbefore specified, such excess altered work shall be covered by supplemental agreement. If the owner and the Contractor are unable to agree on a unit adjustment for any contract item that requires a supplemental agreement, the owner reserves the right to terminate the contract with respect to the item and make other arrangements for its completion.

For AIP contracts, all supplemental agreements shall be approved by the FAA and shall include valid wage determinations of the U.S. Secretary of Labor when the amount of the supplemental agreement exceeds \$2,000. However, if the Contractor elects to waive the limitations on work that increases or decreases the originally awarded contract or any major contract item by more than 25 percent, the supplemental agreement shall be subject to the same U.S. Secretary of Labor wage determination as was included in the originally awarded contract.

All supplemental agreements shall require consent of the Contractor's surety and separate performance and payment bonds.

**40-03 OMITTED ITEMS.** The Engineer may, in the Owner's best interest, omit from the work any contract item, except major contract items. Major contract items may be omitted by a supplemental agreement. Such omission of contract items shall not invalidate any other contract provision or requirement.

Should a contract item be omitted or otherwise ordered to be nonperformed, the Contractor shall be paid for all work performed toward completion of such item prior to the date of the order to omit such item. Payment for work performed shall be in accordance with the subsection titled PAYMENT FOR OMITTED ITEMS of Section 90.

**40-04 EXTRA WORK.** Should acceptable completion of the contract require the Contractor to perform an item of work for which no basis of payment has been provided in the original contract or previously issued change orders or supplemental agreements, the same shall be called "Extra Work." Extra Work that is within the general scope of the contract shall be covered by written change order. Change orders for such Extra Work shall contain agreed unit prices for performing the change order work in accordance with the

requirements specified in the order, and shall contain any adjustment to the contract time that, in the Engineer's opinion, is necessary for completion of such Extra Work.

When determined by the Engineer to be in the Owner's best interest, he may order the Contractor to proceed with Extra Work by force account as provided in the subsection titled PAYMENT FOR EXTRA AND FORCE ACCOUNT WORK of Section 90.

Extra Work that is necessary for acceptable completion of the project, but is not within the general scope of the work covered by the original contract shall be covered by a Supplemental Agreement as hereinbefore defined in the subsection titled SUPPLEMENTAL AGREEMENT of Section 10.

Any claim for payment of Extra Work that is not covered by written agreement (change order or supplemental agreement) shall be rejected by the Owner.

**40-05 MAINTENANCE OF TRAFFIC.** It is the explicit intention of the contract that the safety of aircraft, as well as the Contractor's equipment and personnel, is the most important consideration. It is understood and agreed that the Contractor shall provide for the free and unobstructed movement of aircraft in the air operations areas of the airport with respect to his/her own operations and the operations of all his/her subcontractors as specified in the subsection titled LIMITATION OF OPERATIONS of Section 80. It is further understood and agreed that the Contractor shall provide for the uninterrupted operation of visual and electronic signals (including power supplies thereto) used in the guidance of aircraft while operating to, from, and upon the airport as specified in the subsection titled CONTRACTOR'S RESPONSIBILITY FOR UTILITY SERVICE AND FACILITIES OF OTHERS in Section 70.

With respect to his/her own operations and the operations of all his/her subcontractors, the Contractor shall provide marking, lighting, and other acceptable means of identifying: personnel; equipment; vehicles; storage areas; and any work area or condition that may be hazardous to the operation of aircraft, fire-rescue equipment, or maintenance vehicles at the airport.

When the contract requires the maintenance of vehicular traffic on an existing road, street, or highway during the Contractor's performance of work that is otherwise provided for in the contract, plans, and specifications, the Contractor shall keep such road, street, or highway open to all traffic and shall provide such maintenance as may be required to accommodate traffic. The Contractor shall furnish erect, and maintain barricades, warning signs, flag person, and other traffic control devices in reasonable conformity with the manual of Uniform Traffic Control Devices for Streets and Highways (published by the United States Government Printing Office), unless otherwise specified herein. The Contractor shall also construct and maintain in a safe condition any temporary connections necessary for ingress to and egress from abutting property or intersecting roads, streets or highways. Unless otherwise specified herein, the Contractor will not be required to furnish snow removal for such existing road, street, or highway.

The Contractor shall make his/her own estimate of all labor, materials, equipment, and incidentals necessary for providing the maintenance of aircraft and vehicular traffic as specified in this subsection.

The cost of maintaining the aircraft and vehicular traffic specified in this subsection shall not be measured or paid for directly, but shall be included in the various contract items.

**40-06 REMOVAL OF EXISTING STRUCTURES.** All existing structures encountered within the established lines, grades, or grading sections shall be removed by the Contractor, unless such existing structures are otherwise specified to be relocated, adjusted up or down, salvaged, abandoned in place, reused in the work or to remain in place. The cost of removing such existing structures shall not be measured or paid for directly, but shall be included in the various contract items.

Should the Contractor encounter an existing structure (above or below ground) in the work for which the disposition is not indicated on the plans, the Engineer shall be notified prior to disturbing such structure.

The disposition of existing structures so encountered shall be immediately determined by the Engineer in accordance with the provisions of the contract.

Except as provided in the subsection titled RIGHTS IN AND USE OF MATERIALS FOUND IN THE WORK of this section, it is intended that all existing materials or structures that may be encountered (within the lines, grades, or grading sections established for completion of the work) shall be used in the work as otherwise provided for in the contract and shall remain the property of the Owner when so used in the work.

**40-07 RIGHTS IN AND USE OF MATERIALS FOUND IN THE WORK.** Should the Contractor encounter any material such as (but not restricted to) sand, stone, gravel, slag, or concrete slabs within the established lines, grades, or grading sections, the use of which is intended by the terms of the contract to be either embankment or waste, he may at his/her option either:

- a. Use such material in another contract item, providing such use is approved by the Engineer and is in conformance with the contract specifications applicable to such use; or,
- b. Remove such material from the site, upon written approval of the Engineer; or
- c. Use such material for his/her own temporary construction on site; or,
- d. Use such material as intended by the terms of the contract.

Should the Contractor wish to exercise option a., b., or c., he shall request the Engineer's approval in advance of such use.

Should the Engineer approve the Contractor's request to exercise option a., b., or c., the Contractor shall be paid for the excavation or removal of such material at the applicable contract price. The Contractor shall replace, at his/her own expense, such removed or excavated material with an agreed equal volume of material that is acceptable for use in constructing embankment, backfills, or otherwise to the extent that such replacement material is needed to complete the contract work. The Contractor shall not be charged for his/her use of such material so used in the work or removed from the site.

Should the Engineer approve the Contractor's exercise of option a., the Contractor shall be paid, at the applicable contract price, for furnishing and installing such material in accordance with requirements of the contract item in which the material is used.

It is understood and agreed that the Contractor shall make no claim for delays by reason of his/her exercise of option a., b., or c.

The Contractor shall not excavate, remove, or otherwise disturb any material, structure, or part of a structure which is located outside the lines, grades, or grading sections established for the work, except where such excavation or removal is provided for in the contract, plans, or specifications.

**40-08 FINAL CLEANING UP.** Upon completion of the work and before acceptance and final payment will be made, the Contractor shall remove from the site all machinery, equipment, surplus and discarded materials, rubbish, temporary structures, and stumps or portions of trees. He shall cut all brush and woods within the limits indicated and shall leave the site in a neat and presentable condition. Material cleared from the site and deposited on adjacent property will not be considered as having been disposed of satisfactorily, unless the Contractor has obtained the written permission of such property owner.

#### END OF SECTION 40



## SECTION 50

### CONTROL OF WORK

**50-01 AUTHORITY OF THE ENGINEER.** The Engineer shall decide any and all questions which may arise as to the quality and acceptability of materials furnished, work performed, and as to the manner of performance and rate of progress of the work. The Engineer shall decide all questions that may arise as to the interpretation of the specifications or plans relating to the work. The Engineer shall determine the amount and quality of the several kinds of work performed and materials furnished which are to be paid for the under contract.

The Engineer does not have the authority to accept pavements that do not conform to FAA specification requirements.

**50-02 CONFORMITY WITH PLANS AND SPECIFICATIONS.** All work and all materials furnished shall be in reasonably close conformity with the lines, grades, grading sections, cross sections, dimensions, material requirements, and testing requirements that are specified (including specified tolerances) in the contract, plans or specifications.

If the Engineer finds the materials furnished, work performed, or the finished product not within reasonably close conformity with the plans and specifications but that the portion of the work affected will, in his/her opinion, result in a finished product having a level of safety, economy, durability, and workmanship acceptable to the Owner, he will advise the Owner of his/her determination that the affected work be accepted and remain in place. In this event, the Engineer will document his/her determination and recommend to the Owner a basis of acceptance that will provide for an adjustment in the contract price for the affected portion of the work. The Engineer's determination and recommended contract price adjustments will be based on good engineering judgment and such tests or retests of the affected work as are, in his/her opinion, needed. Changes in the contract price shall be covered by contract modifications (change order or supplemental agreement) as applicable.

If the Engineer finds the materials furnished, work performed, or the finished product are not in reasonably close conformity with the plans and specifications and have resulted in an unacceptable finished product, the affected work or materials shall be removed and replaced or otherwise corrected by and at the expense of the Contractor in accordance with the Engineer's written orders.

For the purpose of this subsection, the term "reasonably close conformity" shall not be construed as waiving the Contractor's responsibility to complete the work in accordance with the contract, plans, and specifications. The term shall not be construed as waiving the Engineer's responsibility to insist on strict compliance with the requirements of the contract, plans, and specifications during the Contractor's prosecution of the work, when, in the Engineer's opinion, such compliance is essential to provide an acceptable finished portion of the work.

For the purpose of this subsection, the term "reasonably close conformity" is also intended to provide the Engineer with the authority, after consultation with the FAA, to use good engineering judgment in his/her determinations as to acceptance of work that is not in strict conformity but will provide a finished product equal to or better than that intended by the requirements of the contract, plans and specifications.

All defined tolerances shall apply before, during and after incorporation of the materials into the work. It is the intent of the specifications that all materials meet all of the requirements of the specifications after all material has been set in place in its final form.

The Owner shall keep the FAA advised of the Engineer's determinations as to acceptance of the work that is not in reasonably close conformity with the contract, plans, and specifications. Change orders or supplemental agreements must bear the written approval of the FAA.

The Engineer will not be responsible for the Contractor's means, methods, techniques, sequences, or procedures of construction or the safety precautions incident thereto.

**50-03 COORDINATION OF CONTRACT, PLANS, AND SPECIFICATIONS.** The contract, plans, specifications, and all referenced standards cited are essential parts of the contract requirements. A requirement occurring in one is as binding as though occurring in all. They are intended to be complementary and to describe and provide for a complete work. In case of discrepancy, calculated dimensions will govern over scaled dimensions; contract technical specifications shall govern over contract general provisions, plans, cited standards for materials or testing, and cited FAA advisory circulars; contract general provisions shall govern over plans, cited standards for materials or testing, and cited FAA advisory circulars; plans shall govern over cited standards for materials or testing and cited FAA advisory circulars. If any paragraphs contained in the Special Provisions Conditions conflict with General Provisions or Technical Specifications, the Special Provisions Conditions shall govern.

From time to time, discrepancies within cited standards for testing occur due to the timing of changing, editing, and replacing of standards. In the event the Contractor discovers any apparent discrepancy within standard test methods, he shall immediately call upon the Engineer for his/her interpretation and decision, and such decision shall be final.

The Contractor shall not take advantage of any apparent error or omission on the plans or specifications. In the event the Contractor discovers any apparent error or discrepancy, he shall immediately call upon the Engineer for his/her interpretation and decision, and such decision shall be final.

#### ~~LIST OF SPECIAL PROVISIONS~~

**The 50-04 COOPERATION OF CONTRACTOR.** The Contractor will be supplied with five copies each of the plans and specifications. He shall have available on the work at all times one copy each of the plans and specifications. Additional copies of plans and specifications may be obtained by the Contractor for the cost of reproduction.

The Contractor shall give constant attention to the work to facilitate the progress thereof, and he shall cooperate with the Engineer and his/her inspectors and with other contractors in every way possible. The Contractor shall have a competent superintendent on the work at all times who is fully authorized as his/her agent on the work. The superintendent shall be capable of reading and thoroughly understanding the plans and specifications and shall receive and fulfill instructions from the Engineer or his/her authorized representative.

**50-05 COOPERATION BETWEEN CONTRACTORS.** The Owner reserves the right to contract for and perform other or additional work on or near the work covered by this contract.

When separate contracts are let within the limits of any one project, each Contractor shall conduct his/her work so as not to interfere with or hinder the progress of completion of the work being performed by other Contractors. Contractors working on the same project shall cooperate with each other as directed.

Each Contractor involved shall assume all liability, financial or otherwise, in connection with his/her contract and shall protect and save harmless the Owner from any and all damages or claims that may arise because of inconvenience, delays, or loss experienced by him because of the presence and operations of other Contractors working within the limits of the same project.

The Contractor shall arrange his/her work and shall place and dispose of the materials being used so as not to interfere with the operations of the other Contractors within the limits of the same project. He shall join his/her work with that of the others in an acceptable manner and shall perform it in proper sequence to that of the others.

**50-06 CONSTRUCTION LAYOUT AND STAKES.** ~~The Engineer shall establish horizontal and vertical control only. The Contractor must establish all layout required for the construction of the work. Such stakes and markings as the Engineer may set for either his/her own or the Contractor's guidance shall be preserved by the Contractor. In case of negligence on the part of the Contractor, or his/her employees, resulting in the destruction of such stakes or markings, an amount equal to the cost of replacing the same may be deducted from subsequent estimates due the Contractor at the discretion of the Engineer.~~ The Contractor shall furnish, as his expense, all horizontal and vertical control, all staking and layout of construction work called for on the plans and in accordance with Technical Specification P-104, Project Survey and Stakeout and as more stringently required herein. The Engineer and Owner shall not be responsible for such work. However, the Owner and Engineer reserve the right to check all said lines, grades, and measurements with their appointed surveyor(s). Should the Owner's surveyor(s) detect errors in said lines, grades, and measurements, the Contractor shall pay for all said surveying costs and subsequent surveying costs performed to verify correction of errors found in said lines, grades, and measurements. Included in this are all blue top staking for subgrade and base course installation. Definition of an error shall be 1/4" or more. In the case of a discrepancy between the technical specifications and this defined tolerance, the more stringent tolerance shall govern.

~~The Contractor will be required to furnish all lines, grades and measurements from the control points necessary for the proper prosecution and control of the work contracted for under these specifications.~~

The Contractor must give weekly copies of the survey notes to the Engineer so that the Engineer may check them as to accuracy and method of staking. All areas that are staked by the Contractor must be checked by the Engineer prior to beginning any work in the area. The Engineer will make periodic checks of the grades and alignment set by the Contractor. In case of error on the part of the Contractor, or his/her employees, resulting in establishing grades and/or alignment that are not in accordance with the plans or established by the Engineer, all construction not in accordance with the established grades and/or alignment shall be replaced without additional cost to the Owner.

~~No direct payment will be made, unless otherwise specified in contract documents, for this labor, materials, or other expenses therewith. The cost thereof shall be included in the price of the bid for the various items of the Contract.~~

Construction Staking and Layout includes but is not limited to:

Clearing and Grubbing perimeter staking.

Rough Grade slope stakes at 100-foot stations.

Drainage Swales slope stakes and flow line blue tops at 50-foot stations.

Subgrade blue tops at 25-foot stations and 25-foot offset distance (max.) for the following section locations:

- a. Runway – minimum 5 per station
- b. Taxiways – minimum 3 per station
- c. Holding apron areas – minimum 3 per station
- d. Roadways – minimum 3 per station

Base Course blue tops at 25 foot stations and 25-foot offset distance (max.) for the following section locations:

- a. Runway – minimum 5 per station
- b. Taxiways – minimum 3 per station
- c. Holding apron areas – minimum 3 per station

Pavement areas:

- a. Edge of Pavement hubs and tacks (for stringline by Contractor) at 100-foot stations
- b. Between Lifts at 25-foot stations for the following section locations:
  - (1). Runways – each paving lane width
  - (2). Taxiways – each paving lane width
  - (3). Holding areas – each paving lane width
- c. After finish paving operations at 50-foot stations
  - (1). All paved areas – Edge of each paving lane prior to next paving lot
- d. Shoulder and safety area blue tops at 50-foot stations and at all break points with maximum of 50 foot offsets

Fence lines at 100-foot stations

Electrical and Communications System locations, lines and grades including but not limited to duct runs, connections, fixtures, signs, lights, VASIs, PAPIs, REILs, Wind Cones, Distance Markers (signs), pull boxes and manholes.

Drain lines, cut stakes and alignment on 25-foot stations, inlet and manholes.

Painting and Striping layout (pinned with 1.5 in PK nails) marked for paint Contractor. (All nails shall be removed after painting)

Laser, or other automatic control devices, shall be checked with temporary control point or grade hub at a minimum of once per 400 feet per pass (that is, paving lane).

Note: Controls and stakes disturbed or suspect of having been disturbed shall be checked and/or reset as directed by the Engineer without additional cost to the Owner.

**50-07 AUTOMATICALLY CONTROLLED EQUIPMENT.** Whenever batching or mixing plant equipment is required to be operated automatically under the contract and a breakdown or malfunction of the automatic controls occurs, the equipment may be operated manually or by other methods for a period 48 hours following the breakdown or malfunction, provided this method of operations will produce results which conform to all other requirements of the contract.

**50-08 AUTHORITY AND DUTIES OF INSPECTORS.** Inspectors employed by the Owner shall be authorized to inspect all work done and all material furnished. Such inspection may extend to all or any part of the work and to the preparation, fabrication, or manufacture of the materials to be used. Inspectors are not authorized to revoke, alter, or waive any provision of the contract. Inspectors are not authorized to issue instructions contrary to the plans and specifications or to act as foreman for the Contractor.

Inspectors employed by the Owner are authorized to notify the Contractor or his/her representatives of any failure of the work or materials to conform to the requirements of the contract, plans, or specifications and to reject such nonconforming materials in question until such issues can be referred to the Engineer for his/her decision.

**50-09 INSPECTION OF THE WORK.** All materials and each part or detail of the work shall be subject to inspection by the Engineer. The Engineer shall be allowed access to all parts of the work and shall be furnished with such information and assistance by the Contractor as is required to make a complete and detailed inspection.

If the Engineer requests it, the Contractor, at any time before acceptance of the work, shall remove or uncover such portions of the finished work as may be directed. After examination, the Contractor shall restore said portions of the work to the standard required by the specifications. Should the work thus exposed or examined prove acceptable, the uncovering, or removing, and the replacing of the covering or making good of the parts removed will be paid for as extra work; but should the work so exposed or examined prove unacceptable, the uncovering, or removing, and the replacing of the covering or making good of the parts removed will be at the Contractor's expense.

Any work done or materials used without supervision or inspection by an authorized representative of the Owner may be ordered removed and replaced at the Contractor's expense unless the Owner's representative failed to inspect after having been given reasonable notice in writing that the work was to be performed.

Should the contract work include relocation, adjustment, or any other modification to existing facilities, not the property of the (contract) Owner, authorized representatives of the owners of such facilities shall have the right to inspect such work. Such inspection shall in no sense make any facility owner a party to the contract, and shall in no way interfere with the rights of the parties to this contract.

The Engineer and/or his authorized representative shall have full authority to inspect all materials on the project site, test all materials at as many locations and at any frequency he deems necessary to satisfy himself that the final in-place product meets the requirements of the plans and specifications.

**50-10 REMOVAL OF UNACCEPTABLE AND UNAUTHORIZED WORK.** All work that does not conform to the requirements of the contract, plans, and specifications will be considered unacceptable, unless otherwise determined acceptable by the Engineer as provided in the subsection titled CONFORMITY WITH PLANS AND SPECIFICATIONS of this section.

Unacceptable work, whether the result of poor workmanship, use of defective materials, damage through carelessness, or any other cause found to exist prior to the final acceptance of the work, shall be removed immediately and replaced in an acceptable manner in accordance with the provisions of the subsection titled CONTRACTOR'S RESPONSIBILITY FOR WORK of Section 70.

~~No removal work made under provision of this subsection shall be done without lines and grades having been given by the Engineer. Work done contrary to the instructions of the Engineer, work done beyond the lines shown on the plans or as given, except as herein specified, or any extra work done without authority, will be considered as unauthorized and will not be paid for under the provisions of the contract. Work so done may be ordered removed or replaced at the Contractor's expense.~~

Upon failure on the part of the Contractor to comply forthwith with any order of the Engineer made under the provisions of this subsection, the Engineer will have authority to cause unacceptable work to be remedied or removed and replaced and unauthorized work to be removed and to deduct the costs (incurred by the Owner) from any monies due or to become due the Contractor.

**50-11 LOAD RESTRICTIONS.** The Contractor shall comply with all legal load restrictions in the hauling of materials on public roads beyond the limits of the work. A special permit will not relieve the Contractor of liability for damage that may result from the moving of material or equipment.

The operation of equipment of such weight or so loaded as to cause damage to structures or to any other type of construction will not be permitted. Hauling of materials over the base course or surface course under construction shall be limited as directed. No loads will be permitted on a concrete pavement, base, or structure before the expiration of the curing period. The Contractor shall be responsible for all damage done by his/her hauling equipment and shall correct such damage at his/her own expense.

**50-12 MAINTENANCE DURING CONSTRUCTION.** The Contractor shall maintain the work during construction and until the work is accepted. This maintenance shall constitute continuous and effective work prosecuted day by day, with adequate equipment and forces so that the work is maintained in satisfactory condition at all times.

In the case of a contract for the placing of a course upon a course or subgrade previously constructed, the Contractor shall maintain the previous course or subgrade during all construction operations.

All costs of maintenance work during construction and before the project is accepted shall be included in the unit prices bid on the various contract items, and the Contractor will not be paid an additional amount for such work.

**50-13 FAILURE TO MAINTAIN THE WORK.** Should the Contractor at any time fail to maintain the work as provided in the subsection titled MAINTENANCE DURING CONSTRUCTION of this section, the Engineer shall immediately notify the Contractor of such noncompliance. Such notification shall specify a reasonable time within which the Contractor shall be required to remedy such unsatisfactory maintenance condition. The time specified will give due consideration to the exigency that exists.

Should the Contractor fail to respond to the Engineer's notification, the Owner may suspend any work necessary for the Owner to correct such unsatisfactory maintenance condition, depending on the exigency that exists. Any maintenance cost incurred by the Owner, shall be deducted from monies due or to become due the Contractor.

**50-14 PARTIAL ACCEPTANCE.** If at any time during the prosecution of the project the Contractor substantially completes a usable unit or portion of the work, the occupancy of which will benefit the Owner, he may request the Engineer to make final inspection of that unit. If the Engineer finds upon inspection that the unit has been satisfactorily completed in compliance with the contract, he may accept it as being completed, and the Contractor may be relieved of further responsibility for that unit. Such partial acceptance and beneficial occupancy by the Owner shall not void or alter any provision of the contract. Partial acceptance of any part of the work shall not constitute acceptance from a warranty standpoint. The warranty for any work completed and accepted shall not begin until the entire project is complete and accepted by the Owner.

**50-15 FINAL ACCEPTANCE.** ~~Upon due notice from the Contractor of presumptive completion of the entire project, the Engineer and Owner will make an inspection.~~ Upon due notice from the Contractor of presumptive completion of the entire project, the Engineer, Owner and representative of the Federal Aviation Administration and/or State funding agency (when applicable) will make an inspection. Final acceptance of the project shall not occur until the FAA and/or State funding agency representative(s) (when applicable) have made their inspection and the FAA and State funding agency has accepted the project (when applicable). If all construction provided for and contemplated by the contract is found to be completed in accordance with the contract, plans, and specifications, such inspection shall constitute the final inspection. The Engineer shall notify the Contractor in writing of final acceptance as of the date of the final inspection.

If, however, the inspection discloses any work, in whole or in part, as being unsatisfactory, the Engineer will give the Contractor the necessary instructions for correction of same and the Contractor shall immediately comply with and execute such instructions. Upon correction of the work, another inspection will be made which shall constitute the final inspection, provided the work has been satisfactorily completed. In such event, the Engineer will make the recommendation for final acceptance and notify the Contractor in writing of the Owner's this acceptance as of the date of final inspection.

**50-16 CLAIMS FOR ADJUSTMENT AND DISPUTES.** If for any reason the Contractor deems that additional compensation is due him for work or materials not clearly provided for in the contract, plans, or specifications or previously authorized as extra work, he shall notify the Engineer in writing of his/her intention to claim such additional compensation before he begins the work on which he bases the claim. If such notification is not given or the Engineer is not afforded proper opportunity by the Contractor for keeping strict account of actual cost as required, then the Contractor hereby agrees to waive any claim for such additional compensation. Such notice by the Contractor and the fact that the Engineer has kept account of the cost of the work shall not in any way be construed as proving or substantiating the validity of the claim. When the work on which the claim for additional compensation is based has been completed, the Contractor shall, within ten (10) calendar days, submit his/her written claim to the Engineer who will present it to the Owner for consideration in accordance with local laws or ordinances.

Nothing in this subsection shall be construed as a waiver of the Contractor's right to dispute final payment based on differences in measurements or computations.

~~**50-17 COST REDUCTION INCENTIVE.** The provisions of this subsection will apply only to contracts awarded to the lowest bidder pursuant to competitive bidding.~~

~~On projects with original contract amounts in excess of \$100,000, the Contractor may submit to the Engineer, in writing, proposals for modifying the plans, specifications or other requirements of the contract for the sole purpose of reducing the cost of construction. The cost reduction proposal shall not impair, in any manner, the essential functions or characteristics of the project, including but not limited to service life, economy of operation, ease of maintenance, desired appearance, design and safety standards. This provision shall not apply unless the proposal submitted is specifically identified by the Contractor as being presented for consideration as a value engineering proposal.~~

~~Not eligible for cost reduction proposals are changes in the basic design of a pavement type, runway and taxiway lighting, visual aids, hydraulic capacity of drainage facilities, or changes in grade or alignment that reduce the geometric standards of the project.~~

~~As a minimum, the following information shall be submitted by the Contractor with each proposal:~~

- ~~a. A description of both existing contract requirements for performing the work and the proposed changes, with a discussion of the comparative advantages and disadvantages of each;~~
- ~~b. An itemization of the contract requirements that must be changed if the proposal is adopted;~~
- ~~c. A detailed estimate of the cost of performing the work under the existing contract and under the proposed changes;~~
- ~~d. A statement of the time by which a change order adopting the proposal must be issued;~~
- ~~e. A statement of the effect adoption of the proposal will have on the time for completion of the contract; and~~

~~f. The contract items of work affected by the proposed changes, including any quantity variation attributable to them.~~

~~The Contractor may withdraw, in whole or in part, any cost reduction proposal not accepted by the Engineer, within the period specified in the proposal. The provisions of this subsection shall not be construed to require the Engineer to consider any cost reduction proposal that may be submitted.~~

~~The Contractor shall continue to perform the work in accordance with the requirements of the contract until a change order incorporating the cost reduction proposal has been issued. If a change order has not been issued by the date upon which the Contractor's cost reduction proposal specifies that a decision should be made, or such other date as the Contractor may subsequently have requested in writing, such cost reduction proposal shall be deemed rejected.~~

~~The Engineer shall be the sole judge of the acceptability of a cost reduction proposal and of the estimated net savings from the adoption of all or any part of such proposal. In determining the estimated net savings, the Engineer may disregard the contract bid prices if, in the Engineer's judgment such prices do not represent a fair measure of the value of the work to be performed or deleted.~~

~~The Owner may require the Contractor to share in the Owner's costs of investigating a cost reduction proposal submitted by the Contractor as a condition of considering such proposal. Where such a condition is imposed, the Contractor shall acknowledge acceptance of it in writing. Such acceptance shall constitute full authority for the Owner to deduct the cost of investigating a cost reduction proposal from amounts payable to the Contractor under the contract.~~

~~If the Contractor's cost reduction proposal is accepted in whole or in part, such acceptance will be by a contract change order that shall specifically state that it is executed pursuant to this subsection. Such change order shall incorporate the changes in the plans and specifications which are necessary to permit the cost reduction proposal or such part of it as has been accepted and shall include any conditions upon which the Engineer's approval is based. The change order shall also set forth the estimated net savings attributable to the cost reduction proposal. The net savings shall be determined as the difference in costs between the original contract costs for the involved work items and the costs occurring as a result of the proposed change. The change order shall also establish the net savings agreed upon and shall provide for adjustment in the contract price that will divide the net savings equally between the Contractor and the Owner.~~

~~The Contractor's 50 percent share of the net savings shall constitute full compensation to the Contractor for the cost reduction proposal and the performance of the work.~~

~~Acceptance of the cost reduction proposal and performance of the cost reduction work shall not extend the time of completion of the contract unless specifically provided for in the contract change order.~~

## END OF SECTION 50



## SECTION 60

## CONTROL OF MATERIALS

**60-01 SOURCE OF SUPPLY AND QUALITY REQUIREMENTS.** The materials used on the work shall conform to the requirements of the contract, plans, and specifications. Unless otherwise specified, such materials that are manufactured or processed shall be new (as compared to used or reprocessed).

In order to expedite the inspection and testing of materials, the Contractor shall furnish complete statements to the Engineer as to the origin, composition, and manufacture of all materials to be used in the work. Such statements shall be furnished promptly after execution of the contract but, in all cases, prior to delivery of such materials.

At the Engineer's option, materials may be approved at the source of supply before delivery is stated. If it is found after trial that sources of supply for previously approved materials do not produce specified products, the Contractor shall furnish materials from other sources.

The Contractor shall furnish airport lighting equipment that conforms to the requirements of cited materials specifications. In addition, where an FAA specification for airport lighting equipment is cited in the plans or specifications, the Contractor shall furnish such equipment that is:

- a. Listed in FAA Advisory Circular (AC) 150/5345-53, Airport Lighting Equipment Certification Program, and Addendum that is in effect on the date of advertisement; and,
- b. Produced by the manufacturer as listed in the Addendum cited above for the certified equipment part number.

~~The following airport lighting equipment is required for this contract and is to be furnished by the Contractor in accordance with the requirements of this subsection:~~

~~EQUIPMENT NAME~~

~~CITED FAA SPECIFICATIONS~~

~~EFFECTIVE FAA AC OR APPROVAL LETTER FOR EQUIPMENT AND MANUFACTURER~~

**60-02 SAMPLES, TESTS, AND CITED SPECIFICATIONS.** Unless otherwise designated, all materials used in the work shall be inspected, tested, and approved by the Engineer before incorporation in the work. Any work in which untested materials are used without approval or written permission of the Engineer shall be performed at the Contractor's risk. Materials found to be unacceptable and unauthorized will not be paid for and, if directed by the Engineer, shall be removed at the Contractor's expense.

Unless otherwise designated, tests in accordance with the cited standard methods of ASTM, AASHTO, Federal Specifications, Commercial Item Descriptions, and all other cited methods, which are current on the date of advertisement for bids, will be made by and at the expense of the ~~Engineer~~ Owner.

The testing organizations performing on site field tests shall have copies of all referenced standards on the construction site for use by all technicians and other personnel, including the Contractor's representative at his/her request. Unless otherwise designated, samples will be taken by a qualified representative of the ~~Engineer~~ Owner. All materials being used are subject to inspection, test, or rejection at any time prior to, ~~or during~~ or after incorporation into the work. Copies of all tests will be furnished to the Contractor's representative at his/her request.

~~The Contractor shall employ a testing organization to perform all Contractor required tests. The Contractor shall submit to the Engineer resumes on all testing organizations and individual persons who will be performing the tests. The Engineer will determine if such persons are qualified. All the test data shall be reported to the Engineer after the results are known. A legible, handwritten copy of all test data shall be given to the Engineer daily, along with printed reports, in an approved format, on a weekly basis. After completion of the project, and prior to final payment, the Contractor shall submit a final report to the Engineer showing all test data reports, plus an analysis of all results showing ranges, averages, and corrective action taken on all failing tests.~~

The Owner shall pay for all passing tests. The Contractor shall pay for all failing tests. Charges for failing tests will be deducted from the Contractor's earnings at the end of the project at the time of final payment. The Contractor shall furnish, at his own expense, all necessary specimens for testing of the materials, as required by the Engineer or his authorized representative. The Contractor shall be responsible for notifying the Owner authorized testing laboratory to pick up the test samples. Also, the Engineer reserves the right to test at any location on the project, and at any frequency he deems necessary before, during and after incorporation of all materials into the project to satisfy himself and insure that all materials meet the specified requirements. All materials utilized in the project must meet specification requirements before, during and after incorporation into the project.

**60-03 CERTIFICATION OF COMPLIANCE.** The Engineer may permit the use, prior to sampling and testing, of certain materials or assemblies when accompanied by manufacturer's certificates of compliance stating that such materials or assemblies fully comply with the requirements of the contract. The certificate shall be signed by the manufacturer. Each lot of such materials or assemblies delivered to the work must be accompanied by a certificate of compliance in which the lot is clearly identified.

Materials or assemblies used on the basis of certificates of compliance may be sampled and tested at any time and if found not to be in conformity with contract requirements will be subject to rejection whether in place or not.

The form and distribution of certificates of compliance shall be as approved by the Engineer.

When a material or assembly is specified by "brand name or equal" and the Contractor elects to furnish the specified "brand name," the Contractor shall be required to furnish the manufacturer's certificate of compliance for each lot of such material or assembly delivered to the work. Such certificate of compliance shall clearly identify each lot delivered and shall certify as to:

- a. Conformance to the specified performance, testing, quality or dimensional requirements; and,
- b. Suitability of the material or assembly for the use intended in the contract work.

Should the Contractor propose to furnish an "or equal" material or assembly, he shall furnish the manufacturer's certificates of compliance as hereinbefore described for the specified brand name material or assembly. However, the Engineer shall be the sole judge as to whether the proposed "or equal" is suitable for use in the work.

The Engineer reserves the right to refuse permission for use of materials or assemblies on the basis of certificates of compliance.

**60-04 PLANT INSPECTION.** The Engineer or his/her authorized representative may inspect, at its source, any specified material or assembly to be used in the work. Manufacturing plants may be inspected from time to time for the purpose of determining compliance with specified manufacturing

methods or materials to be used in the work and to obtain samples required for his/her acceptance of the material or assembly.

Should the Engineer conduct plant inspections, the following conditions shall exist:

- a. The Engineer shall have the cooperation and assistance of the Contractor and the producer with whom he has contracted for materials.
- b. The Engineer shall have full entry at all reasonable times to such parts of the plant that concern the manufacture or production of the materials being furnished.
- c. If required by the Engineer, the Contractor shall arrange for adequate office or working space that may be reasonably needed for conducting plant inspections. Office or working space should be conveniently located with respect to the plant.

It is understood and agreed that the Owner shall have the right to retest any material that has been tested and approved at the source of supply after it has been delivered to the site. The Engineer shall have the right to reject only material which, when retested, does not meet the requirements of the contract, plans, or specifications.

**60-05 ENGINEER'S FIELD OFFICE.** ~~The Contractor shall furnish for the duration of the project one building for the use of the field engineers and inspectors, as a field office. This facility shall be an approved weatherproof building meeting the current State Highway Specifications (for example, Class I Field Office or Type C Structure). This building shall be located conveniently near to the construction and shall be separate from any building used by the Contractor. A land line telephone and answering machine shall be provided. The Contractor shall be responsible for payment of the basic monthly charge and local calls only. Any Long Distance Tolls shall be the responsibility of the caller. The Contractor shall furnish [ FAX machine, photocopy machine, water, sanitary facilities, heat, air conditioning, and electricity ]. No direct payment will be made for this building or labor, materials, ground rental, or other expense in connection therewith. The cost hereof shall be included in the price bid for the various items of the contract. The Contractor and his/her superintendent shall provide all reasonable facilities to enable the Engineer to inspect the workmanship and materials entering into the work.~~

**60-06 STORAGE OF MATERIALS.** Materials shall be so stored as to assure the preservation of their quality and fitness for the work. Stored materials, even though approved before storage, may again be inspected prior to their use in the work. Stored materials shall be located so as to facilitate their prompt inspection. The Contractor shall coordinate the storage of all materials with the Engineer. Materials to be stored on airport property shall not create an obstruction to air navigation nor shall they interfere with the free and unobstructed movement of aircraft. Unless otherwise shown on the plans, the storage of materials and the location of the Contractor's plant and parked equipment or vehicles shall be as directed by the Engineer. Private property shall not be used for storage purposes without written permission of the owner or lessee of such property. The Contractor shall make all arrangements and bear all expenses for the storage of materials on private property. Upon request, the Contractor shall furnish the Engineer a copy of the property owner's permission.

All storage sites on private or airport property shall be restored to their original condition by the Contractor at his/her entire expense, except as otherwise agreed to (in writing) by the owner or lessee of the property.

**60-07 UNACCEPTABLE MATERIALS.** Any material or assembly that does not conform to the requirements of the contract, plans, or specifications shall be considered unacceptable and shall be rejected. The Contractor shall remove any rejected material or assembly from the site of the work, unless otherwise instructed by the Engineer.

Rejected material or assembly, the defects of which have been corrected by the Contractor, shall not be returned to the site of the work until such time as the Engineer has approved its use in the work.

**60-08 OWNER FURNISHED MATERIALS.** The Contractor shall furnish all materials required to complete the work, except those specified herein (if any) to be furnished by the Owner. Owner-furnished materials shall be made available to the Contractor at the location specified herein.

All costs of handling, transportation from the specified location to the site of work, storage, and installing Owner-furnished materials shall be included in the unit price bid for the contract item in which such Owner-furnished material is used.

After any Owner-furnished material has been delivered to the location specified, the Contractor shall be responsible for any demurrage, damage, loss, or other deficiencies that may occur during the Contractor's handling, storage, or use of such Owner-furnished material. The Owner will deduct from any monies due or to become due the Contractor any cost incurred by the Owner in making good such loss due to the Contractor's handling, storage, or use of Owner-furnished materials.

#### **END OF SECTION 60**

## SECTION 70

### LEGAL REGULATIONS AND RESPONSIBILITY TO PUBLIC

**70-01 LAWS TO BE OBSERVED.** The Contractor shall keep fully informed of all Federal and state laws, all local laws, ordinances, and regulations and all orders and decrees of bodies or tribunals having any jurisdiction or authority, which in any manner affect those engaged or employed on the work, or which in any way affect the conduct of the work. He/she shall at all times observe and comply with all such laws, ordinances, regulations, orders, and decrees; and shall protect and indemnify the Owner and all his/her officers, agents, Engineer or servants against any claim or liability arising from or based on the violation of any such law, ordinance, regulation, order, or decree, whether by himself or his/her employees.

**70-02 PERMITS, LICENSES, AND TAXES.** The Contractor shall procure all permits and licenses, pay all charges, fees, and taxes, and give all notices necessary and incidental to the due and lawful prosecution of the work.

**70-03 PATENTED DEVICES, MATERIALS, AND PROCESSES.** If the Contractor is required or desires to use any design, device, material, or process covered by letters of patent or copyright, he shall provide for such use by suitable legal agreement with the patentee or owner. The Contractor and the surety shall indemnify and save harmless the Owner, Engineer any third party, or political subdivision from any and all claims for infringement by reason of the use of any such patented design, device, material or process, or any trademark or copyright, and shall indemnify the Owner and Engineer for any costs, expenses, and damages which it may be obliged to pay by reason of an infringement, at any time during the prosecution or after the completion of the work. Also, the Contractor shall be required to include the Owner and Engineer as additional insureds on his insurance policies to protect the Owner and Engineer against all claims for infringement by reason of the use of any such patented design, device, material or process, or any trademark or copyright and any costs, expenses, and damages which it may be obliged to pay by reason of an infringement.

**70-04 RESTORATION OF SURFACES DISTURBED BY OTHERS.** The Owner reserves the right to authorize the construction, reconstruction, or maintenance of any public or private utility service, FAA or National Oceanic and Atmospheric Administration (NOAA) facility, or a utility service of another government agency at any time during the progress of the work. To the extent that such construction, reconstruction, or maintenance has been coordinated with the Owner, such authorized work (by others) is indicated as follows:

~~Owner (Utility or Other Facility)~~  
~~Location (See Plan Sheet No.)~~  
~~Person to Contact (Name, Title, Address and Phone)~~

Except as listed above, the Contractor shall not permit any individual, firm, or corporation to excavate or otherwise disturb such utility services or facilities located within the limits of the work without the written permission of the Engineer.

Should the owner of public or private utility service, FAA, or NOAA facility, or a utility service of another government agency be authorized to construct, reconstruct, or maintain such utility service or facility during the progress of the work, the Contractor shall cooperate with such owners by arranging and performing the work in this contract so as to facilitate such construction, reconstruction or maintenance by others whether or not such work by others is listed above. When ordered as extra work by the Engineer, the Contractor shall make all necessary repairs to the work which are due to such authorized work by others, unless otherwise provided for in the contract, plans, or specifications. It is understood and agreed that the Contractor shall not be entitled to make any claim for damages due to such authorized work by others or for any delay to the work resulting from such authorized work.

**70-05 FEDERAL AID PARTICIPATION.** For AIP contracts, the United States Government has agreed to reimburse the Owner for some portion of the contract costs. Such reimbursement is made from time to time upon the Owner's request to the FAA. In consideration of the United States Government's (FAA's) agreement with the Owner, the Owner has included provisions in this contract pursuant to the requirements of Title 49 of the United States Code (USC) and the Rules and Regulations of the FAA that pertain to the work.

As required by the USC, the contract work is subject to the inspection and approval of duly authorized representatives of the Administrator, FAA, and is further subject to those provisions of the rules and regulations that are cited in the contract, plans, or specifications.

No requirement of the USC, the rules and regulations implementing the USC, or this contract shall be construed as making the Federal Government a party to the contract nor will any such requirement interfere, in any way, with the rights of either party to the contract.

**70-06 SANITARY, HEALTH, AND SAFETY PROVISIONS.** The Contractor shall provide and maintain in a neat, sanitary condition such accommodations for the use of his/her employees as may be necessary to comply with the requirements of the state and local Board of Health, or of other bodies or tribunals having jurisdiction.

Attention is directed to Federal, state, and local laws, rules and regulations concerning construction safety and health standards. The Contractor shall not require any worker to work in surroundings or under conditions that are unsanitary, hazardous, or dangerous to his/her health or safety.

**70-07 PUBLIC CONVENIENCE AND SAFETY.** The Contractor shall control his/her operations and those of his/her subcontractors and all suppliers, to assure the least inconvenience to the traveling public. Under all circumstances, safety shall be the most important consideration.

The Contractor shall maintain the free and unobstructed movement of aircraft and vehicular traffic with respect to his/her own operations and those of his/her subcontractors and all suppliers in accordance with the subsection titled MAINTENANCE OF TRAFFIC of Section 40 hereinbefore specified and shall limit such operations for the convenience and safety of the traveling public as specified in the subsection titled LIMITATION OF OPERATIONS of Section 80 hereinafter.

**70-08 BARRICADES, WARNING SIGNS, AND HAZARD MARKINGS.** The Contractor shall furnish, erect, and maintain all barricades, warning signs, and markings for hazards necessary to protect the public and the work. When used during periods of darkness, such barricades, warning signs, and hazard markings shall be suitably illuminated. Unless otherwise specified, barricades, warning signs, and markings for hazards that are in the air operations area shall be a maximum of 18 in high. Unless otherwise specified, barricades shall be spaced not more than 25 feet apart. Barricades, warning signs, and markings shall be paid for under Section 40-05. This shall include any specialty barricades, warning signs, markings, lighted runway closure markers, etc.

For vehicular and pedestrian traffic, the Contractor shall furnish, erect, and maintain barricades, warning signs, lights and other traffic control devices in reasonable conformity with the Manual of Uniform Traffic Control Devices for Streets and Highways (published by the United States Government Printing Office).

When the work requires closing an air operations area of the airport or portion of such area, the Contractor shall furnish, erect, and maintain temporary markings and associated lighting conforming to the requirements of AC 150/5340-1, Standards for Airport Markings, latest change.

The Contractor shall furnish, erect, and maintain markings and associated lighting of open trenches, excavations, temporary stock piles, and his/her parked construction equipment that may be hazardous to

the operation of emergency fire-rescue or maintenance vehicles on the airport in reasonable conformance to AC 150/5370-2, Operational Safety on Airports During Construction, latest change.

The Contractor shall identify each motorized vehicle or piece of construction equipment in reasonable conformance to AC 150/5370-2, latest change.

The Contractor shall furnish and erect all barricades, warning signs, and markings for hazards prior to commencing work that requires such erection and shall maintain the barricades, warning signs, and markings for hazards until their dismantling is directed by the Engineer.

Open-flame type lights shall not be permitted within the air operations areas of the airport.

**70-09 USE OF EXPLOSIVES.** ~~When the use of explosives is necessary for the prosecution of the work, the Contractor shall exercise the utmost care not to endanger life or property, including new work. The Contractor shall be responsible for all damage resulting from the use of explosives.~~

~~All explosives shall be stored in a secure manner in compliance with all laws and ordinances, and all such storage places shall be clearly marked. Where no local laws or ordinances apply, storage shall be provided satisfactory to the Engineer and, in general, not closer than 1,000 feet (300 m) from the work or from any building, road, or other place of human occupancy.~~

~~The Contractor shall notify each property owner and public utility company having structures or facilities in proximity to the site of the work of his/her intention to use explosives. Such notice shall be given sufficiently in advance to enable them to take such steps as they may deem necessary to protect their property from injury.~~

~~The use of electrical blasting caps shall not be permitted on or within 1,000 feet (300 m) of the airport property.~~

Explosives are prohibited on the Airport and will not be used for this project.

**70-10 PROTECTION AND RESTORATION OF PROPERTY AND LANDSCAPE.** The Contractor shall be responsible for the preservation of all public and private property, and shall protect carefully from disturbance or damage all land monuments and property markers until the Engineer has witnessed or otherwise referenced their location and shall not move them until directed.

The Contractor shall be responsible for all damage or injury to property of any character, during the prosecution of the work, resulting from any act, omission, neglect, or misconduct in his/her manner or method of executing the work, or at any time due to defective work or materials, and said responsibility will not be released until the project shall have been completed and accepted.

When or where any direct or indirect damage or injury is done to public or private property by or on account of any act, omission, neglect, or misconduct in the execution of the work, or in consequence of the non-execution thereof by the Contractor, he shall restore, at his/her own expense, such property to a condition similar or equal to that existing before such damage or injury was done, by repairing, or otherwise restoring as may be directed, or he shall make good such damage or injury in an acceptable manner.

**70-11 RESPONSIBILITY FOR DAMAGE CLAIMS.** The Contractor shall be required to include the Owner and Engineer as additional insureds on his insurance policies to protect the Owner and Engineer ~~indemnify and save harmless the Engineer and the Owner~~ and their officers, and employees from all suits actions, or claims of any character brought because of any injuries or damage received or sustained by

any person, persons, or property on account of the operations of the Contractor; or on account of or in consequence of any neglect in safeguarding the work; or through use of unacceptable materials in constructing the work; or because of any act or omission, neglect, or misconduct of said Contractor; or because of any claims or amounts recovered from any infringements of patent, trademark, or copyright; or from any claims or amounts arising or recovered under the "Workmen's Compensation Act," or any other law, ordinance, order, or decree. Money due the Contractor under and by virtue of his/her contract as may be considered necessary by the Owner for such purpose may be retained for the use of the Owner or, in case no money is due, his/her surety may be held until such suits, actions, or claims for injuries or damages as aforesaid shall have been settled and suitable evidence to that effect furnished to the Owner, except that money due the Contractor will not be withheld when the Contractor produces satisfactory evidence that he is adequately protected by public liability and property damage insurance.

**70-12 THIRD PARTY BENEFICIARY CLAUSE.** It is specifically agreed between the parties executing the contract that it is not intended by any of the provisions of any part of the contract to create the public or any member thereof a third party beneficiary or to authorize anyone not a party to the contract to maintain a suit for personal injuries or property damage pursuant to the terms or provisions of the contract.

**70-13 OPENING SECTIONS OF THE WORK TO TRAFFIC.** Should it be necessary for the Contractor to complete portions of the contract work for the beneficial occupancy of the Owner prior to completion of the entire contract, such "phasing" of the work shall be specified herein and indicated on the plans. When so specified, the Contractor shall complete such portions of the work on or before the date specified or as otherwise specified. The Contractor shall make his/her own estimate of the difficulties involved in arranging his/her work to permit such beneficial occupancy by the Owner as described below:

~~Phase or Description  
Required Date or Sequence of Owner's Beneficial Occupancy  
Work Shown on Plan Sheet~~

Refer to the various Phasing Plan sheets of the drawings for phasing and Section 10-15 CONTRACT TIME AND ASSOCIATED PHASING for descriptions and durations of each phase.

Upon completion of any portion of the work listed above, such portion shall be accepted by the Owner in accordance with the subsection titled PARTIAL ACCEPTANCE of Section 50.

No portion of the work may be opened by the Contractor for public use until ordered by the Engineer in writing. Should it become necessary to open a portion of the work to public traffic on a temporary or intermittent basis, such openings shall be made when, in the opinion of the Engineer, such portion of the work is in an acceptable condition to support the intended traffic. Temporary or intermittent openings are considered to be inherent in the work and shall not constitute either acceptance of the portion of the work so opened or a waiver of any provision of the contract. Any damage to the portion of the work so opened that is not attributable to traffic which is permitted by the Owner shall be repaired by the Contractor at his/her expense.

The Contractor shall make his/her own estimate of the inherent difficulties involved in completing the work under the conditions herein described and shall not claim any added compensation by reason of delay or increased cost due to opening a portion of the contract work.

Contractor shall be required to conform to safety standards contained AC 150/5370-2, Operational Safety on Airports During Construction, latest change. ~~(See Special Provisions.)~~

Contractor shall refer to the approved safety plan and associated phasing plans to identify barricade requirements and other safety requirements prior to opening up sections of work to traffic.



**70-14 CONTRACTOR'S RESPONSIBILITY FOR WORK.** Until the Engineer's final written acceptance of the entire completed work, excepting only those portions of the work accepted in accordance with the subsection titled PARTIAL ACCEPTANCE of Section 50, the Contractor shall have the charge and care thereof and shall take every precaution against injury or damage to any part due to the action of the elements or from any other cause, whether arising from the execution or from the non-execution of the work. The Contractor shall rebuild, repair, restore, and make good all injuries or damages to any portion of the work occasioned by any of the above causes before final acceptance and shall bear the expense thereof except damage to the work due to unforeseeable causes beyond the control of and without the fault or negligence of the Contractor, including but not restricted to acts of God such as earthquake, tidal wave, tornado, hurricane or other cataclysmic phenomenon of nature, or acts of the public enemy or of government authorities.

If the work is suspended for any cause whatever, the Contractor shall be responsible for the work and shall take such precautions necessary to prevent damage to the work. The Contractor shall provide for normal drainage and shall erect necessary temporary structures, signs, or other facilities at his/her expense. During such period of suspension of work, the Contractor shall properly and continuously maintain in an acceptable growing condition all living material in newly established planting, seedings, and soddings furnished under his/her contract, and shall take adequate precautions to protect new tree growth and other important vegetative growth against injury.

**70-15 CONTRACTOR'S RESPONSIBILITY FOR UTILITY SERVICE AND FACILITIES OF OTHERS.** As provided in the subsection titled RESTORATION OF SURFACES DISTURBED BY OTHERS of this section, the Contractor shall cooperate with the owner of any public or private utility service, FAA or NOAA, or a utility service of another government agency that may be authorized by the owner to construct, reconstruct or maintain such utility services or facilities during the progress of the work. In addition, the Contractor shall control his/her operations to prevent the unscheduled interruption of such utility services and facilities.

To the extent that such public or private utility services, FAA, or NOAA facilities, or utility services of another governmental agency are known to exist within the limits of the contract work, the approximate locations have been indicated on the plans and the owners are indicated as follows:

~~Utility Service or Facility~~  
~~Person to Contact (Name, Title, Address, & Phone)~~  
~~Owner's Emergency Contact (Phone)~~

It is understood and agreed that the Owner does not guarantee the accuracy or the completeness of the location information relating to existing utility services, facilities, or structures that may be shown on the plans or encountered in the work. Any inaccuracy or omission in such information shall not relieve the Contractor of his/her responsibility to protect such existing features from damage or unscheduled interruption of service.

It is further understood and agreed that the Contractor shall, upon execution of the contract, notify the owners of all utility services or other facilities of his/her plan of operations. Such notification shall be in writing addressed to THE PERSON TO CONTACT as provided hereinbefore in this subsection and the subsection titled RESTORATION OF SURFACES DISTURBED BY OTHERS of this section. A copy of each notification shall be given to the Engineer.

In addition to the general written notification hereinbefore provided, it shall be the responsibility of the Contractor to keep such individual owners advised of changes in his/her plan of operations that would affect such owners.

Prior to commencing the work in the general vicinity of an existing utility service or facility, the Contractor shall again notify each such owner of his/her plan of operation. If, in the Contractor's opinion, the owner's assistance is needed to locate the utility service or facility or the presence of a representative of the owner is desirable to observe the work, such advice should be included in the notification. Such notification shall be given by the most expeditious means to reach the utility owner's PERSON TO CONTACT no later than two normal business days prior to the Contractor's commencement of operations in such general vicinity. The Contractor shall furnish a written summary of the notification to the Engineer.

The Contractor's failure to give the two day's notice hereinabove provided shall be cause for the Owner to suspend the Contractor's operations in the general vicinity of a utility service or facility.

Where the outside limits of an underground utility service have been located and staked on the ground, the Contractor shall be required to use excavation methods acceptable to the Engineer within 3 feet (90 cm) of such outside limits at such points as may be required to ensure protection from damage due to the Contractor's operations.

Should the Contractor damage or interrupt the operation of a utility service or facility by accident or otherwise, he shall immediately notify the proper authority and the Engineer and shall take all reasonable measures to prevent further damage or interruption of service. The Contractor, in such events, shall cooperate with the utility service or facility owner and the Engineer continuously until such damage has been repaired and service restored to the satisfaction of the utility or facility owner.

The Contractor shall bear all costs of damage and restoration of service to any utility service or facility due to his/her operations whether or not due to negligence or accident. The Owner reserves the right to deduct such costs from any monies due or which may become due the Contractor, or his/her surety.

**70-15.1 FAA FACILITIES AND CABLE RUNS.** The Contractor is hereby advised that the construction limits of the project include existing facilities and buried cable runs that are owned, operated and maintained by the FAA. The Contractor, during the prosecution of the project work, shall comply with the following:

**a.** The Contractor shall permit FAA maintenance personnel the right of access to the project work site for purposes of inspecting and maintaining all existing FAA owned facilities.

**b.** The Contractor shall notify the above named FAA Airway Facilities Point-of-Contact seven (7) calendar days prior to commencement of construction activities in order to permit sufficient time to locate and mark existing buried cables and to schedule any required facility outages.

**c.** If prosecution of the project work requires a facility outage, the Contractor shall contact the above named FAA Point-of-Contact a minimum of 48 hours prior to the time of the required outage.

**d.** If prosecution of the project work results in damages to existing FAA equipment or cables, the Contractor shall repair the damaged item in conformance with FAA Airway Facilities' standards to the satisfaction of the above named FAA Point-of-Contact.

**e.** If the project work requires the cutting or splicing of FAA owned cables, the above named FAA Point-of-Contact shall be contacted a minimum of 48 hours prior to the time the cable work commences. The FAA reserves the right to have a FAA Airway Facilities representative on site to observe the splicing of the cables as a condition of acceptance. All cable splices are to be accomplished in accordance with FAA Airway Facilities' specifications and require approval by the above named FAA Point-of-Contact as a condition of acceptance by the Owner. The Contractor is hereby advised that FAA Airway Facilities restricts the location of where splices may be installed. If a cable splice is required in a location that is not

permitted by FAA Airway Facilities, the Contractor shall furnish and install a sufficient length of new cable that eliminates the need for any splice.

**70-16 FURNISHING RIGHTS-OF-WAY.** The Owner will be responsible for furnishing all rights-of-way upon which the work is to be constructed in advance of the Contractor's operations.

**70-17 PERSONAL LIABILITY OF PUBLIC OFFICIALS.** In carrying out any of the contract provisions or in exercising any power or authority granted to him by this contract, there shall be no liability upon the Engineer, his/her authorized representatives, or any officials of the Owner either personally or as an official of the Owner. It is understood that in such matters they act solely as agents and representatives of the Owner.

**70-18 NO WAIVER OF LEGAL RIGHTS.** Upon completion of the work, the Owner will expeditiously make final inspection and notify the Contractor of final acceptance. Such final acceptance, however, shall not preclude or stop the Owner from correcting any measurement, estimate, or certificate made before or after completion of the work, nor shall the Owner be precluded or stopped from recovering from the Contractor or his/her surety, or both, such overpayment as may be sustained, or by failure on the part of the Contractor to fulfill his/her obligations under the contract. A waiver on the part of the Owner of any breach of any part of the contract shall not be held to be a waiver of any other or subsequent breach.

The Contractor, without prejudice to the terms of the contract, shall be liable to the Owner for latent defects, fraud, or such gross mistakes as may amount to fraud, or as regards the owner's rights under any warranty or guaranty.

**70-19 ENVIRONMENTAL PROTECTION.** The Contractor shall comply with all Federal, state, and local laws and regulations controlling pollution of the environment. He/she shall take necessary precautions to prevent pollution of streams, lakes, ponds, and reservoirs with fuels, oils, bitumens, chemicals, or other harmful materials and to prevent pollution of the atmosphere from particulate and gaseous matter.

**70-20 ARCHAEOLOGICAL AND HISTORICAL FINDINGS.** Unless otherwise specified in this subsection, the Contractor is advised that the site of the work is not within any property, district, or site, and does not contain any building, structure, or object listed in the current National Register of Historic Places published by the United States Department of Interior.

Should the Contractor encounter, during his/her operations, any building, part of a building, structure, or object that is incongruous with its surroundings, he shall immediately cease operations in that location and notify the Engineer. The Engineer will immediately investigate the Contractor's finding and the Owner will direct the Contractor to either resume his/her operations or to suspend operations as directed.

Should the Owner order suspension of the Contractor's operations in order to protect an archaeological or historical finding, or order the Contractor to perform extra work, such shall be covered by an appropriate contract modification (change order or supplemental agreement) as provided in the subsection titled EXTRA WORK of Section 40 and the subsection titled PAYMENT FOR EXTRA WORK AND FORCE ACCOUNT WORK of Section 90. If appropriate, the contract modification shall include an extension of contract time in accordance with the subsection titled DETERMINATION AND EXTENSION OF CONTRACT TIME of Section 80.

## END OF SECTION 70

## SECTION 80

### PROSECUTION AND PROGRESS

**80-01 SUBLETTING OF CONTRACT.** The Owner and Engineer will not recognize any subcontractor on the work. The Contractor shall at all times when work is in progress be represented either in person, by a qualified superintendent, or by other designated, qualified representative(s) who is duly authorized to receive and execute orders of the Engineer.

Should the Contractor elect to assign his/her contract, said assignment shall be concurred in by the surety, shall be presented for the consideration and approval of the Owner, and shall be consummated only on the written approval of the Owner. In case of approval, the Contractor shall file copies of all subcontracts with the Engineer.

The Contractor shall perform, with his organization, an amount of work equal to at least [ ] percent of the total contract cost.

**80-02 NOTICE TO PROCEED.** ~~The notice to proceed shall state the date on which it is expected the Contractor will begin the construction and from which date contract time will be charged. The Contractor shall begin the work to be performed under the contract within 10 days of the date set by the Engineer in the written notice to proceed, but in any event, the Contractor shall notify the Engineer at least 24 hours in advance of the time actual construction operations will begin.~~

The Notice to Proceed shall be issued by the Owner.

The Contractor shall begin the work to be performed under the contract within not less than five (5) days nor more than ten (10) calendar days of the date set by the Owner in the written notice to proceed, but in any event, the Contractor shall notify the Owner and Engineer at least 48 hours in advance of the time actual construction operations will begin.

**80-03 PROSECUTION AND PROGRESS.** Unless otherwise specified, the Contractor shall submit his/her progress schedule for the Engineer's approval within 10 calendar days after the effective date of the notice to proceed. The Contractor's progress schedule, when approved by the Engineer, may be used to establish major construction operations and to check on the progress of the work. The Contractor shall provide sufficient materials, equipment, and labor to guarantee the completion of the project in accordance with the plans and specifications within the time set forth in the proposal.

If the Contractor falls significantly behind the submitted schedule, the Contractor shall, upon the Engineer's request, submit a revised schedule for completion of the work within the contract time and modify his/her operations to provide such additional materials, equipment, and labor necessary to meet the revised schedule. ~~Should the prosecution of the work be discontinued for any reason, the Contractor shall notify the Engineer at least 24 hours in advance of resuming operations.~~ Should the prosecution of the work be discontinued for any reason, the Contractor shall notify the Owner and Engineer at least 48 hours in advance of resuming operations.

For AIP contracts, the Contractor shall not commence any actual construction prior to the date on which the notice to proceed is issued by the Owner.

**80-04 LIMITATION OF OPERATIONS.** The Contractor shall control his/her operations and the operations of his/her subcontractors and all suppliers so as to provide for the free and unobstructed movement of aircraft in the AIR OPERATIONS AREAS (AOA) of the airport.

When the work requires the Contractor to conduct his/her operations within an AOA of the airport, the work shall be coordinated with airport operations (through the Engineer) at least 48 hours prior to commencement of such work. The Contractor shall not close an AOA until so authorized by the Engineer and until the necessary temporary marking and associated lighting is in place as provided in the subsection titled BARRICADES, WARNING SIGNS, AND HAZARD MARKINGS of Section 70.

When the contract work requires the Contractor to work within an AOA of the airport on an intermittent basis (intermittent opening and closing of the AOA), the Contractor shall maintain constant communications as hereinafter specified; immediately obey all instructions to vacate the AOA; immediately obey all instructions to resume work in such AOA. Failure to maintain the specified communications or to obey instructions shall be cause for suspension of the Contractor's operations in the AOA until the satisfactory conditions are provided. The following AOA cannot be closed to operating aircraft to permit the Contractor's operations on a continuous basis and will therefore be closed to aircraft operations intermittently as follows:

AOA

Time periods AOA can be closed

Type of communications required when working in an AOA

Control authority

Contractor shall be required to conform to safety standards contained in AC 150/5370-2, Operational Safety on Airports During Construction, latest change. ~~(See Special Provisions.)~~

**80-04.1 OPERATIONAL SAFETY ON AIRPORT DURING CONSTRUCTION.** All Contractors' operations shall be conducted in accordance with the project safety plan and the provisions set forth within the current version of Advisory Circular 150/5370-2. The safety plan included within the contract documents conveys minimum requirements for operational safety on the airport during construction activities. The Contractor shall prepare and submit a plan that details how it proposes to comply with the requirements presented within the safety plan.

The Contractor shall implement all necessary safety plan measures prior to commencement of any work activity. The Contractor shall conduct routine checks of the safety plan measures to assure compliance with the safety plan measures.

The Contractor is responsible to the Owner for the conduct of all subcontractors it employs on the project. The Contractor shall assure that all subcontractors are made aware of the requirements of the safety plan and that they implement and maintain all necessary measures.

No deviation or modifications may be made to the approved safety plan unless approved in writing by the Owner or Engineer.

**80-05 CHARACTER OF WORKERS, METHODS, AND EQUIPMENT.** The Contractor shall, at all times, employ sufficient labor and equipment for prosecuting the work to full completion in the manner and time required by the contract, plans, and specifications.

All workers shall have sufficient skill and experience to perform properly the work assigned to them. Workers engaged in special work or skilled work shall have sufficient experience in such work and in the operation of the equipment required to perform the work satisfactorily.

Any person employed by the Contractor or by any subcontractor who violates any operational regulations and, in the opinion of the Engineer, does not perform his work in a proper and skillful manner or is intemperate or disorderly shall, at the written request of the Engineer, be removed forthwith by the Contractor or subcontractor employing such person, and shall not be employed again in any portion of the work without approval of the Engineer.

Should the Contractor fail to remove such persons or person, or fail to furnish suitable and sufficient personnel for the proper prosecution of the work, the Engineer may suspend the work by written notice until compliance with such orders.

In addition, the following requirements shall apply concerning all workers utilized on the project:

**a.** The Contractor shall provide and maintain, continually on the project site of the work during its progress, adequate and competent superintendence of all operations for and in connection with the work. The Contractor shall provide a capable superintendent acceptable to the Owner. Such representative shall be able to read, write and speak English fluently and shall be authorized to receive instructions from the Engineer or his authorized representative. Said superintendent shall have authority to see that the work is carried out in accordance with the Contract Documents and in a first class, thorough and workmanlike manner in every respect.

**b.** Incompetent, disorderly, intemperate or incorrigible employees of any authority level shall be dismissed from the project by the Contractor or his representative when requested by the Engineer or the Owner, and such persons shall not again be permitted to return to the work without the written consent of the Owner.

**c.** The Contractor agrees to indemnify and hold the Owner ~~and Engineer~~ harmless from any and all loss or damages arising out of jurisdictional labor disputes or other labor troubles of any kind that may occur during the construction and performance of the Contract.

**d.** The Contractor shall provide at the request of the Owner such reasonable information about his employees as may be necessary, including in part, name, address and social security number.

**e.** Any employee of the Contractor or any subcontractors who violate the badging requirements or leaves unbadged individuals in the Airport Operations Area (AOA) or the Secured Identification Display Area (SIDA) without properly badged individuals will be removed from the Airport and not be allowed back onto the Airport without prior approval by the Owner.

All equipment that is proposed to be used on the work shall be of sufficient size and in such mechanical condition as to meet requirements of the work and to produce a satisfactory quality of work. Equipment used on any portion of the work shall be such that no injury to previously completed work, adjacent property, or existing airport facilities will result from its use.

When the methods and equipment to be used by the Contractor in accomplishing the work are not prescribed in the contract, the Contractor is free to use any methods or equipment that will accomplish the work in conformity with the requirements of the contract, plans, and specifications.

When the contract specifies the use of certain methods and equipment, such methods and equipment shall be used unless others are authorized by the Engineer. If the Contractor desires to use a method or type of equipment other than specified in the contract, he may request authority from the Engineer to do so. The request shall be in writing and shall include a full description of the methods and equipment proposed and of the reasons for desiring to make the change. If approval is given, it will be on the condition that the Contractor will be fully responsible for producing work in conformity with contract requirements. If, after trial use of the substituted methods or equipment, the Engineer determines that the work produced does not meet contract requirements, the Contractor shall discontinue the use of the substitute method or equipment and shall complete the remaining work with the specified methods and equipment. The Contractor shall remove any deficient work and replace it with work of specified quality, or take such other corrective action as the Engineer may direct. No change will be made in basis of

payment for the contract items involved nor in contract time as a result of authorizing a change in methods or equipment under this subsection.

**80-06 TEMPORARY SUSPENSION OF THE WORK.** The Owner shall have the authority to suspend the work wholly, or in part, for such period or periods as he may deem necessary, due to unsuitable weather, or such other conditions as are considered unfavorable for the prosecution of the work, or for such time as is necessary due to the failure on the part of the Contractor to carry out orders given or perform any or all provisions of the contract.

In the event that the Contractor is ordered by the Owner, in writing, to suspend work for some unforeseen cause not otherwise provided for in the contract and over which the Contractor has no control, the Contractor may be reimbursed for actual money expended on the work during the period of shutdown. No allowance will be made for anticipated profits. The period of shutdown shall be computed from the effective date of the Engineer's order to suspend work to the effective date of the Engineer's order to resume the work. Claims for such compensation shall be filed with the Engineer within the time period stated in the Engineer's order to resume work. The Contractor shall submit with his/her claim information substantiating the amount shown on the claim. The Engineer will forward the Contractor's claim to the Owner for consideration in accordance with local laws or ordinances. No provision of this article shall be construed as entitling the Contractor to compensation for delays due to inclement weather, for suspensions made at the request of the Owner, or for any other delay provided for in the contract, plans, or specifications.

If it should become necessary to suspend work for an indefinite period, the Contractor shall store all materials in such manner that they will not become an obstruction nor become damaged in any way. He shall take every precaution to prevent damage or deterioration of the work performed and provide for normal drainage of the work. The Contractor shall erect temporary structures where necessary to provide for traffic on, to, or from the airport.

**80-07 DETERMINATION AND EXTENSION OF CONTRACT TIME.** The number of calendar or working days allowed for completion of the work shall be stated in the proposal and contract and shall be known as the CONTRACT TIME.

Should the contract time require extension for reasons beyond the Contractor's control, it shall be adjusted as follows:

~~a. CONTRACT TIME based on WORKING DAYS shall be calculated weekly by the Engineer. The Engineer will furnish the Contractor a copy of his/her weekly statement of the number of working days charged against the contract time during the week and the number of working days currently specified for completion of the contract (the original contract time plus the number of working days, if any, that have been included in approved CHANGE ORDERS or SUPPLEMENTAL AGREEMENTS covering EXTRA WORK).~~

The Engineer shall base his/her weekly statement of contract time charged on the following considerations:

(1) No time shall be charged for days on which the Contractor is unable to proceed with the principal item of work under construction at the time for at least 6 hours 50% of the normal work day with the normal work force employed on such principal item except where specific defined project elements, phases, etc. establishes a shorter time frame due to operational constraints of the airport. Should the normal work force be on a double-shift, 12 hours shall be used. Should the normal work force be on a triple-shift, 18 hours shall apply. Conditions beyond the Contractor's control such as strikes, lockouts, unusual delays in transportation, temporary suspension of the principal item of work under construction or

temporary suspension of the entire work which have been ordered by the Owner for reasons not the fault of the Contractor, shall not be charged against the contract time.

(2) The Engineer will not make charges against the contract time prior to the effective date of the notice to proceed.

(3) The Engineer will begin charges against the contract time ~~on the first working day after the effective date of the notice to proceed,~~ not less than five (5) calendar days nor more than ten (10) calendar days after the receipt of the notice to proceed as evidenced by the date of receipt shown on the certified mail return receipt.

(4) The Engineer will not make charges against the contract time after the date of final acceptance as defined in the subsection titled FINAL ACCEPTANCE of Section 50.

(5) The Contractor will be allowed 1 week in which to file a written protest setting forth his/her objections to the Engineer's weekly statement. If no objection is filed within such specified time, the weekly statement shall be considered as acceptable to the Contractor.

~~The contract time (stated in the proposal) is based on the originally estimated quantities as described in the subsection titled INTERPRETATION OF ESTIMATED PROPOSAL QUANTITIES of Section 20. Should the satisfactory completion of the contract require performance of work in greater quantities than those estimated in the proposal, the contract time shall be increased in the same proportion as the cost of the actually completed quantities bears to the cost of the originally estimated quantities in the proposal. Such increase in contract time shall not consider either the cost of work or the extension of contract time that has been covered by change order or supplemental agreement and shall be made at the time of final payment.~~

b. CONTRACT TIME based on CALENDAR DAYS ~~or NIGHTS~~ shall consist of the number of calendar days ~~or nights~~ stated in the contract counting from the effective date of the notice to proceed and including all Saturdays, Sundays, holidays, and nonwork days. All calendar days ~~or nights~~ elapsing between the effective dates of the Owner's orders to suspend and resume all work, due to causes not the fault of the Contractor, shall be excluded.

~~At the time of final payment, the contract time shall be increased in the same proportion as the cost of the actually completed quantities bears to the cost of the originally estimated quantities in the proposal. Such increase in the contract time shall not consider either cost of work or the extension of contract time that has been covered by a change order or supplemental agreement. Charges against the contract time will cease as of the date of final acceptance.~~

c. When the contract time is a specified completion date, it shall be the date on which all contract work shall be substantially completed.

If the Contractor finds it impossible for reasons beyond his/her control to complete the work within the contract time as specified, or as extended in accordance with the provisions of this subsection, he may, at any time prior to the expiration of the contract time as extended, make a written request to the Engineer for an extension of time setting forth the reasons which he believes will justify the granting of his/her request. Requests for extension of time on calendar day projects, caused by inclement weather, shall be supported with National Weather Bureau data showing the actual amount of inclement weather exceeded which could normally be expected during the contract period. The Contractor's plea that insufficient time was specified is not a valid reason for extension of time. If the Engineer finds that the work was delayed because of conditions beyond the control and without the fault of the Contractor, he may extend the time for completion in such amount as the conditions justify. The extended time for completion shall then be in full force and effect, the same as though it were the original time for completion.



**80-08 FAILURE TO COMPLETE ON TIME.** For each calendar day ~~or working day~~, as specified in the contract, that any work remains uncompleted after the contract time (including all extensions and adjustments as provided in the subsection titled DETERMINATION AND EXTENSION OF CONTRACT TIME of this Section) the sum specified in the contract and proposal as liquidated damages will be deducted from any money due or to become due the Contractor or his/her surety. Such deducted sums shall not be deducted as a penalty but shall be considered as liquidation of a reasonable portion of damages including but not limited to additional engineering services that will be incurred by the Owner should the Contractor fail to complete the work in the time provided in his/her contract.

Schedule	Liquidated Damages Cost	Allowed Construction Time
All	\$3,000	Per Work Scope Section 01014

~~The maximum construction time allowed for Schedules [ ] will be the sum of the time allowed for individual schedules but not more than [ ] days. (Note: this paragraph will be modified for each project.)~~

Permitting the Contractor to continue and finish the work or any part of it after the time fixed for its completion, or after the date to which the time for completion may have been extended, will in no way operate as a waiver on the part of the Owner of any of its rights under the contract.

**80-09 DEFAULT AND TERMINATION OF CONTRACT.** ~~The Contractor shall be considered in default of his/her contract and such default will be considered as cause for the Owner to terminate the contract for any of the following reasons if the Contractor:~~ The Contractor shall be considered in default of his/her contract and such default will be considered as cause for the Owner to terminate the contract for any of following, but not limited to, reasons:

- a. Fails to begin the work under the contract within the time specified in the "Notice to Proceed," or
- b. Fails to perform the work or fails to provide sufficient workers, equipment or materials to assure completion of work in accordance with the terms of the contract, or
- c. Performs the work unsuitably or neglects or refuses to remove materials or to perform anew such work as may be rejected as unacceptable and unsuitable, or
- d. Discontinues the prosecution of the work, or
- e. Fails to resume work which has been discontinued ~~within a reasonable time~~ after notice to do so, or
- f. Becomes insolvent or is declared bankrupt, or commits any act of bankruptcy or insolvency, or
- g. Allows any final judgment to stand against him unsatisfied ~~for a period of 10 days~~, or
- h. Makes an assignment for the benefit of creditors, or
- i. For any other cause whatsoever, fails to carry on the work in an acceptable manner.

Should the Engineer consider the Contractor in default of the contract for any reason hereinbefore, he shall immediately give written notice to the Contractor and the Contractor's surety as to the reasons for considering the Contractor in default and the Owner's intentions to terminate the contract.

If the Contractor or surety, within a period of 10 days after such notice, does not proceed in accordance therewith, then the Owner will, upon written notification from the Engineer of the facts of such delay, neglect, or default and the Contractor's failure to comply with such notice, have full power and authority without violating the contract, to take the prosecution of the work out of the hands of the Contractor. The Owner may appropriate or use any or all materials and equipment that have been mobilized for use in the work and are acceptable and may enter into an agreement for the completion of said contract according to the terms and provisions thereof, or use such other methods as in the opinion of the Engineer will be required for the completion of said contract in an acceptable manner.

All costs and charges incurred by the Owner, together with the cost of completing the work under contract, will be deducted from any monies due or which may become due the Contractor. If such expense exceeds the sum which would have been payable under the contract, then the Contractor and the surety shall be liable and shall pay to the Owner the amount of such excess.

**80-10 TERMINATION FOR NATIONAL EMERGENCIES.** The Owner shall terminate the contract or portion thereof by written notice when the Contractor is prevented from proceeding with the construction contract as a direct result of an Executive Order of the President with respect to the prosecution of war or in the interest of national defense.

When the contract, or any portion thereof, is terminated before completion of all items of work in the contract, payment will be made for the actual number of units or items of work completed at the contract price or as mutually agreed for items of work partially completed or not started. No claims or loss of anticipated profits shall be considered.

Reimbursement for organization of the work, and other overhead expenses, (when not otherwise included in the contract) and moving equipment and materials to and from the job will be considered, the intent being that an equitable settlement will be made with the Contractor.

Acceptable materials, obtained or ordered by the Contractor for the work and that are not incorporated in the work shall, at the option of the Contractor, be purchased from the Contractor at actual cost as shown by receipted bills and actual cost records at such points of delivery as may be designated by the Engineer.

Termination of the contract or a portion thereof shall neither relieve the Contractor of his/her responsibilities for the completed work nor shall it relieve his/her surety of its obligation for and concerning any just claim arising out of the work performed.

**80-11 WORK AREA, STORAGE AREA AND SEQUENCE OF OPERATIONS.** The Contractor shall obtain approval from the Engineer ~~Owner~~ prior to beginning any work in all areas of the airport. No operating runway, taxiway, or Air Operations Area (AOA) shall be crossed, entered, or obstructed while it is operational. The Contractor shall plan and coordinate his/her work in such a manner as to insure safety and a minimum of hindrance to flight operations. ~~All Contractor equipment and material stockpiles shall be stored a minimum of [ ] feet from the centerline of an active runway. No equipment will be allowed to park within the approach area of an active runway at any time. No equipment shall be within [ ] feet of an active runway at any time.~~

## END OF SECTION 80

## SECTION 90

### MEASUREMENT AND PAYMENT

**90-01 MEASUREMENT OF QUANTITIES.** All work completed under the contract will be measured by the Engineer, or his/her authorized representatives, using United States Customary Units of Measurement or the International System of Units.

The method of measurement and computations to be used in determination of quantities of material furnished and of work performed under the contract will be those methods generally recognized as conforming to good engineering practice.

Unless otherwise specified, longitudinal measurements for area computations will be made horizontally, and no deductions will be made for individual fixtures (or leave-outs) having an area of 9 sq ft (0.8 square meter) or less. Unless otherwise specified, transverse measurements for area computations will be the neat dimensions shown on the plans or ordered in writing by the Engineer.

Structures will be measured according to neat lines shown on the plans or as altered to fit field conditions.

Unless otherwise specified, all contract items which are measured by the linear foot such as electrical ducts, conduits, pipe culverts, underdrains, and similar items shall be measured parallel to the base or foundation upon which such items are placed.

In computing volumes of excavation the average end area method or other acceptable methods will be used.

The thickness of plates and galvanized sheet used in the manufacture of corrugated metal pipe, metal plate pipe culverts and arches, and metal cribbing will be specified and measured in decimal fraction of in.

The term "ton" will mean the short ton consisting of 2,000 lb (907 kg) avoirdupois. All materials that are measured or proportioned by weights shall be weighed on accurate, approved scales by competent, qualified personnel at locations designed by the Engineer. If material is shipped by rail, the car weight may be accepted provided that only the actual weight of material is paid for. However, car weights will not be acceptable for material to be passed through mixing plants. Trucks used to haul material being paid for by weight shall be weighed empty daily at such times as the Engineer directs, and each truck shall bear a plainly legible identification mark.

Materials to be measured by volume in the hauling vehicle shall be hauled in approved vehicles and measured therein at the point of delivery. Vehicles for this purpose may be of any size or type acceptable to the Engineer, provided that the body is of such shape that the actual contents may be readily and accurately determined. All vehicles shall be loaded to at least their water level capacity, and all loads shall be leveled when the vehicles arrive at the point of delivery.

When requested by the Contractor and approved by the Engineer in writing, material specified to be measured by the cubic yard (cubic meter) may be weighed, and such weights will be converted to cubic yards (cubic meters) for payment purposes. Factors for conversion from weight measurement to volume measurement will be determined by the Engineer and shall be agreed to by the Contractor before such method of measurement of pay quantities is used.

Bituminous materials will be measured by the gallon (liter) or ton (kg). When measured by volume, such volumes will be measured at 60 °F (15 °C) or will be corrected to the volume at 60 °F (15 °C) using ASTM D 1250 for asphalts or ASTM D 633 for tars.

Net certified scale weights or weights based on certified volumes in the case of rail shipments will be used as a basis of measurement, subject to correction when bituminous material has been lost from the car or the distributor, wasted, or otherwise not incorporated in the work.

When bituminous materials are shipped by truck or transport, net certified weights by volume, subject to correction for loss or foaming, may be used for computing quantities.

Cement will be measured by the ton (kg) or hundredweight (km).

Timber will be measured by the thousand feet board measure (MFBM) actually incorporated in the structure. Measurement will be based on nominal widths and thicknesses and the extreme length of each piece.

The term "lump sum" when used as an item of payment will mean complete payment for the work described in the contract.

When a complete structure or structural unit (in effect, "lump sum" work) is specified as the unit of measurement, the unit will be construed to include all necessary fittings and accessories.

Rental of equipment will be measured by time in hours of actual working time and necessary traveling time of the equipment within the limits of the work. Special equipment ordered by the Engineer in connection with force account work will be measured as agreed in the change order or supplemental agreement authorizing such force account work as provided in the subsection titled PAYMENT FOR EXTRA AND FORCE ACCOUNT WORK of this section.

When standard manufactured items are specified such as fence, wire, plates, rolled shapes, pipe conduit, etc., and these items are identified by gauge, unit weight, section dimensions, etc., such identification will be considered to be nominal weights or dimensions. Unless more stringently controlled by tolerances in cited specifications, manufacturing tolerances established by the industries involved will be accepted.

Scales for weighing materials which are required to be proportioned or measured and paid for by weight shall be furnished, erected, and maintained by the Contractor, or be certified permanently installed commercial scales.

Scales shall be accurate within one-half percent of the correct weight throughout the range of use. The Contractor shall have the scales checked under the observation of the inspector before beginning work and at such other times as requested. The intervals shall be uniform in spacing throughout the graduated or marked length of the beam or dial and shall not exceed one-tenth of 1 percent of the nominal rated capacity of the scale, but not less than 1 pound (454 grams). The use of spring balances will not be permitted.

Beams, dials, platforms, and other scale equipment shall be so arranged that the operator and the inspector can safely and conveniently view them.

Scale installations shall have available ten standard 50-pound (2.3 km) weights for testing the weighing equipment or suitable weights and devices for other approved equipment.

Scales must be tested for accuracy and serviced before use at a new site. Platform scales shall be installed and maintained with the platform level and rigid bulkheads at each end.

Scales “overweighing” (indicating more than correct weight) will not be permitted to operate, and all materials received subsequent to the last previous correct weighting-accuracy test will be reduced by the percentage of error in excess of one-half of 1 percent.

In the event inspection reveals the scales have been underweighing (indicating less than correct weight), they shall be adjusted, and no additional payment to the Contractor will be allowed for materials previously weighed and recorded.

All costs in connection with furnishing, installing, certifying, testing, and maintaining scales; for furnishing check weights and scale house; and for all other items specified in this subsection, for the weighing of materials for proportioning or payment, shall be included in the unit contract prices for the various items of the project.

When the estimated quantities for a specific portion of the work are designated as the pay quantities in the contract, they shall be the final quantities for which payment for such specific portion of the work will be made, unless the dimensions of said portions of the work shown on the plans are revised by the Engineer. If revised dimensions result in an increase or decrease in the quantities of such work, the final quantities for payment will be revised in the amount represented by the authorized changes in the dimensions.

**90-02 SCOPE OF PAYMENT.** The Contractor shall receive and accept compensation provided for in the contract as full payment for furnishing all materials, for performing all work under the contract in a complete and acceptable manner, and for all risk, loss, damage, or expense of whatever character arising out of the nature of the work or the prosecution thereof, subject to the provisions of the subsection titled NO WAIVER OF LEGAL RIGHTS of Section 70.

When the “basis of payment” subsection of a technical specification requires that the contract price (price bid) include compensation for certain work or material essential to the item, this same work or material will not also be measured for payment under any other contract item which may appear elsewhere in the contract, plans, or specifications.

**90-03 COMPENSATION FOR ALTERED QUANTITIES.** When the accepted quantities of work vary from the quantities in the proposal, the Contractor shall accept as payment in full, so far as contract items are concerned, payment at the original contract price for the accepted quantities of work actually completed and accepted. No allowance, except as provided for in the subsection titled ALTERATION OF WORK AND QUANTITIES of Section 40 will be made for any increased expense, loss of expected reimbursement, or loss of anticipated profits suffered or claimed by the Contractor which results directly from such alterations or indirectly from his/her unbalanced allocation of overhead and profit among the contract items, or from any other cause.

**90-04 PAYMENT FOR OMITTED ITEMS.** As specified in the subsection titled OMITTED ITEMS of Section 40, the Engineer shall have the right to omit from the work (order nonperformance) any contract item, except major contract items, in the best interest of the Owner.

Should the Engineer omit or order nonperformance of a contract item or portion of such item from the work, the Contractor shall accept payment in full at the contract prices for any work actually completed and acceptable prior to the Engineer’s order to omit or nonperform such contract item.

Acceptable materials ordered by the Contractor or delivered on the work prior to the date of the Engineer’s order will be paid for at the actual cost to the Contractor and shall thereupon become the property of the Owner.

In addition to the reimbursement hereinbefore provided, the Contractor shall be reimbursed for all actual costs incurred for the purpose of performing the omitted contract item prior to the date of the Engineer's order. Such additional costs incurred by the Contractor must be directly related to the deleted contract item and shall be supported by certified statements by the Contractor as to the nature the amount of such costs.

**90-05 PAYMENT FOR EXTRA AND FORCE ACCOUNT WORK.** Extra work, performed in accordance with the subsection titled EXTRA WORK of Section 40, will be paid for at the contract prices or agreed prices specified in the change order or supplemental agreement authorizing the extra work. When the change order or supplemental agreement authorizing the extra work requires that it be done by force account, such force account shall be measured and paid for based on expended labor, equipment, and materials plus a negotiated and agreed upon allowance for overhead and profit.

**a. Miscellaneous.** No additional allowance will be made for general superintendence, the use of small tools, or other costs for which no specific allowance is herein provided.

**b. Comparison of Record.** The Contractor and the Engineer shall compare records of the cost of force account work at the end of each day. Agreement shall be indicated by signature of the Contractor and the Engineer or their duly authorized representatives.

**c. Statement.** No payment will be made for work performed on a force account basis until the Contractor has furnished the Engineer with duplicate itemized statements of the cost of such force account work detailed as follows:

(1) Name, classification, date, daily hours, total hours, rate and extension for each laborer and foreman including supplemental benefits, payroll taxes, insurance premiums and other reasonable charges that are paid by the Contractor pursuant to existing written agreements with employees and/or labor organizations.

(2) Designation, dates, daily hours, total hours, rental rate, and extension for each unit of machinery and equipment.

For Contractor self-owned equipment, the maximum rate paid for equipment will be determined based upon the following factors:

(i) The base hourly rates shall be the daily rate as listed in the current Rental Rates for Construction Equipment prepared by Associated Equipment Distributors latest edition, divided by eight (8). Where no daily rate is listed, the daily rate will be determined by dividing the monthly rate by 10.

(ii) The first 20 hours will be paid at 90 percent of the above based hourly rate. For 21 to 40 hours, the rate will be 80 percent of the above base hourly rate. For over 40 hours, the rate will be 45 percent of the above base hourly rate.

(iii) The number of hours to be paid for shall be the number of hours that the equipment or plant is actually used on a specified force account job.

(iv) For rented equipment, such equipment will be paid for based upon rental cost as approved by the Engineer. Invoices showing rental charges must be submitted to the Engineer for such payment.

(v) For use of all equipment when, in the opinion of the Contractor and as approved by the Engineer, suitable equipment is not available on the site, the movement of required equipment to and from the site will be paid for at actual cost.

(vi) Equipment to be used by the Contractor shall be specifically described and be of suitable size and suitable capacity required for the work to be performed. In the event the Contractor elects to use equipment of a higher rental value than that suitable for the work, payment will be made at the rate applicable to the suitable equipment. The equipment actually used and the suitable equipment paid for will be recorded as part of the record for force account work. The Engineer shall determine the suitability of the equipment. If there is a differential in the rate of pay of the operator of oversize or higher rate equipment, the rate paid for the operator will likewise be that for the suitable equipment.

(vii) In the event that a rate is not established in the Associated Equipment Distributors Rental Rates, latest edition, for a particular piece of equipment or plant, the Owner shall establish a rate for that piece of equipment or plant that is consistent with its cost and use.

(3) Quantities of materials, prices, and extensions.

(4) Transportation of materials to the site.

(5) Cost of property damage, liability and workman's compensation insurance premiums, unemployment insurance contributions, and social security tax.

(6) Profit and Overhead. Profit and overhead amount shall be computed at fifteen (15) percent of the following:

(i) Total Direct Labor Cost (actual hours worked multiplied by the basic hourly wage rate) plus supplemental benefits payments, payroll taxes, insurance payments and other labor related fringe benefit payments as defined in (1) above, but not including the overtime additive payments. Profit and overhead shall not be paid on the premium portion of overtime.

(ii) Total Cost of Materials as defined in (3) and (4) above.

(iii) If any of the work is performed by a subcontractor, the Contractor shall be paid the actual and reasonable cost of such subcontracted work computed as outlined in (1) through (5) above, or on such other basis as may be approved by the Owner. Contractor's profit and overhead on subcontractor's work shall be computed at ~~fifteen (15)~~ five (5%) percent as limited in this section. Subcontractor's profit and overhead amount shall be computed at ~~five (5)~~ ten (10%) percent of materials and direct labor to cover the subcontractor's profit, superintendence, administration, insurance and other overhead. For purposes of computing profit and overhead, only one level or tier of subcontractors will be allowed.

(7) Overhead shall be defined to include the following items:

(i) Premium on bond.

(ii) Premium on insurance required by the State, Workmen's Compensation Insurance, public liability and property damage insurance, unemployment insurance, federal old-age benefits, other payroll taxes and such reasonable charges that are paid by the Contractor pursuant to written agreement with his employee.

(iii) All salary and expenses of executive officers, supervising officers or supervising employees.

(iv) All clerical or stenographic employees.

(v) All charges for minor equipment such as small tools, including shovels, picks, axes, saws, bars, sledges, lanterns, jacks, cables, pails, wrenches, etc. and other miscellaneous supplies and services.

(vi) All drafting room accessories such as paper, tracing cloth, blueprinting, etc.

Statements shall be accompanied and supported by a receipted invoice for all materials used and transportation charges. However, if materials used on the force account work are not specifically purchased for such work but are taken from the Contractor's stock, then in lieu of the invoices the Contractor shall furnish an affidavit certifying that such materials were taken from his/her stock, that the quantity claimed was actually used, and that the price and transportation claimed represent the actual cost to the Contractor.

**90-06 PARTIAL PAYMENTS.** Partial payments will be made to the Contractor at least once each month as the work progresses. Said payments will be based upon estimates, prepared by the Engineer, of the value of the work performed and materials complete and in place in accordance with the contract, plans, and specifications. Such partial payments may also include the delivered actual cost of those materials stockpiled and stored in accordance with the subsection titled PAYMENT FOR MATERIALS ON HAND of this section. No partial payment will be made when the amount due to the Contractor since the last estimate amounts to less than five hundred dollars. No partial payment will be made until all submittals and documentation required under Section "01027 Application for Payment" are submitted and approved.

The Contractor is required to pay all subcontractors for satisfactory performance of their contracts no later than 30 days after the Contractor has received a partial payment. The Owner must ensure prompt and full payment of retainage from the prime contractor to the subcontractor within 30 days after the subcontractor's work is satisfactorily completed. A subcontractor's work is satisfactorily completed when all the tasks called for in the subcontract have been accomplished and documented as required by the Owner. When the Owner has made an incremental acceptance of a portion of a prime contract, the work of a subcontractor covered by that acceptance is deemed to be satisfactorily completed.

From the total of the amount determined to be payable on a partial payment, {insert amount of retainage, not to exceed 10 percent} percent of such total amount will be deducted and retained by the Owner until the final payment is made., ~~except as may be provided (at the Contractor's option) in the subsection titled PAYMENT OF WITHHELD FUNDS of this section.~~ The balance {(insert balance)} of the amount payable, less all previous payments, shall be certified for payment. ~~Should the Contractor exercise his/her option, as provided in the subsection titled PAYMENT OF WITHHELD FUNDS of this section, no such percent retainage shall be deducted.~~

When at least 95 percent of the work has been completed, the Engineer shall, at the Owner's discretion and with the consent of the surety, prepare estimates of both the contract value and the cost of the remaining work to be done.

The Owner may retain an amount not less than twice the contract value or estimated cost, whichever is greater, of the work remaining to be done. The remainder, less all previous payments and deductions, will then be certified for payment to the Contractor.

It is understood and agreed that the Contractor shall not be entitled to demand or receive partial payment based on quantities of work in excess of those provided in the proposal or covered by approved change orders or supplemental agreements, except when such excess quantities have been determined by the Engineer to be a part of the final quantity for the item of work in question.



No partial payment shall bind the Owner to the acceptance of any materials or work in place as to quality or quantity. All partial payments are subject to correction at the time of final payment as provided in the subsection titled ACCEPTANCE AND FINAL PAYMENT of this section.

The amount of retainage withheld from the Contractor's monthly partial payments shall be ~~40~~ 5%.

The Contractor shall deliver to the Owner a complete release of all claims for labor and material arising out of this contract before the final payment is made. If any subcontractor or supplier fails to furnish such a release in full, the Contractor may furnish a bond or other collateral satisfactory to the Owner to indemnify the Owner against any potential lien or other such claim. The bond or collateral shall include all costs, expenses, and attorney fees the Owner may be compelled to pay in discharging any such lien or claim.

**90-07 PAYMENT FOR MATERIALS ON HAND.** Partial payments may be made to the extent of the delivered cost of materials to be incorporated in the work, provided that such materials meet the requirements of the contract, plans, and specifications and are delivered to acceptable sites on the airport property or at other sites in the vicinity that are acceptable to the Owner. Such delivered costs of stored or stockpiled materials may be included in the next partial payment after the following conditions are met:

a. The material has been stored or stockpiled in a manner acceptable to the Engineer at or on an approved site.

b. The Contractor has furnished the Engineer with acceptable evidence of the quantity and quality of such stored or stockpiled materials.

c. The Contractor has furnished the Engineer with satisfactory evidence that the material and transportation costs have been paid.

d. The Contractor has furnished the Owner legal title (free of liens or encumbrances of any kind) to the material so stored or stockpiled.

e. The Contractor has furnished the Owner evidence that the material so stored or stockpiled is insured against loss by damage to or disappearance of such materials at any time prior to use in the work.

It is understood and agreed that the transfer of title and the Owner's payment for such stored or stockpiled materials shall in no way relieve the Contractor of his/her responsibility for furnishing and placing such materials in accordance with the requirements of the contract, plans, and specifications.

In no case will the amount of partial payments for materials on hand exceed the contract price for such materials or the contract price for the contract item in which the material is intended to be used.

No partial payment will be made for stored or stockpiled living or perishable plant materials.

The Contractor shall bear all costs associated with the partial payment of stored or stockpiled materials in accordance with the provisions of this subsection.

~~**90-08 PAYMENT OF WITHHELD FUNDS.** At the Contractor's option, if an Owner withholds retainage in accordance with the methods described in subsection 90-06 PARTIAL PAYMENTS, the Contractor may request that the Owner deposit the retainage into an escrow account. The Owner's deposit of retainage into an escrow account is subject to the following conditions:~~

~~a. The Contractor shall bear all expenses of establishing and maintaining an escrow account and escrow agreement acceptable to the Owner.~~

~~b. The Contractor shall deposit to and maintain in such escrow only those securities or bank certificates of deposit as are acceptable to the Owner and having a value not less than the retainage that would otherwise be withheld from partial payment.~~

~~c. The Contractor shall enter into an escrow agreement satisfactory to the Owner.~~

~~d. The Contractor shall obtain the written consent of the surety to such agreement.~~

**90-09 ACCEPTANCE AND FINAL PAYMENT.** When the contract work has been accepted in accordance with the requirements of the subsection titled FINAL ACCEPTANCE of Section 50, the Engineer will prepare the final estimate of the items of work actually performed. The Contractor shall approve the Engineer's final estimate or advise the Engineer of his/her objections to the final estimate which are based on disputes in measurements or computations of the final quantities to be paid under the contract as amended by change order or supplemental agreement. The Contractor and the Engineer shall resolve all disputes (if any) in the measurement and computation of final quantities to be paid within 30 calendar days of the Contractor's receipt of the Engineer's final estimate. If, after such 30-day period, a dispute still exists, the Contractor may approve the Engineer's estimate under protest of the quantities in dispute, and such disputed quantities shall be considered by the Owner as a claim in accordance with the subsection titled CLAIMS FOR ADJUSTMENT AND DISPUTES of Section 50.

After the Contractor has approved, or approved under protest, the Engineer's final estimate, final payment will be processed based on the entire sum, or the undisputed sum in case of approval under protest, determined to be due the Contractor less all previous payments and all amounts to be deducted under the provisions of the contract. All prior partial estimates and payments shall be subject to correction in the final estimate and payment.

Should elements of work require delay in final payment due to seasonal or other reasons, the Owner may retain or withhold an agreed upon amount from items of work associated with the delayed items and hold that retainage, even after final payment less the retained amounts, until the Contractor has fulfilled the elements of work delayed to the satisfaction of the Owner. The Owner shall release the retained amount after all associated work for which the delay item has been accepted by the Owner.

If the Contractor has filed a claim for additional compensation under the provisions of the subsection titled CLAIMS FOR ADJUSTMENTS AND DISPUTES of Section 50 or under the provisions of this subsection, such claims will be considered by the Owner in accordance with local laws or ordinances. Upon final adjudication of such claims, any additional payment determined to be due the Contractor will be paid pursuant to a supplemental final estimate.

## END OF SECTION 90

## SECTION 100

### CONTRACTOR QUALITY CONTROL PROGRAM

**100-01 GENERAL.** When the specification requires a Contractor Quality Control Program, the Contractor shall establish, provide, and maintain an effective Quality Control Program that details the methods and procedures that will be taken to assure that all materials and completed construction required by this contract conform to contract plans, technical specifications and other requirements, whether manufactured by the Contractor, or procured from subcontractors or vendors. Although guidelines are established and certain minimum requirements are specified herein and elsewhere in the contract technical specifications, the Contractor shall assume full responsibility for accomplishing the stated purpose.

The intent of this section is to enable the Contractor to establish a necessary level of control that will:

- a. Adequately provide for the production of acceptable quality materials.
- b. Provide sufficient information to assure both the Contractor and the Engineer that the specification requirements can be met.
- c. Allow the Contractor as much latitude as possible to develop his or her own standard of control.

The Contractor shall be prepared to discuss and present, at the preconstruction conference, his/her understanding of the quality control requirements. The Contractor shall not begin any construction or production of materials to be incorporated into the completed work until the Quality Control Program has been reviewed by the Engineer and a written finding of no objection to the Quality Control Program is provided by the Engineer. No partial payment will be made for materials subject to specific quality control requirements until the Quality Control Program has been reviewed and a written finding of no objection to the Quality Control Program is provided by the Engineer.

The quality control requirements contained in this section and elsewhere in the contract technical specifications are in addition to and separate from the acceptance testing requirements. Acceptance testing requirements are the responsibility of the Engineer.

#### 100-02 DESCRIPTION OF PROGRAM.

**a. General Description.** The Contractor shall establish a Quality Control Program to perform inspection and testing of all items of work required by the technical specifications, including those performed by subcontractors. This Quality Control Program shall ensure conformance to applicable specifications and plans with respect to materials, workmanship, construction, finish, and functional performance. The Quality Control Program shall be effective for control of all construction work performed under this Contract and shall specifically include surveillance and tests required by the technical specifications, in addition to other requirements of this section and any other activities deemed necessary by the Contractor to establish an effective level of quality control.

**b. Quality Control Program.** The Contractor shall describe the Quality Control Program in a written document that shall be reviewed by the Engineer prior to the start of any production, construction, or off-site fabrication. The written Quality Control Program shall be submitted to the Engineer for review at least [ 5 ] calendar days before the [Preconstruction Conference ].

The Quality Control Program shall be organized to address, as a minimum, the following items:

- a. Quality control organization
- b. Project progress schedule
- c. Submittals schedule
- d. Inspection requirements
- e. Quality control testing plan
- f. Documentation of quality control activities
- g. Requirements for corrective action when quality control and/or acceptance criteria are not met

The Contractor is encouraged to add any additional elements to the Quality Control Program that he/she deems necessary to adequately control all production and/or construction processes required by this contract.

The cost of development, administration and/or performance of the Quality Control Program shall not be paid for separately but shall be included in various other bid items.

**100-03 QUALITY CONTROL ORGANIZATION.** The Contractor Quality Control Program shall be implemented by the establishment of a separate quality control organization. An organizational chart shall be developed to show all quality control personnel and how these personnel integrate with other management/production and construction functions and personnel.

The organizational chart shall identify all quality control staff by name and function, and shall indicate the total staff required to implement all elements of the Quality Control Program, including inspection and testing for each item of work. If necessary, different technicians can be used for specific inspection and testing functions for different items of work. If an outside organization or independent testing laboratory is used for implementation of all or part of the Quality Control Program, the personnel assigned shall be subject to the qualification requirements of paragraph 100-03a and 100-03b. The organizational chart shall indicate which personnel are Contractor employees and which are provided by an outside organization.

The quality control organization shall consist of the following minimum personnel:

**a. Program Administrator.** The Program Administrator shall be a full-time employee of the Contractor, or a consultant engaged by the Contractor. The Program Administrator shall have a minimum of 5 years of experience in airport and/or highway construction and shall have had prior quality control experience on a project of comparable size and scope as the contract.

Additional qualifications for the Program Administrator shall include at least 1 of the following requirements:

(1) Professional engineer with 1 year of airport paving experience acceptable to the Engineer.

(2) Engineer-in-training with 2 years of airport paving experience acceptable to the Engineer.

(3) An individual with 3 years of highway and/or airport paving experience acceptable to the Engineer, with a Bachelor of Science Degree in Civil Engineering, Civil Engineering Technology or Construction.

(4) Construction materials technician certified at Level III by the National Institute for Certification in Engineering Technologies (NICET).

(5) Highway materials technician certified at Level III by NICET.

(6) Highway construction technician certified at Level III by NICET.

(7) A NICET certified engineering technician in Civil Engineering Technology with 5 years of highway and/or airport paving experience acceptable to the Engineer.

The Program Administrator shall have full authority to institute any and all actions necessary for the successful implementation of the Quality Control Program to ensure compliance with the contract plans and technical specifications. The Program Administrator shall report directly to a responsible officer of the construction firm. The Program Administrator may supervise the Quality Control Program on more than one project provided that person can be at the job site within 2 hours after being notified of a problem.

**b. Quality Control Technicians.** A sufficient number of quality control technicians necessary to adequately implement the Quality Control Program shall be provided. These personnel shall be either engineers, engineering technicians, or experienced craftsman with qualifications in the appropriate field equivalent to NICET Level II or higher construction materials technician or highway construction technician and shall have a minimum of 2 years of experience in their area of expertise.

The quality control technicians shall report directly to the Program Administrator and shall perform the following functions:

(1) Inspection of all materials, construction, plant, and equipment for conformance to the technical specifications, and as required by Section 100-06.

(2) Performance of all quality control tests as required by the technical specifications and Section 100-07.

Certification at an equivalent level, by a state or nationally recognized organization will be acceptable in lieu of NICET certification.

**c. Staffing Levels.** The Contractor shall provide sufficient qualified quality control personnel to monitor each work activity at all times. Where material is being produced in a plant for incorporation into the work, separate plant and field technicians shall be provided at each plant and field placement location. The scheduling and coordinating of all inspection and testing must match the type and pace of work activity. The Quality Control Program shall state where different technicians will be required for different work elements.

**100-04 PROJECT PROGRESS SCHEDULE.** The Contractor shall submit a coordinated construction schedule for all work activities. The schedule shall be prepared as a network diagram in Critical Path Method (CPM), PERT, or other format, or as otherwise specified in the contract. As a minimum, it shall provide information on the sequence of work activities, milestone dates, and activity duration.

The Contractor shall maintain the work schedule and provide an update and analysis of the progress schedule on a twice monthly basis, or as otherwise specified in the contract. Submission of the work schedule shall not relieve the Contractor of overall responsibility for scheduling, sequencing, and coordinating all work to comply with the requirements of the contract.

**100-05 SUBMITTALS SCHEDULE.** The Contractor shall submit a detailed listing of all submittals (for example, mix designs, material certifications) and shop drawings required by the technical specifications. The listing can be developed in a spreadsheet format and shall include:

- a. Specification item number
- b. Item description
- c. Description of submittal
- d. Specification paragraph requiring submittal
- e. Scheduled date of submittal

**100-06 INSPECTION REQUIREMENTS.** Quality control inspection functions shall be organized to provide inspections for all definable features of work, as detailed below. All inspections shall be documented by the Contractor as specified by Section 100-07.

Inspections shall be performed daily to ensure continuing compliance with contract requirements until completion of the particular feature of work. These shall include the following minimum requirements:

a. During plant operation for material production, quality control test results and periodic inspections shall be used to ensure the quality of aggregates and other mix components, and to adjust and control mix proportioning to meet the approved mix design and other requirements of the technical specifications. All equipment used in proportioning and mixing shall be inspected to ensure its proper operating condition. The Quality Control Program shall detail how these and other quality control functions will be accomplished and used.

b. During field operations, quality control test results and periodic inspections shall be used to ensure the quality of all materials and workmanship. All equipment used in placing, finishing, and compacting shall be inspected to ensure its proper operating condition and to ensure that all such operations are in conformance to the technical specifications and are within the plan dimensions, lines, grades, and tolerances specified. The Program shall document how these and other quality control functions will be accomplished and used.

**100-07 QUALITY CONTROL TESTING PLAN.** As a part of the overall Quality Control Program, the Contractor shall implement a quality control testing plan, as required by the technical specifications. The testing plan shall include the minimum tests and test frequencies required by each technical specification item, as well as any additional quality control tests that the Contractor deems necessary to adequately control production and/or construction processes.

The testing plan can be developed in a spreadsheet fashion and shall, as a minimum, include the following:

- a. Specification item number (for example, P-401)
- b. Item description (for example, Plant Mix Bituminous Pavements)
- c. Test type (for example, gradation, grade, asphalt content)
- d. Test standard (for example, ASTM or AASHTO test number, as applicable)

e. Test frequency (for example, as required by technical specifications or minimum frequency when requirements are not stated)

f. Responsibility (for example, plant technician)

g. Control requirements (for example, target, permissible deviations)

The testing plan shall contain a statistically-based procedure of random sampling for acquiring test samples in accordance with ASTM D 3665. The Engineer shall be provided the opportunity to witness quality control sampling and testing.

All quality control test results shall be documented by the Contractor as required by Section 100-08.

**100-08 DOCUMENTATION.** The Contractor shall maintain current quality control records of all inspections and tests performed. These records shall include factual evidence that the required inspections or tests have been performed, including type and number of inspections or tests involved; results of inspections or tests; nature of defects, deviations, causes for rejection, etc.; proposed remedial action; and corrective actions taken.

These records must cover both conforming and defective or deficient features, and must include a statement that all supplies and materials incorporated in the work are in full compliance with the terms of the contract. Legible copies of these records shall be furnished to the Engineer daily. The records shall cover all work placed subsequent to the previously furnished records and shall be verified and signed by the Contractor's Program Administrator.

Specific Contractor quality control records required for the contract shall include, but are not necessarily limited to, the following records:

**a. Daily Inspection Reports.** Each Contractor quality control technician shall maintain a daily log of all inspections performed for both Contractor and subcontractor operations on a form acceptable to the Engineer. These technician's daily reports shall provide factual evidence that continuous quality control inspections have been performed and shall, as a minimum, include the following:

- (1) Technical specification item number and description;
- (2) Compliance with approved submittals;
- (3) Proper storage of materials and equipment;
- (4) Proper operation of all equipment;
- (5) Adherence to plans and technical specifications;
- (6) Review of quality control tests; and
- (7) Safety inspection.

The daily inspection reports shall identify inspections conducted, results of inspections, location and nature of defects found, causes for rejection, and remedial or corrective actions taken or proposed.

The daily inspection reports shall be signed by the responsible quality control technician and the Program Administrator. The Engineer shall be provided at least one copy of each daily inspection report on the work day following the day of record.

**b. Daily Test Reports.** The Contractor shall be responsible for establishing a system that will record all quality control test results. Daily test reports shall document the following information:

- (1) Technical specification item number and description
- (2) Test designation
- (3) Location
- (4) Date of test
- (5) Control requirements
- (6) Test results
- (7) Causes for rejection
- (8) Recommended remedial actions
- (9) Retests

Test results from each day's work period shall be submitted to the Engineer prior to the start of the next day's work period. When required by the technical specifications, the Contractor shall maintain statistical quality control charts. The daily test reports shall be signed by the responsible quality control technician and the Program Administrator.

**100-09 CORRECTIVE ACTION REQUIREMENTS.** The Quality Control Program shall indicate the appropriate action to be taken when a process is deemed, or believed, to be out of control (out of tolerance) and detail what action will be taken to bring the process into control. The requirements for corrective action shall include both general requirements for operation of the Quality Control Program as a whole, and for individual items of work contained in the technical specifications.

The Quality Control Program shall detail how the results of quality control inspections and tests will be used for determining the need for corrective action and shall contain clear sets of rules to gauge when a process is out of control and the type of correction to be taken to regain process control.

When applicable or required by the technical specifications, the Contractor shall establish and use statistical quality control charts for individual quality control tests. The requirements for corrective action shall be linked to the control charts.

**100-10 SURVEILLANCE BY THE ENGINEER.** All items of material and equipment shall be subject to surveillance by the Engineer at the point of production, manufacture or shipment to determine if the Contractor, producer, manufacturer or shipper maintains an adequate quality control system in conformance with the requirements detailed herein and the applicable technical specifications and plans. In addition, all items of materials, equipment and work in place shall be subject to surveillance by the Engineer at the site for the same purpose.

Surveillance by the Engineer does not relieve the Contractor of performing quality control inspections of either on-site or off-site Contractor's or subcontractor's work.

**100-11 NONCOMPLIANCE.**

**a.** The Engineer will notify the Contractor of any noncompliance with any of the foregoing requirements. The Contractor shall, after receipt of such notice, immediately take corrective action. Any



notice, when delivered by the Engineer or his/her authorized representative to the Contractor or his/her authorized representative at the site of the work, shall be considered sufficient notice.

**b.** In cases where quality control activities do not comply with either the Contractor Quality Control Program or the contract provisions, or where the Contractor fails to properly operate and maintain an effective Quality Control Program, as determined by the Engineer, the Engineer may:

**(1)** Order the Contractor to replace ineffective or unqualified quality control personnel or subcontractors.

**(2)** Order the Contractor to stop operations until appropriate corrective actions are taken.

**END OF SECTION 100**

## SECTION 110

### METHOD OF ESTIMATING PERCENTAGE OF MATERIAL WITHIN SPECIFICATION LIMITS (PWL)

**110-01 GENERAL.** When the specifications provide for acceptance of material based on the method of estimating percentage of material within specification limits (PWL), the PWL will be determined in accordance with this section. All test results for a lot will be analyzed statistically to determine the total estimated percent of the lot that is within specification limits. The PWL is computed using the sample average ( $\bar{X}$ ) and sample standard deviation ( $S_n$ ) of the specified number ( $n$ ) of sublots for the lot and the specification tolerance limits,  $L$  for lower and  $U$  for upper, for the particular acceptance parameter. From these values, the respective Quality index,  $Q_L$  for Lower Quality Index and/or  $Q_U$  for Upper Quality Index, is computed and the PWL for the lot for the specified  $n$  is determined from Table 1. All specification limits specified in the technical sections shall be absolute values. Test results used in the calculations shall be to the significant figure given in the test procedure.

There is some degree of uncertainty (risk) in the measurement for acceptance because only a small fraction of production material (the population) is sampled and tested. This uncertainty exists because all portions of the production material have the same probability to be randomly sampled. The Contractor's risk is the probability that material produced at the acceptable quality level is rejected or subjected to a pay adjustment. The Owner's risk is the probability that material produced at the rejectable quality level is accepted.

It is the intent of this section to inform the contractor that, in order to consistently offset the contractor's risk for material evaluated, production quality (using population average and population standard deviation) must be maintained at the acceptable quality specified or higher. In all cases, it is the responsibility of the contractor to produce at quality levels that will meet the specified acceptance criteria when sampled and tested at the frequencies specified.

**110-02 METHOD FOR COMPUTING PWL.** The computational sequence for computing PWL is as follows:

- a. Divide the lot into  $n$  sublots in accordance with the acceptance requirements of the specification.
- b. Locate the random sampling position within the subplot in accordance with the requirements of the specification.
- c. Make a measurement at each location, or take a test portion and make the measurement on the test portion in accordance with the testing requirements of the specification.
- d. Find the sample average ( $\bar{X}$ ) for all subplot values within the lot by using the following formula:

$$\bar{X} = (x_1 + x_2 + x_3 + \dots + x_n) / n$$

Where:  $\bar{X}$  = Sample average of all subplot values within a lot

$x_1, x_2$  = Individual subplot values

$n$  = Number of sublots

- e. Find the sample standard deviation ( $S_n$ ) by use of the following formula:

$$S_n = [(d_1^2 + d_2^2 + d_3^2 + \dots + d_n^2)/(n-1)]^{1/2}$$

Where:  $S_n$  = Sample standard deviation of the number of subplot values in the set

$d_1, d_2$  = Deviations of the individual subplot values  $x_1, x_2, \dots$  from the average value  $X$

that is:  $d_1 = (x_1 - X), d_2 = (x_2 - X) \dots d_n = (x_n - X)$

$n$  = Number of sublots

- f. For single sided specification limits (that is,  $L$  only), compute the Lower Quality Index  $Q_L$  by use of the following formula:

$$Q_L = (X - L) / S_n$$

Where:  $L$  = specification lower tolerance limit

Estimate the percentage of material within limits (PWL) by entering Table 1 with  $Q_L$ , using the column appropriate to the total number ( $n$ ) of measurements. If the value of  $Q_L$  falls between values shown on the table, use the next higher value of PWL.

- g. For double-sided specification limits (that is,  $L$  and  $U$ ), compute the Quality Indexes  $Q_L$  and  $Q_U$  by use of the following formulas:

$$Q_L = (X - L) / S_n$$

AND

$$Q_U = (U - X) / S_n$$

Where:  $L$  and  $U$  = specification lower and upper tolerance limits

Estimate the percentage of material between the lower ( $L$ ) and upper ( $U$ ) tolerance limits (PWL) by entering Table 1 separately with  $Q_L$  and  $Q_U$ , using the column appropriate to the total number ( $n$ ) of measurements, and determining the percent of material above  $P_L$  and percent of material below  $P_U$  for each tolerance limit. If the values of  $Q_L$  fall between values shown on the table, use the next higher value of  $P_L$  or  $P_U$ . Determine the PWL by use of the following formula:

$$PWL = (P_U + P_L) - 100$$

Where:  $P_L$  = percent within lower specification limit

$P_U$  = percent within upper specification limit

## EXAMPLE OF PWL CALCULATION

**Project:** Example Project

**Test Item:** Item P-401, Lot A.

### A. PWL Determination for Mat Density.

1. Density of four random cores taken from Lot A.

$$A-1 = 96.60$$

$$A-2 = 97.55$$

$$A-3 = 99.30$$

$$A-4 = 98.35$$

$$n = 4$$

2. Calculate average density for the lot.

$$X = (x_1 + x_2 + x_3 + \dots + x_n) / n$$

$$X = (96.60 + 97.55 + 99.30 + 98.35) / 4$$

$$X = 97.95 \text{ percent density}$$

3. Calculate the standard deviation for the lot.

$$S_n = [((96.60 - 97.95)^2 + (97.55 - 97.95)^2 + (99.30 - 97.95)^2 + (98.35 - 97.95)^2) / (4 - 1)]^{1/2}$$

$$S_n = [(1.82 + 0.16 + 1.82 + 0.16) / 3]^{1/2}$$

$$S_n = 1.15$$

4. Calculate the Lower Quality Index  $Q_L$  for the lot. ( $L=96.3$ )

$$Q_L = (X - L) / S_n$$

$$Q_L = (97.95 - 96.30) / 1.15$$

$$Q_L = 1.4348$$

5. Determine PWL by entering Table 1 with  $Q_L = 1.44$  and  $n = 4$ .

$$PWL = 98$$

### B. PWL Determination for Air Voids.

1. Air Voids of four random samples taken from Lot A.

$$A-1 = 5.00$$

$$A-2 = 3.74$$

$$A-3 = 2.30$$

$$A-4 = 3.25$$

**2. Calculate the average air voids for the lot.**

$$X = (x_1 + x_2 + x_3 \dots n) / n$$

$$X = (5.00 + 3.74 + 2.30 + 3.25) / 4$$

$$X = 3.57 \text{ percent}$$

**3. Calculate the standard deviation  $S_n$  for the lot.**

$$S_n = [((3.57 - 5.00)^2 + (3.57 - 3.74)^2 + (3.57 - 2.30)^2 + (3.57 - 3.25)^2) / (4 - 1)]^{1/2}$$

$$S_n = [(2.04 + 0.03 + 1.62 + 0.10) / 3]^{1/2}$$

$$S_n = 1.12$$

**4. Calculate the Lower Quality Index  $Q_L$  for the lot. ( $L = 2.0$ )**

$$Q_L = (X - L) / S_n$$

$$Q_L = (3.57 - 2.00) / 1.12$$

$$Q_L = 1.3992$$

**5. Determine  $P_L$  by entering Table 1 with  $Q_L = 1.41$  and  $n = 4$ .**

$$P_L = 97$$

**6. Calculate the Upper Quality Index  $Q_U$  for the lot. ( $U = 5.0$ )**

$$Q_U = (U - X) / S_n$$

$$Q_U = (5.00 - 3.57) / 1.12$$

$$Q_U = 1.2702$$

**7. Determine  $P_U$  by entering Table 1 with  $Q_U = 1.29$  and  $n = 4$ .**

$$P_U = 93$$

**8. Calculate Air Voids PWL**

$$PWL = (P_L + P_U) - 100$$

$$PWL = (97 + 93) - 100 = 90$$

### EXAMPLE OF OUTLIER CALCULATION (REFERENCE ASTM E 178)

**Project:** Example Project

**Test Item:** Item P-401, Lot A.

#### A. Outlier Determination for Mat Density.

1. Density of four random cores taken from Lot A arranged in descending order.

A-3 = 99.30

A-4 = 98.35

A-2 = 97.55

A-1 = 96.60

2. Use  $n=4$  and upper 5 percent significance level of to find the critical value for test criterion = 1.463.

3. Use average density, standard deviation, and test criterion value to evaluate density measurements.

- a. For measurements greater than the average:

If  $(\text{measurement} - \text{average})/(\text{standard deviation})$  is less than test criterion,  
then the measurement is not considered an outlier

For A-3, check if  $(99.30 - 97.95) / 1.15$  is greater than 1.463.

Since 1.174 is less than 1.463, the value is not an outlier.

- b. For measurements less than the average:

If  $(\text{average} - \text{measurement})/(\text{standard deviation})$  is less than test criterion,  
then the measurement is not considered an outlier.

For A-1, check if  $(97.95 - 96.60) / 1.15$  is greater than 1.463.

Since 1.435 is less than 1.463, the value is not an outlier.

NOTE: In this example, a measurement would be considered an outlier if the density were:

Greater than  $(97.95 + 1.463 \times 1.15) = 99.63$  percent; OR

less than  $(97.95 - 1.463 \times 1.15) = 96.27$  percent.

### ROUNDING RULE

A. If the digit following the last digit to be kept is 0, 1, 2, 3, or 4, strike out that digit and all the following digits.

Example: For the number 28.69248539, if only three decimal places are being kept the number becomes 28.692.

B. If the digit following the last digit to be kept is 6, 7, 8, or 9, increase the last digit to be kept by 1 and strike out all the following digits.

Example: For the number 28.69248539, if only one decimal place is being kept the number becomes 28.7.

C. If the digit following the last digit to be kept is 5 and there are digits other than zero to the right of 5, increase the last digit to be retained by 1 and strike out all following digits.

Example: For the number 28.69248539, if five decimal places are being kept the number becomes 28.69249.

D. If the digit following the last digit to be kept is 5 and there are no digits other than zero beyond 5, increase the last digit to be retained by 1 if it is odd or leave it unchanged if it is even.

Example: For the number 28.69248500, if five decimal places are being kept the number becomes 28.69248.

**Table 1. Table for Estimating Percent of Lot Within Limits (PWL)**

Percent Within Limits (P <sub>L</sub> and P <sub>U</sub> )	Positive Values of Q (Q <sub>L</sub> and Q <sub>U</sub> )							
	n=3	n=4	n=5	n=6	n=7	n=8	n=9	n=10
99	1.1541	1.4700	1.6714	1.8008	1.8888	1.9520	1.9994	2.0362
98	1.1524	1.4400	1.6016	1.6982	1.7612	1.8053	1.8379	1.8630
97	1.1496	1.4100	1.5427	1.6181	1.6661	1.6993	1.7235	1.7420
96	1.1456	1.3800	1.4897	1.5497	1.5871	1.6127	1.6313	1.6454
95	1.1405	1.3500	1.4407	1.4887	1.5181	1.5381	1.5525	1.5635
94	1.1342	1.3200	1.3946	1.4329	1.4561	1.4717	1.4829	1.4914
93	1.1269	1.2900	1.3508	1.3810	1.3991	1.4112	1.4199	1.4265
92	1.1184	1.2600	1.3088	1.3323	1.3461	1.3554	1.3620	1.3670
91	1.1089	1.2300	1.2683	1.2860	1.2964	1.3032	1.3081	1.3118
90	1.0982	1.2000	1.2290	1.2419	1.2492	1.2541	1.2576	1.2602
89	1.0864	1.1700	1.1909	1.1995	1.2043	1.2075	1.2098	1.2115
88	1.0736	1.1400	1.1537	1.1587	1.1613	1.1630	1.1643	1.1653
87	1.0597	1.1100	1.1173	1.1192	1.1199	1.1204	1.1208	1.1212
86	1.0448	1.0800	1.0817	1.0808	1.0800	1.0794	1.0791	1.0789
85	1.0288	1.0500	1.0467	1.0435	1.0413	1.0399	1.0389	1.0382
84	1.0119	1.0200	1.0124	1.0071	1.0037	1.0015	1.0000	0.9990
83	0.9939	0.9900	0.9785	0.9715	0.9671	0.9643	0.9624	0.9610
82	0.9749	0.9600	0.9452	0.9367	0.9315	0.9281	0.9258	0.9241
81	0.9550	0.9300	0.9123	0.9025	0.8966	0.8928	0.8901	0.8882
80	0.9342	0.9000	0.8799	0.8690	0.8625	0.8583	0.8554	0.8533
79	0.9124	0.8700	0.8478	0.8360	0.8291	0.8245	0.8214	0.8192
78	0.8897	0.8400	0.8160	0.8036	0.7962	0.7915	0.7882	0.7858
77	0.8662	0.8100	0.7846	0.7716	0.7640	0.7590	0.7556	0.7531
76	0.8417	0.7800	0.7535	0.7401	0.7322	0.7271	0.7236	0.7211
75	0.8165	0.7500	0.7226	0.7089	0.7009	0.6958	0.6922	0.6896
74	0.7904	0.7200	0.6921	0.6781	0.6701	0.6649	0.6613	0.6587
73	0.7636	0.6900	0.6617	0.6477	0.6396	0.6344	0.6308	0.6282
72	0.7360	0.6600	0.6316	0.6176	0.6095	0.6044	0.6008	0.5982
71	0.7077	0.6300	0.6016	0.5878	0.5798	0.5747	0.5712	0.5686
70	0.6787	0.6000	0.5719	0.5582	0.5504	0.5454	0.5419	0.5394
69	0.6490	0.5700	0.5423	0.5290	0.5213	0.5164	0.5130	0.5105
68	0.6187	0.5400	0.5129	0.4999	0.4924	0.4877	0.4844	0.4820
67	0.5878	0.5100	0.4836	0.4710	0.4638	0.4592	0.4560	0.4537
66	0.5563	0.4800	0.4545	0.4424	0.4355	0.4310	0.4280	0.4257
65	0.5242	0.4500	0.4255	0.4139	0.4073	0.4030	0.4001	0.3980
64	0.4916	0.4200	0.3967	0.3856	0.3793	0.3753	0.3725	0.3705
63	0.4586	0.3900	0.3679	0.3575	0.3515	0.3477	0.3451	0.3432
62	0.4251	0.3600	0.3392	0.3295	0.3239	0.3203	0.3179	0.3161
61	0.3911	0.3300	0.3107	0.3016	0.2964	0.2931	0.2908	0.2892
60	0.3568	0.3000	0.2822	0.2738	0.2691	0.2660	0.2639	0.2624
59	0.3222	0.2700	0.2537	0.2461	0.2418	0.2391	0.2372	0.2358
58	0.2872	0.2400	0.2254	0.2186	0.2147	0.2122	0.2105	0.2093
57	0.2519	0.2100	0.1971	0.1911	0.1877	0.1855	0.1840	0.1829
56	0.2164	0.1800	0.1688	0.1636	0.1607	0.1588	0.1575	0.1566
55	0.1806	0.1500	0.1406	0.1363	0.1338	0.1322	0.1312	0.1304
54	0.1447	0.1200	0.1125	0.1090	0.1070	0.1057	0.1049	0.1042
53	0.1087	0.0900	0.0843	0.0817	0.0802	0.0793	0.0786	0.0781
52	0.0725	0.0600	0.0562	0.0544	0.0534	0.0528	0.0524	0.0521
51	0.0363	0.0300	0.0281	0.0272	0.0267	0.0264	0.0262	0.0260
50	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000



Percent Within Limits (P <sub>L</sub> and P <sub>U</sub> )	Negative Values of Q (Q <sub>L</sub> and Q <sub>U</sub> )							
	n=3	n=4	n=5	n=6	n=7	n=8	n=9	n=10
49	-0.0363	-0.0300	-0.0281	-0.0272	-0.0267	-0.0264	-0.0262	-0.0260
48	-0.0725	-0.0600	-0.0562	-0.0544	-0.0534	-0.0528	-0.0524	-0.0521
47	-0.1087	-0.0900	-0.0843	-0.0817	-0.0802	-0.0793	-0.0786	-0.0781
46	-0.1447	-0.1200	-0.1125	-0.1090	-0.1070	-0.1057	-0.1049	-0.1042
45	-0.1806	-0.1500	-0.1406	-0.1363	-0.1338	-0.1322	-0.1312	-0.1304
44	-0.2164	-0.1800	-0.1688	-0.1636	-0.1607	-0.1588	-0.1575	-0.1566
43	-0.2519	-0.2100	-0.1971	-0.1911	-0.1877	-0.1855	-0.1840	-0.1829
42	-0.2872	-0.2400	-0.2254	-0.2186	-0.2147	-0.2122	-0.2105	-0.2093
41	-0.3222	-0.2700	-0.2537	-0.2461	-0.2418	-0.2391	-0.2372	-0.2358
40	-0.3568	-0.3000	-0.2822	-0.2738	-0.2691	-0.2660	-0.2639	-0.2624
39	-0.3911	-0.3300	-0.3107	-0.3016	-0.2964	-0.2931	-0.2908	-0.2892
38	-0.4251	-0.3600	-0.3392	-0.3295	-0.3239	-0.3203	-0.3179	-0.3161
37	-0.4586	-0.3900	-0.3679	-0.3575	-0.3515	-0.3477	-0.3451	-0.3432
36	-0.4916	-0.4200	-0.3967	-0.3856	-0.3793	-0.3753	-0.3725	-0.3705
35	-0.5242	-0.4500	-0.4255	-0.4139	-0.4073	-0.4030	-0.4001	-0.3980
34	-0.5563	-0.4800	-0.4545	-0.4424	-0.4355	-0.4310	-0.4280	-0.4257
33	-0.5878	-0.5100	-0.4836	-0.4710	-0.4638	-0.4592	-0.4560	-0.4537
32	-0.6187	-0.5400	-0.5129	-0.4999	-0.4924	-0.4877	-0.4844	-0.4820
31	-0.6490	-0.5700	-0.5423	-0.5290	-0.5213	-0.5164	-0.5130	-0.5105
30	-0.6787	-0.6000	-0.5719	-0.5582	-0.5504	-0.5454	-0.5419	-0.5394
29	-0.7077	-0.6300	-0.6016	-0.5878	-0.5798	-0.5747	-0.5712	-0.5686
28	-0.7360	-0.6600	-0.6316	-0.6176	-0.6095	-0.6044	-0.6008	-0.5982
27	-0.7636	-0.6900	-0.6617	-0.6477	-0.6396	-0.6344	-0.6308	-0.6282
26	-0.7904	-0.7200	-0.6921	-0.6781	-0.6701	-0.6649	-0.6613	-0.6587
25	-0.8165	-0.7500	-0.7226	-0.7089	-0.7009	-0.6958	-0.6922	-0.6896
24	-0.8417	-0.7800	-0.7535	-0.7401	-0.7322	-0.7271	-0.7236	-0.7211
23	-0.8662	-0.8100	-0.7846	-0.7716	-0.7640	-0.7590	-0.7556	-0.7531
22	-0.8897	-0.8400	-0.8160	-0.8036	-0.7962	-0.7915	-0.7882	-0.7858
21	-0.9124	-0.8700	-0.8478	-0.8360	-0.8291	-0.8245	-0.8214	-0.8192
20	-0.9342	-0.9000	-0.8799	-0.8690	-0.8625	-0.8583	-0.8554	-0.8533
19	-0.9550	-0.9300	-0.9123	-0.9025	-0.8966	-0.8928	-0.8901	-0.8882
18	-0.9749	-0.9600	-0.9452	-0.9367	-0.9315	-0.9281	-0.9258	-0.9241
17	-0.9939	-0.9900	-0.9785	-0.9715	-0.9671	-0.9643	-0.9624	-0.9610
16	-1.0119	-1.0200	-1.0124	-1.0071	-1.0037	-1.0015	-1.0000	-0.9990
15	-1.0288	-1.0500	-1.0467	-1.0435	-1.0413	-1.0399	-1.0389	-1.0382
14	-1.0448	-1.0800	-1.0817	-1.0808	-1.0800	-1.0794	-1.0791	-1.0789
13	-1.0597	-1.1100	-1.1173	-1.1192	-1.1199	-1.1204	-1.1208	-1.1212
12	-1.0736	-1.1400	-1.1537	-1.1587	-1.1613	-1.1630	-1.1643	-1.1653
11	-1.0864	-1.1700	-1.1909	-1.1995	-1.2043	-1.2075	-1.2098	-1.2115
10	-1.0982	-1.2000	-1.2290	-1.2419	-1.2492	-1.2541	-1.2576	-1.2602
9	-1.1089	-1.2300	-1.2683	-1.2860	-1.2964	-1.3032	-1.3081	-1.3118
8	-1.1184	-1.2600	-1.3088	-1.3323	-1.3461	-1.3554	-1.3620	-1.3670
7	-1.1269	-1.2900	-1.3508	-1.3810	-1.3991	-1.4112	-1.4199	-1.4265
6	-1.1342	-1.3200	-1.3946	-1.4329	-1.4561	-1.4717	-1.4829	-1.4914
5	-1.1405	-1.3500	-1.4407	-1.4887	-1.5181	-1.5381	-1.5525	-1.5635
4	-1.1456	-1.3800	-1.4897	-1.5497	-1.5871	-1.6127	-1.6313	-1.6454
3	-1.1496	-1.4100	-1.5427	-1.6181	-1.6661	-1.6993	-1.7235	-1.7420
2	-1.1524	-1.4400	-1.6016	-1.6982	-1.7612	-1.8053	-1.8379	-1.8630
1	-1.1541	-1.4700	-1.6714	-1.8008	-1.8888	-1.9520	-1.9994	-2.0362

**END OF SECTION 110****SECTION 120****NUCLEAR GAGES**

**120-01 TESTING.** When the specifications provide for nuclear gauge acceptance testing of material for Items P-152, P-154, P-208, and P-209, the testing shall be performed in accordance with this section. At each sampling location, the field density shall be determined in accordance with ASTM D 6938 using the Direct Transmission Method. The nuclear gauge shall be calibrated in accordance with ASTM D 6938. Calibration and operation of the gauge shall be in accordance with the requirements of the manufacturer. The operator of the nuclear gauge must show evidence of training and experience in the use of the instrument. The gauge shall be standardized daily in accordance with ASTM standards.

When using the nuclear method, ASTM D 6938 shall be used to determine the moisture content of the material. The calibration curve furnished with the nuclear gauges shall be checked in accordance with ASTM standards. The calibration checks shall be made at the beginning of a job and at regular daily intervals.

~~gauge~~

The material shall be accepted on a lot basis. Each Lot shall be divided into eight (8) sublots when ASTM D 6938 is used.

**120-02.** When PWL concepts are incorporated, compaction shall continue until a PWL of 90 percent or more is achieved using the lower specification tolerance limits (L) below.

The percentage of material within specification limits (PWL) shall be determined in accordance with the procedures specified in Section 110 of the General Provisions.

The lower specification tolerance limit (L) for density shall be:

Specification Item Number	Specification Tolerance (L) for Density, <u>(percent of laboratory maximum)</u>
Item P-152	90.5 for cohesive material, 95.5 for non-cohesive
Item P-154	95.5
Item P-208	97.0
Item P-209	97.0

If the PWL is less than 90 percent, the lot shall be reworked and recompacted by the Contractor at the Contractor's expense. After reworking and recompaction, the lot shall be resampled and retested. Retest results for the lot shall be reevaluated for acceptance. This procedure shall continue until the PWL is 90 percent or greater.

**120-03 VERIFICATION TESTING.** (For Items P-152 and P-154 only.) The Engineer will verify the maximum laboratory density of material placed in the field for each lot. A minimum of one test will be made for each lot of material at the site. The verification process will consist of; (1) compacting the

material and determining the dry density and moisture-density in accordance with [ASTM D 698 for aircraft gross weights less than 60,000 pounds] [ASTM D 1557 for aircraft gross weights 60,000 pounds or more], and (2) comparing the result with the laboratory moisture-density curves for the material being placed. This verification process is commonly referred to as a "one-point Proctor".

If the material does not conform to the existing moisture-density curves, the Engineer will establish the laboratory maximum density and optimum moisture content for the material in accordance with [ASTM D 698 for aircraft gross weights less than 60,000 pounds] [ASTM D 1557 for aircraft gross weights 60,000 pounds or more].

Additional verification tests will be made, if necessary, to properly classify all materials placed in the lot.

The percent compaction of each sampling location will be determined by dividing the field density of each subplot by the laboratory maximum density for the lot.

## **END OF SECTION 120**

CITY OF DULUTH - PART II -  
SUPPLEMENTARY GENERAL CONDITIONS FOR FEDERALLY, STATE OF MINNESOTA, AND/OR CITY ASSISTED ACTIVITIES  
(revised 4/15/11)

The following conditions take precedence over any conflicting conditions in this Contract.

<u>Section</u>	<u>Title</u>
1	Restrictions on Disbursements, Subcontractors Federal Agency Requirements, Separability, Property
2	Miscellaneous Provisions
3	Definitions
4	Environmental Provisions
5	Contract Compliance
6	Records, Reports and Information, Audits and Inspections
7	Conflict of Interest and Lobbying
8	Labor Standards - Physical Improvement Projects
9	Minnesota Department of Transportation Specification 1960 Partial Payments
10	Housing and Urban Development (HUD) Section 4010
11	Equal Opportunity and Affirmative Action
12	Employment Opportunities - "HUD Section 3"
13	Federal Requirements for Minority/Women Business Enterprises Contract Guidance - MPFA
14	Forms

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**E-Mail Addresses**

**For ease in communication, the e-mail address of the person(s) responsible for preparing certified payroll reports (CPRs) is required from the prime contractor and all subcontractors (regardless of tier). This information will be provided to the project engineer prior to the pre-construction meeting OR with materials required in the Letter of Intent.**

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**Section I**

**Restrictions on Disbursements**

No money under this Contract shall be disbursed by the City to any Contractor except pursuant to a written contract which incorporates the applicable PART II, Supplementary General Conditions for Federally, State of Minnesota, and/or City Assisted Activities, and unless the Contractor is in compliance with the Federal Agency requirements with regard to accounting and fiscal matters to the extent they are applicable.

**Subcontractors**

(A) The Contractor shall include in any subcontract the clauses set forth in the PART II, Supplementary General Conditions for Federally, State of Minnesota and/or City Assisted Activities in their entirety and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts which they may enter into, together with a clause requiring this insertion in any further subcontracts that may in turn be made.

(B) The Contractor shall not subcontract any part of the work covered by this Contract or permit subcontracted work to be further subcontracted without the City's prior written approval of the subcontractors. The City will not approve any subcontractor for work covered by this Contract who is at the time ineligible under the provisions of any applicable regulations issued by a Federal Agency or the Secretary of Labor, United States Department of Labor, to receive an award of such subcontract.

**Federal Agency Requirements**

Unearned payments under this Contract may be suspended or terminated upon refusal to accept any additional conditions that may be imposed by the Federal Agency at any time; or if the grant, if applicable, to the City under which this Contract is made is suspended or terminated.

**Separability**

If any provisions of this Contract is held invalid, the remainder of this Contract shall not be affected thereby if such remainder would then continue to conform to the terms and requirements of applicable law.

**Property**

Acquisition, use, and disposal of all property, materials and goods acquired as a result of activities made possible by this Contract shall be accomplished in accordance with the applicable provisions of Federal Management Circular (FMC)-74-7, as amended.

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**Section 2**

**Miscellaneous Provisions**

(A) **Copyrights.** In the event this Contract results in a book or other copyrightable material, the author is free to copyright the work, but Federal Agency and the City reserve a royalty-free, nonexclusive, and irrevocable license to reproduce, publish or otherwise use, all copyrighted material and all material which can be copyrighted.

(B) **Patents.** Any discovery or invention arising out of or developed in the course of work aided by this Contract shall be promptly and fully reported to the Federal Agency and the City for determination by the Federal Agency as to whether patent protection on such invention or discovery shall be sought and how the rights in the invention or discovery, including rights under any patent issued thereon, shall be disposed of and administered in order to protect the public interests.

(C) **Political Activity Prohibited.** None of the funds, materials, property or services provided directly or indirectly under this Contract shall be used in the performance of this Contract on any partisan political activity, or to further the election or defeat of any candidate for public office.

(D) **Lobbying Prohibited.** None of the funds under this Contract shall be used for publicity or propaganda purposes designed to support or defeat legislation pending before the Congress or the City.

(E) **Prohibition of and Elimination of Lead-Based Paint Hazard.** Notwithstanding any other provision, the Agency and Contractor agree to comply with the regulation issued by the Secretary of Housing and Urban Development set forth in 37 F. R. 22732-3 and all applicable rules and orders issued thereunder which prohibit the use of lead-based paint in residential structures undergoing Federally assisted construction or rehabilitation and require the elimination of lead-based paint hazards. Every contract or subcontract, including paint, pursuant to which such Federally assisted construction or rehabilitation is performed shall include appropriate provisions prohibiting the use of lead-based paint.

(F) **Architectural Barriers Act.** The design for and construction of any facility funded in whole or in part by this Contract shall be in conformance with the American Standard Specification for Making Buildings and Facilities Accessible and Usable by the Physically Handicapped, Number A-117.1-1971, as modified.

(G) **Relocation and Acquisition.** Any relocation or acquisition resulting from activities funded in whole or in part by this Contract shall be in conformance with the provisions of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (40 U.S.C. 4601) and the implementing regulations 24CFR Part 42.

(H) **Prohibition Against Payments of Bonus or Commission.** The assistance provided under this Contract shall not be used in the payment of any bonus or commission for the purpose of obtaining Federal Agency approval for such assistance, or Federal Agency approval of applications for additional assistance, or any other approval or concurrence of a Federal Agency required under this Contract, Federal Law or Federal Regulations thereto; provided, however, that reasonable fees or bonafide technical, consultant, managerial or other such services, other than actual solicitation, are not hereby prohibited if otherwise eligible as project costs.

(I) **Hatch Act.** Where applicable, the Contractor will comply with the provisions of the Hatch Act which limits the political activity of the Contractor's employees.

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### **Section 3**

#### **Definitions**

(A) City means the City of Duluth, Contracting Officer, or other persons authorized to act on behalf of the City of Duluth.

(B) Contracting Officer is the delegated representative of the City who has the responsibility for administering the Project.

(C) Contractor means an entity, whether public or private, which furnishes (other than standard commercial supplies, office space or printing services) to the City, products, services or supplies as described in this project Contract.

(D) Federal Agency means the United States, the District of Columbia, and any executive department, independent establishment, administrative agency, or instrumentality of the United States or of the District of Columbia, including any corporation, all or substantially all of the stock of which is beneficially owned by the United States, by the District of Columbia, or by any of the foregoing departments, establishments, agencies, and instrumentalities. The term Federal Agency shall also include the person or persons authorized to act on behalf of said Federal Agency.

(E) Project means the activities to be undertaken by the Contractor as described in this Contract, which from time to time may be amended by mutual consent of the City and Contractor.

(F) Subcontractor means an entity, regardless of tier, which has entered into an agreement with the Contractor or another Subcontractor, to undertake certain Project activities as described in that agreement.

(G) The term labor standards, as used in the Contract, means the requirements of the Davis-Bacon Act, the Contract Work Hours and Safety Standards Act (other than those relating to safety and health), the Copeland Act, and the prevailing wage provisions of the other statutes listed in 20 CFR 5.1.

(H) Work means all labor necessary to produce the construction required by the Contract Documents, all materials and equipment incorporated or to be incorporated in such construction, products, services, or supplies required by the Contract Documents, or any other requirements set forth in the Contract.

(I) Additional Definitions, that are applicable to the Labor Standards provisions - Section 8 - of this Contract can be found in 29CFR5.2 as published by the U.S. Department of Labor and said definitions are hereby incorporated by reference into the provisions of this Contract.

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### **Section 4**

#### **Environmental Provisions**

(A) The Contractor agrees to follow the regulations, requirements, policies, goals and procedures set forth by the Council on Environmental Quality (CEQ) under provisions of the National Environmental Policy Act (NEPA) (Pub. L 91-190, 42 U.S.C. 4321 et seq.), Executive Order 11514, and 40 CFR Part 1500.

(B) **Historic Properties.** The Contractor agrees to follow the regulations, requirements, policies, goals, and procedures set forth under provisions of the National Historic Preservation Act of 1966 (Pub. L. 89-665); Preservation of Historic and Archeological Data Act of 1974 (Pub. L. 93-291); Executive Order 11593; 36 CFR , Part 800 and applicable State legislation or regulations.

(C) **Coastal Zones and Wetlands.** The Contractor agrees to follow the regulations, requirements, policies, goals and procedures set forth under provisions of the Coastal Zone Management Act of 1972 (Pub. L. 92-583) and applicable State legislation or regulations.

(D) **Noise.** The Contractor agrees to comply with provisions set forth in the U.S. Department of Housing and Urban Development Handbook 1390.2, Noise Abatement and Control, Department Policy, Responsibility and Standards, 1971.

(E) **Flood Plain.** The Contractor agrees to comply with the provisions set forth in the Flood Disaster Protection Act of 1973 (Pub. L. 93-234) and implementing regulations; Title 24, Chapter X, Subchapter B, National Flood Insurance Program, Executive Order 11296, and Executive Order 11988 relating to the evaluation of flood hazards.

(F) **Air Quality.** The Contractor agrees to comply with provisions set forth in the Clean Air Act (Pub. L. 90-148) and Clean Air Act Amendments of 1970 (Pub. L. 91-604); and applicable U.S. Environmental Protection Agency implementing regulations.

(G) **Water Quality.** The Contractor agrees to comply with the provisions set forth in the Federal Water Pollution Control Act (Pub. L. 92-500) and applicable U.S. Environmental Protection Agency implementing regulations, and Executive Order 11288 relating to the prevention, control, and abatement of water pollution.

(H) **Wildlife.** The Contractor agrees to comply with the provisions of the Fish and Wildlife Coordination Act (Pub. L. 85-264).

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### **Section 5**

#### **Contract Compliance**

(A) In the event of the Contractor's noncompliance with the provisions of this Contract or with any of the said regulations, the City may withhold payment(s) until evidence of compliance by the Contractor has been demonstrated, or the Contract may be canceled, terminated or suspended in whole or in part and the Contractor may be declared ineligible for further City contracts.

(B) In the event the Contract is terminated or canceled as a result of noncompliance with any of the provisions of this Contract, the City may subject to bids the remainder of the Project for which this Contract was made. The City shall have the right upon termination or suspension to withhold all further payments under this

Contract to the Contractor. Upon the award of a new contract for the remainder of the Project, the City shall pay to the Contractor an amount no more than the balance remaining due to the Contractor less the sum of the costs incurred by the City which are necessary in preparing the new bid specifications. In the event the amount paid the Contractor prior to the date of termination or cancellation exceeds the full amount of this Contract less the cost of the new contract and the additional costs mentioned above, the Contractor agrees to reimburse the City for such excess amount within ninety days after the new contract is awarded by the above procedures.

(C) Provisions contained in subparagraph (A) and (B) above shall not be interpreted as precluding any authorized Federal, State, or County governmental unit from exercising their legal administrative or other responsibilities in respect to the enforcement by said governmental units of laws or regulations concerning activities of the Contractor.

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## **Section 6**

### **Records**

(A) **Establishment and Maintenance of Records.** Records shall be maintained in accordance with requirements prescribed by the Federal Agency or the City with respect to all matters covered by this Contract. Except as otherwise authorized by the Federal Agency, such records shall be maintained for a period of three years after receipt of final payment under this Contract.

(B) **Documentation of Costs.** All costs shall be supported by properly executed payrolls, time records, invoices, contracts, or vouchers, or other official documentation evidencing in proper detail the nature and propriety of the charges. All checks, payrolls, invoices, contracts, vouchers, orders, or other accounting documents pertaining in whole or in part to this Contract shall be clearly identified and readily accessible.

### **Reports and Information**

At such times and in such forms as the Federal Agency or the City may require, there shall be furnished to the Federal Agency or the City such statements, records, data and information as the Federal Agency or the City may request pertaining to matters covered by this Contract.

### **Audits and Inspection**

At any time during normal business hours and as often as the City, the Federal Agency and/or the Comptroller General of the United States may deem necessary, there shall be made available to the City, the Federal Agency and/or representatives of the Comptroller General for examination of all its records with respect to all matters covered by this Contract and will permit the City, the Federal Agency and/or representative of the Comptroller General to audit, examine and make excerpts or transcripts from such records, and to make audits of all contracts, invoices, materials, payrolls, records of personnel, conditions of employment, and other data relating to all matters covered by this Contract.

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## **Section 7**

### **Conflict of Interest and Lobbying**

(A) **Interest of Members, Officers, or Employees of the City, Members of Local Governing Body, or Other Public Officials.** No member, officer, or employee of the City, or its designees or agents, or member of the governing body of the City, during his/her tenure of for one year thereafter, shall have any interest, direct or indirect in any contract or subcontract, or the proceeds thereof, for work to be performed in connection with the Project assisted under this Contract. Any contract in which any of the above indicated individuals becomes directly or indirectly, interested, personally or as a member of a firm, or as an officer, director, or stockholder of a corporation, shall be and become absolutely void; and any money which shall have been paid on such contract by the City may be recovered back from any or all persons interested therein, by a joint action or several actions.

(B) The Contractor agrees that he will incorporate into every contract required to be in writing the following provisions: **Interest of Contractors and Employees** - The Contractor covenants that he presently has no interest and shall not acquire any interest, direct or indirect, in the Project which would conflict in any manner or degree with the performance of this Contract, and no person having any conflicting interest shall be employed. Any interest on the part of the Contractor or his employees must be disclosed to the Federal Agency and the City. Provided, however, that this paragraph shall be interpreted in such a manner so as not to unreasonably impede any statutory requirements that opportunity be provided for employment of and participation by certain residents of a designated geographical area, if applicable.

(C) **Interest of Member or of Delegate to Congress.** No member of or Delegate to Congress, or Resident Commissioner, shall be admitted to any share or part of this Contract or to any benefit that may arise therefrom, but this provision shall not be construed to extend to this Contract if made with a corporation for its general benefit.

(D) The Contractor by signing this document certifies, to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the Contractor, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the Contractor shall complete and submit Standard Form -LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

The above certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1332, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

(E) The parties to this Contract certify and agree that they are under no contractual or other disability which would prevent them from complying with the terms of this Contract.

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## **Section 8**

### **Labor Standards - Physical Improvement Projects**

Where applicable, there shall be included in all construction, rehabilitation, alteration or repair contracts with private entities made possible by or resulting from this Contract, the following Labor Standards provisions;

(A) **General Requirements.**

(1) **Subcontracts.** The Contractor shall include in any subcontract the clauses set forth in Section 8, **Labor Standards**, in their entirety and also a clause requiring the subcontractors to include these clauses in any Tower tier subcontract which they may enter into, together with a clause requiring this insertion in any further subcontracts that may in turn be made.

(2) The transporting of materials and supplies to or from the site of the Project or Program to which this Contract pertains by the Employees of the Contractor or of any subcontractor, and the manufacturing or furnishing of materials, articles, supplies, or equipment on the site of the Project or Program to which this Contract pertains by persons employed by the Contractor or by any subcontractor, shall for the purpose of this Contract, and without limiting the generality of the foregoing provisions of this Contract, be deemed to be work to which these **Labor Standards** provisions are applicable.

(3) No person under the age of eighteen years shall be employed on work covered by this Contract.

(4) In connection with the performance of work under this Contract, the Contractor agrees not to employ any person undergoing sentence of imprisonment except as provided by Public Law 89-176, September 10, 1955 (18 U.S.C. 4082 (c) (2)) and Executive Order 11755, December 29, 1973.

(5) The Contractor will permit authorized representatives of the Federal Agency and the City to interview employees during working hours on the job.

(6) No employee to whom the wage, salary, or other **Labor Standards** provisions of this Contract are applicable shall be discharged or in any other manner discriminated against by the Contractor or any subcontractor because such employee has filed any complaint or instituted or caused to be instituted any proceeding or has testified or is about to testify in any proceeding under or relating to the Labor Standards applicable under this Contract to his employer.

(B) **Safety Standards.** No Contractor or subcontractor contracting for any part of a construction contract shall require any laborer or mechanic, including apprentices and trainees, employed in the performance of the Contract to work in surroundings or under working conditions which are unsanitary, hazardous or dangerous to his health or safety, as determined under construction safety and health standards promulgated by the Secretary of Labor. The Contractor or subcontractor comply with all the rules, regulations, and relevant orders, promulgated by the Secretary of Labor pursuant to Public Law 91-54.

(C) **Davis-Bacon Act - 29 CFR 5.5**

web site: [http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&tpl=/ecfrbrowse/Title29/29cfr5\\_main\\_02.tpl](http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&tpl=/ecfrbrowse/Title29/29cfr5_main_02.tpl)

Refer to Section 10, Page 10 Housing and Urban Development (HUD) form-4010 (06/2009) Ref Handbook 1344.1

**City of Duluth "Mini Davis-Bacon"**

(D) **City of Duluth - Minimum Wage Ordinance 8940, as Amended.**

(1) On a project (as defined below) funded in whole or in part by federal and/or state funds and/or city of Duluth funds, these local provisions shall prevail in those instances where the requirements of the local provisions are equal to or greater than similar minimum labor standards provisions as set forth in applicable federal and/or state laws and regulations.

(2) In all contracts in excess of \$2,000 for projects (as defined below), the Contractor's particular attention is called to Ordinance 8940, effective June 8, 1989, respectively coded as Article IV of Chapter 2 of the Duluth City Code, and entitled "An Ordinance Pertaining to Wages and Working Hours of Persons on Public Works in the City of Duluth", as set forth below:

(3) **Definitions.**

For the purposes of this section the following words and phrases shall have the meanings respectively ascribed to them in this section:

(a) **Basic hourly rate** - The hourly wage paid to any employee.

(b) **Prevailing wage rate** - The basic hourly rate plus fringe benefits prevailing in the city of Duluth as determined by the United States secretary of labor pursuant to the Davis-Bacon act, as amended; provided that whenever employer and employee organizations employing and representing a majority of a class of workers in a particular industry within the city jointly certify that the prevailing basic hourly rate plus fringe benefits of such workers differs from the amount determined by the secretary of labor, the certified rate shall be considered to be the prevailing wage rate for such class of workers in that industry.

(c) **Fringe benefits** - Employer contribution for health and welfare benefits, vacation benefits, pension benefits, and all other economic benefits other than the basic hourly rate.

(d) **Apprentice** - An employee who is working under a training program which is approved either by the U.S. Department of Labor Bureau of Apprenticeship & Training or the Minnesota Director of Voluntary Apprenticeship; see apprentice ratios on pages 6-7 and HUD 4010 in Section 10.

(e) **Trainee** - An employee registered with the U. S. Department of Labor Employment & Training Administration; see HUD 4010 in Section 10.

(f) **Project** - Erection, construction, demolition, painting, remodeling or repairing of any public building, highway, sidewalk, bridge, water or gas line, sewer and sewage treatment facility or other public work performed under contract with the city.

(g) **Labor, mechanic** - All persons utilized, employed or working on a project who are doing work usually done by mechanics and laborers, including proprietors, partners, and members of cooperatives.

(4) **Wage Rates and Hours for City of Duluth Projects.**

(a) Any contract which provides for a project of estimated total cost of over \$2,000.00 shall contain a stipulation that no laborer, mechanic or apprentice-trainee employed directly upon the project work site by the contractor or any subcontractor shall be permitted or required to work at a rate of pay less than the prevailing wage rate; nor shall any such employee be permitted or required to work more than 8 hours in any work day **OR** 40 hours in any work week unless he is paid at a rate of at least 1½ times the basic hourly rate for all hours in excess of 8 per day **OR** 40 per week [in other words: all hours in excess of eight per day and all hours after 40 per week] and unless he receives fringe benefits that are at least equal to those in the prevailing wage rate; provided that whenever employer and employee organizations employing and representing a majority of a class of workers in a particular industry within the city jointly certify that the maximum number of hours that such persons may work under existing labor agreements before overtime wages must be paid differs from the hours specified in this paragraph, the maximum number of hours specified in such labor agreements shall be substituted for those specified above in applying the provisions of this paragraph to such workers.

(b) The word "or" in the state statute and the city of Duluth Code refers to the number of hours worked in any one week or, in the alternative, the number of hours worked in any one day in the week (the days in one week being totaled for reporting purposes); the law requires use of the alternative which results in the higher number of overtime hours for each employee whose time is being reported.

**EXCEPTIONS:** Federal government funding only and HUD (Housing and Urban Development) funding - see point "e"

In summary, if a project is solely funded with city of Duluth monies, city ordinance 8940 as amended allows the employees to work four ten-hour days and be paid at the regular hourly rate for those ten hours; exceeding hours must be paid at the overtime rate. An employer may not withhold overtime payment exclusively until 40 hours per week have been worked. Daily overtime must be paid as it is earned.

- **The base workweek hours must be clearly indicated on each payroll. Employees may be assigned a different workweek; however, that must be clearly marked beside the employees' names.**

The following are examples of how these rules apply to different situations.

- TT refers to the total time worked on the day or in the week
- RT refers to the hours worked at the regular rate of pay (straight time)
- OT refers to the hours worked for which overtime must be paid

State Funded with or without federal funding Projects								City-only Funded Projects (4 ten-hour days)							
	Mon	Tues	Wed	Thurs	Fri	Sat	Total		Mon	Tues	Wed	Thurs	Fri	Sat	Total
TT	10	10	10	10	0	6	46		10	10	10	10	0	6	46
RT	8	8	8	8	0	6	38		10	10	10	10	0	0	40
OT	2	2	2	2	0	0	8		0	0	0	0	0	6	6

State Funded with or without federal funding Projects								City-only Funded Projects (4 ten-hour days)							
	Mon	Tues	Wed	Thurs	Fri	Sat	Total		Mon	Tues	Wed	Thurs	Fri	Sat	Total
TT	0	10	10	0	7	0	27		10	0	12	0	0	0	32
RT	0	8	8	0	7	0	23		10	0	10	10	0	0	30
OT	0	2	2	0	0	0	4		0	0	2	0	0	0	2

#### c) **Overtime Calculations**

Minnesota Statutes Chapter 177.42, subd 4 specifies that the prevailing hours of labor may not be more than eight hours per day or more than 40 hours per week (as stated above in (b)), the City of Duluth does allow for ten hours per day/40 hours per week with City funding *only*. **Example: hours exceeding eight per day are paid at 1.5 times the rate in the contract's wage decision OR the base rate the employee is being paid if it is higher than the required base rate; once 40-hours in any one week are attained, all hours exceeding that 40 are paid at 1.5 times the rate in the project contract's wage decision.** See example (1) and (2) below.

Minnesota Statutes Chapter 177.42, subd 5 defines the hourly basic rate as the hourly wage paid to any employee. (subd 6): The prevailing wage rate means the hourly basic rate of pay plus the contribution for health and welfare benefits, vacation benefits, pension benefits, and any other economic benefit paid to the largest number of workers engaged in the same class of labor within the area...

Minnesota Statutes Chapter 177.43, subd 1 (1) ...employees are permitted to work more hours than the prevailing hours of labor [being] paid for all hours in excess of the prevailing hours at a rate of at least 1-½ times the hourly basic rate of pay. (2) A laborer or mechanic may not be paid a lesser rate of wages than the prevailing wage rate in the same or most similar trade or occupation in the area.

An employer may pay a lower **regular time/straight time** hourly rate and higher fringe benefit rate--to a bona fide plan--than stated in the contract's wage decision providing the total of the two rates is equal to or greater than the total in the wage decision; however, the **OVERTIME rate** must be paid on the higher rate in the contract's wage decision.

##### **(1) Overtime Calculation with Fringe Benefits Paid to Bona Fide Plans**

For overtime purposes, an employer paying higher fringe benefits to a bona fide plan and paying a lower hourly rate **MUST** calculate the overtime on the higher hourly rate as stated in the project contract's wage decision. The fringe benefit amount may be reduced to reflect any increase in the total prevailing wage package IF the plan administrator permits such a reduction. This acceptance must be verified in writing by the plan administrator and attached to the appropriate certified payroll report.

##### **(2) Overtime Calculation with Cash Payment of Fringe Benefits**

When the fringe benefit is paid directly to an employee, the prevailing base rate and the fringe benefit rate as established in the project contract's wage decision for a specific classification are totaled to arrive at the hourly rate. *Overtime is calculated at 1.5 x the base rate of the wage decision with the fringe benefit amount added to that rate: base rate of the wage decision x 1.5 + fringe benefit rate = overtime rate.*

##### **Contract Work Hours and Safety Standards Act**

[Refer to page two of this document.] All projects valued at \$100,000 or greater are subject to this Act. As with Minnesota Statutes Chapter 177.43, the overtime rate is calculated as in items one and two above OR (e) below.

- (d) A contractor shall not reduce a worker's private, regular rate of pay when the wage rate certified by the U. S. Department of Labor or the Minnesota Department of Labor & Industry is less than the worker's normal hourly wage [Minnesota Statute 181.03 subdivision 1(2)].



(e) **Regular Time & Overtime Definitions**

- **State of Minnesota** funded projects with or without federal funding *only allow for five eight-hour days per week at regular time*. Overtime is calculated at a rate not less than time and one-half (1.5) of the prevailing base rate as stated in the wage decision OR the base rate the employee is being paid if it is higher than the required base rate--plus the straight time fringe benefit amount. (see (1) above for example when a lower base rate and higher fringe are paid)
- **City of Duluth** funded projects do permit four ten-hour work days at regular time--see point 4-a, b for stipulations. Overtime is calculated at a rate not less than time and one-half (1.5) of the prevailing base rate as stated in the wage decision--OR the base rate the employee is being paid if it is higher than the required base rate--plus the straight time fringe benefit amount. (see (1) above for example when a lower base rate and higher fringe are paid)
- **Federal** funded only projects allow overtime pay for hours worked in excess of 40 in a workweek at a rate not less than time and one-half (1.5) of the prevailing base rate as stated in the wage decision OR the base rate the employee is being paid if it is higher than the required base rate--plus the straight time fringe benefit amount.
- **HUD** funded projects allow overtime pay for hours worked in excess of 40 in a workweek at a rate not less than time and one-half (1.5) of the prevailing base rate as stated in the wage decision OR the base rate the employee is being paid if it is higher than the required base rate--plus the straight time fringe benefit amount.

\*\* When a combination of funding sources are included in any one project, the most strict requirements will apply.

- (f) The minimum hourly prevailing wages are contained in each project specification. When both federal (general decision rates from the U. S. Department of Labor) and State of Minnesota prevailing wages for state funded construction projects from the Minnesota Department of Labor and Industry are used, the prime contractor and all subcontractors including trucking operations, are required to pay the higher of the two wages for all laborers and mechanics [MnDOT Contract Administration Manual, Section 5-591.320].
- (g) The prime contractor and any lower-tier subcontractor shall review all wage decisions and compensate a worker according to the type of work performed and at the rate that is the greatest.
- (h) State of Minnesota prevailing wages typically list two rates for each classification with two effective dates. Should any City of Duluth contract continue to and past the second effective date, that rate and fringe benefit will be in effect through the remainder of the project.
- (i) **Mn/DOT Statement of Compliance is required on all city of Duluth construction projects (regardless of the project funding source) with each weekly certified payroll report.** web site: <http://dot.state.mn.us/const/labor/forms.html>
- (j) All contracts for city projects shall have applicable schedules of prevailing wage rates set forth in the contract. Schedules of applicable prevailing wage rates shall be posted on all project job sites for public review and shall be protected from the weather.
- (k) Employees on projects shall be paid at least **weekly**. Fringe benefits shall be paid either in cash or to an employee benefit plan that has been approved by the U.S. Department of Labor. ■ **The fringe benefit package is an integral portion of the prevailing wage. Should the prime contractor or any subcontractor (regardless of tier) become delinquent with any fringe benefit plan administrator's requirements for monthly payment, the monthly estimate(s) may be withheld until the plan payments are made current.** (city ordinance 8940 6-18-89 plus amendments)  
See MnDOT Specification 1906 on page nine and Section 5 of this document: Contract Compliance.  
See Statement of Compliance and Certified Payroll Report requirements in Section 10, HUD 4010 and web sites in Section 14, Forms.
- (l) Any contractor or subcontractor working on a project shall furnish the City with **original** certified payroll reports with **original signatures** relating to the project. Such certified payroll reports shall be **submitted weekly** on U.S. Department of Labor standard forms (WH-347) or their equivalent--using the same format--to the City of Duluth Labor Standards representative. All City of Duluth funded projects must have the base workweek hours indicated on the certified payroll form and/or beside each employee's name (should some employees be working different base workweeks).
- (m) No contractor or subcontractor working on a project shall evade or attempt to evade the provisions of this section through the use of non-recognized training programs. The only employees involved in training programs that shall be allowed to work on projects covered by this section shall be apprentice-trainees as defined by this article.
- (n) Any person violating the provisions of this section shall be guilty of a misdemeanor with each day of violation constituting a separate offense. In addition, if the prevailing wage rate and accompanying fringe benefit rate is not paid to employees working on a project, the City of Duluth may withhold contract payments to the prime contractor until such deficiencies are corrected. Should fringe benefits be paid to authorized Plans, the payments must be made within the demands of those Plans. Delinquencies may result in withholding of project funds to the prime contractor.
- (o) This section shall not apply to contracts for projects where the total cost of the project is less than \$2,000.00; nor to materialmen who do no more than deliver materials to the work site, except that this section shall apply to employees who deliver asphalt, concrete or mineral aggregate such as sand, gravel or stone where such material is incorporated into the project by depositing the material substantially in place, either directly or through spreaders, from the transporting vehicle.

(5) **Helpers**

A helper may perform work *only* if the helper classification is specified and defined in the federal wage decision and/or State of Minnesota wage decision incorporated into the project contract. Without such a helper classification, the contractor must assign a job classification that is the "same or most similar" [Minnesota Statute 177.44, subdivision 1] and compensate the helper for the actual work performed regardless of the helper's skill level.

(6) **Apprentice Ratios**

Journeyworkers must be on site with the apprentices and their hours must match.

**FUNDING SOURCE:**

**City of Duluth and State of Minnesota with or without Federal funding**

- Apprentices are not permitted to work alone under any circumstances.
- Working foremen are acceptable as a journeyworker PROVIDING he/she is in the same classification.
  - » Example: carpenter foreman and carpenter apprentice
- Ratios are determined by the trade's labor agreement.
- In the absence of ratio language, the following State of Minnesota apprenticeship ratios will be applied:  
(apprentice : journeyworker)      1:1   2:4   3:7   4:10, etc.

- Employees working in excess of the allowable ratio must be paid the full journeyworker compensation.
- Out-of-ratio apprentices will be calculated beginning with the **apprentice at the highest level of training** and, then, to less senior apprentices in their rank order.
- Should two or more out-of-ratio apprentices have the same level of training, whomever was on the work site first will receive journeyworker pay; if the apprentices at the same level of training began work on the project site at the same time, hours worked out-of-ratio for which restitution is due will be divided among those apprentices.

Examples:

Four apprentices working unsupervised are on site. [4:0]  
Ratio calls for four apprentices and ten journeyworkers [4:10]

Correction: all apprentices will receive the full journeyworker compensation as apprentices are not permitted to work alone.

Three apprentices and two journeyworkers are on site. [3:2]  
Ratio calls for three apprentices and seven journeyworkers [3:7]

Two journeyworkers may accompany only one apprentice; therefore, the two highest level apprentices are paid the full journeyworker compensation.

Even though this particular job has three apprentices—the second journeyworker is a mute point; a third journeyworker would also be a mute point in this example.

Correction: the two highest level apprentices are paid the full journeyworker compensation and the third lower level apprentice is considered in ratio.

#### **H U D (CDBG) and Federal funding only**

- Apprentices are not permitted to work alone unless the U. S. Department of Labor-approved agreement allows that practice.
- Working foremen are acceptable as a journeyworker PROVIDING he/she is in the same classification.
  - » Example: electrician foreman and electrician apprentice
- Ratios are determined by the trade's U. S. Department of Labor-approved agreement.
- In the event of the absence of ratio language in the applicable agreement, the Minnesota Department of Labor ratio of one apprentice for the first journeyworker and one apprentice for each three journeyworkers thereafter will be applied, (i.e., 1:1, 2:4, 3:7, 4:10, etc.).
- The **legal apprentices are those who first came to work on the job site**; in the event that all apprentices begin work on the project site at the same time, hours worked out-of-ratio for which restitution is due will be divided among the apprentices.
- Time cards will be required to substantiate the start times.
- Employees working in excess of the allowable ratio—or for which U. S. Department of Labor-apprentice agreement/certificate is not provided—must be paid the full journeyworker compensation.

Examples:

Four apprentices and one journeyworker are on site. [4:1]  
Ratio calls for four apprentices and ten journeyworkers. [4:10]

The first apprentice on site is considered in ratio as one journeyworker may only accompany one apprentice [1:1]; this particular job has four apprentices.

Correction: the second through the fourth apprentices coming on site are paid the full journeyworker compensation.

Six apprentices and two journeyworkers are on site [6:2]  
Ratio calls for six apprentices and sixteen journeyworkers [6:16]

The first apprentice on site is considered in ratio as two journeyworkers may only accompany one apprentice; this particular job has six apprentices—the second journeyworker is a mute point.

Correction: the second through sixth apprentices coming on site are paid the full journeyworker compensation.

#### **(7) Poster Boards**

The prime contractor must construct and display a poster board, which contains all required posters, is legible and is accessible to all workers from the first day of work until the project is 100% complete. Posters must be protected from the weather. Prime contractors are not allowed to place a poster board at an off-site facility location.

#### **(8) Trucking Issues**

a) For the purpose of sections seven and eight, the term “owner” includes all persons having an ownership interest in the trucking entity or a partnership interest in the trucking entity and has a legal and rightful title to the vehicle(s) or has an approved lease on the vehicle(s). “Operate” means the owner either physically drives the vehicle or hires another to physically drive the vehicle; yet, maintains the right to direct the day-to-day operations of the vehicle.

b) Trucking Operations Definitions: See MN Rule 5200.1106 web site: <https://www.revisor.mn.gov/rules/?id=5200.1106>

Independent Trucking Operator: an individual or partnership who owns or holds a vehicle under lease and who contracts that vehicle and the owner's services to an entity which provides construction services to a public works project. The individual owns or leases and drives the equipment, is responsible for the maintenance of the equipment, bears all operating costs, determines the details and means of performing the services, and enters into a legally binding agreement that specifies the relationship to be that of an independent contractor and not that of an employee.

Multiple Truck Operations: any legal business entity that owns more than one vehicle and hires the vehicles out for services to brokers or contractors on public works projects. The owners of a trucking firm may either drive the vehicles or hire employees to drive the vehicles. Employee drivers are subject to the appropriate prevailing wage rate. The owner driving a vehicle is obligated to account for the value of his/her services as a driver at the appropriate prevailing wage.

Partnerships: a legal business entity where two or more individuals hold vehicles under lease and contract those vehicles and their services to an entity which provides construction services to a public works project. The partners own or lease the equipment, are responsible for maintenance and all operating costs, drive the equipment, determine the details and means of performing the services, and enter a legally binding agreement that specifies the

relationship to be that of a partner and not that of an employee. All partners are subject to the appropriate prevailing wage per city of Duluth ordinance 8940 as amended.

Corporation: any legal business entity that owns or leases vehicles to provide construction services to public works projects. All individuals are employees of the corporation and subject to the appropriate prevailing wage regardless of title or position.

Broker: an individual or firm who (activities include, but are not limited to):

- contracts to provide trucking services [equipment and driver] in the construction industry to users of such services, such as prime contractors and various subcontractors of the prime;
- contracts to obtain services from other trucking operations and dispatches them to various assignments;
- receives payment from the users (such as prime contractors and various subcontractors) in consideration for the trucking services provided; and
- makes payment to the providers (trucking operations so contracted with) for their services.

(9) **Specific documentation from trucking operations.**

Independent Trucking Operators

The owner/operator of a truck must submit a copy of his/her commercial driver's license (CDL), cab card, and insurance certificate for each truck the owner/operator drives on each construction project *before commencing work on that project*. These documents must be sent to the prime contractor who will then forward the material to Labor Standards, Engineering Division at the City of Duluth.

Multiple Truck Operators

Weekly certified payrolls and payment of corresponding prevailing wages plus the fringe benefit package will be required for each project where trucks are operating. This covers the owner plus all employees performing work on the project.

Partnerships

Weekly certified payrolls and payment of corresponding prevailing wages plus fringe benefit packages will be required for each project where trucks are operating. This covers all partners of the organization who perform work on the project.

Each partner performing work on a project must submit a copy of his/her commercial driver's license (CDL), cab card, and insurance certificate for the truck being operated with that weekly certified payroll. It is not necessary to repeat such supporting documentation until a different truck is used and/or certificates or licenses have expired.

Employees of the partnership are always reported on a weekly certified payroll and paid the appropriate prevailing wage plus fringe benefit package for the work being performed.

Corporations

All persons employed by the corporation are subject to receive payment of the prevailing wage plus the fringe benefit package for the work performed on a project regardless of title or position. Weekly certified payrolls must be submitted for all work performed on the project.

Brokers

**Truck ownership** and a **bonafide contract** between the broker and another trucking operation, a prime contractor, or a subcontractor must be identified. Paperwork must be submitted with the month end trucking report to the city of Duluth Labor Standards representative - Engineering. Certified payrolls are not required when the above documentation is provided and approved.

(10) **Month End Trucking Report - ONLY REQUIRED WITH STATE OF MINNESOTA FUNDING**

The Minnesota Department of Transportation Month End Trucking Report Form A and Form B plus Minnesota Department of Transportation Month End Trucking Report Statement of Compliance are *only required on state funded projects*.

A guide for completing the forms including definitions and the reports, themselves, may be downloaded from:

[www.dot.state.mn.us/const/labor/forms.html](http://www.dot.state.mn.us/const/labor/forms.html)

Payment to the prime contractor may be withheld until documentation is received and approved.

(11) **Truck Rental Rates - ONLY REQUIRED WITH STATE OF MINNESOTA FUNDING**

Truck rental rates are listed in the prevailing wage section of the project specifications.

(12) **Minnesota Rules 5200.1105 and 5200.1106**

These rules are incorporated into this supplementary general conditions part II by reference and are found on these web sites:

[www.revisor.mn.gov/rules/?id=5200](http://www.revisor.mn.gov/rules/?id=5200)

(13) **Truck Axles** web site: <https://www.revisor.mn.gov/rules/?id=5200.1100>

Per Minnesota Rules 5200.1100 Master Job Classifications, a truck "unit" refers to all axles including the steering axle. A tag axle is also counted as one of the axles. Examples: four rear axles plus one steering axle = five axles total      one rear axle plus one steering axle = two axles total

(14) **Non-Compliance and Enforcement**

- a) The prime contractor shall be liable for any unpaid wages to its workers or those of its lower-tier subcontractors, trucking companies/Multiple Truck Owners (MTO's) and/or Independent Truck Owner/Operator (ITOs) [MnDOT Standard Specifications for Construction, Section 1801].
- b) See Section 9, MnDOT Specification 1906 Partial Payments and Section 5, page two of this document.
- c) City of Duluth ordinance 8940 as amended.

(15) **IC-134 form - Withholding Affidavit for Contractors**

The IC-134 form will be required from all Multiple Truck Operators, Partnerships, and Corporations performing trucking services on a project before the retainage or all remaining funds can be released. Web site for completing form online: [www.mndor.state.mn.us](http://www.mndor.state.mn.us)

The form, itself, is found at: [www.taxes.state.mn.us/Forms\\_and\\_Instructions/ic134.pdf](http://www.taxes.state.mn.us/Forms_and_Instructions/ic134.pdf)

(16) **Owners, Supervisors, Foremen listed on certified payrolls.**

All persons working on a City of Duluth project including owners, partners, supervisors, salaried persons, and working foremen who perform laborer and/or mechanic work shall be reported on the weekly certified payroll reports including all data required of any laborer or mechanic. (ordinance 8731, 6/24/85 and 8940 as amended).

(17) **Supporting documentation.**

At his/her discretion, the City of Duluth employee responsible for prevailing wage labor standards may demand proof of payment of the prevailing wage which may include copies of a payroll register, itemized time sheet and matching cancelled check, or any other supporting documents as stipulated. Payment to the prime contractor may be withheld until documentation is received and approved.

(18) **Kickbacks from Public Works employees prohibited.**

No contractor working on a project or other person shall, by force intimidation, or threat of termination of employment, cause any employee working on a project to give up any part of the compensation to which he is entitled under his contract of employment.

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**Section 9**

**Minnesota Department of Transportation Specification 1906 Partial Payments  
Process For "Withholding Contract Monies" and "Default and Termination of a Contract" 11/5/04**

Mn/DOT Specification 1906 Partial Payments describes the Commissioner's authority to withhold funds to protect the Department's interests. In addition, Specification 1808 Default and Termination of a Contract describes the Commissioner's authority to take the prosecution of the work out of the hands of the Contractor.

Additionally, on projects funded in whole or part with federal funds and in accordance with the Required Contract Provisions Federal-Aid Construction Contracts Form – 1273, Section IV, Subpart 6, "Withholding", incorporated into federal aid contracts, the Contracting Officer may, after written notice to the Contractor, take such action as may be necessary to cause the suspension of any further payment, advance or guarantee of funds until such violations have ceased.

However, the Department must give the Contractor, and its Sureties due notice prior to exercising these authorities. The withholding of contract funds, in accordance with Specification 1906 or the Required Contract Provisions Federal-Aid Construction Contracts Form – 1273, Section IV, Subpart 6, "Withholding", should be implemented as soon as a possible prevailing wage violation is recognized. However, Default and Termination of a Contract, in accordance with Specification 1808, should only be exercised as a "last resort" if the Contractor is not willing to comply.

**Definitions**

(Mn/DOT Standard Specifications for Construction 2000 Edition, Section 1103)

**Commissioner:** The Commissioner of the Minnesota Department of Transportation, or the chief executive of the department or agency constituted for administration of Contract work with its jurisdiction.

**Contractor:** The individual, firm or corporation Contracting for and undertaking prosecution of the prescribed work; the party of the second part to the Contract, acting directly or through a duly authorized representative.

**Department:** The Department of Transportation or the State of Minnesota, or the political subdivision, governmental body, board, commission, office, department, division, or agency constituted for administration of the Contract work within its jurisdiction.

**(Form 1273 - 29 CFR, Part 5.1, Definitions)**

**Contracting Officer:** The individual, a duly appointed successor or authorized representative who is designated and authorized to enter into Contracts on behalf of the Federal Agency and/or the City of Duluth.

**Important Considerations**

1. Upon completion of the work under a contract, the department should consider issuing the final voucher as soon as possible. Failure to finalize a contract expeditiously could result in subsequent claims that would prevent the department from finalizing the contract. However, before the issuance of the final voucher, the department must be able to ensure that the terms of the contract have been satisfied. Failure on the part of the department to ensure compliance could result in the Mn/DOT state aid division retaining funds from the department in accordance with *Minnesota Rules 8820.3000, subpart 5*.
2. On every contract, the department should withhold the final retainage in accordance with the following guidelines: (1) if the total amount of the contract is \$1,000,000 or more, the department should retain funds not more than \$50,000, (2) if the total amount of the contract is less than \$1,000,000, the department should retain 5% of the total contract, (3) retainage should be withheld until the department can ensure that the contractor has met the terms of the contract or until the finalization of the contract.
3. This guide specifies that the department verbally notify the bonding company early in the process. Generally, as a "rule of thumb", notifying the bonding company is usually the "last resort". However, the justification for the early notification is related to the language found in *Minnesota statute 574.31, subdivision 2*, which summarizes that if an individual or the department does not submit a claim on the payment bond within 120 days after the completion of work under the contract, the claim can be denied.

The following are general guidelines that should be followed prior to placing a Contractor in default:

- Step 1: Upon verbal or written notification that a possible prevailing wage violation exists, the Department should give written notice to the Contractor regarding the nature of the claim, along with the Department's intent to withhold monies until the claim is investigated and determined to be in compliance. Additionally, the Department should inform the Contractor that the bonding company has been verbally notified of the claim. Please be aware, the Department should ensure employee confidentiality at all times.
- Step 2: Upon a preliminary determination surrounding the financial extent of the claim, the Department should consider retaining a "reasonable" portion of one or more partial estimates in accordance with Mn/DOT's 2000 Standard Specifications for Construction, Section 1906; or on federal aid contracts, in accordance with the Required Contract Provisions Federal-Aid Construction Contracts Form – 1273, Section IV, Subpart 6, "Withholding".
- Step 3: If it is determined that the claim is valid, the Department should schedule a meeting with the Contractor and attempt to resolve the matter. If the claim is determined to be invalid, the Department should release any partial estimates that may have been held as a result of the claim. However, the Department should continue to withhold the final retainage in accordance with the above-mentioned: *Important Considerations, 2*.
- Step 4: If resolution cannot be obtained through a meeting, the Department should order the Contractor, in writing, to complete their obligations under the contract. The letter should clearly state the circumstances under which the Department has deemed that the Contractor has not met the terms of the contract. Additionally, the Department should include a reasonable deadline for this obligation to be completed. A copy of this letter should be forwarded to the Surety, District State Aid Engineer (DSAE), Labor Compliance Unit and the Department's Attorney.
- Step 5: In the event that the Contractor does not respond to the Department's written order, the Department should send a similar letter, requesting that the Contractor respond immediately, in writing, regarding the Contractor's intention to comply or not comply with the order. A copy of this letter should be forwarded to the Surety, District State Aid Engineer (DSAE), Labor Compliance Unit and the Department's Attorney.
- Step 6: If the Department still does not get a proper response from the Contractor, the Department should write another letter, addressed to both the Contractor and the Surety, specifying all the facts of the alleged breach, demanding that the Contractor, or its Surety, respond satisfactorily within 10 days or the Department may exercise its authority to Default and Terminate the Contract in accordance within/DOT's 2000 Specifications for Construction, Section

1808. It's important to provide sufficient detail so that the Surety understands the situation. This notification should be sent by certified mail. A copy of this letter should be forwarded to the Surety, District State Aid Engineer (DSAE), Labor Compliance Unit and the Department's Attorney.

Step 7: If the Contractor or Surety is unresponsive after 10 days, the Department should consult with their attorney to consider proceeding with Default and Termination of the Contract.

Step 8: Upon termination of the contract, the Department provides a written order to the Surety, requiring the Surety to bring resolution to the prevailing wage violation.

Step 9: The Department places the Contractor on a Non-Responsible Bidder's List and rejects any future awards.

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## Section 10

Federal Labor Standards Provisions U.S. Department of Housing and Urban Development Office of Labor Relations

Previous editions are obsolete Page 1 of 5 form HUD-4010 (06/2009) ref. Handbook 1344.1

### Applicability

The Project or Program to which the construction work covered by this contract pertains is being assisted by the United States of America and the following Federal Labor Standards Provisions are included in this Contract pursuant to the provisions applicable to such Federal assistance.

**A. 1. (i) Minimum Wages.** All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR Part 3), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under Section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of 29 CFR 5.5(a)(1)(iv); also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs, which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period.

Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under 29 CFR 5.5(a)(1)(ii) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible, place where it can be easily seen by the workers.

**(ii) (a)** Any class of laborers or mechanics which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. HUD shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

**(1)** The work to be performed by the classification requested is not performed by a classification in the wage determination; and

**(2)** The classification is utilized in the area by the construction industry; and

**(3)** The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

**(b)** If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and HUD or its designee agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by HUD or its designee to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, D.C. 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise HUD or its designee or will notify HUD or its designee within the 30-day period that additional time is necessary. (Approved by the Office of Management and Budget under OMB control number 1215-0140.)

**(c)** In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and HUD or its designee do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), HUD or its designee shall refer the questions, including the views of all interested parties and the recommendation of HUD or its designee, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise HUD or its designee or will notify HUD or its designee within the 30-day period that additional time is necessary. (Approved by the Office of Management and Budget under OMB Control Number 1215-0140.)

**(d)** The wage rate (including fringe benefits where appropriate) determined pursuant to subparagraphs (1)(ii)(b) or (c) of this paragraph, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

**(iii)** Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

**(iv)** If the contractor does not make payments to a trustee or other third person, the contractor may consider as part Previous editions are obsolete Page 2 of 5 form HUD-4010 (06/2009) ref. Handbook 1344.1 of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program. (Approved by the Office of Management and Budget under OMB Control Number 1215-0140.)

**2. Withholding.** HUD or its designee shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld from the contractor under this contract or any other Federal contract with the same prime contractor, or any other Federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract In the event of failure to pay any laborer or mechanic, including any apprentice, trainee or helper, employed or working on the site of the work, all or part of the wages required by the contract, HUD or its designee may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased. HUD or its designee may, after written notice to the contractor, disburse such amounts withheld for and on account of the contractor or subcontractor to the respective employees to whom they are due. The Comptroller General shall make such disbursements in the case of direct Davis-Bacon Act contracts.



**3. (i) Payrolls and basic records.** Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in Section I(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5 (a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in Section I(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs. (Approved by the Office of Management and Budget under OMB Control Numbers 1215-0140 and 1215-0017.)

**(ii) (a)** The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to HUD or its designee if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit the payrolls to the applicant sponsor, or owner, as the case may be, for transmission to HUD or its designee. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i) except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/whd/wh347.pdf> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to HUD or its designee if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit the payrolls to the applicant sponsor, or owner, as the case may be, for transmission to HUD or its designee, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this subparagraph for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to HUD or its designee. (Approved by the Office of Management and Budget under OMB Control Number 1215-0149.)

**(b)** Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

**(1)** That the payroll for the payroll period contains the information required to be provided under 29 CFR 5.5 (a)(3)(ii), the appropriate information is being maintained under 29 CFR 5.5(a)(3)(i), and that such information is correct and complete;

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**(2)** That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in 29 CFR Part 3;

**(3)** That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

**(c)** The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by subparagraph A.3.(ii)(b).

**(d)** The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under Section 1001 of Title 18 and Section 231 of Title 31 of the United States Code.

**(iii)** The contractor or subcontractor shall make the records required under subparagraph A.3.(i) available for inspection, copying, or transcription by authorized representatives of HUD or its designee or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, HUD or its designee may, after written notice to the contractor, sponsor, applicant or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

#### **4. Apprentices and Trainees.**

**(i) Apprentices.** Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

**(ii) Trainees.** Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding

journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by Previous editions are obsolete; Page 4 of 5 form HUD-4010 (06/2009) ref. Handbook 1344.1

the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

**(iii) Equal employment opportunity.** The utilization of apprentices, trainees and journeymen under 29 CFR Part 5 shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR Part 30.

**5. Compliance with Copeland Act requirements.** The contractor shall comply with the requirements of 29 CFR Part 3 which are incorporated by reference in this contract

**6. Subcontracts.** The contractor or subcontractor will insert in any subcontracts the clauses contained in subparagraphs 1 through 11 in this paragraph A and such other clauses as HUD or its designee may by appropriate instructions require, and a copy of the applicable prevailing wage decision, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in this paragraph.

**7. Contract termination; debarment.** A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

**8. Compliance with Davis-Bacon and Related Act Requirements.** All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR Parts 1, 3, and 5 are herein incorporated by reference in this contract

**9. Disputes concerning labor standards.** Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR Parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and HUD or its designee, the U.S. Department of Labor, or the employees or their representatives.

**10. (i) Certification of Eligibility.** By entering into this contract the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of Section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1) or to be awarded HUD contracts or participate in HUD programs pursuant to 24 CFR Part 24.

**(ii)** No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of Section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1) or to be awarded HUD contracts or participate in HUD programs pursuant to 24 CFR Part 24.

**(iii)** The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001. Additionally, U.S. Criminal Code, Section 1 01 0, Title 18, U.S.C., "Federal Housing Administration transactions", provides in part: "Whoever, for the purpose of . . . influencing in any way the action of such Administration..... makes, utters or publishes any statement knowing the same to be false..... shall be fined not more than \$5,000 or imprisoned not more than two years, or both."

**11. Complaints, Proceedings, or Testimony by Employees.** No laborer or mechanic to whom the wage, salary, or other labor standards provisions of this Contract are applicable shall be discharged or in any other manner discriminated against by the Contractor or any subcontractor because such employee has filed any complaint or instituted or caused to be instituted any proceeding or has testified or is about to testify in any proceeding under or relating to the labor standards applicable under this Contract to his employer.

**B. Contract Work Hours and Safety Standards Act.** The provisions of this paragraph B are applicable where the amount of the prime contract exceeds \$100,000. As used in this paragraph, the terms "laborers" and "mechanics" include watchmen and guards.

**(1) Overtime requirements.** No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which the individual is employed on such work to work in excess of 40 hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of 40 hours in such workweek.

**(2) Violation; liability for unpaid wages; liquidated damages.** In the event of any violation of the clause set forth in subparagraph (1) of this paragraph, the contractor and any subcontractor responsible therefore shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in subparagraph (1) of this paragraph, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of 40 hours without payment of the overtime wages required by the clause set forth in sub paragraph (1) of this paragraph.

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**(3) Withholding for unpaid wages and liquidated damages.** HUD or its designee shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contract, or any other Federally-assisted contract subject to the Contract Work Hours and Safety Standards Act which is held by the same prime contractor such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in subparagraph (2) of this paragraph.

**(4) Subcontracts.** The contractor or subcontractor shall insert in any subcontracts the clauses set forth in subparagraph (1) through (4) of this paragraph and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in subparagraphs (1) through (4) of this paragraph.

**C. Health and Safety.** The provisions of this paragraph C are applicable where the amount of the prime contract exceeds \$100,000.

(1) No laborer or mechanic shall be required to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous to his health and safety as determined under construction safety and health standards promulgated by the Secretary of Labor by regulation.

(2) The Contractor shall comply with all regulations issued by the Secretary of Labor pursuant to Title 29 Part 1926 and failure to comply may result in imposition of sanctions pursuant to the Contract Work Hours and Safety Standards Act, (Public Law 91-54, 83 Stat 96). 40 USC 3701 et seq.

(3) The contractor shall include the provisions of this paragraph in every subcontract so that such provisions will be binding on each subcontractor. The contractor shall take such action with respect to any subcontractor as the Secretary of Housing and Urban Development or the Secretary of Labor shall direct as a means of enforcing such provisions.

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## **Section 11**

### **Equal Opportunity Laws and Regulations**

(A) In addition to Contract specifications set forth below, the Contractor shall conduct and administer this Contract in compliance with:

- (1) Title VI of the Civil Rights Act of 1964 (Pub. L. 88-352) and implementing regulations issued at 24 CFR Part 1;
- (2) Title VIII of the Civil Rights Act of 1968 (Pub. L. 90-284), as amended, and implementing regulations;
- (3) Section 109 of the Housing and Community Development Act of 1974, as amended; and the regulations issued pursuant thereto (24 CFR Section 570.601);
- (4) Section 3 of the Housing and Urban Development Act of 1968, as amended, and implementing regulations of 24 CFR Part 135;
- (5) Executive Order 11246, as amended by Executive Order 11375 and 12086 and implementing regulations at 41 CFR Chapter 60;
- (6) Executive Order 11063, as amended by Executive Order 12259 and implementing regulations at 24 CFR Part 107;
- (7) Section 504 of the Rehabilitation Act of 1973 (Pub. L. 93-112), as amended, and implementing regulations when published for effect;
- (8) The Age Discrimination Act of 1975, as amended, (Pub. L. 94-135) and implementing regulations when published for effect;
- (9) The Minnesota Human Rights Act of 1974, as amended (Chapter 363).

### **Equal Opportunity and Affirmative Action**

(A) Contractors and Subcontractors that have a work force in excess of fifty (50) employees and a contract in excess of \$50,000.00 shall prepare and maintain an appropriate affirmative action plan in accordance with the provisions of 41 CFR 60 "Compliance Responsibility for Equal Opportunity".

(B) Non-segregated Facilities. The Contractor shall certify that he does not maintain or provide for his employees any segregated facilities at any of his establishments, and that he does not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. The Contractor covenants that he will not maintain or provide for his employees any segregated facilities at any of his establishments, and he will not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. As used in this paragraph the term "segregated facilities" means any waiting rooms, work areas, rest rooms and wash rooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or facilities provided for employees which are segregated by explicit directive or are in fact segregated on the basis of race, color, creed, religion, national origin, ancestry, age, marital status, status with respect to public assistance, and/or disability because of habit, local custom, or otherwise.

### **General Provisions Against Discrimination**

(A) In all hiring or employment made possible by or resulting from this Contract, there:

- (1) will not be any discrimination against any employee or applicant for employment because of race, color, creed, religion, national origin, ancestry, age, sex, marital status, status with respect to public assistance, and/or disability.
- (2) affirmative action will be taken to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, creed, religion, national origin, ancestry, age, sex, marital status, status with respect to public assistance, and/or disability. This requirement shall apply to, but not be limited to, the following: employment, upgrading, demotion or transfer; recruitment or recruitment advertising; lay-off or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. There shall be posted in conspicuous places available to employees and applicants for employment, notices setting forth the provisions of this clause. All solicitations or advertisements for employees shall state that all qualified applicants will receive consideration for employment without regard to race, color, creed, religion, national origin, ancestry, age, sex, marital status, status with respect to public assistance, and/or disability.

(B) No person in the United States shall, on the grounds of race, color, creed, religion, national origin, age, sex, marital status, status with respect to public assistance, and/or disability, be excluded from participation in, be denied the benefits of, or be subject to discrimination under any program or activity made possible by or resulting from this Contract. The Contractor and each employer will comply with all requirements imposed by or pursuant to the regulations of the Federal Agency effectuating Title VI of the Civil Rights Act of 1966. The Contractor will note this requirement in all solicitations or advertisements for employees. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.

(C) The Contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice advising the labor union or workers' representative of the Contractor's commitments under these provisions, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(D) The Contractor hereby agrees that he will incorporate into any contract for construction work, or modification thereof, as defined in the regulations of the Secretary of Labor at 41 CFR Chapter 60, which is paid for in whole or in part with funds obtained pursuant to this Contract, the equal opportunity clause which is a part of these Contract Documents.

(E) The Contractor further agrees that he will be bound by the equal opportunity clause and other provisions of 41 CFR Chapter 60, with respect to his own employment practices when he participates in federally assisted construction work: **Provided:** That of the Contractor so participating is a State or Local Government, the above equal opportunity clause is not applicable to any agency, instrumentality, or subdivision of such government which does not participate in work on or under the Contract. Also, the Contractor will make his files available to inspection by appropriate government agencies and shall furnish those reports as may be required by said agencies.

(F) The Contractor agrees that he will assist and cooperate actively with the Federal Agency and the Secretary of Labor in obtaining the compliance of subcontractors with the equal opportunity clause and the rules, regulations, and relevant orders of the Secretary of Labor, that he will furnish the Federal Agency and the Secretary of Labor such information as they may require for the supervision of such compliance, and that he will otherwise assist the Federal Agency in the discharge of its primary responsibility for securing compliance.



(G) The Contractor further agrees that he will refrain from entering into any contract or any contract modification subject to Executive Order 11246 of September 24, 1965, with a subcontractor debarred from, or who has not demonstrated eligibility for, Government contracts and federally assisted construction contracts pursuant to the Executive Order. In addition, the Contractor agrees that if he fails or refuses to comply with these undertakings, the City or the Federal Agency may take any or all of the following actions: Terminate or suspend in whole or in part this Contract; refrain from extending any further assistance to the Contractor under the Project with respect to which the failure or refusal occurred until satisfactory assurance of future compliance has been received from such Contractor and refer the case to the Department of Justice for appropriate legal proceedings.

**Affirmative Action - "Construction Contracts" over \$10,000**

Notice of Requirement for Affirmative Action to Ensure Equal Employment Opportunity  
(Executive Order 11246)

1. The Offeror's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Opportunity Construction Contract Specifications" set forth herein.

2. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

<u>Timetables</u>	<u>Goals for minority participation (percent)</u>	<u>Goals for female participation (percent)</u>
From April 1, 1980 until revised	3.0	6.9

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally assisted) performed in the covered area.

The Contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3 (a), and its efforts to meet the goals established for the geographical area where the contract resulting from this solicitation is to be performed. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The Contractor shall provide written notification to the City and to the Director of the Office of Federal Contract Compliance Programs; U.S. Department of Labor, ESA/OFCCP, 16<sup>th</sup> Floor, 230 South Dearborn Street, Chicago, Illinois, 60604, within 10 working days of award of any construction subcontract and/or subcontract in excess of \$10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address and telephone number of the contractor and/or subcontractor; employer identification number; estimated dollar amount of the prime contract; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the contract is to be performed.

4. As used in this Notice, and in the Contract, the "covered area" is all work under a contract currently held with the City of Duluth, Minnesota.

**Standard Federal Equal Employment Opportunity**  
**Construction Contract Specifications (Executive Order 11246)**

1. As used in these specifications:

- a) "Director" means Director, Office of Federal Contract Compliance Programs, United States Department of Labor; or any person to whom the Director delegates authority;
- b) "Employer identification number" means the Federal Social Security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941.
- c) "Minority" includes:
  - (i) Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);
  - (ii) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish Culture or origin, regardless of race);
  - (iii) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and
  - (iv) American Indian or Alaskan Native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).

2. Whenever the Contractor, or any Subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of \$10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.

3. If the Contractor is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each Contractor or Subcontractor participating in an approved Plan is individually required to comply with its obligations under the EEO clause, and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other Contractors or Subcontractors toward a goal in approved Plan does not excuse any covered Contractor's or Subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.

4. The Contractor shall implement the specific affirmative action standards provided in paragraphs 7a through p of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. The Contractor is expected to make substantially uniform progress toward its goals in each craft during the period specified.

5. Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Contractor has a collective bargaining agreement, to refer either minorities or women shall excuse the Contractor's obligations under these specifications, Executive Order 11246, or the regulations promulgated pursuant thereto.

6. In order for the non-working training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor.

7. The Contractor shall take specific affirmative action to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:
- a. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all foremen, superintendents, and other on-site supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.
  - b. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.
  - c. Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefore, along with whatever additional actions the Contractor may have taken.
  - d. Provide immediate written notification to the Director when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.
  - e. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notices of these programs to the sources compiled under 7b above.
  - f. Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.
  - g. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination or other employment decisions including specific review of these items with onsite supervisory personnel such as Superintendents, General Foremen, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.
  - h. Disseminate the Contractor's EEO policy externally by including it any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other Contractors and Subcontractors with whom the Contractor does or anticipates doing business.
  - i. Direct its recruitment efforts, both oral and written, to minority, female and community organizations, to schools with minority and female students and to minority and female recruitments and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notification to organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection process.
  - j. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth both on the site and in other areas of a Contractor's work force.
  - k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.
  - l. Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.
  - m. Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.
  - n. Ensure that all facilities and company activities are nonsegregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.
  - o. Document and maintain a record of all solicitations of officers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.
  - p. Conduct a review, at least annually, of all supervisor's adherence to and performance under the Contractor's EEO policies and affirmative action obligations.
8. Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations (7a through p). The efforts of a contractor association, joint contractor-union, contractor-community, or other similar group of which the contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under 7a through p of these Specifications provided that the contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the Contractor's minority and female workforce participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply, however, is the Contractor's and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's noncompliance.
9. A single goal for minorities and a separate single goal for women have been established. The Contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, the Contractor may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner (for example, even though the Contractor has achieved its goals for women generally, the Contractor may be violation of the Executive Order if a specific minority group of women is underutilized).
10. The Contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, creed, religion, national origin, sex, ancestry, age, marital status, status with respect to public assistance and/or disability.
11. The Contractor shall not enter into any Subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.
12. The Contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any Contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.
13. The Contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails

to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.8.

14. The Contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government and to keep records. Records shall at least include for each employee the name, address, telephone numbers, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.

15. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

**Affirmative Action for Handicapped Workers**

(applies to contracts in excess of \$2,500)

(A) The Contractor will not discriminate against any employee or applicant for employment because of physical or mental handicap in regard to any position for which the employee or applicant is qualified. The Contractor agrees to take affirmative action to employ, advance in employment and otherwise treat qualified handicapped individuals without discrimination based upon their physical or mental handicap in all employment practices such as the following: Employment, upgrading, demotion or transfer, recruitment, advertising, layoff or termination, rates of pay or other forms of compensation, and selection for training, including apprenticeship.

(B) The Contractor agrees to comply with the rules, regulations, and relevant orders of the Secretary of Labor issued pursuant to the Act.

(C) In the event of the Contractor's noncompliance with the requirements of this clause, actions for noncompliance may be taken in accordance with the rules, regulations and relevant orders of the Secretary of Labor issued pursuant to the Act.

(D) The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices in a form to be prescribed by the Director, provided by or through the contracting officer. Such notices shall state the Contractor's obligation under the law to take affirmative action to employ and advance in employment qualified handicapped employees and applicants for employment, and the rights of applicants and employees.

(E) The Contractor will notify each labor union or representative of workers with which it has a collective bargaining agreement or other contract understanding, that the Contractor is bound by the terms of Section 503 of the Rehabilitation Act of 1973, and is committed to take affirmative action to employ and advance in employment physically and mentally handicapped individuals.

(F) The Contractor will include the provisions of this clause in every subcontract or purchase order of \$2,500 or more unless exempted by rules, regulations, or orders of the Secretary issued pursuant to Section 503 of the Act, so that such provisions will be binding upon each subcontractor or vendor. The Contractor will take such action with respect to any subcontract or purchase order as the Director of the Office of Federal Contract Compliance Programs may direct to enforce such provisions, including action for noncompliance.

**Affirmative Action for Disabled Veterans and Veterans of the Vietnam Era**

(applies to contracts in excess of \$10,000)

(A) The Contractor will not discriminate against any employee or applicant for employment because he or she is a disabled veteran or veteran of the Vietnam era in regard to any position for which the employee or applicant for employment is qualified. The Contractor agrees to take affirmative action to employ, advance in employment and otherwise treat qualified disabled veterans and veterans of the Vietnam era without discrimination based upon their disability or veterans status in all employment practices such as the following: Employment, upgrading, demotion or transfer, recruitment, advertising, layoff or termination, rates of pay or other forms of compensation, and selection for training, including apprenticeship.

(B) The Contractor agrees that all suitable employment openings of the Contractor which exist at the time of the execution of this contract and those which occur during the performance of this contract, including those not generated by this contract and including those occurring at an establishment of the Contractor other than the one wherein the contract is being performed but excluding those of independently operated corporate affiliates, shall be listed at an appropriate local office of the State employment service system wherein the opening occurs. The Contractor further agrees to provide such reports to such local office regarding employment openings and hires as may be required.

State and local government agencies holding Federal contracts of \$10,000 or more shall also list all their suitable openings with the appropriate office of the State employment service, but are not required to provide those reports set forth in paragraphs (D) and (E).

(C) Listing of employment openings with the employment service system pursuant to this clause shall be made at least concurrently with the use of any other recruitment source or effort and shall involve the normal obligations which attach to the placing of a bona fide job order, including the acceptance of referrals of veterans and non-veterans. The listing of employment openings does not require the hiring of any particular job applicant or from any particular group of job applicants, and nothing herein is intended to relieve the Contractor from any requirements in Executive Orders or regulations regarding nondiscrimination in employment.

(D) The reports required by paragraph (B) of this clause shall include, but not be limited to, periodic reports which shall be filed at least quarterly with the appropriate local office or, where the Contractor has more than hiring location in a State, with the central office of that State employment service. Such reports shall indicate for each hiring location (1) the number of individuals hired during the reporting period, (2) the number of non-disabled veterans of the Vietnam era hired, (3) the number of disabled veterans of the Vietnam era hired, and (4) the total number of disabled veterans hired. The reports should include covered veterans hired for on-the-job training under 38 U.S.C. 1787. The Contractor shall maintain at each hiring location copies of the reports submitted until the expiration of one year after final payment under the contract, during which time these reports and related documentation shall be made available, upon request, for examination by any authorized representatives of the contracting officer of the Secretary of Labor. Documentation would include personnel records respecting job openings, recruitment and placement.

(E) Whenever the Contractor becomes contractually bound to the listing provisions of this clause, it shall advise the employment service system in each State where it has establishments of the name and location of each hiring location in the State. As long as the Contractor is contractually bound to these provisions, and has so

advised the State system, there is no need to advise the State system of subsequent contracts. The Contractor may advise the State system when it is no longer bound by this contract clause.

(F) This clause does not apply to the listing of employment openings which occur and are filled outside of the 50 States, the District of Columbia, Puerto Rico, Guam, and the Virgin Islands.

(G) The provisions of paragraphs (B), (C), (D), and (E) of this clause do not apply to openings which the Contractor proposes to fill from within his own organization or to fill pursuant to a customary and traditional employer-union hiring arrangement for that opening.

(H) As used in this clause:

(1) "All suitable employment openings" includes, but is not limited to, openings which occur in the following job categories: Production and non-production; plant and office; laborers and mechanics; supervisory and non-supervisory; technical; and executive, administrative, and professional openings as are compensated on a salary basis of less than \$25,000 per year. This term includes full-time employment, temporary employment of more than 3 days' duration, and part-time employment. It does not include openings which the Contractor proposes to fill from within his own organization or to fill pursuant to a customary and traditional employer-union hiring arrangement nor openings in an educational institution which are restricted to students of that institution. Under the most compelling circumstances an employment opening may not be suitable for listing, including such situations where the needs of the Government cannot reasonably be otherwise supplied, where listing would be contrary to national security, or where the requirement of listing would otherwise not be for the best interest of the Government.

(2) "Appropriate office of the State employment service system" means the local office of the Federal-State national system of public employment offices with assigned responsibility for serving the area where the employment opening is to be filled, including the District of Columbia, Guam, Puerto Rico, and the Virgin Islands.

(3) "Openings which the Contractor proposes to fill from within his own organization" means employment openings for which no consideration will be given to persons outside the Contractor's organization (including any affiliates, subsidiaries, and the parent companies) and includes any openings which the Contractor proposes to fill from regularly established "recall" lists.

(4) "Openings which the Contractor proposes to fill pursuant to a customary and traditional employer-union hiring arrangement" means employment openings which the Contractor proposes to fill from union halls, which is part of the customary and traditional hiring relationship which exists between the Contractor and representatives of his employees.

(I) The Contractor agrees to comply with the rules, regulations, and relevant orders of the Secretary of Labor issued pursuant to the Act.

(J) In the event of the Contractor's noncompliance with the requirements of this clause, actions for noncompliance may be taken in accordance with the rules, regulations and relevant orders of the Secretary of Labor issued pursuant to the Act.

(K) The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices in a form to be prescribed by the Director, provided by or through the contracting officer. Such notices shall state the Contractor's obligation under the law to take affirmative action to employ and advance in employment qualified disabled veterans and veterans of the Vietnam era for employment, and the rights of applicants and employees.

(L) The Contractor will notify each labor union representative of workers with which it has a collective bargaining agreement or other contract understanding, that the Contractor is bound by the terms of the Vietnam Era Veterans Readjustment Assistance Act, and is committed to take affirmative action to employ and advance qualified disabled veterans and veterans of the Vietnam era..

(M) The Contractor will include the provisions of this clause in every subcontract or purchase order of \$10,000 or more unless exempted by rules, regulations, or orders of the Secretary issued pursuant to the Act, so that such provisions will be binding upon each subcontractor or vendor. The Contractor will take such action with respect to any subcontract or purchase order as the Director of the Office of Federal Contract Compliance Programs may direct to enforce such provisions, including action for noncompliance.

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## **Section 12**

### **Employment Opportunities - "HUD Section 3"**

#### **General**

These requirements apply to the City of Duluth contracts receiving assistance under the U.S. Department of Housing and Urban Development (HUD) Community Development Block Grant (CDBG) Program.

#### **Type of Covered Projects**

24CFR570.607 (b) of the HUD CDBG Program Regulations state in part "... that employment and other economic opportunities arising in connection with housing rehabilitation, housing construction, or other public construction projects shall to the greatest extent feasible, and consistent with existing Federal, State, and local laws and regulations be given to low- and very low-income persons.

#### **Thresholds**

In accordance with the provisions of 24CFR135.3(a) (3) (ii) (A), the requirements of this Section apply to those recipients as defined at 24CFR135.5 when the amount of this contract exceeds \$200,000.

In addition, in accordance with the provisions of 24CFR135.3 (a) (3) (ii) (B), the requirements of this Section apply to any contractor or subcontractor whose contract exceeds \$100,000 as a result of assistance provided under this contract.

#### **Requirements (Section 3 Clause)**

(A) The work to be performed under this contract is subject to the requirements of Section 3 of the Housing and Urban Development Act of 1968, as amended, 12 U.S.C. 1701u (section 3). The purpose of Section 3 is to ensure that employment and other economic opportunities generated by HUD assistance or HUD-assisted projects covered by section 3, shall, to the greatest extent feasible, be directed to low- and very low-income persons, particularly persons who are recipients of HUD assistance for housing.

(B) The parties to this contract agree to comply with HUD's regulations in 24 CFR part 135, which implement section 3. As evidenced by their execution of this contract, the parties to this contract certify that they are under no contractual or other impediment that would prevent them from complying with the part 135 regulations.

(C) The contractor agrees to send to each labor organization or representative of workers with which the contractor has a collective bargaining agreement, or other understanding, if any, a notice advising the labor organization or workers' representative of the contractor's commitments under this section 3 clause, and will post copies of the notice in conspicuous places at the work site where both employees and applicants for training and employment positions can see the notice. The

notice shall describe the section 3 preference, shall set forth minimum number and job titles subject to hire, availability of apprenticeship and training positions, the qualifications for each; and the name and location of the person(s) taking applications for each of the positions; and the anticipated date the work shall begin.

(D) The Contractor agrees to include this section 3 clause in every subcontract subject to compliance with regulations in 24 CFR part 135, and agrees to take appropriate action, as provided in an applicable provision of the subcontract or in this section 3 clause, upon a finding that the subcontractor is in violation of the regulations in 24 CFR part 135. The contractor will not subcontract with any subcontractor where the contractor has notice or knowledge that the subcontractor has been found in violation of the regulations in 24 CFR part 135.

(E) The contractor will certify that any vacant employment positions, including training positions, that are filled (1) after the contractor is selected but before the contract is executed, and (2) with persons other than those to whom the regulations of 24 CFR part 135 require employment opportunities to be directed, were not filled to circumvent the contractor's obligation under 24 CFR part 135.

(F) Noncompliance with HUD's regulations in 24 CFR part 135 may result in sanctions, termination of this contract for default, and debarment or suspension from future HUD-assisted contracts.

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### **Section 13**

#### **Federal Requirements for Minority/Women Business Enterprises Contract Guidance - MPFA**

##### **General**

Municipalities that receive loan funding must comply with Federal requirements concerning utilization of Minority Business Enterprises (MBE) and Women's Business Enterprises (WBE). These requirements are designed to encourage the prime contractors to utilize MBEs and WBEs whenever procurement opportunities occur.

##### **Regulation**

40 C.F.R. Section 35.3145(d) Application of other Federal Authorities, M/WBE Requirements

Executive Orders No. 11625, 12138 and 12432 - Promoting the use of M/WBEs

Section 129 of Public Law 100-590 - Small Business Administration Reauthorization and Amendment Act of 1988

Regulations detailed in the EPA's *Cross-Cutting Federal Authorities - Clean Water Act State Revolving Fund Program and Safe Drinking Water Act State Revolving Fund Program*

##### **Implementation**

The "fair share" target percentage participation proposed for this project is 3.5 percent (3.5%) for MBE and 11.5 percent (11.5%) for WBE.

If the Contractor intends to let any subcontractors for a portion of the work, the Contractor shall take affirmative steps to assure that minority and women businesses are utilized when possible as sources of supplies, equipment, construction and services. Affirmative steps shall include the following:

- a) Include qualified minority businesses on solicitation lists.
- b) Assure that minority businesses are solicited whenever they are potential sources.
- c) When economically feasible, divide total requirements into smaller tasks or quantities so as to permit maximum small and minority business participation.
- d) Where the requirement permits, establish delivery schedules, which will encourage participation by minority businesses.
- e) Use the services and assistance of the Office of Minority Business Enterprise of the Department of Commerce.

The low bidder will be required to submit to the City of Duluth documentation of his good faith efforts to meet the targeted goals of utilizing MBEs and WBEs.

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### **Section 14 - Forms**

#### **Minnesota Department of Transportation and City of Duluth, Minnesota funded certified payroll forms**

- MnDOT Prime Contractor's-Subcontractor's Statement of Compliance form (12/2010)  
[www.dot.state.mn.us/const/labor/forms.html](http://www.dot.state.mn.us/const/labor/forms.html)
- Certified Payroll Forms  
<http://www.dol.gov/forms/whd/wh347.pdf>  
use front side only

#### **U. S. Department of Housing and Urban Development and federal government funded certified payroll forms**

- Statement of Compliance Form & Certified Payroll Forms  
<http://www.dol.gov/forms/whd/wh347.pdf>  
(use reverse side for Statement of Compliance form)
- MnDOT Prime Contractor's-Subcontractor's Statement of Compliance form (12/2010)  
[www.dot.state.mn.us/const/labor/forms.html](http://www.dot.state.mn.us/const/labor/forms.html)

#### **Minnesota Department of Transportation Trucking Requirements**

- Month End Trucking Report Form A and Form B
- Month End Trucking Report Statement of Compliance
- Definitions, instructions, forms:  
[www.dot.state.mn.us/const/labor/forms.html](http://www.dot.state.mn.us/const/labor/forms.html)

# City of Duluth

## Indemnification & Insurance Requirements

(Updated February 16, 2011)

### INDEMNIFICATION CLAUSE

The Contractor will defend, indemnify and save the City harmless from all costs, charges, damages, and loss of any kind that may grow out of the matter covered by this contract. Said obligation does not include indemnification of the City for claims of liability arising out of the sole negligent or intentional acts or omissions of City but shall include but not be limited to the obligation to defend, indemnify and save harmless the City in all cases where claims of liability against the City arise out of acts or omissions of City which are derivative of the negligence or intentional acts or omissions of Contractor such as, and including but not limited to, the failure to supervise, the failure to warn, the failure to prevent such act or omission by Contractor and any other such source of liability. In addition, Contractor will comply with all local, state and federal laws, rules and regulations applicable to this contract and to the work to be done and things to be supplied hereunder.

### INSURANCE

- a. Contractor shall provide the following minimum amounts of insurance from insurance companies authorized to do business in the state of Minnesota, which insurance shall indemnify Contractor and City from all liability described in the paragraph above, subject to provisions of subparagraph below.
  - (1) Worker's compensation in accordance with the laws of the state of Minnesota.
  - (2) Public Liability and Automobile Liability Insurance with limits not less than **\$1,500,00** Single Limit, and twice the limits provided when a claim arises out of the release or threatened release of a hazardous substance; shall be in a company approved by the city of Duluth; and shall provide for the following: Liability for Premises, Operations, Completed Operations, Independent Contractors, and Contractual Liability.
  - (3) City of Duluth shall be named as **Additional Insured** under the Public Liability, Excess/Umbrella Liability\* and Automobile Liability, or as an alternate, Contractor may provide Owners-Contractors Protective policy, naming itself and the City of Duluth. Contractor shall also provide evidence of Statutory Minnesota Worker's Compensation Insurance. Contractor to provide Certificate of Insurance evidencing such coverage with 30-days notice of cancellation, non-renewal or material change provisions included. The City of Duluth does not represent or guarantee that these types or limits of coverage are adequate to protect the Contractor's interests and liabilities.

*\*An umbrella policy with a "following form" provision is acceptable if written verification is provided that the underlying policy names the City of Duluth as an additional insured.*

- (4) If a certificate of insurance is provided, the form of the certificate shall contain an unconditional requirement that the insurer notify the City without fail not less than 30 days prior to any cancellation, non-renewal or modification of the policy or coverages evidenced by said certificate and shall further provide that failure to give such notice to City will render any such change or changes in said policy or coverages ineffective as against the City.
- (5) **The use of an “Acord” form as a certificate of insurance shall be accompanied by two forms – 1) ISO Additional Insured Endorsement (CG-2010 pre-2004) and 2) Notice of Cancellation Endorsement (IL 7002) or equivalent, as approved by the Duluth City Attorney’s Office.**
- b. The insurance required herein shall be maintained in full force and effect during the life of this Agreement and shall protect Contractor, its employees, agents and representatives from claims and damages including but not limited to personal injury and death and any act or failure to act by Contractor, its employees, agents and representatives in the negligent performance of work covered by this Agreement.
- c. Certificates showing that Contractor is carrying the above described insurance in the specified amounts shall be furnished to the City prior to the execution of this Contract and a certificate showing continued maintenance of such insurance shall be on file with the City during the term of this Contract.
- d. The City shall be named as an additional insured on each liability policy other than the workers’ compensation policies of the Contractor.
- e. The certificates shall provide that the policies shall not be changed or canceled during the life of this Contract without at least 30 days advanced notice being given to the City.
- f. Contractor shall be required to provide insurance meeting the requirements of this Paragraph unless Contractor successfully demonstrates to the satisfaction of the City Attorney, in the exercise of his or her discretion, that such insurance is not reasonably available in the market. If Contractor demonstrates to the satisfaction of the City Attorney that such insurance is not reasonably available, the City attorney may approve an alternative form of insurance which is reasonably available in the market which he or she deems to provide the highest level of insurance protection to the City which is reasonably available.

Procedure verified by:

\_\_\_\_\_  
Don Douglas, Claims Adjuster  
Duluth City Attorney’s Office

Date \_\_\_\_\_

PRE-2004 CG 2010

- A. **Section II - Who Is an Insured** is amended to include as an insured the person or organization shown in the Schedule, but only with respect to liability arising out of your ongoing operations performed for that insured.

\*\*\*\*\*

NOTICE OF CANCELLATIONS ENDORSEMENT IL-7002 (10-90)

All Coverage Parts included in this policy are subject to the following condition: If we cancel this policy for any reason other than non-payment of premium, we will mail advance notice to the person(s) or organization(s) as shown in the Schedule.

Schedule	
Person or Organization (Name and Address)	Advance Notice (Days)
City of Duluth Purchasing Division Room 100 City Hall 411 West First Street Duluth, MN 55802	30



**EQUAL EMPLOYMENT OPPORTUNITY (EEO) AFFIRMATIVE ACTION  
POLICY STATEMENT & COMPLIANCE CERTIFICATE**

**TO:** City of Duluth, Minnesota **PROJECT NUMBER & DESCRIPTION** \_\_\_\_\_

\_\_\_\_\_

**FROM:** \_\_\_\_\_

\_\_\_\_\_  
(FIRM's name, address, telephone number)

**A) Employment:** It is the policy of the above named FIRM to afford equal opportunity for employment to all individuals regardless of race, color, creed, religion, national origin, ancestry, age, sex, marital status, status with respect to public assistance and/or disability. The FIRM will take affirmative action to ensure that we will: (1) recruit, hire, and promote all job classifications without regard to race, color, creed, religion, national origin, ancestry, age, sex, marital status, status with respect to public assistance, and/or disability, except where sex is a bona fide occupational qualification; (2) base decisions on employment so as to further the principle of equal employment opportunity; (3) ensure that promotion decisions are in accord with the principles of equal employment opportunity by imposing only valid requirements for promotional opportunities; (4) ensure that all personnel actions such as compensation, benefits, transfers, layoffs, return from layoff, FIRM sponsored training, education tuition assistance, social and recreational programs will be administered without regard to race, color, creed, religion, national origin, ancestry, age, sex, marital status, status with respect to public assistance, and/or disability. The FIRM also intends full compliance with Veteran affirmative action requirements. Additionally, minority and female employees shall be encouraged to participate in all FIRM activities and refer applicants.

I have designated (name) \_\_\_\_\_ to direct the establishment of and to monitor the implementation of personnel procedures to guide the FIRM's affirmative action program. Where PROJECTS exceed \$500,000, this official shall also serve as the liaison officer that administers the FIRM's "Minority Business Enterprise Program." This official is charged with designing and implementing audit and reporting systems that will keep management informed on a monthly basis of the status of the equal opportunity area.

Supervisors have been made to understand that their work performance is being evaluated on the basis of their equal opportunity efforts and results, as well as other criteria. It shall be the responsibility of the FIRM and its supervisors to take actions to prevent harassment of employees placed through affirmative action efforts.

**B) Reports:** Unless exempted by law and regulation, the FIRM shall make available and file those reports related to equal opportunity as may be required by the City of Duluth and State and Federal compliance agencies. Requirements and Reports are defined in 41CFR60 "Compliance Responsibility for Equal Opportunity" published by the U. S. Department of Labor which is incorporated herein by reference. Additional requirements are defined in various State and Federal Civil Rights Legislation and Rules promulgated thereunder.

**C) Nonsegregated Facilities:** The FIRM certifies that it does not maintain or provide for its employees any segregated facilities at any of its establishments and that it does not permit its employees to perform their services at any location, under its control, where segregated facilities are maintained. The FIRM certifies that it will not maintain or provide for its employees any segregated facilities at any of its establishments and that it will not permit its employees to perform their services at any location, under its control, where segregated facilities are maintained. The FIRM agrees that a breach of this

certification is a violation of the Equal Opportunity Clause in this certificate. As used in this Certification, the term “segregated facilities” means any waiting rooms, work area, rest rooms and wash rooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation for entertainment area, transportation, and housing facilities provided for employees which are segregated by explicit directive or are, in fact, segregated on the basis of race, color, religion, or national origin, because of habit, local custom, or otherwise.

- D) Affirmative Action Compliance Program:** Unless exempted by regulation and law, the FIRM—if the FIRM has 50 or more employees and if the value of current contracts with the City of Duluth exceeds \$50,000—shall prepare and maintain a written affirmative action compliance program that meets the requirement as set forth in 41CFR60.
- E) Non-Compliance:** The FIRM certifies that it is not currently in receipt of any outstanding letters of deficiencies, show cause, probable cause, or other such notification of non-compliance with EEO Laws and Regulations.
- F) Employment Goals - “Construction” Projects:** It shall be the goal of the FIRM if the PROJECT is of a construction nature that in all on-site employment generated that no less than 3% of the on-site workforce will be minority employees and that no less than 7% of the on-site workforce will be female employees. Further, it is the goal of the FIRM if the PROJECT is of a construction nature that in all on-site employment generated that no less than 3% of the work hours generated shall be worked by minority employees and that no less than 7% of the work hours generated shall be worked by female employees.
- G) Subcontractors:** The FIRM will for all its PROJECT subcontractors regardless of tier (unless exempted by law and regulation) that received in excess of \$2,500 require that: (1) the subcontractor shall execute an “EEO Statement and Certification” similar in nature to this “Statement and Certification”, (2) said documentation to be maintained on file with the FIRM or subcontractor as may be appropriate.

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_ by:

\_\_\_\_\_  
Printed name and title

\_\_\_\_\_  
Signature

**NOTE:** In addition to the various remedies prescribed for violation of Equal Opportunity Laws, the penalty for false statements is prescribed in 18 U.S.C. 1001.

**Construction Safety and Security Compliance**  
**For**  
**Aircraft Operations Area**  
**Duluth International Airport**  
**Duluth, Minnesota**  
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## I. AIRPORT EMERGENCY NUMBERS

### EMERGENCY TELEPHONE NUMBER

911

FOR

POLICE FIRE RESCUE

### AIRPORT NONEMERGENCY NUMBERS

#### DULUTH AIRPORT AUTHORITY

Airport Office	(M – F 08:00 – 16:30)	727 – 2968 727 – 2960 (fax)
Airport Security	(24 Hours)	391 – 5631 (cell) 726 – 4984 (pager)
Executive Director	Tom Werner	391 – 6155 (cell)
Operations Director	Blaine Peterson	391 – 5667 (cell)
Airport Garage		727 – 6522
Electrical Vault		391 – 5697 (cell)

## **II. CONSTRUCTION SAFETY FOR DULUTH AIRPORT AUTHORITY**

This manual provides general information to Contractors on the requirements and procedures for accident prevention, safety, security, and loss control for the Duluth Airport Authority (DAA) construction, repair, or services required by the DAA and its tenants. The DAA's safety objective is to achieve accident-free construction projects.

Contractors are charged with the responsibility for conducting their operations in a manner that will provide safe working conditions for all employees and the protection of the public and all others who may come in contact with or be exposed to this project. Nothing contained in this manual is intended to relieve any Contractor or supplier of the obligations assumed by the Contractor under contract with the DAA or as required by law.

Safety must be an integral part of each job. Full participation, cooperation, and support is necessary to ensure the safety and health of all persons and property involved in the project.

The purpose of marking, barricading, and lighting airside construction areas is to delineate hazardous areas and prevent unauthorized incursions into the area by personnel, vehicles, equipment, and aircraft during construction.

The limits of the Duluth International Airport, hereafter referred to as "the Airport," are defined as follows:

The Aircraft Operating Area (AOA), for the purpose of this document, is defined as any part of the Airport utilized for aircraft operations and includes any area inside the perimeter fence.

The Aircraft Movement Area (AMA) is defined as runways, taxiways, and other areas of the Airport that are utilized for taxiing, takeoff, and landing of aircraft, exclusive of loading ramps and parking areas. The AMA is a restricted area. All vehicle and pedestrian access is prohibited without the approval of the Airport and FAA Air Traffic Control.

The DAA reserves the right to review the Contractor's safety program/record and periodically inspect work sites for compliance.

## **III. SAFETY AREAS**

Runways and taxiways have safety areas. The safety area dimensions at Duluth International Airport extend 1,000 feet beyond each runway end and 255 feet perpendicular to the runway centerline.

### **A. Design Standards**

The runway and taxiway safety areas shall be:

1. Cleared and graded and have no potentially hazardous ruts, humps, depressions, or other surface variations.
2. Drained by grading or storm sewers to prevent water accumulation.
3. Capable under dry conditions of supporting construction and maintenance equipment, aircraft rescue, fire-fighting equipment, and the occasional passage of aircraft without causing structural damage to the aircraft.
- (4) Free of objects, except for objects that need to be located in the runway safety area because of their functions. These objects shall be constructed on low impact resistant supports (frangible mounted structures) to the lowest practical height with the frangible point no higher than 3 inches. Other objects, such as manholes, should be constructed at grade. In no case should their height exceed 3 inches above grade.

## **(5) Restricted Areas**

Object Free Area (OFA), Obstacle Free Zone (OFZ), Primary Surface and Transitional Surface.

1. Runway and Taxiway Surfaces. When aircraft operations are being conducted on a runway or taxiway, construction activity is prohibited within any of the above listed areas, as defined in the FAA's Advisory Circular (AC) 150/5300-13, current edition, unless approved on a case-by-case basis by the DAA, where construction equipment and material is properly marked and lighted.

These restricted areas vary depending on runway or taxiway design group. A taxiway OFA extends out to 129.5' from the centerline for group IV aircraft and 160' for group V.

A runway primary surface extends out to 500' from a runway centerline and the transitional surface begins a 7' to 1' outward and upward slope up to 150'. Any equipment in these areas must be approved by the DAA.

When working near a runway or taxiway ask for assistance in defining these areas before work begins.

2. Approach Surfaces. When aircraft operations are being conducted near a runway, construction activity is prohibited to penetrate the surfaces, defined in AC 150/5300-13, unless approved by the DAA. The runway threshold may be relocated or displaced to eliminate the penetration.

### **C. Taxiways and Aprons**

Construction activity may be safely permitted within safety areas of taxiways and on aprons in use provided the activity is first coordinated with the DAA, local notice to airmen (NOTAM's) are issued, marking and lighting provisions are implemented, and it is determined that the height of equipment and materials is safely below any part of the aircraft using the AOA that might overhang those areas. The taxiway centerline shall be maintained when construction activity is conducted adjacent to an active taxiway, a minimum clearance of 25 feet plus one half the wingspan of the largest predominant aircraft (currently 767-400) from the centerline of an active taxiway or apron, which is 108 feet.

## **IV. FLAGGERS AND OBSERVERS**

All flaggers will be trained and approved by the DAA prior to working on the Airport.

### **A. Communications**

All flaggers and observers controlling equipment crossing active aircraft areas will be required to have a cellular telephone or DAA approved radio to contact the DAA to report any problems that may affect aircraft operations. All observers and flaggers will immediately contact the DAA if any equipment or vehicle becomes disabled or is unable to yield to aircraft for any reason.

### **B. Crossings**

If approved by the DAA, vehicle and pedestrian crossings of active runways, taxiways and high-use or congested ramp areas may be permitted if the following provisions are met:

1. The DAA is notified before any activity begins and when the activity ends every day.
2. DAA has coordinated the activity with Air Traffic Control and has advised the Engineer or Contractor when to begin crossings.
3. An airport representative is available to contact Air Traffic Control if there are any problems.



4. All involved personnel understand that all equipment and pedestrians must yield to all aircraft. **Aircraft always have the right of way.**

## V. CONSTRUCTION LIMIT BOUNDARIES

### A. Setback Lines

Visible setback lines will be established prior to construction activity taking place adjacent to active taxiways and aprons. All vehicles, equipment, and construction activity must stay beyond these lines unless provisions are made with DAA and Engineering personnel. Locations where setback lines will be placed is determined by the Airport's largest predominant aircraft (Boeing 767-400), and setback lines will be located at 108 feet from the taxiway or apron centerline.

At the discretion of DAA and Engineering personnel, setback lines will be delineated according to the scope and timeframe of each project. Short-term projects involving limited personnel may be delineated with spray paint and/or wooden laths. For projects involving numerous personnel and subcontractors, setback lines will be delineated with rubber-based upright delineators with rope or ribbon extended between delineators. Contractors will be responsible for maintaining setback lines in a clearly visible condition until project completion.

If approved by the DAA, construction may be permitted within the setback lines if the following provisions are met:

1. A designated observer/spotter (other than the equipment operator) is on the site to direct the operator and equipment to yield to oncoming aircraft. The observer/spotter must be able to immediately get the attention of the operator and direct equipment beyond the setback lines. Equipment must be in position to immediately respond.
2. It is determined by DAA and Engineering personnel that the height of the equipment and materials is safely below any part of the aircraft using the AOA that might overhang those areas.
3. Vehicles and equipment are under escort by DAA or Engineering personnel that are in contact with the air traffic control tower or if equipment is being directed by a DAA approved flagger or observer/spotter.

If the above-stated provisions cannot be met, construction activity will not be allowed until a taxiway/apron closure can be scheduled with Air Traffic Control.

## **B. Trenches, Excavations, and Stockpiled Material**

Open trenches exceeding 3 inches in depth and 3 inches in width or stockpiled material will not be permitted within the limits of safety areas of operational runways. Coverings for open trenches or excavations shall be of sufficient strength to support the weight of the heaviest aircraft operating on the runway or taxiway. Lightweight barricades and/or flagging should be used to identify the limits of construction near open trenches or excavations.

## **C. Equipment Height**

Construction activity shall be prohibited when equipment penetrates any obstacle free zone (OFZ) as defined in the FAA's AC 150/5300-13, current edition, unless a favorable airspace finding has been made by the FAA and the DAA, and approved by the DAA. Equipment must display a checkered flag during daytime use and a yellow flashing beacon during nighttime use.

## **D. Proximity of Construction Activity to Navigational Aids**

Construction activity in the vicinity of navigational aids requires special consideration. The effect of the activity and its permissible distance and direction from the aid must be evaluated in each instance. A coordinated evaluation by DAA and the FAA is necessary. Technical involvement by FAA airports, air traffic, and airway facilities specialists is needed as well as construction engineering and management input. Particular attention needs to be given to stockpiling materials and movement and parking of equipment that may block the line of sight from the tower or interfere with electronic signals.

## **E. Construction Vehicle Traffic**

Because each construction situation differs, the Contractor must coordinate construction vehicle traffic with the DAA.

## **F. Limitations of Construction**

1. Open-flame welding or torch-cutting operations will be prohibited unless adequate fire and safety precautions are provided.
2. Open trenches, excavations, and stockpiled material at the construction site should be prominently marked and lighted by barricades (acceptable to the DAA and the FAA) during hours of restricted visibility and/or darkness. Under no circumstances are flare pots to be used for airport lighting.

Some temporary back filling of open trenches may be required.

3. Stockpiled material should be constrained in a manner to prevent movement resulting from aircraft blast or wind conditions. Material should not be stored near aircraft turning areas.

#### **G. Marking and Lighting of Closed or Hazardous Areas on the Airport**

When areas on the Airport are closed or present hazards due to construction activities, they should be marked and lighted according to AC 150/5340. Marking and lighting must be approved by the DAA.

If construction involves an extended closure of a runway, an illuminated cross ("X") shall be required at each end and shall be serviced and maintained by the Contractor. (The lighted cross ["X"] shall be provided by the Contractor.)

The dimensions of the safety area and obstacle free zones vary and will be stipulated in the specifications. If runway and taxiway closures are necessary, construction may be limited to nighttime, requiring 24-hour prior coordination.

All work in the AMA and safety area is to be coordinated with the DAA.

### **VI. AIRCRAFT SAFETY CONSIDERATIONS**

The Contractor will be required to coordinate work so as to satisfy clearance requirements for arrival and departure of scheduled aircraft and maintain compliance with the FAA's AC 150/5370-2 current edition, "Operational Safety on Airports During Construction." The AC sets forth guidelines for maintaining desired levels of operational safety during construction. All construction personnel should become familiar with the contents of this AC, including Appendix 1, "Special Safety Requirements During Construction."

#### **A. Potential Hazards**

Potential hazards include the following:

1. Excavation adjacent to runways, taxiways, and aprons.
2. Mounds of stockpiles of earth, construction material, temporary structures, and other obstacles in proximity to airport operations areas and approach zones.

3. Runway surfacing projects resulting in excessive lips greater than 1 inch for runways and 3 inches for edges between old and new surfaces at runway edges and ends.
4. Heavy equipment, stationary or mobile, operating or idle near the AOA or in safety areas.
- (6) Proximity of equipment or material that may degrade radiated signals or impair monitoring of navigational aids.
6. Tall but relatively low visibility units, such as cranes, drills, and the like, in critical areas such as safety areas and approach zones.
7. Improper or malfunctioning lights or unlighted airport hazards.
8. Holes, obstacles, loose pavement, trash, and other debris on or near the AOA.
9. Failure to maintain fencing during construction to deter human and animal incursion into the AOA.
10. Open trenches alongside pavement.
11. Improper marking or lighting of runways, taxiways, and displaced thresholds.
12. Attractions for birds, such as trash, grass seeding, or ponded water on or near airports.
13. Inadequate or improper methods of marking temporarily closed airport operations areas, including improper and unsecured barricades.
14. Obliterated markings on active operation areas.

NOTE: Safety area encroachments, improper ground vehicle operations, and unmarked or uncovered holes and trenches in the vicinity of aircraft operating surfaces are the three most recurring threats to airside safety during construction.

## **B. Aircraft Emergency**

In the event of an aircraft emergency, the Contractor's personnel and/or equipment may be required to immediately vacate the area.

# **VII. GENERAL SAFETY ISSUES**

## **A. General**

1. The Contractor must, at all times, conduct the work in conformance with requirements of the DAA, the FAA, and the TSA.
2. Aircraft traffic will continue to use existing runways, aprons, and taxiways of the Airport during the time that work under a contract is being performed. The Contractor shall at all times so conduct the work as to create no hindrance, hazard, or obstacle to aircraft using the Airport.
3. Runway closures, when authorized, are coordinated and approved by the DAA. The Contractor will schedule and organize the work so that a minimum of closings or crossings of runways and taxiways will be required during this project.
4. All construction-related activity taking place within any active area of the AMA requires the presence of a DAA or Engineer escort having radio communication with the FAA control tower. Spotters and/or flaggers having radio or telephone contact with the DAA may be used with the approval of the DAA. Any command or instruction given by the control tower, the DAA, the Engineer, flaggers, or spotters shall be immediately obeyed.
5. The Contractor may be working in an active AOA in which jet takeoff noise can be as high as 120 decibels. All Contractors shall comply with industry standards for personnel hearing protection when working within these areas.
6. Airport environment requires a high degree of care to control debris and dust. Spilled material on active roadways, taxiways, runways, and aprons shall be swept up immediately. The Contractor shall be aware that the AOA is subject to jet blasts, which are equivalent to wind velocities of 75 to 90 miles per hour; therefore, constant dust control measures will be required to prevent loose material from blowing across the airfield.
7. Sanitary facilities shall be provided at appropriate locations for the Contractor's employees. Public facilities at the Airport are not to be used.
8. The speed limit on all airside roadways is 25 miles per hour unless otherwise posted. The speed limit on the aprons is 15 mph. (speed limit within 50 feet of an aircraft is 5 mph.)
9. Peak hours for the AOA are from 06:00 to 23:00. Non-peak hours are defined as the period from 23:00 to 06:00.
10. All personnel operating a motor vehicle within the secured area shall have a valid, state issued drivers license.

11. Maximum convoy length shall not exceed three vehicles plus the escort vehicle. The three vehicles must be in the immediate control of the escort vehicle.
12. Use of audio earphones and headsets are prohibited on the AOA unless directly related to job requirements.
13. All Contractor vehicles and equipment operating in the AOA not being escorted must display checkered flags during daytime use and yellow flashing beacons during nighttime use. The flag should be on a staff attached to the vehicle and should be at least a 3 foot square having a checkered pattern of International Orange and White squares at least one (1) foot on each side.
14. Approved Airport, tenants or Contractor vehicles properly equipped may be used to escort up to three vehicles onto the AOA. The vehicle providing the escort must lead and is responsible for the trailing vehicle(s).

It is acceptable for a person displaying an airport-issued ID to provide pedestrian escort for vehicles; however, this is only allowed within 100 feet of the gate. Under no circumstances may a badge employee provide an escort from inside an unmarked vehicle.

15. Beacons and flags must be maintained in good working condition, and flags will be replaced if they become faded, discolored, or ragged.
16. Construction projects affecting any aircraft operation area will be inspected by DAA prior to construction personnel and cleanup equipment leaving the area.
17. All electrical wire, cable, rope, trenches, holes, or any other object or surface variation that may interfere with or be damaged by airport field mowers or other equipment must be marked and/or barricaded to clearly denote the object or area.
18. Manholes, drain inlets and junction boxes must have approved covers in place at all times or they must be barricaded to clearly denote the uncovered opening.

## **B. Fines and Warnings**

Safety and security precautions are necessary at Airports. Failure of the Contractor to adhere to prescribed requirements may have consequences that jeopardize the health, safety or lives of customers and employees at the Airport. Therefore, if the Contractor is found to be in violation of safety, security or badging/licensing requirements, the Contractor may be shutdown or removed from the Airport.

The DAA has the option to issue warnings on an offense based upon the circumstances of the incident. Individuals involved in non-compliance violations may be required to surrender their DAA ID badges pending investigation of the matter.

Penalties for violations related to DAA procedures may include the following:

1. Warning, DAA ID badge confiscation, retraining, and a letter from the employer stating what action if any has been taken to prevent reoccurrence.
2. Project shutdown and/or removal of personnel involved from the AOA.

Project shutdown or personnel removal may be issued on a first offense.

### **C. Signs**

All permanent signs affected by construction shall be replaced by temporary signs acceptable to the DAA. The Contractor shall submit a sign relocation plan to the DAA for approval prior to any relocation of any existing signs. When construction takes place near the AMA and at the discretion of DAA and Engineering personnel, signs stating "ACTIVE RUNWAY/TAXIWAY DO NOT ENTER" may be required.

### **D. Barricades and Channelizing Devices**

Airside construction sites shall be barricaded and lighted to delineate the work area by using Railroad Tie Barricades with lights and flags placed at 10-foot intervals; taxiway areas shall be barricaded using low-profile lights with flags at 10-foot intervals.

Hazardous areas, those in which no part of an aircraft may enter, shall be defined by the placement of low-profile barricades with reflective markings, and flashing red beacons.

Construction areas on temporarily closed taxiways, runways, or ramp areas shall be defined by the placement of approved Type II Construction Barricades with flashing yellow beacons and shall be secured in place with sandbags as directed by the DAA. During daylight hours, rubber-based upright delineators may be used. All lights and batteries used to delineate construction and hazardous areas shall be constantly maintained by the Contractor during periods of nighttime use.

### **E. Lighting**

Temporary light plants used in conjunction with nighttime work cannot be located in such a manner as to be an obstruction or hazard. In addition, these light plants cannot

be located where the glare of the light will cause visual or physical interference to operating aircraft and the FAA Air Traffic Control tower.

When existing edge lighting are rendered inoperable on an active runway or taxiway, the Contractor must install temporary edge lights. The lights and wiring shall meet National Electrical Code (NEC) Article 300, and AC 150/5340-24 "Runway and Taxiway Edge Lighting System," latest edition, for permanent lighting. Any active runway or taxiway lights requiring temporary removal shall be replaced by a temporary installation.

A temporary connection shall be made to connect all remaining active runway or taxiway lights in a construction area where several lights may have been decommissioned. Contractor shall have prior approval by the DAA before temporarily connecting lights.

"Temporary edge lights shall be securely fastened down and the electrical power cable shall not be driven across. Airfield lighting cables operate at high voltage. They have the potential of 5000 volts and should have only qualified personnel working with them".

The Contractor **shall provide** red obstruction lights for all stationary cranes erected on the construction site. All moveable cranes shall be provided with red obstruction lights if the boom cannot be lowered during hours of darkness. The DAA will issue NOTAMs on obstruction lighting; the Contractor shall notify the Engineer if any relocation takes place.

All construction personnel that are working on the AOA during hours of darkness will wear clothing with reflective markings.

## **F. Pavement Markings**

All existing pavement markings requiring removal shall be obliterated by means approved by the DAA.

Temporary markings consist of paint or temporary preformed marking tape (removable).

All permanent pavement markings shall be restored at project completion.

## **G. Haul Routes**

Where haul routes cross active taxiways, traffic control with a flagger or Engineer escort approved by the DAA shall be implemented.



Traffic control is defined as a flagger or DAA approved escort by the DAA.

Haul routes crossing active taxiways will not be permitted unless authorized by the DAA.

If the Contractor's haul road crosses any area used by aircraft for taxiing, takeoff, or parking, a power broom and/or hand sweeping shall be used to keep this area clean of debris, which could damage aircraft engines or propellers. The Contractor shall be liable for any damages that occur.

Contractor's haul routes must be restored to their original condition at the completion of the project.

#### **H. Transition Ramps**

Construction projects on airside may involve overlays and/or milling operations on runway or taxiway surfaces. This operation will require the construction of temporary ramps to allow runway or taxiway use between actual work shifts during the airside non-peak hours.

#### **I. Grade and Vegetation**

Unless specified, all construction grades and vegetation must be restored to their original condition and be free of ruts and depressions. Appropriate seed shall be planted.

#### **J. Closures/Interruptions**

If any roadway or taxiway is interrupted because of the means and/or methods used by the Contractor, an alternate detour roadway or taxiway must be provided. The Contractor shall submit a plan to the Engineer for approval prior to use. All alternate routes must be properly delineated for AOA/AMA use.

#### **K. Staging Areas and Environmental Compliance**

The staging area cannot be located in high traffic areas within the AOA.

Any staging areas used must be left environmentally clean during and at completion of the construction project. This includes keeping the area clean of debris, oil spills, and

other undesirable elements. Any hazardous or regulated waste material produced by the Contractor must be properly disposed of at the Contractor's expense according to all local, state, and federal regulations.

The Contractor may be required to provide test results to confirm an area has been left environmentally clean with any contamination removed.

## **L. Debris Hazards**

Each construction project will have a procedure for regular cleanup and containment of construction material and debris. Special attention will be given to the cleaning of cracks and pavement joints. All taxiways, aprons, and runways must remain clean.

Secured waste containers with attached lids shall be required on construction sites.

Special attention should be given to securing lightweight construction material (concrete insulating blankets, tarps, insulation, etc.). Specific securing procedures and/or chain-link enclosures may be required.

Vehicle and equipment washing and clean up will not be allowed on the Airport unless approved by the DAA.

When working in an airport environment, immediate access to a power sweeper is required when construction occurs on any aircraft pavement area unless an appropriate alternative has been approved by the DAA and Engineer.

## **M. Airport Assistance Form**

DAA has a construction "Airport Assistance Form" that may be utilized if necessary. The DAA may determine that the Contractor involved in a construction project will hinder operations, and if the contractor is not equipped or unable to rectify the problem within the established timeframe, the Airport Assistance Form will be implemented (Exhibit #1). The process for this work is as follows:

1. DAA or Engineer will initiate work;
2. Airport Maintenance will note the details involved and distribute completed copies;
3. Airport Finance will be notified of the pending cost claim;
4. The Engineer will receive notification of the action taken; and
5. Contractor is given a copy.

If anything that may affect aircraft operations, violations, or noncompliance of FAA or any other requirements is observed, the DAA must be notified.

*DAA Telephone Numbers:*

Office: (218) 727-2968  
Airport Security: (218) 391-5631

## VIII. SECURITY REQUIREMENTS

### A. Airport Access and Identification (ID) Badge Requirements

1. All contractor employees working at a construction site in restricted areas of the Duluth Airport must obtain an Airport ID Badge. The badge must always be displayed on the outermost garment while inside restricted areas. Failure to do so may result in criminal and civil penalties, revocation of the badge and the individual being barred from the Airport.
2. Registration
  - a) The Engineer or sponsoring tenant must complete a construction fact sheet outlining the duration of the contract, the specific door and/or gate numbers for which access is requested, and the name of the Contractor and all subcontractors associated with the project.  
Construction personnel will only access the points as specified by Construction Fact Sheet. If additional access points are required, the Engineer must coordinate with the DAA Operations Director and/or the Airport Security Office. **No access changes will be negotiated with Contractors.**
  - b) The Contractor must complete a Unescorted Access/ DAA ID Badge Request Letter and Signature Authentication Form as shown in Exhibits #2 or #3 and #4.
  - c)
    - (1) The Contractor will designate an Authorized Certifier/s on company letterhead, who is/are responsible for signing all identification badge applications, including those for sub-contractor employees. Authorized certifier must undergo the same background checks as those he/she is certifying. Sample signatures on the Signature Authentication Form must be included with the letter. This is to insure badge applications are signed only by the Authorized Certifier/s.

- (2) If the name of the sub-contractor company does not appear on the letter issued by the Contractor, no ID badges will be issued until an amended list is received.

c) Application

- (1) An application must be completed for each individual requesting access and Airport ID badge.
- (2) Airport ID badge applications are available from the Airport Security Office located in the Main Terminal.

Telephone Number: (218) 727-2968

Fax Number: (218) 727-2960

- (3) All applications must be an original; no copies will be accepted.

d) Background checks

- (1) A favorable FBI Fingerprint Criminal History Records Check (CHRC) must be conducted on employees requesting access / Airport ID Badge for work conducted in the Security Identification Display Area (SIDA)/Secured Area. (The employment background section of the application is not applicable.) \*See Exhibit #3 for costs associated with the CHRC.

A five (5) year employment background check must be conducted on employees requesting access / Airport ID Badge for all other airport restricted areas. The background verification section of the application must be completed by the applicant and verified by the Certifier or his/her representative prior to a badge being issued. The verification form must include employment history for the required number of years, and all time must be accounted for.

The Airport Security Office may audit the background check information to ensure it is complete and accurate. If any discrepancies are found, the badge will be revoked until the information has been corrected. \*NOTE: Any Transportation Security Administration (TSA) fines levied against the Airport for falsification of background information will be passed on to the Contractor. Additionally, any individual who falsifies background information can be held personally responsible and is subject to civil penalties levied by the TSA.

- (2) Guidelines for submitting background information are included with this document as Exhibit #3. If the background information is not accurate or complete, the application will be returned, and an ID badge will not be issued until corrected.
- (3) To allow adequate time for processing and verifying the background information, Required CHRC / background information and application must be submitted to the Airport Security Office a minimum of two business days before the badge is to be issued.
- (4) Badge application instructions contain a list of disqualifying crimes. If an applicant has been convicted of any of these crimes within the last ten years, he/she is not eligible to obtain a badge for access to airport restricted areas. The applicant must indicate whether or not he/she has been convicted of any of the crimes listed.
- (5) A warrants check may be run on the applicant. Individuals with warrants are subject to arrest, and the badge will not be issued until the warrant(s) is/are resolved.
- (6) The application must be signed by an authorized company certifier.

e) Training

- (1) All employees requesting unescorted re required to undergo security training, pursuant to Federal Regulations. This training must be scheduled through the Airport Security Office. Training time is approximately one hour.
- (2) If project size dictates, a construction class specific to the project will be conducted. A time for this class must be coordinated with the Airport Security Coordinator at (218) 727-2968.

f) Issuance of badges

- (1) There is a \$50 fee for the initial issue of each airport ID badge.
- (2) The fee must be submitted by the Contractor only. **Fees shall** not be accepted from subcontractor companies. The DAA will periodically bill the contractor for the fees. Fees should not be paid in cash by the applicants to submit a copy of a drivers license or other picture ID.

g) ID badge renewal/replacement procedures

(1) Replacement of Lost/Stolen badges

- (a) If a badge is lost or stolen, it must be reported to the Airport Security Office immediately (218-391-5631), so the badge can be deactivated.
- (b) A replacement application must be completed and signed by an authorized company certifier.
- (c) \$50 replacement fee must be paid.
- (d) If the badge is later found, the employee must bring in the found badge to the Airport Security Office.

(2) Renewal of Expired Badge

- (a) The Engineer must submit, in writing, a request to extend the expiration date of the badges and provide a new expiration date.
- (b) A replacement application signed by an authorized company certifier must be completed for each employee still required on the project (Exhibit #5).

(3) Replacement of Inoperable or Damaged Badge

If for any reason the ID badge becomes damaged, the badge holder shall return the badge to the Airport Security Office, and a replacement badge will be issued at no cost.

(4) Replacement of a Defaced Badge

No stickers, pins drawings, etc. may be placed on the front of the Airport ID badge. No fee will be charged to replace a badge which has been defaced or altered if the badge is returned to the Airport Security Office.

h) Termination of employee

- (1) Upon voluntary or involuntary termination of the unescorted access privileges of the Applicant, the Company is required to notify the Airport Security Office (218-391-5631) immediately and surrender the identification badge as soon as possible. If the Applicant is convicted of any of the crimes after unescorted access

is granted, the conviction must be reported by the Company immediately to Airport Security and the identification badge returned within 24 hours.

The Contractor shall notify the Airport Security Office, in writing, when a subcontractor is no longer under contract. The Contractor shall collect all badges and return them to the Airport Security Office within 72 hours. Failure to return a badge will result in a \$50.00 fine per badge.

- i) Escort procedures: An employee possessing a valid Airport ID badge may escort other individuals into the secure area under the following conditions:
  - Individuals **under escort** must have an operational need to access the secure area.
  - The employee providing the escort must remain within line of sight, and close enough to monitor the actions of the escorted person.

#### (1) Haul Routes

Contractor may use designated haul routes for deliveries if approved by the DAA, if the following conditions are met:

- (a) Delivery drivers are allowed to go to and from the delivery point only. Any other work or activity requires driver to be properly escorted or badged.
- (b) Spotters may be required to position along the route at intervals (from starting to ending points) to maintain a line of sight and direct the vehicles.
- (c) All delivery vehicles are properly equipped with flags and/or beacons to operate on the Airport.

If the above stated conditions cannot be met, delivery vehicles must be escorted by a vehicle properly equipped to operate on the Airport.

## **B. Vehicle Requirements**

### **1. Vehicle markings**

All Contractor vehicles and equipment operating in the AOA must display checkered flags during daytime use and yellow flashing beacons during nighttime use. The flag should be on a staff attached to the vehicle and should be at least a 3 foot square having a checkered pattern of International Orange and White squares at least one (1) foot on each side.

## 2. Vehicle Escort

- a) Only approved Contractor vehicles may be used to escort other vehicles onto the AOA. The vehicle providing the escort must lead and is responsible for the trailing vehicle(s).

It is acceptable for a person displaying an Airport ID Badge to provide pedestrian escort for vehicles; however, this is only allowed within 100 feet of the gate.

- b) Equipment (backhoes, graders, etc.) that remain at the job site will be stored in the staging area. Staging areas located within the AOA are not for contractor employee parking unless approved by the DAA.

## C. Access Points/Gates

- 1. When non-automated gates are unlocked, they must be staffed at all times by a badged employee to control access. This individual must have the ability to contact Airport Security via phone in the event of a security breach. This individual is required to check each person entering Airport restricted areas through the gate for a valid ID badge. Anyone not in compliance will be denied access.
- 2. All employees performing gate guard duties are required to attend a briefing with Airport Security to obtain instruction on their responsibilities.
- 3. If a problem is encountered, the gate guard must notify Airport Security (218-391-5631) immediately. The guard will be asked to describe the problem and give a description of the vehicle or individual involved.
- 4. While not actively being used, the gate must be kept **closed and locked**.
- 5. Access to construction sites through manual gates must be coordinated with Airport staff. **Contractor locks will be placed on gates interlocked with DAA locks ensuring DAA access at all times.**



## **D. Fencing**

If a temporary fence is erected, displacing a portion of the airport perimeter fence, it must meet permanent fence standards, which are 6 feet of chain link with 3 strands of barbed wire angled away from the secure area at 45 degrees, with poles cemented in place.

## **E. Security Violations**

1. Any employee who commits a security violation shall be immediately escorted out of the restricted area and his/her ID badge will not be returned until remedial actions have been taken (retraining, etc.). Based on the nature of the violation, the DAA may permanently revoke an Airport ID badge and deny access to restricted areas. The individual may also be responsible for any TSA penalties or fees levied for the violation.
2. Construction project may be shut down and delayed at the expense of the contractor if security violations persist.
3. Security violations include the following:
  - a) Loaning an airport ID badge to another individual or using another individual's badge.
  - b) Failure to actively control a vehicle gate providing access to a secure area.
  - c) Leaving an escorted individual unattended in a secure area.
  - d) Failure to possess and properly display a valid Airport ID badge while in the secure area.
  - e) Propping open a door or gate that leads to a secure area and leaving it unattended.
  - f) Leaving a door or gate unlocked that leads to a secure area.
  - g) Allowing an unauthorized individual to follow you through a door leading to a restricted area, with the exception of individuals under approved escort.
  - h) Using the Airport ID badge to enter secure areas of the airport that are not related to the construction job.

- i) Working with an expired badge.
- j) Failure to use the access card when entering a security controlled gate or door.
- k) Failure to challenge or report an un-badged individual or other security violations in Airport restricted areas.

## **IX. GLOSSARY**

### **Advisory Circular (AC):**

Documents produced by the FAA providing guidelines. The Advisory Circular is available at Internet address [www.faa.gov/circdir.htm](http://www.faa.gov/circdir.htm)

### **Aircraft Movement Area (AMA):**

The taxiways and runways controlled by the FAA ATCT.

### **Aircraft Operating Area (AOA):**

The AMA expanded to include ramps/aprons and all areas inside the airport perimeter fence.

### **Air Traffic Control Tower (ATC, Control Tower, or Tower):**

Controls all aircraft and vehicular movement on the aircraft movement area.

### **Apron:**

The area near the buildings where aircraft load/unload and are serviced also referred to as the ramp.

### **Contractor:**

The entity responsible for the completion of a contract or portion of a contract.

### **Duluth Airport Authority (DAA):**

An Authority of the city of Duluth that is responsible for the Duluth International Airport as well as Sky Harbor Airport.

### **Duluth International Airport (Airport) (DLH):**

Located approximately 5 miles west of the city of Duluth, consisting of approximately 3,000 acres, 2 runways.

### **Federal Aviation Administration (FAA):**

Federal agency that governs aviation and activities at civilian airports.

### **Foreign Object Debris (FOD):**

Unwanted, dangerous items on the ramps, taxiways, and runways that could damage an aircraft.

**Object Free Area (OFA):**

An area centered on a runway, taxiway, or taxilane centerline provided to enhance the safety of aircraft operations by having the area free of objects, except for objects that need to be located in the OFA for air navigation or aircraft ground maneuvering purposes.

**Obstacle Free Zone (OFZ):**

The OFZ is (45m) above the established airport elevation and along the runway and extended runway centerline that is required to be clear of all objects, except for frangible visual NAVAIDs that need to be located in the OFZ because of their function, in order to provide clearance protection for aircraft landing or taking off from the runway, and for missed approaches.

**Primary Surface:**

**A surface longitudinally centered on a runway extending 200' beyond each end of the runway. The width varies from 250' for utility runways having only visual approaches to 1000' for precision instruments runways.**

**Restricted Area:**

This area of the Airport refers to the acreage around the runways, protected by the secure exits from buildings, secure gates, and chain-link fences.

**Safety Areas:**

**Runway:** 9/27 and Runway 3/21 are 260 feet each side of the centerline, 1,000 feet off each end.

**Taxiways:** 80 feet each side of the centerline.

**Security Identification Display Area (SIDA) / Secured Area:**

SIDA / Secured Area means any area identified in the Airport Security Program as requiring each person to have completed a favorable FBI Fingerprint based CHRC and continuously display, on their outmost garment, an airport approved identification medium unless under an airport-approved escort.

The SIDA / Secured Area at the Duluth International Airport includes the entire area of the Main Terminal Ramp and its access points including the Airline's bag makeup areas.

**Transportation Security Administration (TSA):**

The Federal branch of Homeland Security responsible for oversight of airport security.

### **Transitional Surface:**

A surface that extends outward and upward at right angles from the sides of the primary surface and the approach surface at a slope of 7 to 1.

### **Construction Gate Procedures**

The gate that you are assigned is designed for your construction project only, it is not designated for the use of other employees. **Do not allow employees who are not working on your construction project to enter through your gate.** Law Enforcement, Fire and Ambulance Emergency vehicles are an exception; however they will usually be met and escorted by an Airport Authorized person, for direction and safety reasons.

**Stop List:** The Stop List provides you with the names of badge holders who lost, had revoked, or did not return their badge at the end of their employment. If you come in contact with someone who shows you a badge that is listed on the Stop List, **DO NOT** permit them to enter. Call Security or DAA Administration for clarification (218-391-5631 or 218-727-2968 extension 10). TSA Inspectors may check to see that you have a Stop List and ask you to explain your responsibilities. Become familiar with the Stop List and how to use it.

### **Entry Procedures:**

- **Only valid SIDA / SECURE / AOA badge holders or workers can be allowed unescorted entry on to the Airport.** Insure each badge holder is displaying the badge on their outer most clothing, above the waist.
- **Each vehicle entering the Airport through your gate MUST be inspected each and every time they enter.** This inspection includes you visually inspecting the interior, exterior and cargo area to insure no prohibited items are being transported (Explosives, Improvised Explosive Devices or components, Firearms and ammunition, Incendiaries excluding matches and lighters, Hazardous materials not consistent with the individual's construction duties; or forged or altered, expired or false Airport media).
- **Contractors must provide the Duluth Airport Authority (DAA) a list of persons that will require escort.** If not on the Escort Access List, an individual must be verified through the contractor before escorted entry is allowed. The escort list is to be made available to TSA on request.
- **All persons requiring escort must be identified through a valid government issued photo ID** (driver's license, military ID, passport, etc). Entry Control Guards must physically handle the ID presented and compare it to the person presenting it.

- **The person under escort must be logged in and out daily** (see DAA Escorted Entry Control Form). These forms are to be turned into DAA Operations weekly.
- **Entry Control Guards must have a radio or cell phone** that allows them to contact Airport Security and/or 911 if an emergency exists or if an unauthorized entry is attempted.
- If at any time you have questions or concerns that are not an emergency, please contact the Director of Operations (218-590-8606) or Security Manager (218-391-7403) or Uniformed Security Officer (24/7 number is 391-5631).

## X. APPENDIX

**AIRPORT ASSISTANCE FORM**

Date:\_\_\_\_\_ Project Number:\_\_\_\_\_

DAA Personnel Requesting Assistance \_\_\_\_\_  
(Name)

\_\_\_\_\_  
(Signature)

Assistance For: \_\_\_\_\_  
(Contractor/Company)

\_\_\_\_\_  
(Authorized Certifier)

Type Of Work Requested: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Area Where Assistance Is Needed: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Reason For Requesting Assistance: \_\_\_\_\_

\_\_\_\_\_  
Was This Activity Part of the Contract Work? ( ) Yes ( ) No

Equipment and Labor Used: \_\_\_\_\_

(Maintenance Department) \_\_\_\_\_

\_\_\_\_\_  
Start Time: \_\_\_\_\_ Completion Time: \_\_\_\_\_

Cost: \_\_\_\_\_

NOTES: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

DISTRIBUTION: Airfield Operations, Maintenance, Finance, Engineering, and Contractor.



**Exhibit #1 (Continued)**

TYPE OF ASSISTANCE	COST/HOUR
<b>EQUIPMENT</b>	
Front End Loader	\$350
Oshkosh 18' Sweeper	\$450
Grader	\$500
Skidsteer	\$200
Labor (included in the above services)	\$125
<b>PAVEMENT REPAIR</b>	
Painting (pavement marking)	To be determined
Asphalting	" "
Concrete	" "
Shoulder Repair (class 5-gravel)	" "
Labor (included in the above services)	\$100
<b>ELECTICAL ASSISTANCE</b>	
Ditch Witch Trencher	\$250
Underground Locator	\$200
Install / Remove Temporary / Permanent Lights	\$250
Labor (included in the above services)	\$125
<b>ESCORT</b>	
Labor With Truck / Radio	\$100

\*Billing in one-hour increments rounded to the next hour: one-hour minimum charge.

## Exhibit #2

### **POLICY REGARDING REQUESTS FOR UNESCORTED ACCESS FOR AOA RESTRICTED AREAS**

- A. Purpose: The purpose of this document is to set forth the rules and regulations at the Duluth International Airport, in compliance with FAA/TSA Security Requirements (FAR Part 1542), for tenants, contractors or other business entities seeking authorization for unescorted access privileges in the Air Operations Area (AOA) secure areas at Duluth International Airport for themselves or their employees. Such tenants, contractors and other entities shall be referred to hereafter as Company. The Duluth Airport Authority shall be referred to hereafter as DAA.
- B. Applicability: The provisions listed below are applicable to all Companies seeking unescorted access for themselves or their employee(s) inside secure areas at Duluth International Airport. No such request will be honored unless the Company has a lease, permit, service, construction or other such contract with DAA or is specifically authorized for entry by federal regulation.
- C. Designation of Certifier: For each project, contract, permit or lease, each company shall formally designate and authorize a person (known hereafter as the Certifier) to sign written requests and written certifications verifying background investigations for unescorted access privileges for themselves or their employees working inside the Airport's AOAs, as well as respond to the DAA's audits of such privileges. **The designation must be written on company letterhead, and include the name and title of the Certifier, as well as his/her business address, and shall contain a statement that a satisfactory five (5) year employment history background check has been accomplished for access to AOA secure areas.**
- D. Responsibilities: The Duluth Airport Authority (DAA) through its Executive Director and other airport staff is responsible for the overall security of the Airport. All Companies and their Certifiers are responsible for complying with the airport

security requirements contained in FAR Part 1542, this policy, and the Airport Security Program.

E. FAR Part 1540.103: “Fraud and Intentional Falsification of Records”: Federal regulations specify that no person may make, or cause to be made, any of the following:

1. Any fraudulent or intentionally false statement in any application for any security program, access medium, or identification medium, or any amendment thereto, under this part.
2. Any fraudulent or intentionally false entry in any record or report that is kept, made, or used to show compliance with this part, or exercise any privileges under this part.
3. Any reproduction or alteration, for fraudulent purpose, of any report, record, security program, access medium, or identification medium issued under this part.

F. FAR Part 1542.207 “Access Investigation”: Federal regulations require that the following minimum access investigation procedures be undertaken by a Company in order to request and obtain unescorted access privileges for itself and its employee(s) (“Applicants”) working at Duluth International Airport and to designate a “Certifier”:

1. The Company must require the Applicant/Certifier to complete a written application that includes:
  - a) The Applicant’s full name, including any aliases or nicknames;
  - b) Dates, names, phone numbers and addresses of previous employers with explanations for any gaps in employment of more than 12 months, during the previous **5 year period**.
  - c) Any convictions during the above time period of crimes listed in Section IX; and

- d) Notification that the Applicant/Certifier will be subject to employment history verification and possibly a criminal history records check.
- 2. The Company must confirm the identity of the Applicant/Certifier through the presentation of two forms of identification, one of which must bear the Applicant's/Certifier's photograph.
  - 3. The company must verify the employment information of the Applicant/Certifier regarding the most recent 5 years of employment history by written documentation, by telephone interview, or in person with a representative of the prior employer(s). Written notes and/or documents concerning the name of the representative, date of verification, and the information verified must be created, maintained and presented to DAA upon request. In the event:
    - a) An Applicant/Certifier cannot satisfactorily account for and document a period of unemployment of 12 months or more; or
    - b) The Applicant/Certifier cannot support his/her statements made in the application or there are inconsistencies discovered; or
    - c) Information becomes available indicating a possible conviction for one of the disqualifying crimes listed in Section IX;

The Company will be required to request a FBI fingerprint based Criminal History Records Check (CHRC) on the individual. This request must be made through DAA for all Companies. The criminal check will be processed by the FBI through the use of fingerprint cards. There will be a \$75.00 processing fee (checks payable to the DAA) that must be submitted with the criminal history request. Cost of the fingerprinting is additional.

- G. Termination: Upon voluntary or involuntary termination of the unescorted access privileges of the Applicant, the Company is required to notify Airport Security within 8 hours by written notification and surrender the identification badge as soon as possible. If the Applicant is convicted of any of the crimes listed in Section IX after unescorted access is granted, the conviction must be reported by the Company immediately to Airport Security and the ID badge returned within 24 hours.
- H. Records: Company must keep verification records for each Applicant for 180 days after termination of unescorted access privileges. Company, through the Certifier, shall respond promptly and completely to periodic audits of persons whose access authority is to be continued.
- I. Disqualifying Criminal Offenses: An individual has a disqualifying criminal offense if the individual has been convicted, or found not guilty of by reason of insanity, any of the disqualifying crimes listed below in any jurisdiction during the last 5 years before the date of the individual's application for unescorted access authority, or while the individual has unescorted access authority. The disqualifying criminal offenses are as follows:
1. Forgery of certificates, false making of aircraft, and other aircraft registration violations;
  2. Interference with air navigation;
  3. Improper transportation of a hazardous material;
  4. Aircraft piracy (hijacking);
  5. Interference with flight crew members or flight attendants;
  6. Commission of certain crimes aboard aircraft in flight;
  7. Carrying a weapon or explosive aboard an aircraft;
  8. Conveying false information and threats;

9. Aircraft piracy outside the special aircraft jurisdiction of the United States;
10. Lighting violations involving transporting controlled substances;
11. Unlawful entry into an aircraft or airport area that serves air carriers or foreign air carriers contrary to established security requirements.
12. Destruction of an aircraft or aircraft facility.
13. Murder.
14. Assault with intent to murder.
15. Espionage.
16. Sedition
17. Kidnapping or hostage taking.
18. Treason
19. Rape or aggravated sexual abuse.
20. Unlawful possession, use, sale, distribution, or manufacture of an explosive or weapon.
21. Extortion
22. Armed or felony armed robbery.
23. Distribution of, or intent to distribute, a controlled substance.
24. Felony arson.
25. Felony involving a threat.
26. Felony involving – Willful destruction of property;
27. Importation or manufacture of a controlled substance;
28. Burglary;

- 29. Theft; Dishonesty, fraud, or misrepresentation;
- 30. Possession or distribution of stolen property;
- 31. Aggravated assault;
- 32. Bribery;
- 33. Illegal possession of a controlled substance punishable by a maximum term of imprisonment of more than 1 year.
- 34. Violence at international airports.
- 35. Conspiracy or attempt to commit any of the aforementioned criminal acts.

J. The Cost of ID Badges / Access Cards: The cost of Airport ID Badges and Access Cards issued to individuals or organizations on an initial or replacement basis is \$65.00 each. This price reflects the cost of materials (photo supplies/card stock) and labor to include training, data entry, and the making and issuing the cards. Airport ID Cards and Access Cards will be paid for at the time of issuance. Exception to this policy will be major tenants that have an established account with the Airport Authority Bookkeeping Office. ID Cards and Access Cards will be issued through the Airport Security Office. Checks can be made out to the Duluth Airport Authority (DAA) with the type of badge or card annotated in the memo section of the check. A receipt will be issued.

**In the event an ID Badge or Access Card is lost, the individual will be assessed \$50.00 per item in addition to replacement cost of \$50.00 per item.**

# COMPANY LETTERHEAD



Authorized Company Clearances: \_\_\_\_\_

Authorized Badge Color: \_\_\_\_\_

I, \_\_\_\_\_,  
(Print Name) (Print Title)

have been authorized by the above company to request employee I.D. cards for security identification and access purposes at Duluth International Airport. I have reviewed the DAA Policy regarding my responsibilities and agree that in making such request, I am certifying that my company and I understand and have fully complied with the Federal Aviation Administration, The Transportation Security Administration, DAA Airport Security Program requirements, and the rules and regulations regarding background checks and verification. I also understand that I may be criminally or civilly prosecuted for providing false or fraudulent information.

\_\_\_\_\_  
Signature

City / County of \_\_\_\_\_, State or Commonwealth of  
\_\_\_\_\_

The foregoing document was acknowledged before me this \_\_\_\_\_ day of  
\_\_\_\_\_201\_\_

by \_\_\_\_\_  
(Name of person seeking acknowledgement)

\_\_\_\_\_  
Notary Public

My commission expires: \_\_\_\_\_

### **CHECKLIST FOR AOA BADGE PAPERWORK.**

- **PAGE 1. HAVE APPLICANT COMPLETE AND SIGN/DATE.**
- **PAGES 2 & 3. APPLICANT COMPLETES 5 YEAR WORK HISTORY. CERTIFIER AUTHENTICATES AND SIGNS OFF ON INFORMATION PROVIDED.**
- **PAGE 4. AUTHORIZED CERTIFIER ANNOTATES TIMES OF ACCESS, IF AIRFIELD DRIVING IS REQUIRED, AND SIGNS APPLICATION AUTHORIZING THE BADGE. IN ADDITION, APPLICATION MUST INDICATE SECURITY TRAINING IS CURRENT. APPLICANT MUST SIGN FOR BADGE WHEN IT IS RECEIVED.**
- **APPLICATION MUST ALSO CONTAIN:**
  - **COPY OF DRIVERS LICENSE & ONE OTHER FORM OF ID: SOCIAL SECURITY CARD, PERMIT TO CARRY A WEAPON, PILOTS LICENSE, COMPANY ID, ETC.**
  - **IF APPLICANT REQUIRES AN ACCESS CARD, THEY MUST HAVE COMPLETED AND SIGNED AN ACCESS CARD RECEIPT FORM.**

## EXHIBIT #3

### **POLICY REGARDING REQUESTS FOR UNESCORTED ACCESS FOR THE SECURITY IDENTIFICATION DISPLAY AREA (SIDA)**

- A. Purpose: The purpose of this document is to set forth the policies and procedures for the Duluth International Airport, in compliance with FAA/TSA Security Requirements (FAR Part 1542), for tenants, contractors or other business entities seeking authorization for unescorted access privileges in the Security Identification Display Area (SIDA) at Duluth International Airport for themselves and/or their employees. Such tenants, contractors and other entities shall be referred to hereafter as Company. The Duluth Airport Authority shall be referred to hereafter as DAA.
- B. Applicability: The provisions listed below are applicable to all Companies seeking unescorted access for themselves or their employee(s) in the SIDA at Duluth International Airport. No such request will be honored unless the Company has a lease, permit, service, construction or other such contract with DAA or is specifically authorized for entry by federal regulation.
- C. Designation of Certifier: For each project, contract, permit or lease, each company shall formally designate and authorize a person (known hereafter as the Certifier) to sign written requests and written certifications verifying background investigations for unescorted access privileges for themselves or their employees working inside the Airport's SIDA / Secured Area. As well as respond to the DAA's audits of such privileges. **The designation must be written on company letterhead, and include the name and title of the Certifier, as well as his/her business address, and shall contain a statement that a satisfactory FBI fingerprint based Criminal History Records Check (CHRC) has been accomplished and indicates**

**no unfavorable information was disclosed so access may be granted to the SIDA/Secured Area.**

- D. Responsibilities: The Duluth Airport Authority (DAA) through its Executive Director and other airport staff is responsible for the overall security of the Airport. All Companies and their Certifiers are responsible for complying with the airport security requirements contained in FAR Part 1542, this policy, and the Airport Security Program.
- E. FAR Part 1540.103: "Fraud and Intentional Falsification of Records": Federal regulations specify that no person may make, or cause to be made, any of the following:
1. Any fraudulent or intentionally false statement in any application for any security program, access medium, or identification medium, or any amendment thereto, under this part.
  2. Any fraudulent or intentionally false entry in any record or report that is kept, made, or used to show compliance with this part, or exercise any privileges under this part.
  3. Any reproduction or alteration, for fraudulent purpose, of any report, record, security program, access medium, or identification medium issued under this part.
- F. FAR Part 1542.207 "Access Investigation": Federal regulations require that the following minimum access investigation procedures be undertaken by a Company in order to request and obtain unescorted access privileges for itself and its employee(s) ("Applicants") working at Duluth International Airport and to designate a "Certifier":
1. The Company must require the Applicant/Certifier to complete a written application that includes:
    - a) The Applicant's full name, including any aliases or nicknames;

- b) Any convictions during the above time period of crimes listed in Section IX;  
and
  - c) Notification that the Applicant/Certifier will be subject to a FBI Criminal History Records Check (CHRC).
2. The Company must confirm the identity of the Applicant/Certifier through the presentation of two forms of identification, one of which must bear the Applicant's/Certifier's photograph.
- The Company will be required to request an fingerprint based Criminal History Records Check (CHRC) on the individual. This request must be made through DAA for all companies except air carriers. The CHRC will be processed by the FBI through the use of fingerprint cards. There will be a \$75.00 processing fee (checks payable to the DAA) that must be submitted with the criminal history request. Cost of the fingerprinting is additional.
- G. Termination: Upon voluntary or involuntary termination of the unescorted access privileges of the Applicant, the Company is required to notify Airport Security within 8 hours by written notification and surrender the identification badge as soon as possible. If the Applicant is convicted of any of the crimes listed in Section IX after unescorted access is granted, the conviction must be reported by the Company immediately to Airport Security and the ID badge returned within 24 hours.
- H. Records: Company must keep verification records for each Applicant for 180 days after termination of unescorted access privileges. Company, through the Certifier, shall respond promptly and completely to periodic audits of persons whose access authority is to be continued.
- I. Disqualifying Criminal Offenses: An individual has a disqualifying criminal offense if the individual has been **convicted**, or **found not guilty of by reason of insanity**, any of the disqualifying crimes listed below in any jurisdiction during the last ten (10) years before the date of the individual's application for unescorted access authority,

or while the individual has unescorted access authority. The disqualifying criminal offenses are as follows:

1. Forgery of certificates, false making of aircraft, and other aircraft registration violations;
2. Interference with air navigation;
3. Improper transportation of a hazardous material;
4. Aircraft piracy (hijacking);
5. Interference with flight crew members or flight attendants;
6. Commission of certain crimes aboard aircraft in flight;
7. Carrying a weapon or explosive aboard an aircraft;
8. Conveying false information and threats;
9. Aircraft piracy outside the special aircraft jurisdiction of the United States;
10. Lighting violations involving transporting controlled substances;
11. Unlawful entry into an aircraft or airport area that serves air carriers or foreign air carriers contrary to established security requirements.
12. Destruction of an aircraft or aircraft facility.
13. Murder
14. Assault with intent to murder.
15. Espionage.
16. Sedition
17. Kidnapping or hostage taking.
18. Treason
19. Rape or aggravated sexual abuse.
20. Unlawful possession, use, sale, distribution, or manufacture of an explosive or weapon.
21. Extortion
22. Armed or felony armed robbery.
23. Distribution of, or intent to distribute, a controlled substance.
24. Felony arson.
25. Felony involving a threat.
26. Felony involving –
  - Willful destruction of property;
  - Importation or manufacture of a controlled substance;
  - Burglary;
  - Theft;
  - Dishonesty, fraud, or misrepresentation;
  - Possession or distribution of stolen property;
  - Aggravated assault;

Bribery;

Illegal possession of a controlled substance punishable by a maximum term of imprisonment of more than 1 year.

27. Violence at international airports.

28. Conspiracy or attempt to commit any of the aforementioned criminal acts.

J. The Cost of ID Badges / Access Cards: The cost of Airport ID Badges and Access Cards issued to individuals or organizations on an initial or replacement basis is \$50.00 each. This price reflects the cost of materials (photo supplies/card stock) and labor to include training, data entry, and the making and issuing of cards.

Airport ID Cards and Access Cards will be paid for at the time of issuance. Exception to this policy will be major airport tenants that have an established account with the Airport Authority bookkeeping office. ID Cards and Access Cards will be issued through the Airport Security Office. Checks can be made out to the Duluth Airport Authority (DAA) with the type of badge or card annotated in the memo section of the check. A receipt will be issued.

**In the event an ID Badge or Access Card is lost, the individual will be assessed \$50.00 per item in addition to the replacement cost of \$50.00 per item.**





Authorized Company Clearances: \_\_\_\_\_

Authorized Badge Color: \_\_\_\_\_

I, \_\_\_\_\_, \_\_\_\_\_  
(Print Name) (Print Title)

have been authorized by the above company to request employee I.D. cards for security identification and access purposes at Duluth International Airport. I have reviewed the DAA Policy regarding my responsibilities and agree that in making such request, I am certifying that my company and I understand and have fully complied with the Federal Aviation Administration, Transportation Security Administration, the DAA Airport Security Program requirements, and the rules and regulations regarding background checks and verification. I also understand that I may be criminally or civilly prosecuted for providing false or fraudulent information.

\_\_\_\_\_  
Signature

City / County of \_\_\_\_\_, State or Commonwealth of  
\_\_\_\_\_

The foregoing document was acknowledged before me this \_\_\_\_\_ day of  
\_\_\_\_\_201\_\_\_\_

by \_\_\_\_\_  
(Name of person seeking acknowledgement)

\_\_\_\_\_  
Notary Public

My commission expires: \_\_\_\_\_

**EXHIBIT #4**

(SAMPLE)

**CONSTRUCTION BADGE REQUEST LETTER**

(COMPANY LETTERHEAD)

(To include name, address, and telephone number)

(Date)

Blaine Peterson  
Director of Operations  
Duluth Airport Authority  
4701 Grinden Dr.  
Duluth, MN 55811

RE: Project Name: \_\_\_\_\_  
Project No: \_\_\_\_\_

Dear Mr. Grefe:

The purpose of this letter is to advise you of *(company's name)* activities at Duluth International Airport and request authorization to apply for security identification badges. The badges will be needed until *(date project expires)*.

*(Company name) is engaged in... (a brief description of your activities at Duluth International Airport to include locations on the Airport where proposed activities will occur, a point of contact, and the reason why your employees will require access to the restricted area of the Airport).*

Attached is a list of all subcontractors authorized to work on this project.

To fulfill the requirements of the Duluth International Airport Security Program policies and procedures, the following individual(s) is (are) designated as certification official(s) (must be a company officer or their local management representative with the authority to bind the company) and their sample signature(s) appear on the attached, notarized document:

Blaine Peterson

(Date)

Page 2

The individual(s) are familiar with the Airport's attached "Rules and Regulations Regarding Requests For Unescorted Access at Duluth International Airport". They will sign all applications for ID cards, act as a liaison for verification of employment history and or Criminal History Records Checks (CHRCs) for anyone whom they request access to the restricted areas of the Airport and will ensure *(company name)* employees who are issued Duluth International Airport ID badges comply with the Program. *(Company name)* will ensure a strict accounting of all ID badges is maintained, to include prompt reporting of any lost badges and return of ID badges upon termination or transfer of any employee. I understand that all Airport ID badges are, and remain, the property of the DAA and that failure on the part of my company or employees to abide by Airport rules and regulations may result in revocation of access privileges and confiscation of all outstanding ID badges.

As a condition of any such grant of access, I agree that any Transportation Security Administration fine levied against **the Airport** as a result of the actions or omissions of anyone for whom one of the certification official(s) has requested access to the restricted area **of Duluth** International Airport will be paid by *(company name)*.

I certify that I have authority to bind *(company name)* to this agreement.

Sincerely,

*(Signature)*

*(Company officer or local manager)*

CC: Project Engineer  
Project File

**EXHIBIT #5**

4701 Grinden Drive, Duluth International Airport  
Duluth, Minnesota 55811

**DULUTH AIRPORT AUTHORITY**  
**REPLACEMENT ID BADGE APPLICATION**

(Please type or print legibly in ink)

**Employee Information**

Last Name	First Name	Mid Initial	
Social Security Number	Home Phone Number		
Home Address	City	State	Zip
Company Name		Work Phone Number	

**Reason For Replacement**

<input type="checkbox"/> Expired Tenant Badge	<input type="checkbox"/> Normal Wear	<input type="checkbox"/> Defaced
<input type="checkbox"/> Lost	<input type="checkbox"/> Name Change Only (Proof Required)	<input type="checkbox"/> Other _____

**Authorized Company Certifier**

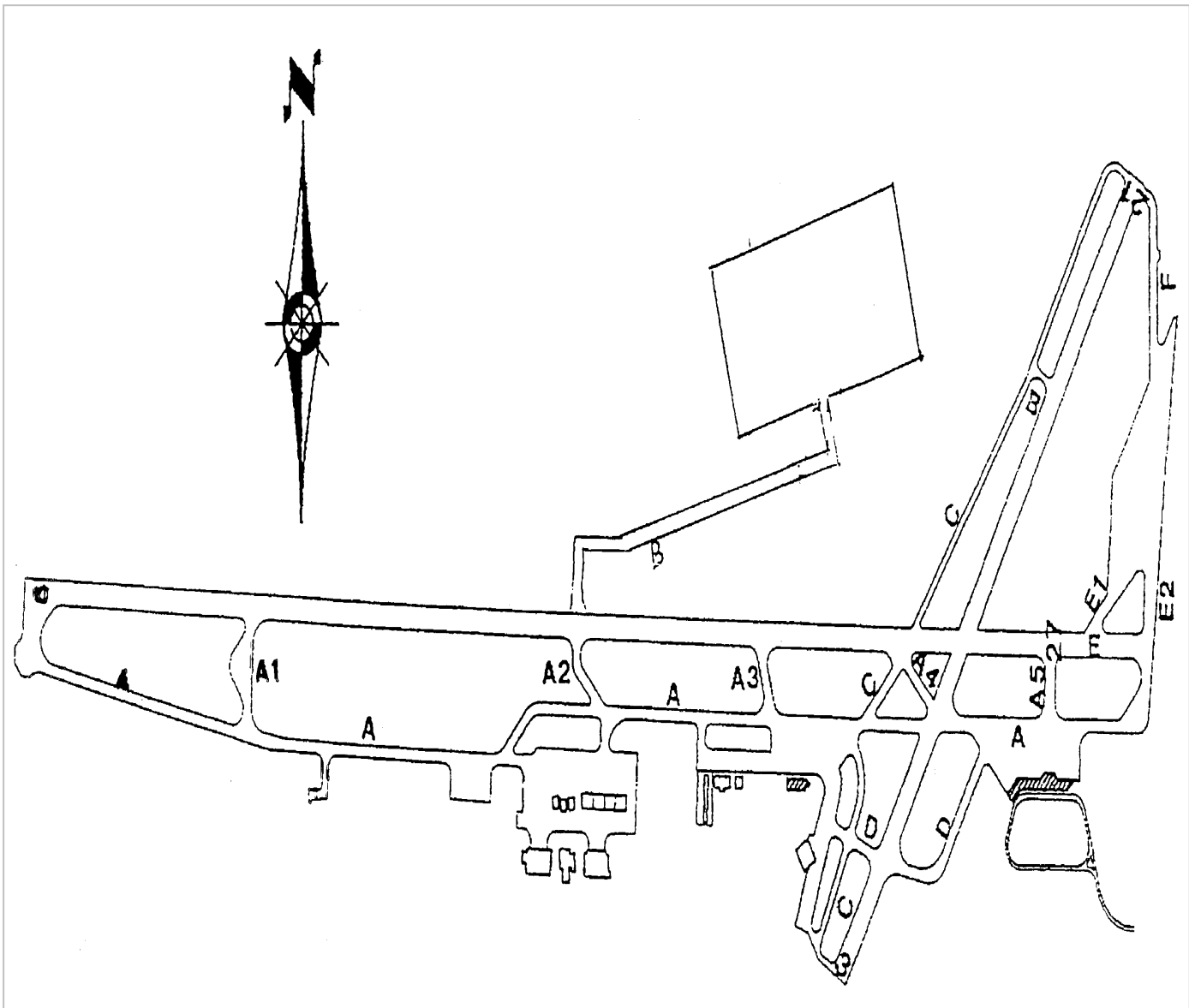
Last Name	First Name	Signature	Date
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**Office Use Only**

Badge Number		Lost Badge Number	
Comments			
Issued By	Date Issued	Entered By	Date Entered

Identification Badge Received By Signature	Employ Date
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# EXHIBIT-6





U.S. Department  
of Transportation  
**Federal Aviation  
Administration**

# Advisory Circular

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**Subject: AIRPORT SAFETY  
SELF-INSPECTION**

**Date:** 04/23/04

**AC No:** 150/5200-18C

**Initiated by:** AAS-300 **Change:**

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**1. PURPOSE.** This Advisory Circular (AC) provides information to airport operators on airport self-inspection programs and identifies items that airport operators should include in such a program.

**2. FOCUS.** Development of a self-inspection program in accordance with this AC represents an acceptable means of compliance with the 14 Code of Federal Regulations (CFR) Part 139 (Part 139) requirements.

**3. CANCELLATION.** Advisory Circular 150/5200-18B, Airport Safety Self-Inspection, dated 5/2/88, is cancelled.

#### **4. RELATED READING MATERIAL.**

**a. 14 CFR Part 139, Certification of Airports.** While Part 139 requirements are mandatory for a holder of a Part 139 Airport Operating Certificate, the regulation contains many safety practices that the Federal Aviation Administration recommends for use at all airports.

**b. 14 CFR Part 77, Objects Affecting Navigable Airspace.**

**c. Current editions of the following advisory circulars:**

- (1) AC 150/5200-33, Hazardous Wildlife Attractants on or near Airports
- (2) AC 150/5210-21, Airport Certification Manual (ACM). This reference is pertinent for certificated airports only.
- (3) AC 150/5210-20, Ground Vehicle Operations on Airports.
- (4) AC 150/5200-28, Notices to Airmen (NOTAMs) for Airport Operators.
- (5) AC 150/5200-30, Airport Winter Safety and Operations.
- (6) AC 150/5210-5, Painting, Marking, and Lighting of Vehicles Used on an Airport.
- (7) AC 150/5230-4, Aircraft Fuel Storage, Handling, and Dispensing on Airports.
- (8) AC 150/5300-13, Airport Design.
- (9) AC 150/5340-1, Standards for Airport Markings.
- (10) AC 150/5340-18, Standards for Airport Sign Systems.
- (11) AC 150/5340-21, Airport Miscellaneous Lighting Visual Aids.
- (12) AC 150/5340-24, Runway and Taxiway Edge Lighting System.

- (13) AC 150/5340-26, Maintenance of Airport Visual Aid Facilities.
- (14) AC 150/5370-2, Operational Safety on Airports During Construction.
- (15) AC 150/5370-10, Standards for Specifying Construction of Airports.

d. Obtain the latest version of the free Advisory Circular publications from the FAA on its Web site at [www.faa.gov/arp/](http://www.faa.gov/arp/). In addition, these ACs are available by contacting the U.S. Department of Transportation, Subsequent Distribution Office, SVC-121.23, Ardmore East Business Center, 3341 Q 75th Avenue, Landover, MD 20785. All FAA ACs are listed in the Advisory Circular Checklist, AC 00-2.1, which is available on the internet. The Checklist also explains how to obtain the circulars.

## 5. BACKGROUND.

a. While some hazardous airport conditions develop virtually instantaneously, others are gradual. It is important that the airport operator have an airport safety self-inspection program that monitors specific airport conditions in order to identify unsatisfactory conditions for prompt corrective actions. A number of airport operators have some form of a safety self-inspection program. The programs vary in scope and effectiveness from verbal instructions and unscheduled and unrecorded inspections to very comprehensive inspection programs with multiple daily schedules and widely distributed responsibilities.

b. At airports certificated under 14 CFR Part 139, the self-inspection program is a key component of an airport operator's airport certification program and required under §139.327. An effective self-inspection program enables an airport operator to operate in compliance to Part 139 standards on a day-to-day basis. In accordance with Part 139, all airports must have an Airport Operating Certificate if serving—

(1) Scheduled or unscheduled passenger operations of an air carrier with aircraft having a seating capacity of more than 30 passengers, or

(2) Scheduled passenger operations with aircraft having a seating capacity of more than 9 and less than 31 passengers.<sup>1</sup>

One of the requirements of Part 139 is that the operator of each certificated airport regularly conduct a daily safety self-inspection to ensure that prompt corrective action is taken to eliminate unsafe conditions on the airport. The specific requirements of the self-inspection program at each certificated airport are addressed in the airport certification manual.

c. This AC suggests components, responsibilities, and items for regularly scheduled, continuous surveillance, periodic condition and special inspections, and checklists for use during any of these airport safety self-inspections. This guidance can be modified as necessary to meet local situations. The information and guidance in this publication serve as a basis by which airports operators may develop their own safety self-inspection programs.

## 6. RESPONSIBILITIES.

a. **Safety Self-Inspection.** Self-inspection is a primary responsibility of the airport owner, operator, or a duly authorized representative. It is customary to assign the job of assuring overall airport ground safety to the airport manager or operations supervisor. Primary attention should be given to such operational items as pavement areas, safety areas, markings, signs, lighting, aircraft rescue and fire fighting, fueling operations, navigational aids, ground vehicles, obstructions, public protection, wildlife

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<sup>1</sup> Part 139 is only applicable in the State of Alaska to airport operators serving scheduled or unscheduled passenger operations of an air carrier with aircraft having a seating capacity of more than 30 passengers.

hazard management, construction, and snow and ice control. Inspection of areas that have been assigned to individual air carriers, fixed base operators, or other tenants can be made the responsibility of the user. However, at Part 139 airports, the FAA will hold the certificate holder ultimately responsible for operating the airport safely.

**b. Recommended Inspection Frequency.**

(1) **Regularly scheduled inspection.** The airport should be inspected at least daily during times when aircraft activity is minimal in order to create the least impact on airport operations. Part of this inspection should be done during the hours of darkness at those airports that serve air carriers after dark.

(2) **Continuous surveillance inspection.** Those activities and facilities that have been identified to require continuous surveillance should be inspected any time personnel are in the air operations area. Hazardous conditions can occur at any time and in a short period of time.

(3) **Periodic condition inspection.** Periodic condition inspection of activities and facilities can be conducted on a regularly scheduled basis but less frequently than daily. The time interval could be weekly, monthly, or quarterly, depending on the activity or facility.

(4) **Special inspection.** Special inspections of activities and facilities should be conducted after receipt of a complaint or when an unusual condition or unusual event occurs on the airport, such as a significant meteorological event or an accident or incident. Special inspections should also be conducted at the end of construction activity to ensure that there are no unsafe conditions present related to the construction activity. A special inspection should be conducted prior to construction personnel leaving the airport in the event that corrective actions are necessary. Special inspections should be documented on the appropriate portions of the regularly scheduled inspection checklist.

**c. Inspection Records.** An effective safety self-inspection program includes procedures for reporting and correcting deficiencies. This means that the airport operator should have a work order system in place so that deficiencies can be corrected in an expeditious manner.

(1) The operator should issue a Notice to Airmen (NOTAM), as appropriate, through the appropriate Flight Service Station (FSS) reporting deficient conditions that could have an immediate and critical impact on the safety of aircraft operations. When corrective actions have been taken, the NOTAM should be cancelled. At Part 139 airports, other similar systems and procedures may be used if approved by the FAA.

(2) For even the smallest airport, it is desirable to use a safety self-inspection checklist that constitutes a written record of conditions noted, and acts as a check on follow-up actions taken. The scheduled use of a dated checklist will assure the regularity and thoroughness of safety inspections and follow-up. The checklist can be an important administrative tool for airport management. It can provide a snapshot of the condition of the airport, indicating trends, defining problem areas, indicating systems that are beginning to deteriorate and helping to define budgetary requirements. It is most desirable to use a format (see examples, Appendices 1–5) in which each inspected area of the airport complex is positively noted. Retain the checklist until indicated actions are completed. Airports certificated under Part 139 must retain the regularly scheduled inspection checklist for 12 months. Airports may use additional, specialized materials and forms, such as maintenance work orders, NOTAMs, fire station and first aid reports, etc. Some airport operators use computerized versions specifically designed to meet their self-inspection requirements. There are several vendors that have developed these computer programs that can use laptops and Personal Data Assistants (PDAs). However, the regularly scheduled inspection checklist should be the basic log documenting that safety inspection responsibilities are being met.

**d. Follow-up.** The airport operator should follow up on complaints or requests for corrective action and on all deficient items or problem areas noted during the daily inspection. Determine which problems



require immediate attention and treat those with highest priority, including developing appropriate NOTAM notification.

## **7. INSPECTION TECHNIQUES.**

Inspectors should vary the pattern of the inspection. Fixed inspection patterns, while easy to learn, do not provide for an adequate inspection. The use of such fixed inspection patterns can lead to complacency and to the possibility of missing items that are in need of correction. When conducting an inspection on a runway and when there is time to do only one pass on that runway, inspection personnel, whenever practical, should drive towards the direction of landing aircraft with high intensity flashing beacon and headlights on day and night. This practice will enable self-inspection personnel to see approaching aircraft and improve visibility of the vehicle to pilots. However, it is recommended that a runway inspection be done in both directions. Inspection personnel should also drive the stub taxiways between the runway and parallel taxiway as these areas are commonly overlooked.

## **8. KNOWLEDGE AND EQUIPMENT FOR SELF-INSPECTION.**

**a.** Airport personnel who conduct safety self-inspections (referred to as inspectors in this AC) should receive training in at least the following areas:

**b.** Inspectors should know the location and types of airport facilities, airport rules and regulations and, at Part 139 airports, be familiar with the FAA-approved Airport Certification Manual.

- (1)** Airport familiarization, including airport signs, marking, and lighting;
- (2)** Airport Emergency Plan (if the airport has one);
- (3)** Notice to Airmen (NOTAM) notification procedures;
- (4)** Procedures for pedestrians and ground vehicles in movement areas and safety areas;
- (5)** Airport inspection procedures and techniques; and
- (6)** Discrepancy reporting procedures.

**c.** Inspectors should know the FAA Advisory Circular standards applicable to the airport and have access to copies for reference. Some applicable standards can be found in the FAA Advisory Circulars listed in paragraph 3c. (This is not an all-inclusive list.). They can also be found on the Internet at **[www.faa.gov](http://www.faa.gov)**.

**d.** Inspectors should have a vehicle equipped with:

**(1)** a two-way ground control radio capable of communicating with the Airport Traffic Control Tower on controlled airports and on the Common Traffic Advisory Frequency (CTAF) or UNICOM at uncontrolled airports (or at controlled airports when the tower is closed);

**(2)** a beacon for nighttime (or inclement weather conditions) inspections; and

**(3)** either a beacon or checkered flag for daytime inspections.

**e.** Inspectors should know and use correct radio communication phraseology, procedures and techniques, as specified in the Aeronautical Information Manual. If the airport operator uses airport police to do all or part of the self-inspection, the police should use aviation terminology and not 10-4 codes.

**f.** Inspectors should be supplied with checklists covering the various inspection areas (sample airport safety self-inspection checklists are contained in Appendices 1–5). While format of checklists vary, it is important to develop a checklist that is useful for the airport and its operation. If certain

inspectors will be responsible for only certain items, separate checklists pertinent to those areas may be developed. A sketch of the airport should accompany the checklist so that the location of problems can be marked for easy identification.

**g.** Inspectors should review the most recently completed checklist from the previous inspection cycle prior to beginning the inspection.

**h.** If construction is in progress, inspectors should be familiar with the safety plan for the project.

**i.** If the airport is certificated under Part 139, inspectors should be familiar with the airport certification manual requirements concerning training and self-inspection.

**9. COMPONENTS OF A SAFETY SELF-INSPECTION PROGRAM.** A successful safety self-inspection program has four components:

**a.** A regularly scheduled inspection of physical facilities (which must be conducted daily at airports certificated under Part 139 or in accordance with the FAA-approved airport certification manual). If the airport serves air carriers after dark, there should also be a nighttime inspection of lighting;

**b.** Continuous surveillance inspection of certain airport activities, such as fueling operations, construction, airfield maintenance;

**c.** A periodic condition inspection program for such things as surveying approach slopes, obstructions, etc.; and

**d.** Special condition inspections during unusual conditions or situations, such as changing weather or days of unusually high number of aircraft operations.

## **10. REGULARLY SCHEDULED INSPECTION.**

The regularly scheduled inspection consists of specific observations of airport physical facilities on at least a daily basis. This inspection should concentrate on the areas described in this section, which are also included in Appendix 1. If deficiencies exist, the inspector should indicate the deficient item and identify its location on a airport sketch, providing dimensions and depths, as necessary. If appropriate, the inspector should take photographs to document the condition.

**a. Pavement Areas.** The condition of pavement surfaces is an important part of airport safety. Pavement inspection should be conducted daily before flight operations commence to ensure pavement surfaces are clear. As a minimum, a daily inspection should be performed of all paved areas that are the responsibility of the airport operator or as specified in the FAA-approved Airport Certification Manual. During the pavement inspection, the inspector should:

**(1)** Check the pavement lips—the area between full-strength pavement and shoulders or paved shoulders and safety areas—to assure that they are no greater than necessary to allow water to drain off the pavement. A lip height no greater than 1 1/2 inches is usually sufficient to allow proper drainage. (At airports certificated under Part 139, pavement lips shall not exceed 3 inches as stated in § 139.305.)

**(2)** Determine if there are any cracks wide enough to cause directional control problems for an aircraft. Report and monitor these cracks.

**(3)** Determine if there are any holes that could cause directional control problems for an aircraft. (At airports subject to Part 139, any hole that cannot be covered by a 5-inch circle, and the side slope at any point in the hole that exceeds 3 inches in depth and is 45 degrees or greater, is a discrepancy. If the hole cannot be covered by a 5-inch circle but the side slope at any point in the hole that exceeds 3

inches in depth or is less than 45 degrees, it may be a discrepancy if it is determined to be a surface variation that could impair directional control of an air carrier aircraft.)

(4) Check the condition of pavement areas for cracks, scaling, spalling, bumps, low spots, and for debris that could cause foreign object damage to aircraft.

(5) Check for vegetation growth along runway and taxiway edges that may impede drainage from the pavement surface.

(6) Check for vegetation growth in cracks.

(7) Report and monitor any cracks, holes, variations and vegetation that can cause loss of aircraft directional control or may cause pavement damage, including damaged caused by damming or ponding water.

**b. Safety Areas.** The inspector should know the dimensions of the runway and taxiway safety areas at the airport. At airports certificated under Part 139, the dimensions of the safety areas should be documented in the airport certification manual. During the safety area inspection, the inspector should:

(1) Determine if there are any hazardous ruts, depressions, humps or variations from the normal smooth surface.

(2) Check to ensure no object is located in a safety area, except objects that must be in the safety areas because of their functions (such as runway lights, signs, or navigational aids). These objects must be constructed on frangibly mounted structures of the lowest practical height. At Part 139 airports, the frangible point must be no higher than 3 inches above grade.

(3) Determine if the base for any equipment in safety areas is at grade level (especially during the winter thaw) and equipment and NAVAIDs mounted on frangible couplings.

(4) Check to ensure that manhole and handhole covers are at grade level and can support vehicles and aircraft. Check to ensure that mounts for light fixtures are at grade level.

(5) Check for surface variation and other damage caused by rodents or other animals.

(6) Report any objects that are not frangible or not at grade level. Also report extraneous equipment and objects, such construction equipment, and surface variations that would cause damage to an aircraft or impede emergency response vehicles. At airports certificated under Part 139, issue a NOTAM regarding objects in the safety area contrary to § 139.309 (see § 139.339)

**c. Markings.** Airport markings provide important information to pilots during takeoff, landing, and taxiing. To avoid confusion and disorientation, airport markings should be in compliance with FAA marking standards specified in AC 150/5340-1, Standards for Airport Markings. (Compliance with these standards is mandatory for operators of airports certificated under Part 139 and for airport operators that have accepted Federal funds for runway and taxiway construction/rehabilitation.) The inspector should know the appropriate markings required at the airport. During the marking inspection, the inspector should:

(1) Check markings for correct color-coding, peeling, blistering, chipping, fading, and obscurity due to rubber buildup.

(2) Check to see if all runway hold position markings are clearly visible.

(3) During and after construction projects, check new markings for compliance with FAA marking standards.

(4) If the markings have glass beads, check markings during periods of darkness to determine if the reflectivity of glass beads is adequate at night.

(5) Report and monitor any nonstandard marking or markings that are obscured, faded or deteriorating.

**d. Signs.** Signs provide important information to pilots while taxiing. To avoid pilot confusion and disorientation, airport signs should be in accordance with FAA sign standards specified in AC 150/5340-18, Standards for Airport Sign Systems. (Compliance with these standards is mandatory for operators of airports certificated under Part 139 and for airport operators that have accepted Federal funds for runway and taxiway construction/rehabilitation.) The inspector should know the appropriate sign standards and specifications at the airport and at a Part 139 certificated airport, ensure signs comply with the FAA-approved Sign Plan.

(1) Check signs to ensure they are easy to read, in accordance with color standards, retro-reflective, and that all lighted signs are working and not obscured by vegetation, dirt, snow, etc.

(2) Check signs to ensure they are frangibly mounted and concrete bases are properly maintained at grade level.

(3) Check to see that sign panels are not missing or damaged, that they have the correct legend and arrow orientation, and that they are not cracked or broken.

(4) During and after construction projects, check new signs for compliance to FAA sign standards and, at Part 139 airports, in accordance with the FAA-approved Sign Plan.

(5) During periods of darkness, check signs to ensure they are properly illuminated. Ensure mandatory instruction signs are illuminated with the associated runway lighting system. Check signs for correct operations; that they are on the correct circuits, they do not flicker and that they follow the intensity setting of the runway or taxiway lights.

(6) Report and monitor any nonstandard sign or any sign that is not functioning, is faded or damaged. At airports certificated under Part 139, issue a NOTAM regarding any malfunctioning holding position sign or ILS critical are sign, as specified under § 139.339

**e. Lighting.** At night and during periods of low visibility, lighting is important for safe airport operations. Lights come in different shapes, sizes, colors, and configurations and can be located either in the pavement or along its edges. Inspection of lighting is best accomplished during periods of darkness in order to evaluate lighting systems when they provide the primary visual aid for pilots. The inspection should concentrate on the lighting owned by the airport operator. However, the inspector should observe any lighting owned or operated by others and report any observed problems immediately to the appropriate responsible owner. During the lighting inspection, the inspector should:

(1) Check to ensure that the following are operable, if installed, and that vegetation or deposits of foreign material do not obscure the light fixture.

- (i) Runway and taxiway edge lights;
- (ii) Apron edge lights;
- (iii) Runway centerline and touchdown zone lights;
- (iv) Taxiway centerline lights or centerline reflectors;
- (v) Runway threshold/end lights; and
- (vi) Runway guard lights (both elevated and in-pavement, if installed).

(2) Check that the following are operable, if installed:

(i) Ramp lights and floodlights used in construction to ensure they are properly shielded);

- (ii) Obstruction lights; and
- (iii) Lighting in fuel storage areas.
- (3) Report all fixtures missing and lights that are not working or appear dim.
- (4) Report any missing or broken light fixture lenses.
- (5) Ensure that runway and taxiway lights and runway threshold lights are the proper color and are oriented correctly.
- (6) Check that lights function properly through the manual or radio control features, and that photocell controls function properly.
- (7) Check the lights for proper alignment, aiming and correct changes in intensity, for correct height, erosion around the bases and the height of frangibility.

**f. Navigational Aids (NAVAIDs).** The inspection of NAVAIDs should concentrate on the visual navigational aids owned by the airport operator. However, the inspector should observe any navigational aids owned or operated by others, such as the FAA, and report any observed problems immediately to the NAVAID owner. During the inspection of NAVAIDs, the inspector should:

- (1) Determine if the segmented circle is clear of vegetation and that it can be seen easily from the air.
- (2) Determine if the airport rotating beacon is visible and working properly.
- (3) Check the wind cone(s) to ensure that it swings freely, the cone fabric is not faded or frayed, and, if lighted, that all lights are operating.
- (4) Determine if the Runway End Lights (RENs, formerly known as Runway End Identifier Lights) are flashing in proper sequence and mounted on frangible couplings.
- (5) Check Visual Glide Slope Indicators (VASIs, PLASIs, or PAPIs) to ensure that their lights are working and mounted on frangible couplings.
- (6) Determine if the Approach Lighting systems are functioning properly.
- (7) Report and monitor any NAVAID that is malfunctioning, inoperable or misaligned, damaged or missing.

**g. Obstructions.** The inspection of obstructions should concentrate on a visual check of construction underway on or near the airport that could affect aircraft operations. This also includes checking for any vegetation, especially, trees, that may penetrate the Part 77 surfaces. During the inspection of obstructions, the inspector should:

- (1) Check to ensure that construction equipment, especially tall cranes being used at construction sites, are not an obstruction. If construction is found and thought to create an obstruction, the airport operator should determine if proper notification to FAA, such as is required through Part 77 or Airport Layout Plan review, has been provided.
- (2) Determine if obstructions are properly marked and lighted.
- (3) Direct any person proposing construction near a public-use airport meeting the notice requirements contained in Part 77, Objects Affecting Navigable Airspace, to the Air Traffic Division or Airports District Office immediately if their construction has not been reported to the FAA.
- (4) Report and monitor any obstruction light that is missing, inoperative or damaged, and any object that appears to be an obstruction and is not properly marked or lit.

**h. Fueling Operations.** The daily inspection on aircraft fueling operations should concentrate on a quick inspection for the most common problems concerning compliance with local fire safety codes at fuel storage areas and with mobile fuelers. The inspection should also include security, fire protection, general housekeeping, and fuel dispensing facilities and procedures. A more detailed fueling operation inspection should be scheduled quarterly (see Quarterly Fueling Operations under Periodic Condition Inspection). During the daily inspection of aircraft fueling operations, the inspector should:

- (1) Determine if the fueling operator is permitting any unsafe fueling practices or is in violation of local fire code, such as failure to bond aircraft with the mobile fuelers during fueling operations or fueling personnel smoking while fueling aircraft.
- (2) Check to ensure that the appropriate signs for the fuel farm are installed and that all gates are locked except when the facility is occupied by an authorized user.
- (3) Report and monitor any unsafe fueling practices and violation of local fire codes. At Part 139 airports, report any noncompliance with fuel fire safety procedures specified in the FAA-approved Airport Certification Manual.

**i. Snow and Ice.** The inspector should be familiar with the airport's snow and ice removal procedures and guidance provided in AC 150/5200-30, Airport Winter Safety and Operations. At Part 139 certificated airports, the inspector should be familiar with the airport's FAA-approved Snow and Ice Control Plan. During the snow and ice control inspection, the inspector should:

- (1) Determine if any lights and signs are obscured by snow or damaged by snow removal operations.
- (2) Check to ensure that snow banks and drifts next to the runway and taxiways provide clearance for aircraft wing tips, engines, and propellers.
- (3) Check to ensure that snow is not piled across the runway threshold or across runway/runway intersections.
- (4) Check to be sure that no foreign objects are left on the pavement from snow removal operations.
- (5) Check to ensure that snow removal operations have not blocked any taxiways or access routes dedicated for aircraft rescue and fire fighting equipment.
- (6) Check to ensure that snow is not accumulated or piled in the critical areas for electronic NAVAIDs.
- (7) Check for and report slippery pavement conditions in terms of either braking action or MU values. If a friction measurement device is available, issue the appropriate numbers obtained from the equipment. (Do not attempt to correlate friction measurement numbers with braking action reports.)
- (8) Report and monitor any snow and ice accumulation that has been missed by the snow and ice removal operation, and any dangerous condition created by such operations, such as obscured signs or lights. At airports certificated under Part 139, issue a NOTAM regarding snow, ice, slush or water on the movement area or loading ramps, and parking areas, as specified under § 139.339.

**j. Construction.** The inspector should be familiar with the airport's construction safety procedures and guidance provided in AC 150/5370-2, Operational Safety on Airports During Construction. At Part 139 certificated airports, the inspector should be familiar with the airport's FAA-approved Construction Safety Plan. During the construction inspection, the inspector should:

- (1) Determine if stockpiled material and construction materials are properly stored to keep them from being moved by wind, jet blast, or prop wash, and is not left in safety areas or movement area.

(2) Check all construction adjacent to movement areas to ensure areas are identified with conspicuous marking and lighting.

(3) Determine if construction equipment (such as bulldozers, cranes, etc.) are marked and lighted and parked clear of the safety areas.

(4) Ensure construction barricades are properly positioned to define the limits of construction and hazardous areas and, if barricades are lighted, check to ensure lights are working properly and are positioned correctly.

(5) Check to ensure that debris and foreign objects are continuously being picked up around construction areas.

(6) Check for open trenches in the safety areas or adjacent to movement areas.

(7) Check operation of lighting in areas adjacent to construction daily before the construction crews depart for the day. In particular, ensure that mandatory instruction signs remain lit with the associated runway lights, even on taxiways that have been closed for construction.

(8) Check NOTAMs daily during construction projects to ensure they accurately reflect the conditions on the airport.

(9) Verify that closed taxiways or runways are properly marked and lighted.

(10) Report and monitor any dangerous condition created by construction activity, including damage to signs, lights, markings and NAVAIDS or equipment and supplies left in movement areas and safety areas.

**k. Aircraft Rescue and Fire Fighting.** During the inspection of aircraft rescue and fire fighting (ARFF) capabilities, the inspector should:

(1) Check the status of ARFF response, including the availability of equipment, fire fighters and extinguishing agent. At Part 139 airports, ensure that such ARFF capabilities comply with the FAA-approved Airport Certification Manual and that the airport's ARFF Index is still appropriate for air carrier aircraft served.

(2) Ensure alarm and emergency notification communication systems are operable.

(3) Determine the adequacy of available fire extinguishing agents.

(4) Check for construction or maintenance activity on the movement area that could affect ARFF response routes. Ensure that the ARFF Department has been notified if construction or maintenance activity could affect emergency response routes.

(5) Report and monitor any ARFF vehicle, equipment or extinguishing agent that is not available or inoperative; any ARFF personnel that are not available; and any changes to aircraft that may require a change to ARFF capabilities. At Part 139 airports, notify the FAA if ARFF vehicles is inoperative and cannot be replaced immediately, as specified under § 139.319(g) and issue a NOTAM regarding non-availability of any rescue and firefighting capability, as specified under § 139.339.

**l. Public Protection.** During the public protection inspection, check gates, fencing, locks, and other safeguards are in place and functioning properly to prevent inadvertent entry to movement areas by unauthorized persons and vehicles and offer protection from jet blast. Report and monitor any safeguards that are damaged or missing. In accordance with the airport's security plan, report unauthorized persons or vehicles in the movement area (airports regulated by the Transportation Security Administration may have additional requirements for reporting and responding to unauthorized persons and vehicles).

**m. Wildlife Hazard Management.** During the wildlife hazard inspection, the inspector should check for evidence of birds or animals on the runways, taxiways, aprons, and ramps or other signs that

wildlife problems may have developed - such as large flocks of birds on or adjacent to the airport. Wildlife hazards found during the daily self-inspection should be properly documented. All dead wildlife found and all wildlife aircraft strikes should be reported to the FAA on the FAA Form 5200-7, Bird/Other Wildlife Strike Report. This form may be obtained from the FAA Internet site, at [www.faa.gov](http://www.faa.gov). Additionally, the inspector should check fencing and gates for wildlife accessibility and should ensure that wildlife control equipment is available and operational.

**11. CONTINUOUS SURVEILLANCE INSPECTION.** Continuous surveillance inspection consists of general observation of activities for compliance with regulations, procedures, etc., as well as abnormalities with physical facilities that are readily apparent. This is performed any time inspection personnel are on the air operations area. Continuous surveillance of airport physical facilities and activities should cover at least the areas described in this section, which are also included in Appendix 2.

**a. Ground Vehicles.** During the continuous surveillance inspection of ground vehicles, the inspector should:

(1) Determine if vehicle drivers are following the airport's procedures and arrangements for the orderly operations of ground vehicles (including mowing machines or other maintenance vehicles in the safety areas). Extra attention should be paid to ground vehicle activity during construction, winter operations, and other special events.

(2) Report and monitor any vehicle operator that is not complying with the airport's vehicle procedures and arrangements.

(3) Report any ground vehicle accident observed and any ground vehicle signs and markings that are damaged, missing or obscured.

**b. Fueling Operations.** The inspector should:

(1) Emphasize fire and explosion hazards inherent in aircraft refueling.

(2) Ensure proper bonding is being used, deadman controls are not blocked, and no smoking prohibitions are being observed, and aircraft are not being fueled inside hangars.

(3) Check for proper parking of mobile fuelers to ensure these vehicles are at least 10' apart and 50' from buildings.

(4) Check for fuel leaks or spills in the fuel storage area and around mobile fuelers.

(5) Determine if the fuel farm is free of flammable materials, including litter and vegetation.

(6) Report and monitor any of unsafe fueling conditions discussed above and other obvious violations of local fire code and airport fuel fire safety procedures.

**c. Snow and Ice.** During the continuous surveillance inspection of snow and ice removal operations, the inspector should check snow or ice covered pavements and report and monitor any surfaces where snow and ice may affect the safety of aircraft operations. In addition, the inspector should monitor snow and ice removal NOTAMS to ensure they remain current and issue timely corrections, as necessary. If the airport uses other means to notify tenants of snow and ice removal operations, e.g., faxed or electronic messages, the inspector should also monitor this information for accuracy. Check to ensure that snow or ice on pavement surfaces does not affect the safety of aircraft operations and that NOTAMS are current.

**d. Construction.** The Inspector should check construction projects to ensure that the contractor is following the construction safety plan. During the continuous surveillance inspection of construction activity, the inspector should check for, and report, any of the following conditions:



- (1) Unauthorized use of runways, taxiways, and aprons by construction personnel and equipment.
- (2) Conditions that may result in runway incursions and other irregularities. This includes ensuring that construction areas are delineated appropriately with barricades, cones, markings, etc.
- (3) Construction equipment is not operated in ILS/MLS critical areas unless coordination with FAA has been accomplished.
- (4) Perimeter gates are left open and unattended, unlocked or construction vehicles and personnel are not following access and escort procedures.
- (5) Construction vehicles not properly marked or missing appropriate flags and/or beacons.
- (6) Foreign object debris on haul roads adjacent to movement areas that can be tracked onto taxiways, aprons, and ramp areas.
- (7) Confusing or missing signs, markings or lighting that could potentially confuse or mislead pilots.
- (8) Barricades and lighting are in place and operational.

**e. Public Protection.** Pay special attention to public protection during construction and special events. During the continuous surveillance inspection of safeguards used to protect the public, the inspector should check for, and report, any of the following conditions:

- (1) Unauthorized personnel, vehicles, and animals, particularly in areas aircraft passengers and the general public are present on the air carrier ramp and other portions of the movement area, i.e, remote aircraft parking locations.
- (2) Inoperable or blocked gates, particularly those that would impede access by aircraft rescue and fire fighting equipment.
- (3) Open or unlocked gates and missing or damaged signs posted to prevent unauthorized access to the airfield.
- (4) Damaged or missing jet blast fences.

**f. Wildlife Hazard Management.** During the continuous surveillance inspection of wildlife hazards, the inspector should check for, and report, any of the following conditions:

- (1) Birds or animals, such as dogs, deer, etc., on or adjacent to the runways, taxiways, aprons, and ramps to determine if there is a potential wildlife hazard problem.
- (2) Potential hazard created by birds on or adjacent to the airport.
- (3) Wildlife strikes and carcasses found on the runways. Report these on FAA Form 5200-7, Bird/Other Wildlife Strike Report. This form may be obtained from the FAA Internet site at [www.faa.gov](http://www.faa.gov).

**g. Foreign Object Debris (FOD).** The inspector should continuously check for, and remove any FOD in movement areas, aircraft parking areas and loading ramps.

**12. PERIODIC CONDITION INSPECTION.** Periodic condition inspections consist of specific checks of physical facilities on a regularly scheduled basis (but less frequently than daily). Checks may require use of equipment (e.g., Walker Bar to measure VASI glide slope angles or transit to survey approach slopes, or continuous friction measurement equipment) or checking specific features of physical facilities. Periodic inspection of airport physical facilities and activities should cover at least the areas described in this section, which are also included in Appendix 3.

**a. Pavement Areas.** The inspector should check pavement surfaces for rubber buildup, polishing, or other items affecting friction.

**b. Markings.** The inspector should:

(1) Check pavement markings to ensure they are correct and clearly visible. Markings on concrete and faded asphalt should be outlined with a black border.

(2) Determine if markings are visible at night, especially examine for rubber buildup in the touchdown zone areas.

**c. Signs.** The inspector should check signs faces for peeling and for fading or faded colors.

**d. Quarterly Fueling Inspections.** Airports certificated under Part 139 are required to establish fire safety standards for safe fueling operations and conduct quarterly inspections of the fueling facilities. The inspection procedures in this section are based on the NFPA 407 fire code for airport fueling operations, which is one of the more common fire codes in effect at certificated airports. The fire safety standards for fueling operations should be listed in the Airport Certification Manual (ACM) and the quarterly inspections should be conducted for compliance to the fueling fire safety standards listed in the ACM. Sample quarterly inspection checklists for fuel storage areas and mobile fuelers are included in Appendix 5. Typical fire safety standards to inspect quarterly are listed below. Airports certificated under Part 139 are required to maintain a record of this inspection for at least 12 months.

(1) **Fuel storage areas and loading/unloading stations.** The inspector should:

(i) Check fuel storage areas for adequate fencing and security to prevent unauthorized access or tampering.

(ii) Check for “No Smoking” signs that are clearly visible.

(iii) Check fuel storage areas for materials such as trash or vegetation that could contribute to the spread of fire. Also check for equipment, functions or activities that could be ignition sources.

(iv) Note if fueling equipment appears to be in good operating condition and free of fuel leaks.

(v) Check piping for reasonable protection from damage by vehicles if piping is above ground.

(vi) Check fuel storage areas for at least two accessible and serviceable fire extinguishers. Where the open hose discharge capacity of the equipment is more than 200 gallons per minute, at least one wheeled extinguisher with at least 125 lbs of agent is also required.

(vii) Check for explosion proof equipment, switches and wiring that is reasonably protected from heat, abrasion or impact, which could cause an ignition source.

(viii) Check for piping, filters, tanks and pumps being electrically bonded together and interconnected to an adequate grounding rod.

(ix) Check for a serviceable bond/ground wire with clip at each loading/unloading facility for grounding tankers and mobile fuelers.

(x) Check loading stations for deadman control features.

(xi) Look for a boldly marked emergency cutoff capable of stopping all fuel flow with one physical movement. The emergency cutoff should be located outside the probable fuel spill area near the route that normally is used to leave the spill area or to reach the fire extinguishers.

(2) **Mobile fuelers.** At least once every 3 months, inspect all fuel trucks to ensure they meet fire safety standards. The inspector should:

(i) Note if mobile fuelers appear to be in good operating condition and free of fuel leaks.

(ii) Check mobile fuelers for parking at least 50 feet from a building and at least 10 feet from each other. Note: Some airports have a mobile fueller maintenance building that is approved by the local fire marshal.

(iii) Check for flammability decals on all sides. Lettering should be at least 3 inches high. Also check for hazardous materials placards on all sides. The Hazmat number for Jet A trucks should be #1863 and #1203 for 100LL trucks.

(iv) Check the cab for a "No Smoking" sign and the presence of smoking equipment. Ashtrays and cigarette lighters are not to be provided.

(v) Check for two fire extinguishers, accessible from each side of the mobile fueller. Fire extinguishers should be charged, sealed and tagged from the last fire extinguisher inspection. Check dry chemical extinguishers to ensure they are only B-C rated. ABC rated multi-purpose dry chemical extinguishers are not to be used on mobile fuelers as they are highly corrosive to aircraft and can cause significant damage to aircraft engines.

(vi) Check emergency fuel cutoffs to ensure they are boldly marked and operable. There should be an emergency fuel cutoff accessible from each side.

(vii) Check electrical equipment, switches, wiring and tail light lens covers for explosion proof construction and reasonable protection from heat, abrasion or impact which could be an ignition source.

(viii) Check for serviceable bonding wires and clamps.

(ix) Check nozzles for deadman control feature.

(x) Check the vehicle exhaust system for exhaust leaks and for adequate shielding if it extends under the fuel tank portion of the vehicle.

e. **Navigational Aids.** Periodically check the aiming of REILs and Visual Glide Slope Indicators owned by the airport.

f. **Lighting.** The inspector should:

(1) Determine that power generator and circuit resistance tests are being conducted.

(2) Ensure lights with adjustable optical systems are checked for proper aiming.

g. **Obstructions.** The inspector should:

(1) Check to ensure there are no overhead power lines in the aircraft parking areas.

(2) Annually survey trees and other structures near the airport that could affect glide path angles, approach light lanes, or be an obstruction to Part 77 surfaces.

h. **Aircraft Rescue and Fire Fighting.** The inspector should:

(1) Periodically determine if the aircraft rescue and fire fighting equipment is capable of meeting response times, if it is required under Part 139.

- (2) Ensure that recurrent training and hot-fire drills are being conducted as required by Part 139.
- (3) Check to ensure the availability of adequate entry tools.

**13. SPECIAL CONDITION INSPECTIONS.** Special condition inspections occur after receipt of a complaint or as triggered by an unusual condition or event. A special inspection should be conducted after an accident or incident. Depending upon circumstances, special condition inspections may include the inspection of any of the specific facilities or activities under the other three components. A special condition inspection of airport physical facilities and activities should cover at least the areas described in this section, which are also included in Appendix 4.

**a. Pavement Areas.** After a rain or thunderstorm, the inspector should check the pavement areas for ponding and edge damming.

**b. Markings and Signs.** The inspector should:

- (1) Determine if markings are visible at night especially when the pavement is wet following a rain.
- (2) After construction or maintenance operations, ensure that pavement markings are correct.

**c. Safety Areas.** The inspector should:

- (1) Ensure that the storm sewer system is checked to verify that inlets are not clogged and drainage channels are free of debris. Note any standing water.
- (2) Ensure all inlet covers are in place and sewer covers are at grade level.
- (3) Conduct a special inspection before reopening a runway or taxiway following any construction or maintenance that has been performed in or around that safety area.
- (4) Any time an aircraft has left the pavement and entered a safety area, check to ensure that no ruts or holes have been made by the aircraft tires or by personnel and equipment during the recovery operation.
- (5) Check for construction and maintenance activities to ensure that no hazardous conditions have been created (equipment left in safety areas, unacceptable pavement lips created by ground alteration work, ruts from mowing equipment, etc.).
- (6) Inspect engineered materials arresting system (EMAS), if installed, for damage and for deterioration.
- (7) Physically drive or walk the safety areas to check for any discrepancies.

**d. Snow and Ice.** Several special inspections may be needed during a winter storm until the airport is back to a normal operation. The inspector should:

- (1) Check to ensure that all foreign objects have been picked up after snow and ice removal operations.
- (2) If a friction measurement device is available, issue the appropriate numbers obtained from the equipment. Do not attempt to correlate friction measurement numbers with braking action reports. If a friction measurement device is not available, issue to Air Traffic braking action reports.
- (3) Conduct a special sign inspection after snowstorms for signs that may have been damaged by plows or by snow thrown by blowers.

**e. Construction.** The inspector should:

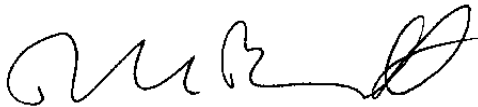
- (1) Ensure that construction areas are barricaded and lighted properly.

- (2) Check construction equipment to ensure that they are parked within the pre-arranged areas.
- (3) Conduct night inspections to ensure that barricades, warning lighting, and reflectors are adequate to keep aircraft away from the construction area.
- (4) Check the location of construction material and stockpiles to ensure that they are outside of safety areas and do not block any signs.
- (5) Check any movement areas adjacent to construction areas or movement areas traversed by construction vehicles to ensure there is no FOD present.
- (6) Check movement areas around construction sites for potentially confusing marking, lighting, and signs that could cause pilot confusion or result in a runway incursion.

**f. Surface Movement Guidance and Control Systems (SMGCS).**

- (1) For operations below 1,200 feet runway visual range, the inspector should conduct an initial inspection of stop bar lights, runway guard lights, clearance bar lights, taxiway centerline lights, and taxiway edge lights installed on the low visibility routes in accordance with the airport's SMGCS plan.
- (2) SMGCS lighting systems that are not electronically monitored should be periodically inspected every 2 to 4 hours for during operations below 1,200 feet to 600 feet. For operations below 600 feet, these inspections should take place every 2 hours. Such inspections should be detailed in the airport's SMGCS plan.

**14. CONDITION REPORTING.** Alert users of the airport to any unsafe conditions that exists and that could affect their operations. Ensure appropriate NOTAMS are issued for unsafe conditions that are identified during an inspection but cannot be corrected immediately. After reporting NOTAMS to the Flight Service Station, follow-up to ensure that the NOTAMS were processed and transmitted.



David L. Bennett  
Director, Office of Airport Safety and Standards

**APPENDICES 1–4****SUGGESTED AIRPORT SAFETY SELF-INSPECTION CHECKLISTS**

An airport safety self-inspection checklist should cover the condition of the facilities and equipment on the airport for it to be a part of a good safety inspection program. The checklist should be developed so that it is useful for the airport and its operation. A sketch of the airport is highly recommended to readily identify the location of problems found during the daily inspection.

The suggested checklists consist of a listing of facilities and equipment and a series of conditions that are inspected.

The blank squares indicate the conditions to be evaluated for each facility. A check (✓) in one of these squares would indicate that the condition of the facility and equipment was found to be satisfactory. On the other hand, an “x” in one of these squares would indicate that the condition of the facility and equipment was found to be unsatisfactory.

When an unsatisfactory condition is found:

1. An “x” for each applicable square should be entered;
2. A note provided in the Remark/Action Taken section;
3. The location of the condition should be identified in the airport sketch; and
4. Appropriate follow-up action including NOTAMs should be initiated. Corrective action should be documented on either the self-inspection checklists or on a separate work order system.

These checklists are ideal for electronic conversion to PDAs and laptop computers.

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## APPENDIX 1

## AIRPORT SAFETY SELF-INSPECTION CHECKLIST

DATE: \_\_\_\_\_ DAY: \_\_\_\_\_

✓ Satisfactory

X Unsatisfactory

Day Inspector/Time: \_\_\_\_\_ Night Inspector/Time: \_\_\_\_\_

FACILITIES	CONDITIONS	D	N	REMARKS	RESOLVED BY (Date/Initials)
Pavement Areas	Pavement lips over 3"				
	Hole – 5" diam. 3" deep				
	Cracks/spalling/heaves				
	FOD: gravel/debris/sand				
	Rubber deposits				
	Ponding/edge dams				
Safety Areas	Ruts/humps/erosion				
	Drainage/construction				
	Support equipment/aircraft				
	Frangible bases				
	Unauthorized objects				
Markings	Clearly visible/standard				
	Runway markings				
	Taxiway markings				
	Holding position markings				
	Glass beads				
Signs	Standard/meet Sign Plan				
	Obscured/operable				
	Damaged/retroreflective				



FACILITIES	CONDITIONS	D	N	REMARKS	RESOLVED BY (Date/Initials)
Lighting	Obscured/dirty/operable				
	Damaged/missing				
	Faulty aim/adjustment				
	Runway lighting				
	Taxiway lighting				
	Pilot control lighting				
Navigational Aids	Rotating beacon operable				
	Wind indicators				
	RENs/VGSI systems				
Obstructions	Obstruction lights operable				
	Cranes/trees				
Fueling Operations	Fencing/gates/signs				
	Fuel marking/labeling				
	Fire extinguishers				
	Frayed wires				
	Fuel leaks/vegetation				
Snow & Ice	Surface conditions				
	Snowbank clearances				
	Lights & signs obscured				
	NAVAIDs				
	Fire access				

FACILITIES	CONDITIONS	D	N	REMARKS	RESOLVED BY (Date/Initials)
Construction	Barricades/lights				
	Equipment parking				
	Material stockpiles				
	Confusing signs/markings				
Aircraft Rescue and Fire Fighting	Equipment/crew availability				
	Communications/alarms				
	Response routes affected				
Public Protection	Fencing/gates/signs				
	Jet blast problems				
Wildlife Hazards	Wildlife present/location				
	Complying with WHMP				
	Dead birds				

Comments/Remarks: \_\_\_\_\_

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Airfield Map on Reverse Side

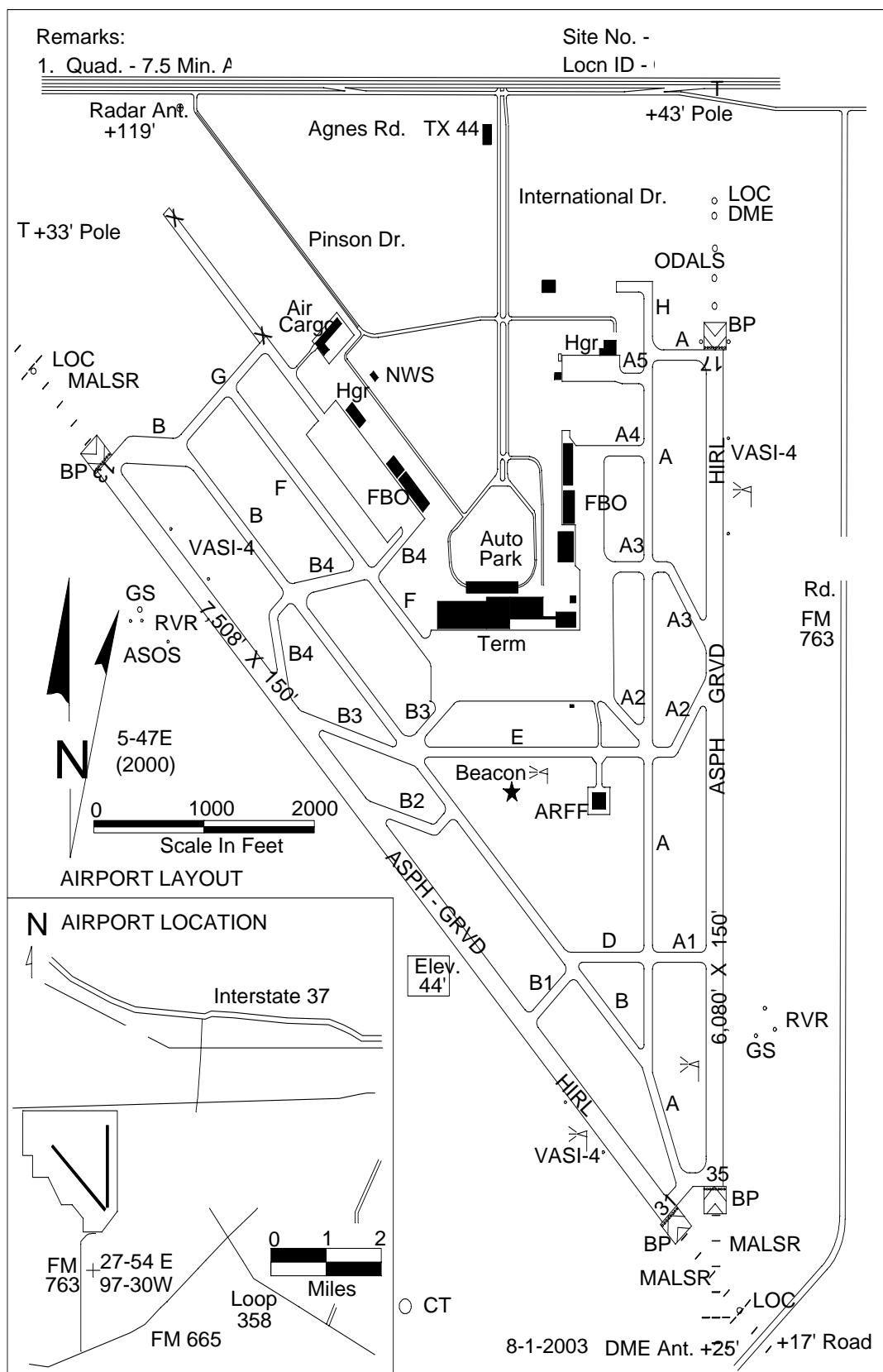


## APPENDIX 2

## CONTINUOUS SURVEILLANCE CHECKLIST

<div style="text-align: right;"> <input checked="" type="checkbox"/> Satisfactory  <input type="checkbox"/> Unsatisfactory </div>			
DATE: _____		DAY: _____	
TIME: _____		INSPECTOR: _____	
FACILITIES	CONDITIONS	✓	REMARKS/ACTIONS TAKEN
Ground Vehicles	Rules/Procedures Followed		
Fueling Operations	Fire/Explosion Hazards		
	Signing/No smoking		
Snow & Ice	Surface Conditions		
Construction	Safety Plan		
	Runway Incursions		
	Runway & Taxiway Use		
	FOD		
Public Protection	Unauthorized Persons		
	Unauthorized Vehicles		
	Gates clear		
Wildlife Hazards	Birds/Animals		
Miscellaneous	Pedestrians in Movement Areas		
	Passenger Load/Unload		
	Debris in Movement Area		
Additional Remarks			

Airfield Map on Reverse Side

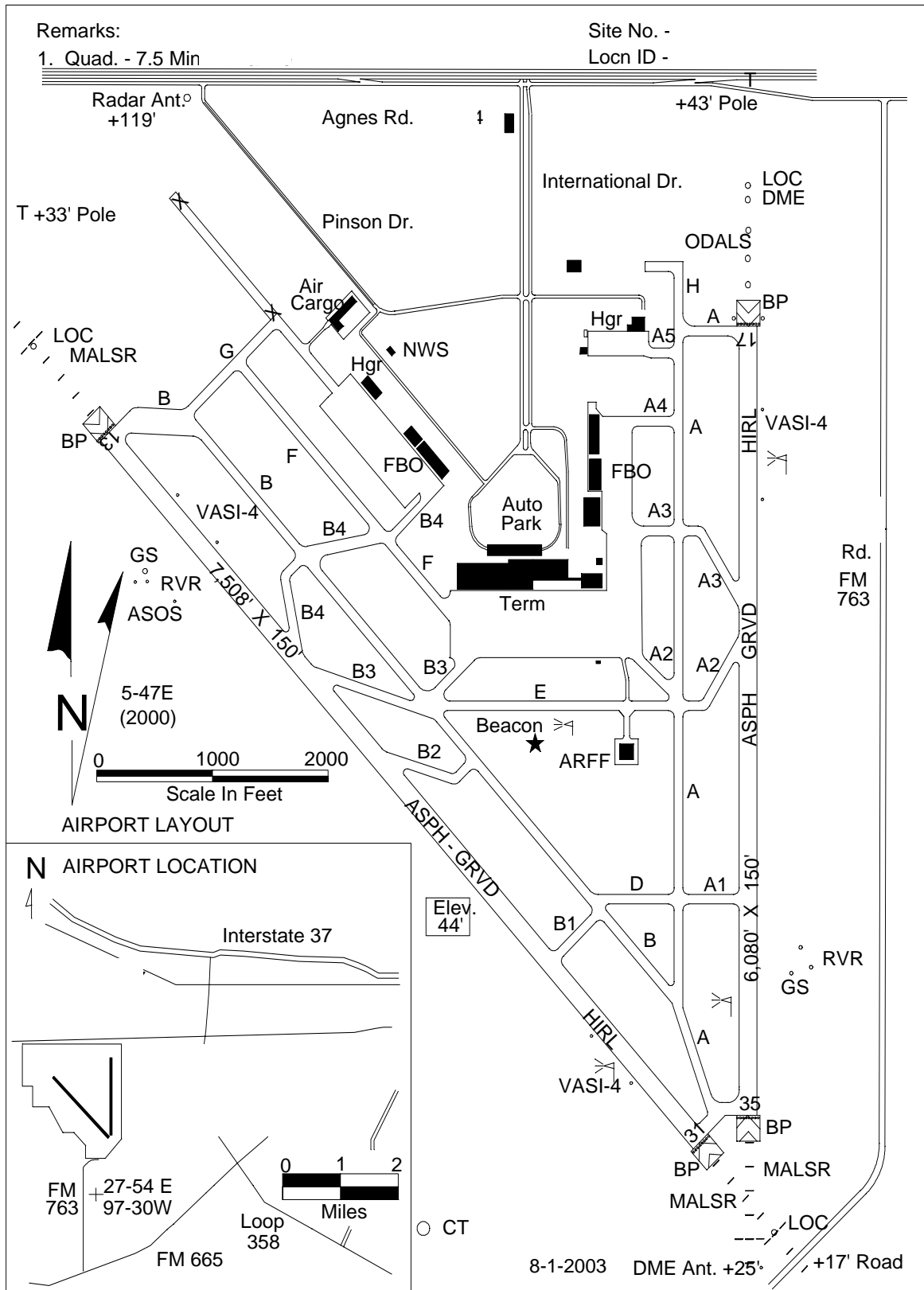


## APPENDIX 3

## PERIODIC CONDITION INSPECTION CHECKLIST

DATE: _____ DAY: _____		√ Satisfactory
TIME: _____ INSPECTOR: _____		X Unsatisfactory
FACILITIES	CONDITIONS	REMARKS/ACTIONS TAKEN
Pavement Areas	Rubber Deposits	
	Polishing	
Markings and Signs	Visible	
	Standards	
Fueling Operations	Physical Facilities	
	Mobile Fuelers	
	Fire Extinguishers	
	Fuel Marking/Labeling	
	Frayed Wiring	
Navigational Aids	RENs/VGSI Aiming	
Lighting	Power Generator Check	
	Circuit Resistance Test	
	Aim/Adjustment	
Obstructions	Surveyed Trees/Structures	
	Overhead Power Lines	
Aircraft Rescue and Fire Fighting	Response Times	
	Live Fire Drills	
	Training	
Additional Remarks		

Airfield Map on Reverse Side



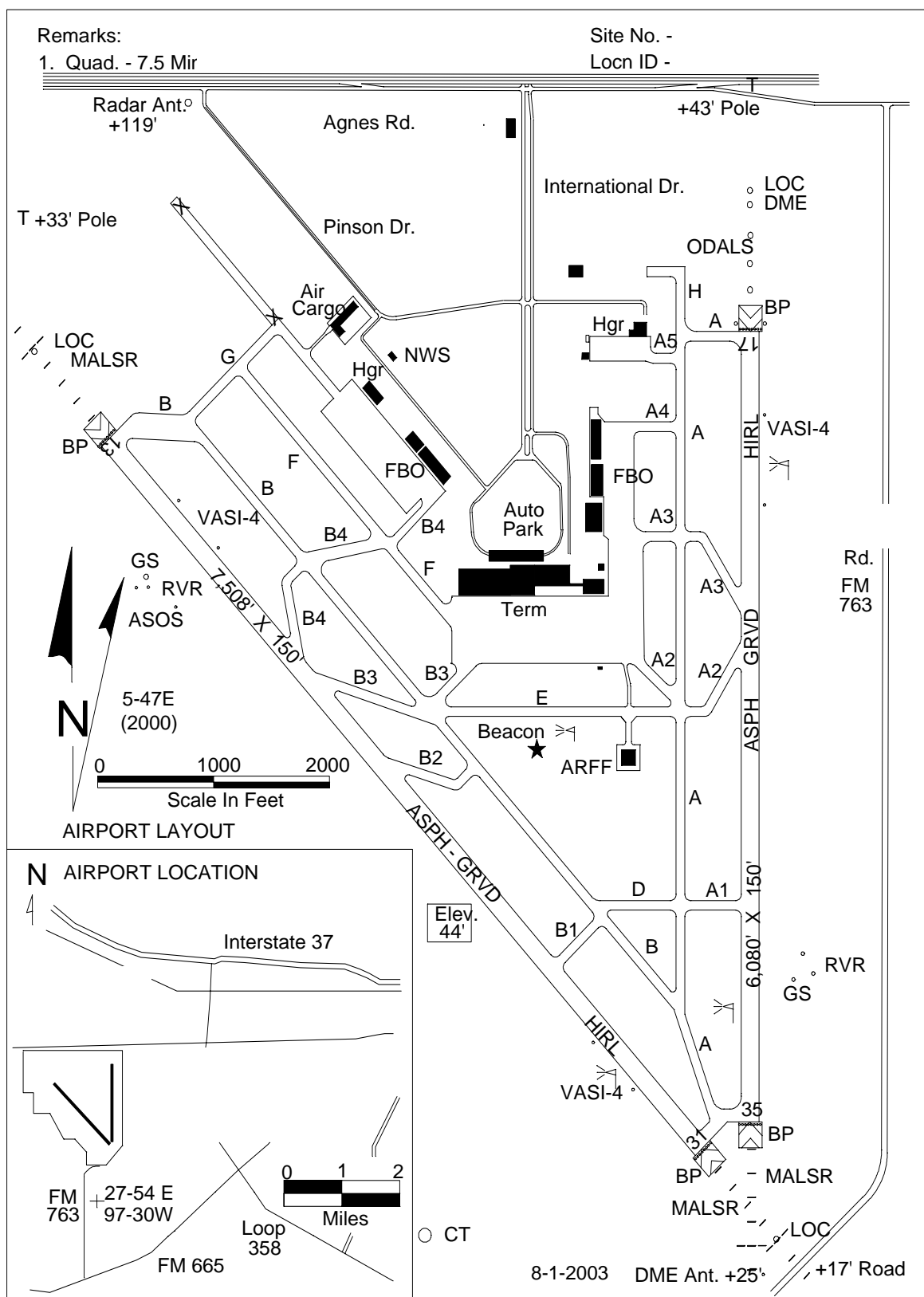
## APPENDIX 4

## SPECIAL INSPECTION CHECKLIST

DATE: _____ DAY: _____		√ Satisfactory
TIME: _____ INSPECTOR: _____		X Unsatisfactory
FACILITIES	CONDITIONS	√
Pavement Areas	Ponding/Edge Dams	
Markings And Signs	Visible after rain	
	Standards after Construction	
Safety Areas	Drainage	
	Reopening Runways	
	Reopening Taxiways	
Snow and Ice	Surface conditions	
	Snowbank clearance	
	Lights & Signs Obscured	
	FOD	
	Braking Action/MU Reports	
Construction	Barricades	
	Construction Lights	
	Equipment Parking	
SMGCS	SMGCS Lighting	
Additional Remarks		

Airfield Map on Reverse Side





## APPENDIX 5A

## QUARTERLY INSPECTION – MOBILE FUELERS

Inspector: \_\_\_\_\_ Fueling Agent: \_\_\_\_\_ Date: \_\_\_\_\_

<b>S – Satisfactory</b> <b>U – Unsatisfactory</b> <b>R – Remark Below</b>	Jet A Fuelers			100LL Fuelers			Other Fueler								
	S	U	R	S	U	R	S	U	R						
No Smoking sign in cab															
Flammability Signs/Haz Mat Placards all sides															
Bonding Cables and Clips functional															
Deadman Control for all nozzles															
2 Fire Extinguishers – Proper type/Inspected															
Emergency Shutoffs operable and marked															
No Fuel Leaks – Hoses/Gaskets/Valves															
Vehicle Exhaust System – Shielded/Leak free															
No evidence of Smoking – No ashtray in cab															
Vehicle Parking – 10' apart/50' from buildings.															
Explosion proof electrical/Light lens intact															
Ignition Sources (Clothing, Shoes, Matches)															
							<b>No of Mobile Fuelers</b>								
Proper Fueling Procedures Observed							Jet A _____								
Fueling Personnel Meet Training Requirements							100 LL _____								
Fueling Personnel Training Records maintained							Other _____								
Remarks: _____															
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## APPENDIX 5B

## QUARTERLY INSPECTION – FUEL STORAGE AREAS

Inspector: \_\_\_\_\_ Fueling Agent: \_\_\_\_\_ Date: \_\_\_\_\_

<b>S – Satisfactory</b> <b>U – Unsatisfactory</b> <b>R – Remark Below</b>	Jet A Section			100LL Section			Other _____		
	S	U	R	S	U	R	S	U	R
Fencing/Locks/Signs									
Piping protected from vehicles									
No Smoking signs posted									
Deadman Controls for loading stations									
2 Fire Extinguishers – Inspected/Accessible									
Boldly Marked Emergency Cutoffs – Location									
No Fuel Leaks									
Bonding wire/clips at loading stations/operable									
Piping/Pumps bonded and grounded									
No vegetation or materials to spread fire									
No evidence of Smoking									
Hoses in good condition									
Explosion Proof Electrical Equipment									
Remarks: _____									
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U.S. Department  
of Transportation

Federal Aviation  
Administration

# Advisory Circular

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**Subject:** Operational Safety on  
Airports During Construction

**Date:** 9/29/11  
**Initiated by:** AAS-100

**AC No:** 150/5370-2F

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- 1. Purpose.** This AC sets forth guidelines for operational safety on airports during construction.
- 2. What this AC Cancels.** This AC cancels AC 150/5370-2E, Operational Safety on Airports During Construction, dated January 17, 2003.
- 3. Whom This AC Affects.** This AC assists airport operators in complying with Title 14 Code of Federal Regulations (CFR) Part 139, Certification of Airports (Part 139). For those certificated airports, this AC provides one way, but not the only way, of meeting those requirements. The use of this AC is mandatory for those airport construction projects receiving funds under the Airport Improvement Program (AIP) or the Passenger Facility Charge (PFC) Program. See Grant Assurance No. 34, "Policies, Standards, and Specifications," and PFC Assurance No. 9, "Standard and Specifications." While we do not require non-certificated airports without grant agreements to adhere to these guidelines, we recommend that they do so to help these airports maintain operational safety during construction.
- 4. Principal Changes.**
  - a.** Construction activities are prohibited in safety areas while the associated runway or taxiway is open to aircraft.
  - b.** Guidance is provided in incorporating Safety Risk Management.
  - c.** Recommended checklists are provided for writing Construction Safety and Phasing Plans and for daily inspections.
- 5. Reading Material Related to this AC.** Numerous ACs are referenced in the text of this AC. These references do not include a revision letter, as they are to be read as referring to the latest version. Appendix 1 contains a list of reading material on airport construction, design, and potential safety hazards during construction, as well as instructions for obtaining these documents.

**Michael J. O'Donnell**  
Director of Airport Safety and Standards

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## Chapter 1. Planning an Airfield Construction Project

**101. Overview.** Airports are complex environments, and procedures and conditions associated with construction activities often affect aircraft operations and can jeopardize operational safety. Safety considerations are paramount and may make operational impacts unavoidable. However, careful planning, scheduling, and coordination of construction activities can minimize disruption of normal aircraft operations and avoid situations that compromise the airport's operational safety. The airport operator must understand how construction activities and aircraft operations affect one another to be able to develop an effective plan to complete the project. While the guidance in this AC is primarily used for construction operations, some of the concepts, methods and procedures described may also enhance the day-to-day airport maintenance operations, such as lighting maintenance and snow removal operations.

**102. Plan for Safety.** Safety, maintaining aircraft operations, and construction costs are all interrelated. Since safety must not be compromised, the airport operator must strike a balance between maintaining aircraft operations and construction costs. This balance will vary widely depending on the operational needs and resources of the airport and will require early coordination with airport users and the FAA. As the project design progresses, the necessary construction locations, activities, and associated costs will be identified. As they are identified, their impact to airport operations must be assessed. Adjustments are made to the proposed construction activities, often by phasing the project, and/or to airport operations in order to maintain operational safety. This planning effort will ultimately result in a project Construction Safety and Phasing Plan (CSPP). The development of the CSPP takes place through the following five steps:

**a. Identify Affected Areas.** The airport operator must determine the geographic areas on the airport affected by the construction project. Some, such as a runway extension, will be defined by the project. Others may be variable, such as the location of haul routes and material stockpiles.

**b. Describe Current Operations.** Identify the normal airport operations in each affected area for each phase of the project. This becomes the baseline from which the impact on operations by construction activities can be measured. This should include a narrative of the typical users and aircraft operating within the affected areas. It should also include information related to airport operations: the Aircraft Reference Code (ACRC) for each runway; Airplane Design Group (ADG) and Taxiway Design Group (TDG)<sup>1</sup> for each affected taxiway; designated approach visibility minimums; available approach and departure procedures; most demanding aircraft; declared distances; available air traffic control services; airport Surface Movement Guidance and Control System plan; and others. The applicable seasons, days and times for certain operations should also be identified as applicable.

**c. Allow for Temporary Changes to Operations.** To the extent practical, current airport operations should be maintained during the construction. In consultation with airport users, Aircraft Rescue and Fire Fighting (ARFF) personnel, and FAA Air Traffic Organization (ATO) personnel, the airport operator should identify and prioritize the airport's most important operations. The construction activities should be planned, through project phasing if necessary, to safely accommodate these operations. When the construction activities cannot be adjusted to safely maintain current operations, regardless of their importance, then the operations must be revised accordingly. Allowable changes include temporary revisions to approach procedures, restricting certain aircraft to specific runways and taxiways, suspension of certain operations, decreased weights for some aircraft due to shortened runways,

---

<sup>1</sup> Taxiway Design Group will be introduced in AC 150/5300-13A.

and other changes. An example of a table showing temporary operations versus current operations is shown in Table 3-1 Sample Operations Effects.

**d. Take Required Measures to Revised Operations.** Once the level and type of aircraft operations to be maintained are identified, the airport operator must determine the measures required to safely conduct the planned operations during the construction. These measures will result in associated costs, which can be broadly interpreted to include not only direct construction costs, but also loss of revenue from impacted operations. Analysis of costs may indicate a need to reevaluate allowable changes to operations. As aircraft operations and allowable changes will vary so widely among airports, this AC presents general guidance on those subjects.

**e. Manage Safety Risk.** Certain airport projects may require the airport operator to provide a Project Proposal Summary to help the FAA to determine the appropriate level of Safety Risk Management (SRM) documentation. The airport operator must coordinate with the appropriate FAA Airports Regional or District Office early in the development of the CSPP to determine the need for SRM documentation. See FAA Order 5200.11, FAA Airports (ARP) Safety Management System (SMS), for more information. If the FAA requires SRM documentation, the airport operator must at a minimum:

- (1) **Notify the appropriate FAA Airports Regional or District Office** during the project “scope development” phase of any project requiring a CSPP.
- (2) **Provide documents** identified by the FAA as necessary to conduct SRM.
- (3) **Participate in the SRM process** for airport projects.
- (4) **Provide a representative** to participate on the SRM panel.
- (5) **Ensure that all applicable SRM identified risks elements are recorded** and mitigated within the CSPP.

**103. Develop a Construction Safety and Phasing Plan (CSPP).** Development of an effective CSPP will require familiarity with many other documents referenced throughout this AC. See Appendix 1, Related Reading Material for a list of related reading material.

**a. List Requirements.** A CSPP must be developed for each on-airfield construction project funded by the Airport Improvement Program (AIP) or the Passenger Facility Charge (PFC) program or located on an airport certificated under Part 139. As per Order 5200.11, such projects do not include construction, rehabilitation, or change of any facility that is entirely outside the air operations area, does not involve any expansion of the facility envelope and does not involve construction equipment, haul routes or placement of material in locations that require access to the air operations area, increase the facility envelope, or impact line-of-sight. Such facilities may include passenger terminals and parking or other structures. However, extraordinary circumstances may trigger the need for a Safety Assessment and a CSPP. The CSPP is subject to subsequent review and approval under the FAA’s Safety Risk Management procedures (see paragraph 102.e above). Additional information may be found in Order 5200.11.

**b. Prepare a Safety Plan Compliance Document.** The Safety Plan Compliance Document (SPCD) details how the contractor will comply with the CSPP. Also, it will not be possible to determine all safety plan details (for example specific hazard equipment and lighting, contractor’s points of contact, construction equipment heights) during the development of the CSPP. The successful contractor must define such details by preparing an SPCD that the airport operator reviews for approval prior to issuance of a notice-to-proceed. The SPCD is a subset of the CSPP, similar to how a shop drawing review is a subset to the technical specifications.

c. **Assume Responsibility for the CSPP.** The airport operator is responsible for establishing and enforcing the CSPP. The airport operator may use the services of an engineering consultant to help develop the CSPP. However, writing the CSPP cannot be delegated to the construction contractor. Only those details the airport operator determines cannot be addressed before contract award are developed by the contractor and submitted for approval as the SPCD. The SPCD does not restate nor propose differences to provisions already addressed in the CSPP.

#### 104. Who Is Responsible for Safety During Construction?

a. **Establish a Safety Culture.** Everyone has a role in operational safety on airports during construction: the airport operator, the airport's consultants, the construction contractor and subcontractors, airport users, airport tenants, ARFF personnel, Air Traffic personnel, including Technical Operations personnel, FAA Airports Division personnel, and others. Close communication and coordination between all affected parties is the key to maintaining safe operations. Such communication and coordination should start at the project scoping meeting and continue through the completion of the project. The airport operator and contractor should conduct onsite safety inspections throughout the project and immediately remedy any deficiencies, whether caused by negligence, oversight, or project scope change.

b. **Assess Airport Operator's Responsibilities.** An airport operator has overall responsibility for all activities on an airport, including construction. This includes the predesign, design, preconstruction, construction, and inspection phases. Additional information on the responsibilities listed below can be found throughout this AC. The airport operator must:

(1) **Develop a CSPP** that complies with the safety guidelines of Chapter 2, Construction Safety and Phasing Plans, and Chapter 3, Guidelines for Writing a CSPP. The airport operator may develop the CSPP internally or have a consultant develop the CSPP for approval by the airport operator. For tenant sponsored projects, approve a CSPP developed by the tenant or its consultant.

(2) **Require, review and approve the SPCD** by the contractor that indicates how it will comply with the CSPP and provides details that cannot be determined before contract award.

(3) **Convene a preconstruction meeting** with the construction contractor, consultant, airport employees and, if appropriate, tenant sponsor and other tenants to review and discuss project safety before beginning construction activity. The appropriate FAA representatives should be invited to attend the meeting. See AC 150/5300-9, *Predesign, Prebid, and Preconstruction Conferences for Airport Grant Projects*. (Note "FAA" refers to the Airports Regional or District Office, the Air Traffic Organization, Flight Standards Service, and other offices that support airport operations, flight regulations, and construction/environmental policies.)

(4) **Ensure contact information** is accurate for each representative/point of contact identified in the CSPP and SPCD.

(5) **Hold weekly or, if necessary, daily safety meetings** with all affected parties to coordinate activities.

(6) **Notify users, ARFF personnel, and FAA ATO personnel of construction** and conditions that may adversely affect the operational safety of the airport via Notices to Airmen (NOTAM) and other methods, as appropriate. Convene a meeting for review and discussion if necessary.

(7) **Ensure construction personnel know of any applicable airport procedures** and of changes to those procedures that may affect their work.

(8) **Ensure construction contractors and subcontractors undergo training** required by the CSPP and SPCD.

(9) **Ensure vehicle and pedestrian operations** addressed in the CSPP and SPCD are coordinated with airport tenants, the airport traffic control tower (ATCT), and construction contractors.

(10) **At certificated airports**, ensure each CSPP and SPCD is consistent with Part 139.

(11) **Conduct inspections** sufficiently frequently to ensure construction contractors and tenants comply with the CSPP and SPCD and that there are no altered construction activities that could create potential safety hazards.

(12) **Resolve safety deficiencies immediately.** At airports subject to 49 CFR Part 1542, Airport Security, ensure construction access complies with the security requirements of that regulation.

(13) **Notify appropriate parties** when conditions exist that invoke provisions of the CSPP and SPCD (for example, implementation of low-visibility operations).

(14) **Ensure prompt submittal of a Notice of Proposed Construction or Alteration** (Form 7460-1) for conducting an aeronautical study of potential obstructions such as tall equipment (cranes, concrete pumps, other.), stock piles, and haul routes. A separate form may be filed for each potential obstruction, or one form may be filed describing the entire construction area and maximum equipment height. In the latter case, a separate form must be filed for any object beyond or higher than the originally evaluated area/height. The FAA encourages online submittal of forms for expediency. The appropriate FAA Airports Regional or District Office can provide assistance in determining which objects require an aeronautical study.

(15) **Promptly notify the FAA Airports Regional or District Office** of any proposed changes to the CSPP prior to implementation of the change. Changes to the CSPP require review and approval by the airport operator and the FAA. Coordinate with appropriate local and other federal government agencies, such as EPA, OSHA, TSA, and the state environmental agency.

**c. Define Construction Contractor's Responsibilities.** The contractor is responsible for complying with the CSPP and SPCD. The contractor must:

(1) **Submit a Safety Plan Compliance Document (SPCD)** to the airport operator describing how it will comply with the requirements of the CSPP and supplying any details that could not be determined before contract award. The SPCD must include a certification statement by the contractor that indicates it understands the operational safety requirements of the CSPP and it asserts it will not deviate from the approved CSPP and SPCD unless written approval is granted by the airport operator. Any construction practice proposed by the contractor that does not conform to the CSPP and SPCD may impact the airport's operational safety and will require a revision to the CSPP and SPCD and re-coordination with the airport operator and the FAA in advance.

(2) **Have available at all times copies** of the CSPP and SPCD for reference by the airport operator and its representatives, and by subcontractors and contractor employees.

(3) **Ensure that construction personnel** are familiar with safety procedures and regulations on the airport. Provide a point of contact who will coordinate an immediate response to correct any construction-related activity that may adversely affect the operational safety of the airport. Many projects will require 24-hour coverage.

(4) **Identify in the SPCD the contractor's on-site employees** responsible for monitoring compliance with the CSPP and SPCD during construction. At least one of these employees must be on-site whenever active construction is taking place.

(5) **Conduct inspections** sufficiently frequently to ensure construction personnel comply with the CSPP and SPCD and that there are no altered construction activities that could create potential safety hazards.

(6) **Restrict movement of construction vehicles and personnel** to permitted construction areas by flagging, barricading, erecting temporary fencing, or providing escorts, as appropriate and as specified in the CSPP and SPCD.

(7) **Ensure that no contractor employees**, employees of subcontractors or suppliers, or other persons enter any part of the air operations area (AOA) from the construction site unless authorized.

(8) **Ensure prompt submittal through the airport operator of Form 7460-1** for the purpose of conducting an aeronautical study of contractor equipment such as tall equipment (cranes, concrete pumps, other equipment), stock piles, and haul routes when different from cases previously filed by the airport operator. The FAA encourages online submittal of forms for expediency.

**d. Define Tenant's Responsibilities** if planning construction activities on leased property. Airport tenants, such as airline operators, fixed base operators, and FAA ATO/Technical Operations sponsoring construction must:

(1) **Develop, or have a consultant develop, a project specific CSPP** and submit it to the airport operator for certification and subsequent approval by the FAA. The approved CSPP must be made part of any contract awarded by the tenant for construction work.

(2) **In coordination with its contractor, develop an SPCD** and submit it to the airport operator for approval to be issued prior to issuance of a Notice to Proceed.

(3) **Ensure that construction personnel are familiar with safety procedures** and regulations on the airport.

(4) **Provide a point of contact** of who will coordinate an immediate response to correct any construction-related activity that may adversely affect the operational safety of the airport.

(5) **Identify in the SPCD the contractor's on-site employees** responsible for monitoring compliance with the CSPP and SPCD during construction. At least one of these employees must be on-site whenever active construction is taking place.

(6) **Ensure that no tenant or contractor employees**, employees of subcontractors or suppliers, or any other persons enter any part of the AOA from the construction site unless authorized.

(7) **Restrict movement of construction vehicles** to construction areas by flagging and barricading, erecting temporary fencing, or providing escorts, as appropriate, and as specified in the CSPP and SPCD.

(8) **Ensure prompt submittal through the airport operator of Form 7460-1** for the purpose of conducting an aeronautical study of contractor equipment such as tall equipment (cranes, concrete pumps, other.), stock piles, and haul routes. The FAA encourages online submittal of forms for expediency.

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## Chapter 2. Construction Safety and Phasing Plans

### Section 1. Basic Considerations

**201. Overview.** Aviation safety is the primary consideration at airports, especially during construction. The airport operator's Construction Safety and Phasing Plan (CSPP) and the contractor's Safety Plan Compliance Document (SPCD) are the primary tools to ensure safety compliance when coordinating construction activities with airport operations. These documents identify all aspects of the construction project that pose a potential safety hazard to airport operations and outline respective mitigation procedures for each hazard. They must provide all information necessary for the Airport Operations department to conduct airfield inspections and expeditiously identify and correct unsafe conditions during construction. All aviation safety provisions included within the project drawings, contract specifications, and other related documents must also be reflected in the CSPP and SPCD.

**202. Assume Responsibility.** Operational safety on the airport remains the airport operator's responsibility at all times. The airport operator must develop, certify, and submit for FAA approval each CSPP. It is the airport operator's responsibility to apply the requirements of the FAA approved CSPP. The airport operator must revise the CSPP when conditions warrant changes and must submit the revised CSPP to the FAA for approval. The airport operator must also require and approve a SPCD from the project contractor.

**203. Submit the CSPP.** Construction Safety and Phasing Plans should be developed concurrently with the project design. Milestone versions of the CSPP should be submitted for review and approval as follows. While these milestones are not mandatory, early submission will help to avoid delays. Submittals are preferred in 8.5 x 11 in or 11 x 17 in format for compatibility with the FAA's Obstruction Evaluation / Airport Airspace Analysis (OE / AAA) process.

**a. Submit an Outline/Draft.** By the time approximately 25% to 30% of the project design is completed, the principal elements of the CSPP should be established. Airport operators are encouraged to submit an outline or draft, detailing all CSPP provisions developed to date, to the FAA for review at this stage of the project design.

**b. Submit a Construction Safety and Phasing Plan (CSPP).** The CSPP should be formally submitted for FAA approval when the project design is 80% to 90% complete. Since provisions in the CSPP will influence contract costs, it is important to obtain FAA approval in time to include all such provisions in the procurement contract.

**c. Submit a Safety Plan Compliance Document (SPCD).** The contractor should submit the SPCD to the airport operator for approval to be issued prior to the Notice to Proceed.

**d. Submit CSPP Revisions.** All revisions to the CSPP or SPCD should be submitted to the FAA for approval as soon as required changes are identified.

**204. Meet CSPP Requirements.**

**a. To the extent possible,** the CSPP should address the following as outlined in Section 2, Plan Requirements and Chapter 3, Guidelines for Writing a CSPP, as appropriate. Details that cannot be determined at this stage are to be included in the SPCD.

**(1) Coordination.**

- (a) Contractor progress meetings.
  - (b) Scope or schedule changes.
  - (c) FAA ATO coordination.
- (2) Phasing.**
  - (a) Phase elements.
  - (b) Construction safety drawings
- (3) Areas and operations affected by the construction activity.**
  - (a) Identification of affected areas.
  - (b) Mitigation of effects.
- (4) Protection of navigation aids (NAVAIDs).**
- (5) Contractor access.**
  - (a) Location of stockpiled construction materials.
  - (b) Vehicle and pedestrian operations.
- (6) Wildlife management.**
  - (a) Trash.
  - (b) Standing water.
  - (c) Tall grass and seeds.
  - (d) Poorly maintained fencing and gates.
  - (e) Disruption of existing wildlife habitat.
- (7) Foreign Object Debris (FOD) management.**
- (8) Hazardous materials (HAZMAT) management**
- (9) Notification of construction activities.**
  - (a) Maintenance of a list of responsible representatives/ points of contact.
  - (b) Notices to Airmen (NOTAM).
  - (c) Emergency notification procedures.
  - (d) Coordination with ARFF Personnel.
  - (e) Notification to the FAA.
- (10) Inspection requirements.**
  - (a) Daily (or more frequent) inspections.
  - (b) Final inspections.
- (11) Underground utilities.**
- (12) Penalties.**
- (13) Special conditions.**
- (14) Runway and taxiway visual aids.** Marking, lighting, signs, and visual NAVAIDs.



- (a) General.
- (b) Markings.
- (c) Lighting and visual NAVAIDs.
- (d) Signs.
- (15) Marking and signs for access routes.**
- (16) Hazard marking and lighting.**
  - (a) Purpose.
  - (b) Equipment.
- (17) Protection.** Of runway and taxiway safety areas, object free areas, obstacle free zones, and approach/departure surfaces
  - (a) Runway Safety Area (RSA).
  - (b) Runway Object Free Area (ROFA).
  - (c) Taxiway Safety Area (TSA).
  - (d) Taxiway Object Free Area (TOFA).
  - (e) Obstacle Free Zone (OFZ).
  - (f) Runway approach/departure surfaces.
- (18) Other limitations on construction.**
  - (a) Prohibitions.
  - (b) Restrictions.

**b. The Safety Plan Compliance Document (SPCD)** should include a general statement by the construction contractor that he/she has read and will abide by the CSPP. In addition, the SPCD must include all supplemental information that could not be included in the CSPP prior to the contract award. The contractor statement should include the name of the contractor, the title of the project CSPP, the approval date of the CSPP, and a reference to any supplemental information (that is, “I, Name of Contractor, have read the Title of Project CSPP, approved on Date, and will abide by it as written and with the following additions as noted:”). The supplemental information in the SPCD should be written to match the format of the CSPP indicating each subject by corresponding CSPP subject number and title. If no supplemental information is necessary for any specific subject, the statement, “No supplemental information,” should be written after the corresponding subject title. The SPCD should not duplicate information in the CSPP:

- (1) Coordination.** Discuss details of proposed safety meetings with the airport operator and with contractor employees and subcontractors.
- (2) Phasing.** Discuss proposed construction schedule elements, including:
  - (a) Duration of each phase.
  - (b) Daily start and finish of construction, including “night only” construction.
  - (c) Duration of construction activities during:
    - (i)** Normal runway operations.
    - (ii)** Closed runway operations.

(iii) Modified runway “Aircraft Reference Code” usage.

**(3) Areas and operations affected by the construction activity.** These areas and operations should be identified in the CSPP and should not require an entry in the SPCD.

**(4) Protection of NAVAIDs.** Discuss specific methods proposed to protect operating NAVAIDs.

**(5) Contractor access.** Provide the following:

(a) Details on how the contractor will maintain the integrity of the airport security fence (gate guards, daily log of construction personnel, and other).

(b) Listing of individuals requiring driver training (for certificated airports and as requested).

(c) Radio communications.

(i) Types of radios and backup capabilities.

(ii) Who will be monitoring radios.

(iii) Whom to contact if the ATCT cannot reach the contractor’s designated person by radio.

(d) Details on how the contractor will escort material delivery vehicles.

**(6) Wildlife management.** Discuss the following:

(a) Methods and procedures to prevent wildlife attraction.

(b) Wildlife reporting procedures.

**(7) Foreign Object Debris (FOD) management.** Discuss equipment and methods for control of FOD, including construction debris and dust.

**(8) Hazardous material (HAZMAT) management.** Discuss equipment and methods for responding to hazardous spills.

**(9) Notification of construction activities.** Provide the following:

(a) Contractor points of contact.

(b) Contractor emergency contact.

(c) Listing of tall or other requested equipment proposed for use on the airport and the timeframe for submitting 7460-1 forms not previously submitted by the airport operator.

(d) Batch plant details, including 7460-1 submittal.

**(10) Inspection requirements.** Discuss daily (or more frequent) inspections and special inspection procedures.

**(11) Underground utilities.** Discuss proposed methods of identifying and protecting underground utilities.

**(12) Penalties.** Penalties should be identified in the CSPP and should not require an entry in the SPCD.

**(13) Special conditions.** Discuss proposed actions for each special condition identified in the CSPP.

**(14) Runway and taxiway visual aids.** Including marking, lighting, signs, and visual NAVAIDs. Discuss proposed visual aids including the following:

- (a) Equipment and methods for covering signage and airfield lights.
- (b) Equipment and methods for temporary closure markings (paint, fabric, other).
- (c) Types of temporary Visual Guidance Slope Indicators (VGSI).

**(15) Marking and signs for access routes.** Discuss proposed methods of demarcating access routes for vehicle drivers.

**(16) Hazard marking and lighting.** Discuss proposed equipment and methods for identifying excavation areas.

**(17) Protection of runway and taxiway safety areas.** including object free areas, obstacle free zones, and approach/departure surfaces. Discuss proposed methods of identifying, demarcating, and protecting airport surfaces including:

- (a) Equipment and methods for maintaining Taxiway Safety Area standards.
- (b) Equipment and methods for separation of construction operations from aircraft operations, including details of barricades.

**(18) Other limitations on construction** should be identified in the CSPP and should not require an entry in the SPCD.

## Section 2. Plan Requirements

**205. Coordination.** Airport operators, or tenants conducting construction on their leased properties, should use predesign, prebid, and preconstruction conferences to introduce the subject of airport operational safety during construction (see AC 150/5300-9). In addition, the following should be coordinated as required:

**a. Contractor Progress Meetings.** Operational safety should be a standing agenda item for discussion during progress meetings throughout the project.

**b. Scope or Schedule Changes.** Changes in the scope or duration of the project may necessitate revisions to the CSPP and review and approval by the airport operator and the FAA.

**c. FAA ATO Coordination.** Early coordination with FAA ATO is required to schedule airway facility shutdowns and restarts. Relocation or adjustments to NAVAIDs, or changes to final grades in critical areas, may require an FAA flight inspection prior to restarting the facility. Flight inspections must be coordinated and scheduled well in advance of the intended facility restart. Flight inspections may require a reimbursable agreement between the airport operator and FAA ATO. Reimbursable agreements should be coordinated a minimum of 12 months prior to the start of construction. (See 213.e(3)(b) for required FAA notification regarding FAA owned NAVAIDs.)

**206. Phasing.** Once it has been determined what types and levels of airport operations will be maintained, the most efficient sequence of construction may not be feasible. In such a case, the sequence of construction may be phased to gain maximum efficiency while allowing for the required operations. The development of the resulting construction phases should be coordinated with local Air Traffic personnel and airport users. The sequenced construction phases established in the CSPP must be incorporated into the project design and must be reflected in the contract drawings and specifications.

**a. Phase Elements.** For each phase the CSPP should detail:

- Areas closed to aircraft operations

- Duration of closures
- Taxi routes
- ARFF access routes
- Construction staging areas
- Construction access and haul routes
- Impacts to NAVAIDs
- Lighting and marking changes
- Available runway length
- Declared distances (if applicable)
- Required hazard marking and lighting
- Lead times for required notifications

**b. Construction Safety Drawings.** Drawings specifically indicating operational safety procedures and methods in affected areas (that is, construction safety drawings) should be developed for each construction phase. Such drawings should be included in the CSPP as referenced attachments and should likewise be included in the contract drawing package.

**207. Areas and Operations Affected by Construction Activity.** Runways and taxiways should remain in use by aircraft to the maximum extent possible without compromising safety. Pre-meetings with the FAA Air Traffic Organization (ATO) will support operational simulations. See Chapter 3 for an example of a table showing temporary operations versus current operations.

**a. Identification of Affected Areas.** Identifying areas and operations affected by the construction will help to determine possible safety problems. The affected areas should be identified in the construction safety drawings for each construction phase. (See 206.b above.) Of particular concern are:

(1) **Closing, or partial closing, of runways, taxiways and aprons.** When a runway is partially closed, a portion of the pavement is unavailable for any aircraft operation, meaning taxiing, landing, or taking off in either direction on that pavement is prohibited. A displaced threshold, by contrast, is established to ensure obstacle clearance and adequate safety area for landing aircraft. The pavement prior to the displaced threshold is available for take-off in the direction of the displacement and for landing and taking off in the opposite direction. Misunderstanding this difference, and issuance of a subsequently inaccurate NOTAM, can lead to a hazardous condition.

(2) **Closing of Aircraft Rescue and Fire Fighting access routes.**

(3) **Closing of access routes used by airport and airline support vehicles.**

(4) **Interruption of utilities, including water supplies for fire fighting.**

(5) **Approach/departure surfaces affected by heights of objects.**

(6) **Construction areas, storage areas, and access routes near runways, taxiways, aprons, or helipads.**

**b. Mitigation of Effects.** Establishment of specific procedures is necessary to maintain the safety and efficiency of airport operations. The CSPP must address:

(1) **Temporary changes to runway and/or taxi operations.**

(2) **Detours for ARFF and other airport vehicles.**

- (3) **Maintenance of essential utilities.**
- (4) **Temporary changes to air traffic control procedures. Such changes must be coordinated with the ATO.**

**208. Navigation Aid (NAVAID) Protection.** Before commencing construction activity, parking vehicles, or storing construction equipment and materials near a NAVAID, coordinate with the appropriate FAA ATO/Technical Operations office to evaluate the effect of construction activity and the required distance and direction from the NAVAID. (See paragraph 213.e(3) below.) Construction activities, materials/equipment storage, and vehicle parking near electronic NAVAIDs require special consideration since they may interfere with signals essential to air navigation. If any NAVAID may be affected, the CSPP and SPCD must show an understanding of the “critical area” associated with each NAVAID and describe how it will be protected. Where applicable, the operational critical areas of NAVAIDs should be graphically delineated on the project drawings. Pay particular attention to stockpiling material, as well as to movement and parking of equipment that may interfere with line of sight from the ATCT or with electronic emissions. Interference from construction equipment and activities may require NAVAID shutdown or adjustment of instrument approach minimums for low visibility operations. This condition requires that a NOTAM be filed (see paragraph 213.b below). Construction activities and materials/equipment storage near a NAVAID must not obstruct access to the equipment and instruments for maintenance. Submittal of a 7460-1 form is required for construction vehicles operating near FAA NAVAIDs. (See paragraph 213.e(1) below.)

**209. Contractor Access.** The CSPP must detail the areas to which the contractor must have access, and explain how contractor personnel will access those areas. Specifically address:

**a. Location of Stockpiled Construction Materials.** Stockpiled materials and equipment storage are not permitted within the RSA and OFZ, and if possible should not be permitted within the Object Free Area (OFA) of an operational runway. Stockpiling material in the OFA requires submittal of a 7460-1 form and justification provided to the appropriate FAA Airports Regional or District Office for approval. The airport operator must ensure that stockpiled materials and equipment adjacent to these areas are prominently marked and lighted during hours of restricted visibility or darkness. (See paragraph 218.b below.) This includes determining and verifying that materials are stabilized and stored at an approved location so as not to be a hazard to aircraft operations and to prevent attraction of wildlife and foreign object damage. See paragraphs 210 and 211 below.

**b. Vehicle and Pedestrian Operations.** The CSPP should include specific vehicle and pedestrian requirements. Vehicle and pedestrian access routes for airport construction projects must be controlled to prevent inadvertent or unauthorized entry of persons, vehicles, or animals onto the AOA. The airport operator should coordinate requirements for vehicle operations with airport tenants, contractors, and the FAA air traffic manager. In regard to vehicle and pedestrian operations, the CSPP should include the following, and detail associated training requirements:

- (1) **Construction site parking.** Designate in advance vehicle parking areas for contractor employees to prevent any unauthorized entry of persons or vehicles onto the AOA. These areas should provide reasonable contractor employee access to the job site.
- (2) **Construction equipment parking.** Contractor employees must park and service all construction vehicles in an area designated by the airport operator outside the OFZ and never in the safety area of an active runway or taxiway. Unless a complex setup procedure makes movement of specialized equipment infeasible, inactive equipment must not be parked on a closed taxiway or runway. If it is necessary to leave specialized equipment on a closed taxiway or runway at night, the equipment must be well lighted. Employees should also park construction vehicles outside the OFA when not in use by

construction personnel (for example, overnight, on weekends, or during other periods when construction is not active). Parking areas must not obstruct the clear line of sight by the ATCT to any taxiways or runways under air traffic control nor obstruct any runway visual aids, signs, or navigation aids. The FAA must also study those areas to determine effects on airport design criteria, surfaces established by 14 CFR Part 77, Safe, Efficient Use, and Preservation of the Navigable Airspace (Part 77), and on NAVAIDs and Instrument Approach Procedures (IAP). See paragraph 213.e(1) below for further information.

**(3) Access and haul roads.** Determine the construction contractor's access to the construction sites and haul roads. Do not permit the construction contractor to use any access or haul roads other than those approved. Access routes used by contractor vehicles must be clearly marked to prevent inadvertent entry to areas open to airport operations. Pay special attention to ensure that if construction traffic is to share or cross any ARFF routes that ARFF right of way is not impeded at any time, and that construction traffic on haul roads does not interfere with NAVAIDs or approach surfaces of operational runways.

**(4) Marking and lighting of vehicles** in accordance with AC 150/5210-5, Painting, Marking, and Lighting of Vehicles Used on an Airport.

**(5) Description of proper vehicle operations** on various areas under normal, lost communications, and emergency conditions.

**(6) Required escorts.**

**(7) Training requirements for vehicle drivers** to ensure compliance with the airport operator's vehicle rules and regulations. Specific training should be provided to those vehicle operators providing escorts. See AC 150/5210-20, Ground Vehicle Operations on Airports, for information on training and records maintenance requirements.

**(8) Situational awareness.** Vehicle drivers must confirm by personal observation that no aircraft is approaching their position (either in the air or on the ground) when given clearance to cross a runway, taxiway, or any other area open to airport operations. In addition, it is the responsibility of the escort vehicle driver to verify the movement/position of all escorted vehicles at any given time.

**(9) Two-way radio communication procedures.**

(a) General. The airport operator must ensure that tenant and construction contractor personnel engaged in activities involving unescorted operation on aircraft movement areas observe the proper procedures for communications, including using appropriate radio frequencies at airports with and without ATCT. When operating vehicles on or near open runways or taxiways, construction personnel must understand the critical importance of maintaining radio contact, as directed by the airport operator, with:

(i) Airport operations

(ii) ATCT

(iii) Common Traffic Advisory Frequency (CTAF), which may include UNICOM, MULTICOM.

(iv) Automatic Terminal Information Service (ATIS). This frequency is useful for monitoring conditions on the airport. Local air traffic will broadcast information regarding construction related runway closures and "shortened" runways on the ATIS frequency.

(b) Areas requiring two-way radio communication with the ATCT. Vehicular traffic crossing active movement areas must be controlled either by two-way radio with the ATCT, escort, flagman, signal light, or other means appropriate for the particular airport.

(c) Frequencies to be used. The airport operator will specify the frequencies to be used by the contractor, which may include the CTAF for monitoring of aircraft operations. Frequencies may also be assigned by the airport operator for other communications, including any radio frequency in compliance with Federal Communications Commission requirements. At airports with an ATCT, the airport operator will specify the frequency assigned by the ATCT to be used between contractor vehicles and the ATCT.

(d) Proper radio usage, including read back requirements.

(e) Proper phraseology, including the International Phonetic Alphabet.

(f) Light gun signals. Even though radio communication is maintained, escort vehicle drivers must also familiarize themselves with ATCT light gun signals in the event of radio failure. See the FAA safety placard “Ground Vehicle Guide to Airport Signs and Markings.” This safety placard may be downloaded through the Runway Safety Program Web site at [http://www.faa.gov/airports/runway\\_safety/publications/](http://www.faa.gov/airports/runway_safety/publications/) (See “Signs & Markings Vehicle Dashboard Sticker”.) or obtained from the FAA Airports Regional Office.

**(10) Maintenance of the secured area of the airport, including:**

(a) Fencing and gates. Airport operators and contractors must take care to maintain security during construction when access points are created in the security fencing to permit the passage of construction vehicles or personnel. Temporary gates should be equipped so they can be securely closed and locked to prevent access by animals and unauthorized people. Procedures should be in place to ensure that only authorized persons and vehicles have access to the AOA and to prohibit “piggybacking” behind another person or vehicle. The Department of Transportation (DOT) document DOT/FAA/AR-00/52, Recommended Security Guidelines for Airport Planning and Construction, provides more specific information on fencing. A copy of this document can be obtained from the Airport Consultants Council, Airports Council International, or American Association of Airport Executives.

(b) Badging requirements.

(c) Airports subject to 49 CFR Part 1542, Airport Security, must meet standards for access control, movement of ground vehicles, and identification of construction contractor and tenant personnel.

**210. Wildlife Management.** The CSPP and SPCD must be in accordance with the airport operator’s wildlife hazard management plan, if applicable. See also AC 150/5200-33, Hazardous Wildlife Attractants On or Near Airports, and Certalert 98-05, Grasses Attractive to Hazardous Wildlife. Construction contractors must carefully control and continuously remove waste or loose materials that might attract wildlife. Contractor personnel must be aware of and avoid construction activities that can create wildlife hazards on airports, such as:

**a. Trash.** Food scraps must be collected from construction personnel activity.

**b. Standing Water.**

**c. Tall Grass and Seeds.** Requirements for turf establishment can be at odds with requirements for wildlife control. Grass seed is attractive to birds. Lower quality seed mixtures can contain seeds of plants (such as clover) that attract larger wildlife. Seeding should comply with the guidance in AC 150/5370-10, Standards for Specifying Construction of Airports, Item T-901, Seeding. Contact the local office of the United States Department of Agriculture Soil Conservation Service or the State University Agricultural Extension Service (County Agent or equivalent) for assistance and recommendations. These agencies can also provide liming and fertilizer recommendations.

**d. Poorly Maintained Fencing and Gates.** See 209.b(10)(a) above.

**e. Disruption of Existing Wildlife Habitat.** While this will frequently be unavoidable due to the nature of the project, the CSPP should specify under what circumstances (location, wildlife type) contractor personnel should immediately notify the airport operator of wildlife sightings.

**211. Foreign Object Debris (FOD) Management.** Waste and loose materials, commonly referred to as FOD, are capable of causing damage to aircraft landing gears, propellers, and jet engines. Construction contractors must not leave or place FOD on or near active aircraft movement areas. Materials capable of creating FOD must be continuously removed during the construction project. Fencing (other than security fencing) may be necessary to contain material that can be carried by wind into areas where aircraft operate. See AC 150/5210-24, Foreign Object Debris (FOD) Management.

**212. Hazardous Materials (HAZMAT) Management.** Contractors operating construction vehicles and equipment on the airport must be prepared to expeditiously contain and clean-up spills resulting from fuel or hydraulic fluid leaks. Transport and handling of other hazardous materials on an airport also requires special procedures. See AC 150/5320-15, Management of Airport Industrial Waste.

**213. Notification of Construction Activities.** The CSPP and SPCD must detail procedures for the immediate notification of airport users and the FAA of any conditions adversely affecting the operational safety of the airport. It must address the notification actions described below, as applicable.

**a. List of Responsible Representatives/** points of contact for all involved parties, and procedures for contacting each of them, including after hours.

**b. NOTAMs.** Only the airport operator may initiate or cancel NOTAMs on airport conditions, and is the only entity that can close or open a runway. The airport operator must coordinate the issuance, maintenance, and cancellation of NOTAMs about airport conditions resulting from construction activities with tenants and the local air traffic facility (control tower, approach control, or air traffic control center), and must provide information on closed or hazardous conditions on airport movement areas to the FAA Flight Service Station (FSS) so it can issue a NOTAM. The airport operator must file and maintain a list of authorized representatives with the FSS. Refer to AC 150/5200-28, Notices to Airmen (NOTAMs) for Airport Operators, for a sample NOTAM form. Only the FAA may issue or cancel NOTAMs on shutdown or irregular operation of FAA owned facilities. Any person having reason to believe that a NOTAM is missing, incomplete, or inaccurate must notify the airport operator. See paragraph 207.a(1) above regarding issuing NOTAMs for partially closed runways versus runways with displaced thresholds.

**c. Emergency notification procedures** for medical, fire fighting, and police response.

**d. Coordination with ARFF.** The CSPP must detail procedures for coordinating through the airport sponsor with ARFF personnel, mutual aid providers, and other emergency services if construction requires:

- The deactivation and subsequent reactivation of water lines or fire hydrants, or
- The rerouting, blocking and restoration of emergency access routes, or
- The use of hazardous materials on the airfield.

**e. Notification to the FAA.**

**(1) Part 77.** Any person proposing construction or alteration of objects that affect navigable airspace, as defined in Part 77, must notify the FAA. This includes construction equipment and proposed



parking areas for this equipment (i.e. cranes, graders, other equipment) on airports. FAA Form 7460-1, Notice of Proposed Construction or Alteration, can be used for this purpose and submitted to the appropriate FAA Airports Regional or District Office. See Appendix 1, Related Reading Material, to download the form. Further guidance is available on the FAA web site at [oeaaa.faa.gov](http://oeaaa.faa.gov).

**(2) Part 157.** With some exceptions, Title 14 CFR Part 157, Notice of Construction, Alteration, Activation, and Deactivation of Airports, requires that the airport operator notify the FAA in writing whenever a non-Federally funded project involves the construction of a new airport; the construction, realigning, altering, activating, or abandoning of a runway, landing strip, or associated taxiway; or the deactivation or abandoning of an entire airport. Notification involves submitting FAA Form 7480-1, Notice of Landing Area Proposal, to the nearest FAA Airports Regional or District Office. See Appendix 1, Related Reading Material to download the form.

**(3) NAVAIDS.** For emergency (short-notice) notification about impacts to both airport owned and FAA owned NAVAIDS, contact: 866-432-2622.

(a) Airport owned/FAA maintained. If construction operations require a shutdown of more than 24 hours, or more than 4 hours daily on consecutive days, of a NAVAID owned by the airport but maintained by the FAA, provide a 45-day minimum notice to FAA ATO/Technical Operations prior to facility shutdown.

(b) FAA owned.

(i) General. The airport operator must notify the appropriate FAA ATO Service Area Planning and Requirements (P&R) Group a minimum of 45 days prior to implementing an event that causes impacts to NAVAIDS. (Impacts to FAA equipment covered by a Reimbursable Agreement (RA) do not have to be reported by the airport operator.)

(ii) Coordinate work for an FAA owned NAVAID shutdown with the local FAA ATO/Technical Operations office, including any necessary reimbursable agreements and flight checks. Detail procedures that address unanticipated utility outages and cable cuts that could impact FAA NAVAIDS. In addition, provide seven days notice to schedule the actual shutdown.

## **214. Inspection Requirements.**

**a. Daily Inspections.** Inspections should be conducted at least daily, but more frequently if necessary to ensure conformance with the CSPP. A sample checklist is provided in Appendix 3, Safety and Phasing Plan Checklist. See also AC 150/5200-18, Airport Safety Self-Inspection.

**b. Final Inspections.** New runways and extended runway closures may require safety inspections at certificated airports prior to allowing air carrier service. Coordinate with the FAA Airport Certification Safety Inspector (ACSI) to determine if a final inspection will be necessary.

**215. Underground Utilities.** The CSPP and/or SPCD must include procedures for locating and protecting existing underground utilities, cables, wires, pipelines, and other underground facilities in excavation areas. This may involve coordinating with public utilities and FAA ATO/Technical Operations. Note that “One Call” or “Miss Utility” services do not include FAA ATO/Technical Operations

**216. Penalties.** The CSPP should detail penalty provisions for noncompliance with airport rules and regulations and the safety plans (for example, if a vehicle is involved in a runway incursion). Such penalties typically include rescission of driving privileges or access to the AOA.

**217. Special Conditions.** The CSPP must detail any special conditions that affect the operation of the

airport and will require the activation of any special procedures (for example, low-visibility operations, snow removal, aircraft in distress, aircraft accident, security breach, Vehicle / Pedestrian Deviation (VPD) and other activities requiring construction suspension/resumption).

**218. Runway and Taxiway Visual Aids.** Includes marking, lighting, signs, and visual NAVAIDS. The CSPP must ensure that areas where aircraft will be operating are clearly and visibly separated from construction areas, including closed runways. Throughout the duration of the construction project, verify that these areas remain clearly marked and visible at all times and that marking, lighting, signs, and visual NAVAIDS remain in place and operational. The CSPP must address the following, as appropriate:

**a. General.** Airport markings, lighting, signs, and visual NAVAIDS must be clearly visible to pilots, not misleading, confusing, or deceptive. All must be secured in place to prevent movement by prop wash, jet blast, wing vortices, or other wind currents and constructed of materials that would minimize damage to an aircraft in the event of inadvertent contact.

**b. Markings.** Markings must be in compliance with the standards of AC 150/5340-1, Standards for Airport Markings. Runways and runway exit taxiways closed to aircraft operations are marked with a yellow X. The preferred visual aid to depict temporary runway closure is the lighted X signal placed on or near the runway designation numbers. (See paragraph 218.b(1)(b) below.)

**(1) Closed Runways and Taxiways.**

(a) **Permanently Closed Runways.** For runways, obliterate the threshold marking, runway designation marking, and touchdown zone markings, and place Xs at each end and at 1,000-foot (300 m) intervals.

(b) **Temporarily Closed Runways.** For runways that have been temporarily closed, place an X at the each end of the runway directly on or as near as practicable to the runway designation numbers. Figure 2-1 illustrates.



**Figure 2-1 Markings for a Temporarily Closed Runway**

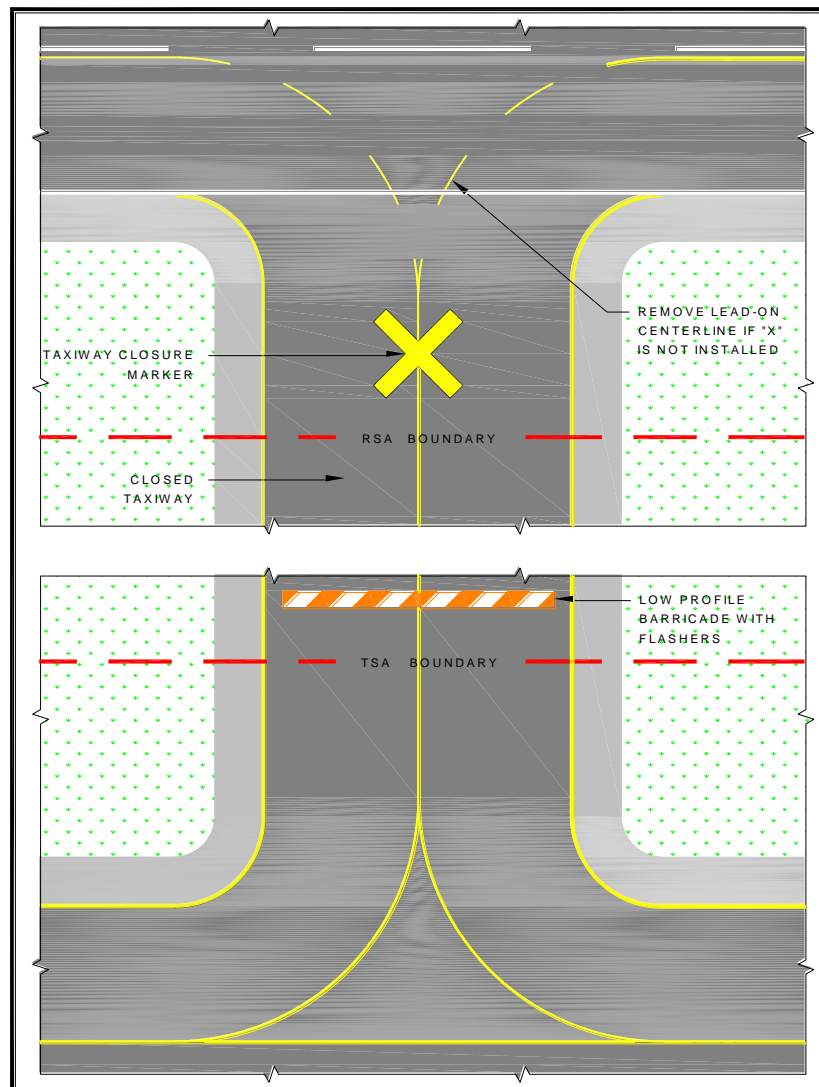
(c) **Partially Closed Runways and Displaced Thresholds.** When threshold markings are needed to identify the temporary beginning of the runway that is available for landing, the markings must comply with AC 150/5340-1. An X is not used on a partially closed runway or a runway with a displaced threshold. See paragraph 207.a(1) above for the difference between partially closed runways and runways with displaced thresholds.

(i) **Partially Closed Runways.** Pavement markings for temporary closed portions of the runway consist of a runway threshold bar and yellow chevrons to identify pavement areas that are unsuitable for takeoff or landing (see AC 150/5340-1).

(ii) **Displaced Thresholds.** Pavement markings for a displaced threshold consist of a runway threshold bar and white arrowheads with and without arrow shafts. These markings are required to identify the portion of the runway before the displaced threshold to provide centerline guidance for pilots during approaches, takeoffs, and landing rollouts from the opposite direction. See AC 150/5340-1.

## (d) Taxiways.

(i) Permanently Closed Taxiways. AC 150/5300-13 notes that it is preferable to remove the pavement, but for pavement that is to remain, place an X at the entrance to both ends of the closed section. Obliterate taxiway centerline markings, including runway leadoff lines, leading to the closed taxiway. Figure 2-2 illustrates.



**Figure 2-2 Taxiway Closure**

(ii) Temporarily Closed Taxiways. Place barricades outside the safety area of intersecting taxiways. For runway/taxiway intersections, place an X at the entrance to the closed taxiway from the runway. If the taxiway will be closed for an extended period, obliterate taxiway centerline markings, including runway leadoff lines, leading to the closed section. If the centerline markings will be reused upon reopening the taxiway, it is preferable to paint over the marking. This will result in less damage to the pavement when the upper layer of paint is ultimately removed.

(e) Temporarily Closed Airport. When the airport is closed temporarily, mark all the runways as closed.

(i) If unable to paint temporary markings on the pavement, construct them from any of the following materials: fabric, colored plastic, painted sheets of plywood, or similar materials. They must be properly configured and appropriately secured to prevent movement by prop wash, jet blast, or other wind currents.

(ii) It may be necessary to remove or cover runway markings, including but not limited to, runway designation markings, threshold markings, centerline markings, edge stripes, touchdown zone markings and aiming point markings, depending on the length of construction and type of activity at the airport. When removing runway markings, apply the same treatment to areas between stripes or numbers, as the cleaned area will appear to pilots as a marking in the shape of the treated area.

(iii) If it is not possible to install threshold bars, chevrons, and arrows on the pavement, temporary outboard markings may be used. Locate them outside of the runway pavement surface on both sides of the runway. The dimension along the runway direction must be the same as if installed on the pavement. The lateral dimension must be at least one-half that of on-pavement markings. If the markings are not discernable on grass or snow, apply a black background with appropriate material over the ground to ensure they are clearly visible.

(iv) The application rate of paint to mark a short-term temporary runway and taxiway markings may deviate from the standard (see Item P-620, "Runway and Taxiway Painting," in AC 150/5370-10), but the dimensions must meet the existing standards.

(f) **Lighting and Visual NAVAIDs.** This paragraph refers to standard runway and taxiway lighting systems. See below for hazard lighting. Lighting must be in conformance with AC 150/5340-30, Design and Installation Details for Airport Visual Aids, and AC 150/5345-50, Specification for Portable Runway and Taxiway Lights. When disconnecting runway and taxiway lighting fixtures, disconnect the associated isolation transformers. Alternately, cover the light fixture in such a way as to prevent light leakage. Avoid removing the lamp from energized fixtures because an excessive number of isolation transformers with open secondaries may damage the regulators and/or increase the current above its normal value. Secure, identify, and place any above ground temporary wiring in conduit to prevent electrocution and fire ignition sources.

**(2) Permanently Closed Runways and Taxiways.** For runways and taxiways that have been permanently closed, disconnect the lighting circuits.

(3) **Temporarily Closed Runways.** If available, use a lighted X, both at night and during the day, placed at each end of the runway facing the approach. The use of a lighted X is required if night work requires runway lighting to be on. See AC 150/5345-55, Specification for L-893, Lighted Visual Aid to Indicate Temporary Runway Closure. For runways that have been temporarily closed, but for an extended period, and for those with pilot controlled lighting, disconnect the lighting circuits or secure switches to prevent inadvertent activation. For runways that will be opened periodically, coordinate procedures with the FAA air traffic manager or, at airports without an ATCT, the airport operator. Activate stop bars if available. Figure 2-3 shows a lighted X by day. Figure 2-4 shows a lighted X at night.



**Figure 2-3 Lighted X in Daytime**



**Figure 2-4 Lighted X at Night**

(4) **Partially Closed Runways and Displaced Thresholds.** When a runway is partially closed, a portion of the pavement is unavailable for any aircraft operation, meaning taxiing and landing or



taking off in either direction. A displaced threshold, by contrast, is put in place to ensure obstacle clearance by landing aircraft. The pavement prior to the displaced threshold is available for takeoff in the direction of the displacement, and for landing and takeoff in the opposite direction. Misunderstanding this difference and issuance of a subsequently inaccurate NOTAM can result in a hazardous situation. For both partially closed runways and displaced thresholds, approach lighting systems at the affected end must be placed out of service

(a) **Partially Closed Runways.** Disconnect edge and threshold lights on that part of the runway at and behind the threshold (that is, the portion of the runway that is closed). Alternately, cover the light fixture in such a way as to prevent light leakage.

(b) **Displaced Thresholds.** Edge lighting in the area of the displacement emits red light in the direction of approach and yellow light in the opposite direction. Centerline lights are blanked out in the direction of approach if the displacement is 700 ft or less. If the displacement is over 700 ft, place the centerline lights out of service. See AC 150/5340-30 for details on lighting displaced thresholds.

(c) **Temporary runway thresholds and runway ends** must be lighted if the runway is lighted and it is the intended threshold for night landings or instrument meteorological conditions.

(d) **A temporary threshold on an unlighted runway** may be marked by retroreflective, elevated markers in addition to markings noted in paragraph 218.b(1)(c) above. Markers seen by aircraft on approach are green. Markers at the rollout end of the runway are red. At certificated airports, temporary elevated threshold markers must be mounted with a frangible fitting (see 14 CFR Part 139.309). At non-certificated airports, the temporary elevated threshold markings may either be mounted with a frangible fitting or be flexible. See AC 150/5345-39, Specification for L-853, Runway and Taxiway Retroreflective Markers.

(e) **Temporary threshold lights and end lights and related visual NAVAIDs** are installed outboard of the edges of the full-strength pavement only when they cannot be installed on the pavement. They are installed with bases at grade level or as low as possible, but not more than 3 in (7.6 cm) above ground. When any portion of a base is above grade, place properly compacted fill around the base to minimize the rate of gradient change so aircraft can, in an emergency, cross at normal landing or takeoff speeds without incurring significant damage. See AC 150/5370-10.

(f) **Maintain threshold and edge lighting color and spacing standards** as described in AC 150/5340-30. Battery powered, solar, or portable lights that meet the criteria in AC 150/5345-50 may be used. These systems are intended primarily for visual flight rules (VFR) aircraft operations but may be used for instrument flight rules (IFR) aircraft operations, upon individual approval from the Flight Standards Division of the applicable FAA Regional Office.

(g) **Reconfigure yellow lenses (caution zone), as necessary.** If the runway has centerline lights, reconfigure the red lenses, as necessary, or place the centerline lights out of service.

(h) **Relocate the visual glide slope indicator (VGSI), such as VASI and PAPI; other airport lights, such as Runway End Identifier Lights (REIL); and approach lights** to identify the temporary threshold. Another option is to disable the VGSI or any equipment that would give misleading indications to pilots as to the new threshold location. Installation of temporary visual aids may be necessary to provide adequate guidance to pilots on approach to the affected runway. If the FAA owns and operates the VGSI, coordinate its installation or disabling with the local ATO/Technical Operations Office. Relocation of such visual aids will depend on the duration of the project and the benefits gained from the relocation, as this can result in great expense.

(i) **Issue a NOTAM to inform pilots of temporary lighting conditions.**

**(5) Temporarily Closed Taxiways.** If possible, deactivate the taxiway lighting circuits. When deactivation is not possible (for example other taxiways on the same circuit are to remain open),

cover the light fixture in such a way as to prevent light leakage.

**c. Signs.** To the extent possible, signs must be in conformance with AC 150/5345-44, Specification for Runway and Taxiway Signs and AC 150/5340-18, Standard for Airport Sign Systems. Any time a sign does not serve its normal function; it must be covered or removed to prevent misdirecting pilots. Note that information signs identifying a crossing taxiway continue to perform their normal function even if the crossing taxiway is closed. For long term construction projects, consider relocating signs, especially runway distance remaining signs.

**219. Marking and Signs for Access Routes.** The CSPP should indicate that pavement markings and signs for construction personnel will conform to AC 150/5340-18 and, to the extent practicable, with the Federal Highway Administration Manual on Uniform Traffic Control Devices (MUTCD) and/or State highway specifications. Signs adjacent to areas used by aircraft must comply with the frangibility requirements of AC 150/5220-23, Frangible Connections, which may require modification to size and height guidance in the MUTCD.

## **220. Hazard Marking, Lighting and Signing.**

**a. Hazard Marking and Lighting Prevents Pilots** from entering areas closed to aircraft, and prevents construction personnel from entering areas open to aircraft. The CSPP must specify prominent, comprehensible warning indicators for any area affected by construction that is normally accessible to aircraft, personnel, or vehicles. Hazard marking and lighting must also be specified to identify open manholes, small areas under repair, stockpiled material, waste areas, and areas subject to jet blast. Also consider less obvious construction-related hazards and include markings to identify FAA, airport, and National Weather Service facilities cables and power lines; instrument landing system (ILS) critical areas; airport surfaces, such as RSA, OFA, and OFZ; and other sensitive areas to make it easier for contractor personnel to avoid these areas.

### **b. Equipment.**

**(1) Barricades,** including traffic cones, (weighted or sturdily attached to the surface) are acceptable methods used to identify and define the limits of construction and hazardous areas on airports. Careful consideration must be given to selecting equipment that poses the least danger to aircraft but is sturdy enough to remain in place when subjected to typical winds, prop wash and jet blast. The spacing of barricades must be such that a breach is physically prevented barring a deliberate act. For example, if barricades are intended to exclude vehicles, gaps between barricades must be smaller than the width of the excluded vehicles, generally 4 ft. Provision must be made for ARFF access if necessary. If barricades are intended to exclude pedestrians, they must be continuously linked. Continuous linking may be accomplished through the use of ropes, securely attached to prevent FOD.

**(2) Lights must be red,** either steady burning or flashing, and must meet the luminance requirements of the State Highway Department. Batteries powering lights will last longer if lights flash. Lights must be mounted on barricades and spaced at no more than 10 ft. Lights must be operated between sunset and sunrise and during periods of low visibility whenever the airport is open for operations. They may be operated by photocell, but this may require that the contractor turn them on manually during periods of low visibility during daytime hours.

**(3) Supplement barricades with signs** (for example “No Entry,” “No Vehicles”) as necessary.

**(4) Air Operations Area – General.** Barricades are not permitted in any active safety area. Within a runway or taxiway object free area, and on aprons, use orange traffic cones, flashing or steady burning red lights as noted above, collapsible barricades marked with diagonal, alternating orange and



white stripes; and/or signs to separate all construction/maintenance areas from the movement area. Barricades may be supplemented with alternating orange and white flags at least 20 by 20 in (50 by 50 cm) square and securely fastened to eliminate FOD. All barricades adjacent to any open runway or taxiway / taxilane safety area, or apron must be as low as possible to the ground, and no more than 18 in high, exclusive of supplementary lights and flags. Barricades must be of low mass; easily collapsible upon contact with an aircraft or any of its components; and weighted or sturdily attached to the surface to prevent displacement from prop wash, jet blast, wing vortex, or other surface wind currents. If affixed to the surface, they must be frangible at grade level or as low as possible, but not to exceed 3 in (7.6 cm) above the ground. Figure 2-5 and Figure 2-6 show sample barricades with proper coloring and flags.



**Figure 2-5 Interlocking Barricades**



**Figure 2-6 Low Profile Barricades**

**(5) Air Operations Area – Runway/Taxiway Intersections.** Use highly reflective barricades with lights to close taxiways leading to closed runways. Evaluate all operating factors when determining how to mark temporary closures that can last from 10 to 15 minutes to a much longer period of time. However, even for closures of relatively short duration, close all taxiway/runway intersections with barricades. The use of traffic cones is appropriate for short duration closures.

**(6) Air Operations Area – Other.** Beyond runway and taxiway object free areas and

aprons, barricades intended for construction vehicles and personnel may be many different shapes and made from various materials, including railroad ties, sawhorses, jersey barriers, or barrels.

(7) **Maintenance.** The construction specifications must include a provision requiring the contractor to have a person on call 24 hours a day for emergency maintenance of airport hazard lighting and barricades. The contractor must file the contact person's information with the airport operator. Lighting should be checked for proper operation at least once per day, preferably at dusk.

**221. Protection of Runway and Taxiway Safety Areas.** Runway and taxiway safety areas, Obstacle Free zones (OFZ), object free areas (OFA), and approach surfaces are described in AC 150/5300-13. Protection of these areas includes limitations on the location and height of equipment and stockpiled material. An FAA airspace study may be required. Coordinate with the appropriate FAA Airports Regional or District Office if there is any doubt as to requirements or dimensions (See paragraph 213.e above.) as soon as the location and height of materials or equipment are known. The CSPP should include drawings showing all safety areas, object free areas, obstacle free zones and approach departure surfaces affected by construction.

**a. Runway Safety Area (RSA).** A runway safety area is the defined surface surrounding the runway prepared or suitable for reducing the risk of damage to airplanes in the event of an undershoot, overshoot, or excursion from the runway (see AC 150/5300-13). Construction activities within the existing RSA are subject to the following conditions:

(1) **No construction may occur within the existing RSA** while the runway is open for aircraft operations. The RSA dimensions may be temporarily adjusted if the runway is restricted to aircraft operations requiring an RSA that is equal to the RSA width and length beyond the runway ends available during construction. (see AC 150/5300-13). The temporary use of declared distances and/or partial runway closures may provide the necessary RSA under certain circumstances. Coordinate with the appropriate FAA Airports Regional or District Office to have declared distances information published. See AC 150/5300-13 for guidance on the use of declared distances.

(2) **The airport operator must coordinate** the adjustment of RSA dimensions as permitted above with the appropriate FAA Airports Regional or District Office and the local FAA air traffic manager and issue a NOTAM.

(3) **The CSPP and SPCD must provide procedures** for ensuring adequate distance for protection from blasting operations, if required by operational considerations.

(4) **Excavations.**

(a) Open trenches or excavations are not permitted within the RSA while the runway is open. If possible, backfill trenches before the runway is opened. If the runway must be opened before excavations are backfilled, cover the excavations appropriately. Covering for open trenches must be designed to allow the safe operation of the heaviest aircraft operating on the runway across the trench without damage to the aircraft.

(b) Construction contractors must prominently mark open trenches and excavations at the construction site with red or orange flags, as approved by the airport operator, and light them with red lights during hours of restricted visibility or darkness.

(5) **Erosion Control.** Soil erosion must be controlled to maintain RSA standards, that is, the RSA must be cleared and graded and have no potentially hazardous ruts, humps, depressions, or other surface variations, and capable, under dry conditions, of supporting snow removal equipment, aircraft rescue and fire fighting equipment, and the occasional passage of aircraft without causing structural damage to the aircraft.

**b. Runway Object Free Area (ROFA).** Construction, including excavations, may be permitted in the ROFA. However, equipment must be removed from the ROFA when not in use, and material should not be stockpiled in the ROFA if not necessary. Stockpiling material in the OFA requires submittal of a 7460-1 form and justification provided to the appropriate FAA Airports Regional or District Office for approval.

**c. Taxiway Safety Area (TSA).** A taxiway safety area is a defined surface alongside the taxiway prepared or suitable for reducing the risk of damage to an airplane unintentionally departing the taxiway. (See AC 150/5300-13.) Construction activities within the TSA are subject to the following conditions:

**(1) No construction may occur** within the TSA while the taxiway is open for aircraft operations. The TSA dimensions may be temporarily adjusted if the taxiway is restricted to aircraft operations requiring a TSA that is equal to the TSA width available during construction (see AC 150/5300-13, Table 4-1).

**(2) The airport operator must coordinate** the adjustment of the TSA width as permitted above with the appropriate FAA Airports Regional or District Office and the FAA air traffic manager and issue a NOTAM.

**(3) The CSPP and SPCD must provide procedures** for ensuring adequate distance for protection from blasting operations.

**(4) Excavations.**

**(a)** Open trenches or excavations are not permitted within the TSA while the taxiway is open. If possible, backfill trenches before the taxiway is opened. If the taxiway must be opened before excavations are backfilled, cover the excavations appropriately. Covering for open trenches must be designed to allow the safe operation of the heaviest aircraft operating on the taxiway across the trench without damage to the aircraft.

**(b)** Construction contractors must prominently mark open trenches and excavations at the construction site with red or orange flags, as approved by the airport operator, and light them with red lights during hours of restricted visibility or darkness.

**(5) Erosion Control.** Soil erosion must be controlled to maintain TSA standards, that is, the TSA must be cleared and graded and have no potentially hazardous ruts, humps, depressions, or other surface variations, and capable, under dry conditions, of supporting snow removal equipment, aircraft rescue and fire fighting equipment, and the occasional passage of aircraft without causing structural damage to the aircraft.

**d. Taxiway Object Free Area (TOFA).** Unlike the Runway Object Free Area, aircraft wings regularly penetrate the taxiway object free area during normal operations. Thus the restrictions are more stringent. Except as provided below, no construction may occur within the taxiway object free area while the taxiway is open for aircraft operations.

**(1) The taxiway object free area dimensions** may be temporarily adjusted if the taxiway is restricted to aircraft operations requiring a taxiway object free area that is equal to the taxiway object free area width available.

**(2) Offset taxiway pavement markings** may be used as a temporary measure to provide the required taxiway object free area. Where offset taxiway pavement markings are provided, centerline lighting or reflectors are required.

**(3) Construction activity may be accomplished** without adjusting the width of the taxiway object free area, subject to the following restrictions:

- (a) Appropriate NOTAMs are issued.
- (b) Marking and lighting meeting the provisions of paragraphs 218 and 220 above are implemented.
- (c) Five-foot clearance is maintained between equipment and materials and any part of an aircraft (includes wingtip overhang). In these situations, flaggers must be used to direct construction equipment, and wing walkers will be necessary to guide aircraft. Wing walkers should be airline/aviation personnel rather than construction workers. If such clearance can only be maintained if an aircraft does not have full use of the entire taxiway width (with its main landing gear at the edge of the pavement), then it will be necessary to move personnel and equipment for the passage of that aircraft.

**e. Obstacle Free Zone (OFZ).** In general, personnel, material, and/or equipment may not penetrate the OFZ while the runway is open for aircraft operations. If a penetration to the OFZ is necessary, it may be possible to continue aircraft operations through operational restrictions. Coordinate with the FAA through the appropriate FAA Airports Regional or District Office.

**f. Runway Approach/Departure Areas and Clearways.** All personnel, materials, and/or equipment must remain clear of the applicable threshold siting surfaces, as defined in Appendix 2, “Threshold Siting Requirements,” of AC 150/5300-13. Objects that do not penetrate these surfaces may still be obstructions to air navigation and may affect standard instrument approach procedures. Coordinate with the FAA through the appropriate FAA Airports Regional or District Office.

**(1) Construction activity in a runway approach/departure area** may result in the need to partially close a runway or displace the existing runway threshold. Partial runway closure, displacement of the runway threshold, as well as closure of the complete runway and other portions of the movement area also require coordination through the airport operator with the appropriate FAA air traffic manager (FSS if non-towered) and ATO/Technical Operations (for affected NAVAIDS) and airport users.

**(2) Caution regarding partial runway closures.** When filing a NOTAM for a partial runway closure, clearly state to OCC personnel that the portion of pavement located prior to the threshold is not available for landing and departing traffic. In this case, the threshold has been moved for both landing and takeoff purposes (this is different than a displaced threshold). There may be situations where the portion of closed runway is available for taxiing only. If so, the NOTAM must reflect this condition).

**(3) Caution regarding displaced thresholds.** : Implementation of a displaced threshold affects runway length available for aircraft landing over the displacement. Depending on the reason for the displacement (to provide obstruction clearance or RSA), such a displacement may also require an adjustment in the landing distance available and accelerate-stop distance available in the opposite direction. If project scope includes personnel, equipment, excavation, other work. within the existing RSA of any usable runway end, do not implement a displaced threshold unless arrivals and departures toward the construction activity are prohibited. Instead, implement a partial closure.

**222. Other Limitations on Construction.** The CSPP must specify any other limitations on construction, including but not limited to:

**a. Prohibitions.**

**(1) No use of tall equipment** (cranes, concrete pumps, and so on) unless a 7460-1 determination letter is issued for such equipment.

**(2) No use of open flame welding or torches** unless fire safety precautions are provided and the airport operator has approved their use.

**(3) No use of electrical blasting caps** on or within 1,000 ft (300 m) of the airport property.

See AC 150/5370-10.

- (4) **No use of flare pots** within the AOA.

**b. Restrictions.**

- (1) **Construction suspension required during specific airport operations.**
- (2) **Areas that cannot be worked on simultaneously.**
- (3) **Day or night construction restrictions.**
- (4) **Seasonal construction restrictions.**

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### Chapter 3. Guidelines for Writing a CSPP

**301. General Requirements.** The CSPP is a standalone document written to correspond with the subjects outlined in Chapter 2, Section 1, paragraph 204. The CSPP is organized by numbered sections corresponding to each subject listed in Chapter 2, Section 1, paragraph 204, and described in detail in Chapter 2, Section 2. Each section number and title in the CSPP matches the corresponding subject outlined in Chapter 2, paragraph 204 (for example, 1. Coordination, 2. Phasing, 3. Areas and Operations Affected by the Construction Activity, and so on.). With the exception of the project scope of work outlined in Section 2. Phasing, only subjects specific to operational safety during construction should be addressed.

**302. Applicability of Subjects.** Each section should, to the extent practical, focus on the specific subject. Where an overlapping requirement spans several sections, the requirement should be explained in detail in the most applicable section. A reference to that section should be included in all other sections where the requirement may apply. For example, the requirement to protect existing underground FAA Instrument Landing System (ILS) cables during trenching operations could be considered FAA ATO coordination (Section 1. Coordination, paragraph 205.c), an area and operation affected by the construction activity (Section 3. Areas and Operations Affected by the Construction Activity, paragraph 207.a(4)), a protection of a NAVAID (Section 4. Protection of Navigational Aids (NAVAIDs), paragraph 208), or a notification to the FAA of construction activities (Section 9. Notification of Construction Activities, paragraph 210.e(3)(b)). However, it is more specifically an underground utility requirement (Section 11. Underground Utilities, paragraph 215). The procedure for protecting underground ILS cables during trenching operations should therefore be described in Section 11: *“The contractor must coordinate with the local FAA System Support Center (SSC) to mark existing ILS cable routes along Runway 17-35. The ILS cables will be located by hand digging whenever the trenching operation moves within 10 feet of the cable markings.”* All other applicable sections should include a reference to Section 11: *“ILS cables shall be identified and protected as described in Section 11”* or *“See Section 11 for ILS cable identification and protection requirements.”* Thus, the CSPP should be considered as a whole, with no need to duplicate responses to related issues.

**303. Graphical Representations.** Construction safety drawings should be included in the CSPP as attachments. When other graphical representations will aid in supporting written statements, the drawings, diagrams, and/or photographs should also be attached to the CSPP. References should be made in the CSPP to each graphical attachment and may be made in multiple sections.

**304. Reference Documents.** The CSPP must not incorporate a document by reference unless reproduction of the material in that document is prohibited. In that case, either copies of or a source for the referenced document must be provided to the contractor.

**305. Restrictions.** The CSPP should not be considered as a project design review document. The CSPP should also avoid mention of permanent (“as-built”) features such as pavements, markings, signs, and lighting, except when such features are intended to aid in maintaining operational safety during the construction.

**306. Coordination.** Include in this section a detailed description of conferences and meetings both before and during the project. Include appropriate information from AC 150/5300-9. Discuss coordination procedures and schedules for each required FAA ATO airway facility shutdown and restart and all required flight inspections.

**307. Phasing.** Include in this section a detailed scope of work description for the project as a whole and each phase of work covered by the CSPP. This includes all locations and durations of the work proposed. Attach drawings to graphically support the written scope of work. Detail in this section the sequenced phases of the proposed construction. Include a reference to paragraph 308 below, as appropriate.

**308. Areas and Operations Affected By Construction.** Focus in this section on identifying the areas and operations affected by the construction. Describe corresponding mitigation that is not covered in detail elsewhere in the CSPP. Include references to paragraphs below as appropriate. Attach drawings as necessary to graphically describe affected areas and mechanisms proposed. Tables and charts such as the following may be helpful in highlighting issues to be addressed.

**Table 3-1 Sample Operations Effects**

Project	Runway 15-33 Reconstruction	
Phase	Phase II: Reconstruct Runway 15 End	
Scope of Work	Reconstruct 1,000 ft of north end of Runway 15-33 with Portland Cement Concrete (PCC).	
Operational Requirements	Normal (Existing)	Phase II (Anticipated)
Runway 15 Average Aircraft Operations	Carrier: 52 /day GA: 26 /day Military: 11 /day	Carrier: 52 /day GA: 20 /day Military: 0 /day
Runway 33 Average Aircraft Operations	Carrier: 40 /day GA: 18 /day Military: 10 /day	Carrier: 20 /day GA: 5 /day Military: 0 /day
Runway 15-33 ARC	C-IV	C-IV
Runway 15 Approach Visibility Minimums	¾ mile	1 mile
Runway 33 Approach Visibility Minimums	¾ mile	1 mile
Runway 15 Declared Distances	TORA: 7,820	TORA: 6,420
	TODA: 7,820	TODA: 6,420
	ASDA: 7,820	ASDA: 6,420
	LDA: 7,820	LDA: 6,420
Runway 33 Declared Distances	TORA: 8,320	TORA: 6,920
	TODA: 8,320	TODA: 6,920
	ASDA: 8,320	ASDA: 6,920
	LDA: 7,820	LDA: 6,420
Runway 15 Approach Procedures	ILS	LOC only
	RNAV	N/A
	VOR	N/A
Runway 33 Approach Procedures	ILS	Visual only
	RNAV	N/A
	VOR	N/A
Runway 15 NAVAIDs	ILS/DME, MALSR, RVR	LOC/DME, PAPI (temp), RVR



<b>Runway 33 NAVAIDs</b>	ILS/DME, MALSF, PAPI, RVR	MALSF, PAPI, RVR
<b>Taxiway G ADG</b>	IV	IV (N/A between T/W H and R/W 15 end)
<b>Taxiway E ADG</b>	IV	IV
<b>ATCT (hours open)</b>	06:00 – 24:00 local	06:00 – 24:00 local
<b>ARFF Index</b>	D	D
<b>Special Conditions</b>	Air National Guard (ANG) military operations	Military operations relocated to alternate ANG Base
	Airline XYZ requires VGSI	Airline XYZ requires VGSI

Complete the following chart for each phase to determine the area that must be protected along the runway edges:

<b>Runway</b>	<b>Aircraft Approach Category* A, B, C, or D</b>	<b>Airplane Design Group* I, II, III, or IV</b>	<b>RSA Width in Feet Divided by 2*</b>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

\*See AC 150/5300-13 to complete the chart for a specific runway.

Complete the following chart for each phase to determine the area that must be protected before the runway threshold:

<b>Runway End Number</b>	<b>Airplane Design Group* I, II, III, or IV</b>	<b>Aircraft Approach Category* A, B, C, or D</b>	<b>Minimum Safety Area Prior to the Threshold*</b>	<b>Minimum Distance to Threshold Based on Required Approach Slope*</b>	
_____	_____	_____	_____ ft	_____ ft	_____: 1
_____	_____	_____	_____ ft	_____ ft	_____: 1
_____	_____	_____	_____ ft	_____ ft	_____: 1
_____	_____	_____	_____ ft	_____ ft	_____: 1

\*See AC 150/5300-13 to complete the chart for a specific runway.

**309. Navigation Aid (NAVAID) Protection.** List in this section all NAVAID facilities that will be affected by the construction. Identify NAVAID facilities that will be placed out of service at any time prior to or during construction activities. Identify individuals responsible for coordinating each shutdown and when each facility will be out of service. Include a reference to paragraph 306 above for FAA ATO NAVAID shutdown, restart, and flight inspection coordination. Outline in detail procedures to protect each NAVAID facility remaining in service from interference by construction activities. Include a reference to paragraph 314 for the issuance of NOTAMs as required. Include a reference to paragraph 316 for the protection of underground cables and piping serving NAVAIDs. If temporary visual aids are proposed to replace or supplement existing facilities, include a reference to paragraph 319. Attach drawings to graphically indicate the affected NAVAIDS and the corresponding critical areas.

**310. Contractor Access.** This will necessarily be the most extensive section of the CSPP. Provide

sufficient detail so that a contractor not experienced in working on airports will understand the unique restrictions such work will require. Due to this extent, it should be broken down into subsections as described below:

**a. Location of Stockpiled Construction Materials.** Describe in this section specific locations for stockpiling material. Note any height restrictions on stockpiles. Include a reference to paragraph 321 for hazard marking and lighting devices used to identify stockpiles. Include a reference to paragraph 311 for provisions to prevent stockpile material from becoming wildlife attractants. Include a reference to paragraph 312 for provisions to prevent stockpile material from becoming FOD. Attach drawings to graphically indicate the stockpile locations.

**b. Vehicle and Pedestrian Operations.** While there are many items to be addressed in this major subsection of the CSPP, all are concerned with one main issue: keeping people and vehicles from areas of the airport where they don't belong. This includes preventing unauthorized entry to the AOA and preventing the improper movement of pedestrians or vehicles on the airport. In this section, focus on mechanisms to prevent construction vehicles and workers traveling to and from the worksite from unauthorized entry into movement areas. Specify locations of parking for both employee vehicles and construction equipment, and routes for access and haul roads. In most cases, this will best be accomplished by attaching a drawing. Quote from AC 150/5210-5 specific requirements for contractor vehicles rather than referring to the AC as a whole, and include special requirements for identifying Hazardous Material (HAZMAT) vehicles. Quote from, rather than incorporate by reference, AC 150/5210-20 as appropriate to address the airport's rules for ground vehicle operations, including its training program. Discuss the airport's recordkeeping system listing authorized vehicle operators.

**c. Two-Way Radio Communications.** Include a special section to identify all individuals who are required to maintain communications with Air Traffic (AT) at airports with active towers, or monitor Common Traffic Advisory Frequencies (CTAF) at airports without or with closed ATCT. Include training requirements for all individuals required to communicate with AT. Individuals required to monitor AT frequencies should also be identified. If construction employees are also required to communicate by radio with Airport Operations, this procedure should be described in detail. Usage of vehicle mounted radios and/or portable radios should be addressed. Communication procedures for the event of disabled radio communication (that is, light signals, telephone numbers, others) must be included. All radio frequencies should be identified (Tower, Ground Control, CTAF, UNICOM, ATIS, and so on).

**d. Airport Security.** Address security as it applies to vehicle and pedestrian operations. Discuss TSA requirements, security badging requirements, perimeter fence integrity, gate security, and other needs. Attach drawings to graphically indicate secured and/or Security Identification Display Areas (SIDA), perimeter fencing, and available access points.

**311. Wildlife Management.** Discuss in this section wildlife management procedures. Describe the maintenance of existing wildlife mitigation devices, such as perimeter fences, and procedures to limit wildlife attractants. Include procedures to notify Airport Operations of wildlife encounters. Include a reference to paragraph 310 for security (wildlife) fence integrity maintenance as required.

**312. Foreign Object Debris (FOD) Management.** In this section, discuss methods to control and monitor FOD: worksite housekeeping, ground vehicle tire inspections, runway sweeps, and so on. Include a reference to paragraph 315 for inspection requirements as required.

**313. Hazardous Materials (HAZMAT) Management.** Describe in this section HAZMAT management procedures: fuel deliveries, spill recovery procedures, Material Safety Data Sheet (MSDS) availability, and other considerations. Any specific airport HAZMAT restrictions should also be

identified. Include a reference to paragraph 310 for HAZMAT vehicle identification requirements. Quote from, rather than incorporate by reference, AC 150/5320-15.

**314. Notification of Construction Activities.** List in this section the names and telephone numbers of points of contact for all parties affected by the construction project. We recommend a single list that includes all telephone numbers required under this section. Include emergency notification procedures for all representatives of all parties potentially impacted by the construction. Identify individual representatives – and at least one alternate – for each party. List both on-duty and off-duty contact information for each individual, including individuals responsible for emergency maintenance of airport construction hazard lighting and barricades. Describe procedures to coordinate immediate response to events that might adversely affect the operational safety of the airport (such as interrupted NAVAID service). Explain requirements for and the procedures for the issuance of Notices to Airmen (NOTAMs), notification to FAA required by 14 CFR Part 77 and Part 157 and in the event of affected NAVAIDs. For NOTAMs, identify an individual, and at least one alternate, responsible for issuing and cancelling each specific type of Notice to Airmen (NOTAM) required. Detail notification methods for police, fire fighting, and medical emergencies. This may include 911, but should also include direct phone numbers of local police departments and nearby hospitals. The local Poison Control number should be listed. Procedures regarding notification of Airport Operations and/or the ARFF Department of such emergencies should be identified, as applicable. If airport radio communications are identified as a means of emergency notification, include a reference to paragraph 310. Differentiate between emergency and nonemergency notification of ARFF personnel, the latter including activities that affect ARFF water supplies and access roads. Identify the primary ARFF contact person and at least one alternate. If notification is to be made through Airport Operations, then detail this procedure. Include a method of confirmation from the ARFF department.

**315. Inspection Requirements.** Describe in this section inspection requirements to ensure airfield safety compliance. Include a requirement for routine inspections by the resident engineer (RE) and the construction contractors. If the engineering consultants and/or contractors have a Safety Officer who will conduct such inspections, identify this individual. Describe procedures for special inspections, such as those required to reopen areas for aircraft operations. Part 139 requires daily airfield inspections at certificated airports, but these may need to be more frequent when construction is in progress. Discuss the role of such inspections on areas under construction. Include a requirement to immediately remedy any deficiencies, whether caused by negligence, oversight, or project scope change.

**316. Underground Utilities.** Explain how existing underground utilities will be located and protected. Identify each utility owner and include contact information for each company/agency in the master list. Address emergency response procedures for damaged or disrupted utilities. Include a reference to paragraph 314 above for notification of utility owners of accidental utility disruption as required.

**317. Penalties.** Describe in this section specific penalties imposed for noncompliance with airport rules and regulations, including the CSPP: SIDA violations, Vehicle/Pedestrian Deviations (VPD), and others.

**318. Special Conditions.** Identify any special conditions that may trigger specific safety mitigation actions outlined in this CSPP: low visibility operations, snow removal, aircraft in distress, aircraft accident, security breach, VPD, and other activities requiring construction suspension/resumption. Include a reference to paragraph 310 above for compliance with airport safety and security measures and for radio communications as required. Include a reference to paragraph 319 below for emergency notification of all involved parties, including police/security, ARFF, and medical services.

**319. Runway and Taxiway Visual Aids.** Include marking, lighting, signs, and visual NAVAIDS.

Detail temporary runway and taxiway marking, lighting, signs, and visual NAVAIDs required for the construction. Discuss existing marking, lighting, signs, and visual NAVAIDs that are temporarily, altered, obliterated, or shut down. Consider non-federal facilities and address requirements for reimbursable agreements necessary for alteration of FAA facilities and for necessary flight checks. Identify temporary TORA signs or runway distance remaining signs if appropriate. Identify required temporary visual NAVAIDs such as REIL or PAPI. Quote from, rather than incorporate by reference, AC 150/5340-1, Standards for Airport Markings, AC 150/5340-18, Standards for Airport Sign Systems, and AC 150/5340-30, as required. Attach drawings to graphically indicate proposed marking, lighting, signs, and visual NAVAIDs.

**320. Marking and Signs for Access Routes.** Detail plans for marking and signs for vehicle access routes. To the extent possible, signs should be in conformance with the Federal Highway Administration Manual on Uniform Traffic Control Devices (MUTCD) and/or State highway specifications, not hand lettered. Detail any modifications to the guidance in the MUTCD necessary to meet frangibility/height requirements.

**321. Hazard Marking and Lighting.** Specify all marking and lighting equipment, including when and where each type of device is to be used. Specify maximum gaps between barricades and the maximum spacing of hazard lighting. Identify one individual and at least one alternate responsible for maintenance of hazard marking and lighting equipment in the master telephone list. Include a reference to paragraph 314 above. Attach drawings to graphically indicate the placement of hazard marking and lighting equipment.

**322. Protection of Runway and Taxiway Safety Areas.** This section should focus exclusively on procedures for protecting all safety areas, including those altered by the construction: methods of demarcation, limit of access, movement within safety areas, stockpiling and trenching restrictions, and so on. Reference AC 150/5300-13: Airport Design as required. Include a reference to paragraph 310 above for procedures regarding vehicle and personnel movement within safety areas. Include a reference to paragraph 310 above for material stockpile restrictions as required. Detail requirements for trenching, excavations, and backfill. Include a reference to paragraph 321 for hazard marking and lighting devices used to identify open excavations as required. If runway and taxiway closures are proposed to protect safety areas, or if temporary displaced thresholds and/or revised declared distances are used to provide adequate Runway Safety Area, include a reference to paragraphs 314 and 319 above. Detail procedures for protecting the runway OFZ, runway OFA, taxiway OFA and runway approach surfaces including those altered by the construction: methods of demarcation, limit of cranes, storage of equipment, and so on. Quote from, rather than incorporate by reference, AC 150/5300-13: Airport Design as required. Include a reference to paragraph 323 for height (i.e. crane) restrictions as required. One way to address the height of equipment that will move during the project is to establish a three-dimensional “box” within which equipment will be confined that can be studied as a single object. Attach drawings to graphically indicate the safety area, OFZ, and OFA boundaries.

**323. Other Limitations on Construction.** This section should describe what limitations must be applied to each area of work and when each limitation will be applied: limitations due to airport operations, height (i.e. crane) restrictions, areas which cannot be worked at simultaneously, day/night work restrictions, winter construction, and other limitations. Include a reference to paragraph 307 above for project phasing requirements based on construction limitations as required.

### Appendix 1. Related Reading Material

Obtain the latest version of the following free publications from the FAA on its Web site at <http://www.faa.gov/airports/>.

AC	Title and Description
AC 150/5200-28	Notices to Airmen (NOTAMs) for Airport Operators
	Guidance for using the NOTAM System in airport reporting.
AC 150/5200-30	Airport Winter Safety and Operations
	Guidance for airport owners/operators on the development of an acceptable airport snow and ice control program and on appropriate field condition reporting procedures.
AC 150/5200-33	Hazardous Wildlife Attractants On or Near Airports
	Guidance on locating certain land uses that might attract hazardous wildlife to public-use airports.
AC 150/5210-5	Painting, Marking, and Lighting of Vehicles Used on an Airport.
	Guidance, specifications, and standards for painting, marking, and lighting vehicles operating in the airport air operations areas.
AC 150/5210-20	Ground Vehicle Operations on Airports
	Guidance to airport operators on developing ground vehicle operation training programs.
AC 150/5300-13	Airport Design
	FAA standards and recommendations for airport design, establishes approach visibility minimums as an airport design parameter, and contains the Object Free area and the obstacle free-zone criteria.
AC 150/5310-24	Airport Foreign Object Debris Management
	Guidance for developing and managing an airport foreign object debris (FOD) program
AC 150/5220-4	Water Supply Systems for Aircraft Fire and Rescue Protection.
	Guidance on selecting a water source and meeting standards for a distribution system to support aircraft rescue and fire fighting service operations on airports.
AC 150/5320-15	Management of Airport Industrial Waste
	Basic information on the characteristics, management, and regulations of industrial wastes generated at airports. Guidance for developing a Storm Water Pollution Prevention Plan (SWPPP) that applies best management practices to eliminate, prevent, or reduce pollutants in storm water runoff with particular airport industrial activities.
AC 150/5340-1	Standards for Airport Markings
	FAA standards for markings used on airport runways, taxiways, and aprons.
AC 150/5340-18	Standards for Airport Sign Systems
	FAA standards for the siting and installation of signs on airport runways and taxiways.
AC 150/5345-28	Precision Approach Path Indicator (PAPI) Systems
	FAA standards for PAPI systems, which provide pilots with visual glide slope guidance during approach for landing.

AC	Title and Description
AC 150/5340-30	Design and Installation Details for Airport Visual Aids
	Guidance and recommendations on the installation of airport visual aids.
AC 150/5345-39	Specification for L-853, Runway and Taxiway Retroreflective Markers
AC 150/5345-44	Specification for Runway and Taxiway Signs
	FAA specifications for unlighted and lighted signs for taxiways and runways.
AC 150/5345-53	Airport Lighting Certification Program
	Details on the Airport Lighting Equipment Certification Program (ALECP).
AC 150/5345-50	Specification for Portable Runway and Taxiway Lights
	FAA standards for portable runway and taxiway lights and runway end identifier lights for temporary use to permit continued aircraft operations while all or part of a runway lighting system is inoperative.
AC 150/5345-55	Specification for L-893, Lighted Visual Aid to Indicate Temporary Runway Closure
AC 150/5370-10	Standards for Specifying Construction of Airports
	Standards for construction of airports, including earthwork, drainage, paving, turfing, lighting, and incidental construction.
FAA Order 5200.11	<a href="#">FAA Airports (ARP) Safety Management System (SMS)</a>
	Basics for implementing SMS within ARP. Includes roles and responsibilities of ARP management and staff as well as other FAA lines of business that contribute to the ARP SMS.
FAA Certalert 98-05	Grasses Attractive to Hazardous Wildlife
	Guidance on grass management and seed selection.
FAA Form 7460-1	<a href="#">Notice of Proposed Construction or Alteration</a>
FAA Form 7480-1	<a href="#">Notice of Landing Area Proposal</a>

Obtain the latest version of the following free publications from the Electronic Code of Federal Regulations at <http://ecfr.gpoaccess.gov/>.

Title 14 CFR Part 139	Certification of Airports
Title 49 CFR Part 1542	Airport Security

Obtain the latest version of the Manual on Uniform Traffic Control Devices from the Federal Highway Administration at <http://mutcd.fhwa.dot.gov/>.

**Appendix 2. Definition of Terms**

<b>Term</b>	<b>Definition</b>
7460-1	Notice Of Proposed Construction Or Alteration. For on-airport projects, the form submitted to the FAA regional or airports division office as formal written notification of any kind of construction or alteration of objects that affect navigable airspace, as defined in 14 CFR Part 77, safe, efficient use, and preservation of the navigable airspace. (See guidance available on the FAA web site at <a href="http://oeaaa.faa.gov">oeaaa.faa.gov</a> .) The form may be downloaded at <a href="http://www.faa.gov/airports/resources/forms/">http://www.faa.gov/airports/resources/forms/</a> , or filed electronically at: <a href="https://oeaaa.faa.gov">https://oeaaa.faa.gov</a> .
7480-1	Notice Of Landing Area Proposal. Form submitted to the FAA Airports Regional Division Office or Airports District Office as formal written notification whenever a project without an airport layout plan on file with the FAA involves the construction of a new airport; the construction, realigning, altering, activating, or abandoning of a runway, landing strip, or associated taxiway; or the deactivation or abandoning of an entire airport The form may be downloaded at <a href="http://www.faa.gov/airports/resources/forms/">http://www.faa.gov/airports/resources/forms/</a> .
AC	Advisory Circular
ACRC	Aircraft Reference Code
ACSI	Airport Certification Safety Inspector
ADG	Airplane Design Group
AIP	Airport Improvement Program
ALECP	Airport Lighting Equipment Certification Program
ANG	Air National Guard
AOA	Air Operations Area. Any area of the airport used or intended to be used for the landing, takeoff, or surface maneuvering of aircraft. An air operations area includes such paved or unpaved areas that are used or intended to be used for the unobstructed movement of aircraft in addition to its associated runways, taxiways, or aprons.
ARFF	Aircraft Rescue and Fire Fighting
ARP	FAA Office of Airports
ASDA	Accelerate-Stop Distance Available
ATCT	Airport Traffic Control Tower
ATIS	Automatic Terminal Information Service
ATO	Air Traffic Organization
Certificated Airport	An airport that has been issued an Airport Operating Certificate by the FAA under the authority of 14 CFR Part 139, Certification of Airports.
CFR	Code of Federal Regulations
Construction	The presence and movement of construction-related personnel, equipment, and materials in any location that could infringe upon the movement of aircraft.
CSPP	Construction Safety And Phasing Plan. The overall plan for safety and phasing of a construction project developed by the airport operator, or developed by the airport operator's consultant and approved by the airport operator. It is included in the invitation for bids and becomes part of the project specifications.

Term	Definition
CTAF	Common Traffic Advisory Frequency
Displaced Threshold	A threshold that is located at a point on the runway other than the designated beginning of the runway. The portion of pavement behind a displaced threshold is available for takeoffs in either direction or landing from the opposite direction.
DOT	Department of Transportation
EPA	Environmental Protection Agency
FOD	Foreign Object Debris
HAZMAT	Hazardous Materials
IFR	Instrument Flight Rules
ILS	Instrument Landing System
LDA	Landing Distance Available
LOC	Localizer antenna array
Movement Area	The runways, taxiways, and other areas of an airport that are used for taxiing or hover taxiing, air taxiing, takeoff, and landing of aircraft, exclusive of loading aprons and aircraft parking areas (reference 14 CFR Part 139).
MSDS	Material Safety Data Sheet
MUTCD	Manual on Uniform Traffic Control Devices
NAVAID	Navigation Aid
NAVAID Critical Area	An area of defined shape and size associated with a NAVAID that must remain clear and graded to avoid interference with the electronic signal.
Non-Movement Area	The area inside the airport security fence exclusive of the Movement Area. It is important to note that the non-movement area includes pavement traversed by aircraft.
NOTAM	Notices to Airmen
Obstruction	Any object/obstacle exceeding the obstruction standards specified by 14 CFR Part 77, subpart C.
OE / AAA	Obstruction Evaluation / Airport Airspace Analysis
OFA	Object Free Area. An area on the ground centered on the runway, taxiway, or taxi lane centerline provided to enhance safety of aircraft operations by having the area free of objects except for those objects that need to be located in the OFA for air navigation or aircraft ground maneuvering purposes. (See AC 150/5300-13, for additional guidance on OFA standards and wingtip clearance criteria.)
OFZ	Obstacle Free Zone. The airspace below 150 ft (45 m) above the established airport elevation and along the runway and extended runway centerline that is required to be clear of all objects, except for frangible visual NAVAIDs that need to be located in the OFZ because of their function, in order to provide clearance protection for aircraft landing or taking off from the runway and for missed approaches. The OFZ is subdivided as follows: Runway OFZ, Inner Approach OFZ, Inner Transitional OFZ, and Precision OFZ. Refer to AC 150/5300-13 for guidance on OFZ.
OSHA	Occupational Safety and Health Administration
P&R	Planning and Requirements Group



Term	Definition
PAPI	Precision Approach Path Indicators
PFC	Passenger Facility Charge
PLASI	Pulse Light Approach Slope Indicators
Project Proposal Summary	A clear and concise description of the proposed project or change that is the object of Safety Risk Management.
RE	Resident Engineer
REIL	Runway End Identifier Lights
RNAV	Area Navigation
ROFA	Runway Object Free Area
RSA	Runway Safety Area. A defined surface surrounding the runway prepared or suitable for reducing the risk of damage to airplanes in the event of an undershoot, overshoot, or excursion from the runway, in accordance with AC 150/5300-13.
SIDA	Security Identification Display Area
SMS	Safety Management System
SPCD	Safety Plan Compliance Document. Details developed and submitted by a contractor to the airport operator for approval providing details on how the performance of a construction project will comply with the CSPP.
SRM	Safety Risk Management
Taxiway Safety Area	A defined surface alongside the taxiway prepared or suitable for reducing the risk of damage to an airplane unintentionally departing the taxiway, in accordance with AC 150/5300-13.
TDG	Taxiway Design Group
Temporary	Any condition that is not intended to be permanent.
Temporary Runway End	The beginning of that portion of the runway available for landing and taking off in one direction, and for landing in the other direction. Note the difference from a displaced threshold.
Threshold	The beginning of that portion of the runway available for landing. In some instances, the landing threshold may be displaced.
TODA	Takeoff Distance Available
TOFA	Taxiway Object Free Area
TORA	Takeoff Run Available. The length of the runway less any length of runway unavailable and/or unsuitable for takeoff run computations. See AC 150/5300-13 for guidance on declared distances.
TSA	Taxiway Safety Area Transportation Security Administration
UNICOM	A radio communications system of a type used at small airports.
VASI	Visual Approach Slope Indicators

Term	Definition
VGSI	Visual Glide Slope Indicator. A device that provides a visual glide slope indicator to landing pilots. These systems include precision approach path indicators (PAPI), visual approach slope indicators (VASI), and pulse light approach slope indicators (PLASI).
VFR	Visual Flight Rules
VOR	VHF Omnidirectional Radio Range
VPD	Vehicle / Pedestrian Deviation

### Appendix 3. Safety and Phasing Plan Checklist

This appendix is keyed to Section 2. Plan Requirements. In the electronic version of this AC, clicking on the paragraph designation in the Reference column will access the applicable paragraph. There may be instances where the CSPP requires provisions that are not covered by the list in this appendix.

This checklist is intended as an aid, not as a required submittal.

Coordination	Reference	Addressed			Remarks
<b>General Considerations</b>					
Requirements for predesign, prebid, and preconstruction conferences to introduce the subject of airport operational safety during construction are specified.	205	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	
Operational safety is a standing agenda item for construction progress meetings.	205	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	
Scheduling of the construction phases is properly addressed.	206	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	
<b>Areas and Operations Affected by Construction Activity</b>					
Drawings showing affected areas are included.	207.a	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	
Closed or partially closed runways, taxiways, and aprons are depicted on drawings.	207.a(1)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	
Access routes used by ARFF vehicles affected by the project are addressed.	207.a(2)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	
Access routes used by airport and airline support vehicles affected by the project are addressed.	207.a(3)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	
Underground utilities, including water supplies for fire fighting and drainage.	207.a(4)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	
Approach/departure surfaces affected by heights of temporary objects are addressed.	207.a(5)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	
Construction areas, storage areas, and access routes near runways, taxiways, aprons, or helipads are properly depicted on drawings.	207.a	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	
Temporary changes to taxi operations are addressed.	207.b(1)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	

Coordination	Reference	Addressed			Remarks
Detours for ARFF and other airport vehicles are identified.	207.b(2)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	
Maintenance of essential utilities and underground infrastructure is addressed.	207.b(3)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	
Temporary changes to air traffic control procedures are addressed.	207.b(4)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	
<b>NAVAIDS</b>					
Critical areas for NAVAIDS are depicted on drawings.	208	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	
Effects of construction activity on the performance of NAVAIDS, including unanticipated power outages, are addressed.	208	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	
Protection of NAVAID facilities is addressed.	208	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	
The required distance and direction from each NAVAID to any construction activity is depicted on drawings.	208	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	
Procedures for coordination with FAA ATO/Technical Operations, including identification of points of contact, are included.	208, 213.a, 213.e(3)(a), 218.a	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	
<b>Contractor Access</b>					
The CSPP addresses areas to which contractor will have access and how the areas will be accessed.	209	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	
The application of 49 CFR Part 1542 Airport Security, where appropriate, is addressed.	209	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	
The location of stockpiled construction materials is depicted on drawings.	209.a	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	
The requirement for stockpiles in the ROFA to be approved by FAA is included.	209.a	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	
Requirements for proper stockpiling of materials are included.	209.a	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	

Coordination	Reference	Addressed			Remarks
Construction site parking is addressed.	209.b(1)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	
Construction equipment parking is addressed.	209.b(2)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	
Access and haul roads are addressed.	209.b(3)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	
A requirement for marking and lighting of vehicles to comply with AC 150/5210-5, Painting, Marking and Lighting of Vehicles Used on an Airport, is included.	209.b(4)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	
Proper vehicle operations, including requirements for escorts, are described.	209.b(5), 209.b(6)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	
Training requirements for vehicle drivers are addressed.	209.b(7)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	
Two-way radio communications procedures are described.	209.b(9)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	
Maintenance of the secured area of the airport is addressed.	209.b(10)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	
<b>Wildlife Management</b>					
The airport operator's wildlife management procedures are addressed.	210	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	
<b>Foreign Object Debris Management</b>					
The airport operator's FOD management procedures are addressed.	211	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	
<b>Hazardous Materials Management</b>					
The airport operator's hazardous materials management procedures are addressed.	212	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	
<b>Notification of Construction Activities</b>					
Procedures for the immediate notification of airport user and local FAA of any conditions adversely affecting the operational safety of the airport are detailed.	213	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	

Coordination	Reference	Addressed			Remarks
Maintenance of a list by the airport operator of the responsible representatives/points of contact for all involved parties and procedures for contacting them 24 hours a day, seven days a week is specified.	213.a	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	
A list of local ATO/Technical Operations personnel is included.	213.a	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	
A list of ATCT managers on duty is included.	213.a	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	
A list of authorized representatives to the OCC is included.	213.b	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	
Procedures for coordinating, issuing, maintaining and cancelling by the airport operator of NOTAMS about airport conditions resulting from construction are included.	208, 213.b, 218.b(4)(i)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	
Provision of information on closed or hazardous conditions on airport movement areas by the airport operator to the OCC is specified.	213.b	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	
Emergency notification procedures for medical, fire fighting, and police response are addressed.	213.c	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	
Coordination with ARFF personnel for non-emergency issues is addressed.	213.d	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	
Notification to the FAA under 14 CFR parts 77 and 157 is addressed.	213.e	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	
Reimbursable agreements for flight checks and/or design and construction for FAA owned NAVAIDs are addressed.	213.e(3)(b)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	
<b>Inspection Requirements</b>					
Daily inspections by both the airport operator and contractor are specified.	214.a	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	
Final inspections at certificated airports are specified when required.	214.b	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	
<b>Underground Utilities</b>					
Procedures for protecting existing underground facilities in excavation areas are described.	215	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	

Coordination	Reference	Addressed			Remarks
<b>Penalties</b>					
Penalty provisions for noncompliance with airport rules and regulations and the safety plans are detailed.	216	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	
<b>Special Conditions</b>					
Any special conditions that affect the operation of the airport or require the activation of any special procedures are addressed.	217	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	
<b>Runway and Taxiway Visual Aids - Marking, Lighting, Signs, and Visual NAVAIDs</b>					
The proper securing of temporary airport markings, lighting, signs, and visual NAVAIDs is addressed.	218.a	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	
Frangibility of airport markings, lighting, signs, and visual NAVAIDs is specified.	218.a, 218.c, 219, 220.b(4)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	
The requirement for markings to be in compliance with AC 150/5340-1, Standards for Airport Markings is specified.	218.b	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	
The requirement for lighting to conform to AC 150/5340-30, Design and Installation Details for Airport Visual Aids, AC 150/5345-50, Specification for Portable Runway and Taxiway Lights , and AC 150/5345-53 Airport Lighting Certification Program, is specified.	218.b(1)(f)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	
The use of a lighted X is specified where appropriate.	218.b(1)(b), 218.b(3)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	
The requirement for signs to conform to AC 150/5345-44, Specification for Runway and Taxiway Signs, AC 50/5340-18, Standards for Airport Sign Systems, and AC 150/5345-53, Airport Lighting Certification Program, is specified.	218.c	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	
<b>Marking and Signs For Access Routes</b>					
The CSPP specifies that pavement markings and signs intended for construction personnel should conform to AC 150/5340-18 and, to the extent practicable, with the MUTCD and/or State highway specifications.	219	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	
<b>Hazard Marking and Lighting</b>					
Prominent, comprehensible warning indicators for any area affected by construction that is normally accessible to aircraft, personnel, or vehicles are specified.	220.a	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	

Coordination	Reference	Addressed			Remarks
Hazard marking and lighting are specified to identify open manholes, small areas under repair, stockpiled material, and waste areas.	220.a	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	
The CSPP considers less obvious construction-related hazards.	220.a	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	
Equipment that poses the least danger to aircraft but is sturdy enough to remain in place when subjected to typical winds, prop wash and jet blast is specified.	220.b(1)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	
The spacing of barricades is specified such that a breach is physically prevented barring a deliberate act.	220.b(1)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	
Red lights meeting the luminance requirements of the State Highway Department are specified.	220.b(2)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	
Barricades, temporary markers, and other objects placed and left in areas adjacent to any open runway, taxiway, taxi lane, or apron are specified to be as low as possible to the ground, and no more than 18 in high.	220.b(4)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	
Barricades marked with diagonal, alternating orange and white stripes are specified to indicate construction locations in which no part of an aircraft may enter.	220.b(4)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	
Highly reflective barriers with lights are specified to barricade taxiways leading to closed runways.	220.b(5)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	
Markings for temporary closures are specified.	220.b(5)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	
The provision of a contractor's representative on call 24 hours a day for emergency maintenance of airport hazard lighting and barricades is specified.	220.b(7)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	
<b>Protection of Runway and Taxiway Safety Areas</b>					
The CSPP clearly states that no construction may occur within a safety area while the associated runway or taxiway is open for aircraft operations.	221.a(1), 221.c(1)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	
The CSPP specifies that the airport operator coordinates the adjustment of RSA or TSA dimensions with the ATCT and the appropriate FAA Airports Regional or District Office and issues a local NOTAM.	221.a(2), 221.c(2)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	



Coordination	Reference	Addressed			Remarks
Procedures for ensuring adequate distance for protection from blasting operations, if required by operational considerations, are detailed.	221.c(3)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	
The CSPP specifies that open trenches or excavations are not permitted within a safety area while the associated runway or taxiway is open.	221.a(4)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	
Appropriate covering of excavations in the RSA or TSA that cannot be backfilled before the associated runway or taxiway is open is detailed.	221.a(4)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	
The CSPP includes provisions for prominent marking of open trenches and excavations at the construction site.	221.a(4)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	
Grading and soil erosion control to maintain RSA/TSA standards are addressed.	221.c(5)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	
The CSPP specifies that equipment is to be removed from the ROFA when not in use.	221.b	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	
The CSPP clearly states that no construction may occur within a taxiway safety area while the taxiway is open for aircraft operations.	221.c	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	
Appropriate details are specified for any construction work to be accomplished in a taxiway object free area.	221.d	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	
Measures to ensure that personnel, material, and/or equipment do not penetrate the OFZ or threshold siting surfaces while the runway is open for aircraft operations are included.	221.e	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	
Provisions for protection of runway approach/departure areas and clearways are included.	221.f	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	
<b>Other Limitations on Construction</b>					
The CSPP prohibits the use of open flame welding or torches unless adequate fire safety precautions are provided and the airport operator has approved their use.	222.a(2)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	
The CSPP prohibits the use of flare pots within the AOA at any time.	222.a(4)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	
The CSPP prohibits the use of electrical blasting caps on or within 1,000 ft (300 m) of the airport property.	222.a(3)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	

#### Appendix 4. Construction Project Daily Safety Inspection Checklist

The situations identified below are potentially hazardous conditions that may occur during airport construction projects. Safety area encroachments, unauthorized and improper ground vehicle operations, and unmarked or uncovered holes and trenches near aircraft operating surfaces pose the most prevalent threats to airport operational safety during airport construction projects. The list below is one tool that the airport operator or contractor may use to aid in identifying and correcting potentially hazardous conditions. It should be customized as appropriate for each project.

##### Potentially Hazardous Conditions

Item	Action Required	or	None
Excavation adjacent to runways, taxiways, and aprons improperly backfilled.			<input type="checkbox"/>
Mounds of earth, construction materials, temporary structures, and other obstacles near any open runway, taxiway, or taxi lane; in the related Object Free area and aircraft approach or departure areas/zones; or obstructing any sign or marking.			<input type="checkbox"/>
Runway resurfacing projects resulting in lips exceeding 3 in (7.6 cm) from pavement edges and ends.			<input type="checkbox"/>
Heavy equipment (stationary or mobile) operating or idle near AOA, in runway approaches and departures areas, or in OFZ.			<input type="checkbox"/>
Equipment or material near NAVAIDs that may degrade or impair radiated signals and/or the monitoring of navigation and visual aids. Unauthorized or improper vehicle operations in localizer or glide slope critical areas, resulting in electronic interference and/or facility shutdown.			<input type="checkbox"/>
Tall and especially relatively low visibility units (that is, equipment with slim profiles) — cranes, drills, and similar objects — located in critical areas, such as OFZ and approach zones.			<input type="checkbox"/>
Improperly positioned or malfunctioning lights or unlighted airport hazards, such as holes or excavations, on any apron, open taxiway, or open taxi lane or in a related safety, approach, or departure area.			<input type="checkbox"/>
Obstacles, loose pavement, trash, and other debris on or near AOA. Construction debris (gravel, sand, mud, paving materials) on airport pavements may result in aircraft propeller, turbine engine, or tire damage. Also, loose materials may blow about, potentially causing personal injury or equipment damage.			<input type="checkbox"/>

Item	Action Required	or	None
Inappropriate or poorly maintained fencing during construction intended to deter human and animal intrusions into the AOA. Fencing and other markings that are inadequate to separate construction areas from open AOA create aviation hazards.			<input type="checkbox"/>
Improper or inadequate marking or lighting of runways (especially thresholds that have been displaced or runways that have been closed) and taxiways that could cause pilot confusion and provide a potential for a runway incursion. Inadequate or improper methods of marking, barricading, and lighting of temporarily closed portions of AOA create aviation hazards.			<input type="checkbox"/>
Wildlife attractants — such as trash (food scraps not collected from construction personnel activity), grass seeds, tall grass, or standing water — on or near airports.			<input type="checkbox"/>
Obliterated or faded temporary markings on active operational areas.			<input type="checkbox"/>
Misleading or malfunctioning obstruction lights. Unlighted or unmarked obstructions in the approach to any open runway pose aviation hazards.			<input type="checkbox"/>
Failure to issue, update, or cancel NOTAMs about airport or runway closures or other construction related airport conditions.			<input type="checkbox"/>
Failure to mark and identify utilities or power cables. Damage to utilities and power cables during construction activity can result in the loss of runway / taxiway lighting; loss of navigation, visual, or approach aids; disruption of weather reporting services; and/or loss of communications.			<input type="checkbox"/>
Restrictions on ARFF access from fire stations to the runway / taxiway system or airport buildings.			<input type="checkbox"/>
Lack of radio communications with construction vehicles in airport movement areas.			<input type="checkbox"/>
Objects, regardless of whether they are marked or flagged, or activities anywhere on or near an airport that could be distracting, confusing, or alarming to pilots during aircraft operations.			<input type="checkbox"/>
Water, snow, dirt, debris, or other contaminants that temporarily obscure or derogate the visibility of runway/taxiway marking, lighting, and pavement edges. Any condition or factor that obscures or diminishes the visibility of areas under construction.			<input type="checkbox"/>
Spillage from vehicles (gasoline, diesel fuel, oil) on active pavement areas, such as runways, taxiways, aprons, and airport roadways.			<input type="checkbox"/>

Item	Action Required	or	None
Failure to maintain drainage system integrity during construction (for example, no temporary drainage provided when working on a drainage system).			<input type="checkbox"/>
Failure to provide for proper electrical lockout and tagging procedures. At larger airports with multiple maintenance shifts/workers, construction contractors should make provisions for coordinating work on circuits.			<input type="checkbox"/>
Failure to control dust. Consider limiting the amount of area from which the contractor is allowed to strip turf.			<input type="checkbox"/>
Exposed wiring that creates an electrocution or fire ignition hazard. Identify and secure wiring, and place it in conduit or bury it.			<input type="checkbox"/>
Site burning, which can cause possible obscuration.			<input type="checkbox"/>
Construction work taking place outside of designated work areas and out of phase.			<input type="checkbox"/>

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## Errata Sheet for

### Advisory Circular 150/5370-2F, Operational Safety on Airports During Construction

**Last Update:** October 14, 2011

This errata sheet logs content and/or coding errors identified after the AC was signed on September 29, 2011. These errors have been corrected in the PDF version of the AC available on the FAA website.

#	Description of Correction	Location	Rationale	Date Error Corrected
1	Replaced Figure 2-2.	Page 20.	Original drawing showed runway centerline in yellow. New drawing shows correct runway centerline drawn in white.	10/14/2011





U.S. Department  
of Transportation  
Federal Aviation  
Administration

# Advisory Circular

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**Subject:** QUALITY CONTROL OF  
CONSTRUCTION FOR AIRPORT GRANT  
PROJECTS

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**Date:** 9/29/07  
**Initiated by:** AAS-100

**AC No.:** 150/5370-12A  
**Change:**

**1. PURPOSE.** This advisory circular (AC) provides information to ensure the quality of construction accomplished under the Federal Aviation Administration's (FAA) Airport Improvement Program (AIP).

**2. BACKGROUND.** The FAA has the responsibility of determining whether all construction work accomplished under the AIP is in accordance with the contract documents. A report issued by the Office of the Inspector General indicated that, in some instances, work performed was not accomplished in compliance with plans and specifications. In addition, quantities of materials used were not properly measured and documented and testing or quality assurance procedures were inadequate.

**3. CANCELLATION.** This AC cancels AC 150/5370-12, *Quality Control of Construction for Airport Grant Projects*, dated September 6, 1985.

**4. APPLICATION.** The FAA recommends the guidelines and standards in this AC for airport construction projects. This AC does not constitute a regulation and in general is not mandatory. However, use of these guidelines is mandatory for construction projects funded under the Airport Improvement Program (AIP). Mandatory terms such as "must" apply only to those who undertake construction projects using AIP funds. For such projects, the sponsor, the sponsor's engineer, and the FAA project manager must assume the responsibilities outlined in the following paragraphs to ensure the materials and workmanship incorporated into a project are in conformity with the requirements of the approved or certified plans and specifications.

**5. SPONSOR'S RESPONSIBILITIES.** The sponsor is responsible for all project engineering, including the preparation of plans and specifications, construction supervision, and inspection and testing for acceptability and quality. If the sponsor does not have the staff or the expertise to perform these services, then the sponsor should retain a consulting engineering firm. The consultant represents the sponsor and has overall responsibility for reporting on the acceptability and quality of the work. The relations of the consultant with the sponsor must be clearly defined by a written agreement before the start of work.

**a. Engineering Services.** AC 150/5100-14, *Architectural, Engineering, and Planning Consultant Services for Airport Grant Projects*, identifies items that should be included in a contract for engineering services. In some cases, the sponsor may retain an independent firm to perform testing for project control. It is, therefore, extremely important that the contract clearly delineate the division of responsibility and authority between the sponsor, the consultant, and the testing firm. For example, the agreement should define the party responsible for designating the location and number of tests, for interpreting test results, and for follow-up procedures for failing test results.

**b. Predesign and Preconstruction Conferences.** Predesign and preconstruction conferences conducted by the sponsor should be held to discuss various items, including testing and quality control. AC 150/5300-9, *Predesign, Prebid, and Preconstruction Conferences for Airport Grant Projects*, provides guidance for conducting such conferences.

**c. Supervision and Inspection.** The sponsor must provide adequate and qualified engineering supervision and construction inspection during all stages of the work. The FAA may request the sponsor to furnish

a written assurance that it has reviewed the qualifications of personnel who will be performing these functions and that they are qualified to do so.

**6. ENGINEER's RESPONSIBILITIES.** The basic services normally required for airport development projects are the preliminary phase, design phase, bidding phase, and construction phase. The design and construction phases are directly related to quality of construction. AC 150/5100-14 contains a listing of activities normally performed during these phases.

**a. Design Phase.** The design phase includes all activities required to accomplish a complete project design, including development of plans and specifications. The standards contained in AC 150/5370-10, *Standards for Specifying Construction of Airports*, current edition, relate to materials and methods used in the construction of airports and must be used for projects funded under the FAA's AIP. Although these specifications reflect acceptable standards, practices, and techniques in airport construction, they are general in scope. For contract purposes, the various permissible options with regard to local materials, methods, and testing must be defined in the contract documents. In particular, the minimum testing frequency for job control must be specified in the project specifications.

**b. Construction Phase.** The construction phase includes all activities required after the award of a construction contract. The basic services of an engineering agreement normally include periodic inspection of the work in progress but not the services of a full-time resident engineer or inspector. Full-time inspection may be provided by the sponsor or by the consulting engineer under a supplemental agreement. In some instances, the sponsor may negotiate a separate agreement for services to be provided during this phase.

(1) Resident Engineer or Inspector. The resident engineer or inspector must have field experience in the type of work to be performed; be fully qualified to make interpretations, decisions, field computations, etc.; and have knowledge of testing requirements and procedures. The resident engineer or inspector must have the authority to reject both unsatisfactory workmanship and materials. Primary duties are as follows:

(i) Checks activities to ensure compliance with the plans and specifications. Informs the contractor of any work that is in noncompliance.

(ii) Ensures that all testing required by the specification is performed. All commercially produced products, such as pipe and reinforcing steel, that are used on the project should be accompanied by numerical test results or a certification from the manufacturer that the material meets the applicable standards.

(iii) Visits the testing laboratory to determine if it has the equipment and qualified personnel necessary to conduct the tests required by the specifications.

(iv) Ensures that tests are performed at the frequency stated in the specifications. Determine when and where tests will be taken and witness tests. If not indicated in the specifications, a sufficient number of tests should be taken to verify that the construction is acceptable.

(v) Reviews test reports and certifications for conformance with the specifications. Each test report for material in-place should, at a minimum, contain the following:

(a) Test performed and date.

(b) Applicable standard or project specification.

(c) Test location.

(d) Test result.

(e) Action taken on failing tests.

(f) Lot size and location and adjusted contract price when statistical acceptance procedures are specified or when provisions allow for reduced payment.

(vi) Maintains a file of test reports and certifications.

(vii) Informs the contractor of deficiencies so corrections can be made and retesting performed prior to covering any substandard work with additional material.

(viii) Documents quantities of materials used on the project by actual measurements and computations in a field notebook or computer printouts retained in a folder. For materials paid for on a weight basis, a summary of the material placed each day should be kept in the field notebook. The notebook and/or computer printouts, supported by the original set of weigh tickets, is the basis for payment.

(ix) Maintains a set of working drawings on the job site that can be used to prepare “as-built” drawings.

(x) Reviews payment requests from the contractor.

(xi) Maintains a diary that should contain daily entries made and signed by the resident engineer. Each entry should include the following, plus any additional pertinent data:

(a) Date and weather conditions.

(b) Names of important visitors.

(c) Construction work in progress and location.

(d) Size of contractor’s work force and equipment in use.

(e) Number of hours worked per day for contractor and subcontractors.

(f) The substance of important conversations with the contractor about conduct, progress, changes, test results, interpretations of specifications, or other details.

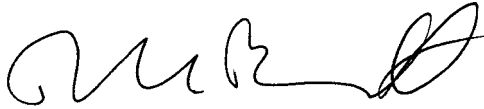
(xii) Submits copies of FAA Form 5370-1, *Construction Progress and Inspection Report*, or equivalent form to the appropriate FAA Airports Division/District/Field Office upon request.

**7. FAA PROJECT MANAGER’S RESPONSIBILITIES.** The FAA project manager has the responsibility to monitor the project to ensure the terms and conditions of the grant agreement are met, to maintain a broad overview of the construction to be reasonably certain the work is accomplished in accordance with the plans and specifications, and to evaluate the adequacy of the sponsor’s construction inspection. FAA project oversight does not relieve the sponsor’s responsibility of ensuring adequate supervision and inspection during all stages of the work and ensuring the work is in conformance with the plans and specifications.

**8. COMMENTS OR SUGGESTIONS.** Comments or suggestions for improving this AC should be sent to—

Manager, Airport Engineering Division  
Federal Aviation Administration  
ATTN: AAS-100  
800 Independence Avenue, SW  
Washington, DC 20591

**9. COPIES OF THIS AC.** The Office of Airport Safety and Standards is in the process of making ACs available to the public through the Internet. These ACs can be found on the Federal Aviation Administration (FAA) website at [http://www.faa.gov/airports\\_airtraffic/airports/resources/advisory\\_circulars/](http://www.faa.gov/airports_airtraffic/airports/resources/advisory_circulars/).

A handwritten signature in black ink, appearing to read 'DLB', with a stylized flourish at the end.

David L. Bennett  
Director of Airport Safety and Standards

## SPECIAL CONDITIONS

### SECTION 1

#### PROJECT INFORMATION

**1. CONTRACT PROVISIONS.** The General Provisions and these Special Conditions are applicable to all divisions and sections of the Contract Documents and Specifications. It shall be the Contractor's responsibility to so inform all parties who should be bound or influenced thereby.

In the event there are discrepancies between the technical specifications, general provisions, general conditions and the special conditions, the interpretation most advantageous to the Owner shall apply.

**2. DESCRIPTION OF WORK.** The proposed Work includes the following: See Construction Plans.

**3. LOCATION OF THE WORK.** The site of the proposed Work is at the Duluth International Airport, Duluth, MN.

**4. DEFINITIONS.** The following terms when used in the Contract Documents shall mean the following:

**A. ADDENDA.** Written or graphic instruments issued prior to the opening of Bids which clarify, correct or change the bidding documents or the Contract Documents.

**B. BID.** The offer or proposal of the bidder submitted on the prescribed form setting forth the prices for the Work and services to be performed.

**C. DAY.** Unless otherwise defined shall mean "calendar" day.

**D. DRAWINGS.** The drawings which show the character and scope of the Work to be performed and which have been prepared or approved by the Engineer and are referred to in the Contract Documents.

**E. ENGINEER.** The term "Engineer" in the Contract Documents means Reynolds, Smith and Hills, Inc., 4525 Airport Approach Road, Duluth Minnesota, 55811.

**F. FIELD ORDER.** A written order issued by the Engineer which orders minor changes in the work consistent with the intent of the Contract Documents but which does not involve a change in the Contract Price or the Contract Time.

The Engineer may authorize minor changes in the work not involving an adjustment in the contract price or the contract time, which are consistent with the overall intent of the Contract Documents. These may be accomplished by a field order and shall be binding on the Owner, and also on the Contractor who shall perform the change promptly. If the Contractor believes that a field order justifies an increase in the contract price or contract time, the Contractor shall make a claim under Section 50, Subsection 50-16, Claims for Adjustment and Disputes of the General Provisions before doing the Work.

**G. FURNISH or INSTALL or PROVIDE or SUPPLY.** Unless specifically limited in the context, the word "Furnish" or the word "Install" or the word "Provide" or the word "Supply" or any combination or similar directive or usage thereof, shall mean FURNISHING AND INCORPORATION IN THE WORK including all necessary labor, materials, equipment, and anything necessary to perform the work indicated.

**H. GOOD REPAIR.** Good repair shall be construed to mean any defect, functional or structural deterioration (except that from ordinary and reasonable use) which appreciably reduces the effectiveness or efficiency of the work or improvement for the purpose intended, or any serious departure from the standards of original construction described in the Contract Documents, shall be remedied by the Contractor. Such remedy will be made without further cost to the Owner, including in part, all damages caused by such defect, deficiency, deterioration or departure, and by its repair, replacement or correction.

**I. MAY.** Permissive.

**J. REFERENCE TO TRADE OR SUBCONTRACTORS.** When only one principal contract exists for all work covered by the Contract Documents, reference to trade or subcontractors in the Contract Documents shall not create any contractual relationship between the Owner and any trade or subcontractor, with whom the principal contractor may subcontract.

**K. SAMPLES.** Samples are physical examples furnished or constructed by the Contractor to illustrate materials, equipment, workmanship or finishes, and to establish standards by which the work will be judged.

**L. "SHALL" IMPLIED.** In the interest of conciseness, some sentences, statements, and clauses used in the specifications exclude any form of the verb "shall" normally expressed in a verb phrase with verbs such as "furnish", "install", "provide", "perform", "construct", "erect", "comply", "apply", "submit", or similar "verb", but any such sentences, statements, and clauses shall be interpreted to include the applicable form of the phrase "The Contractor shall" and the requirements described therein shall be interpreted as mandatory elements of the Contract.

**M. SHALL.** Mandatory.

**N. SUBCONTRACTOR.** Party supplying labor and material or any labor for work at the site of the project for, and under separate contract or agreement with the Contractor. Nothing contained in the Contract Documents shall create any contractual relationship between the Owner and any subcontractor.

**O. SUBSTANTIAL COMPLETION.** When the work is sufficiently complete so it may be safely, conveniently and beneficially utilized by the Owner for all of the purposes for which it was intended.

**P. WILL.** Mandatory.

**Q. SEDIMENT.** Soil and other debris that have eroded and have been transported by runoff water or wind.

**R. SOLID WASTES.** Rubbish, debris, and other discarded solid materials, except hazardous waste as defined in paragraph entitled, "Hazardous Waste," resulting from industrial, commercial, and agricultural operations and from community activities.

**S. RUBBISH.** Combustible and noncombustible wastes including paper, boxes, glass, crockery, metal, lumber, cans, and bones.

**T. DEBRIS.** Combustible and noncombustible wastes such as ashes and waste materials resulting from construction or maintenance and repair work, leaves, and tree trimmings.

**U. CHEMICAL WASTES.** Salts, acids, alkalies, herbicides, pesticides, and organic chemicals.

**V. SEWAGE.** Waste characterized as domestic sanitary sewage.

**W. GARBAGE.** Refuse and scraps resulting from consumption of food.

**X. HAZARDOUS WASTES.** Hazardous substances as defined in 40 CFR 261 or as defined by applicable state and local regulations.

**Y. OILY WASTES.** Petroleum products and bituminous materials.

**Z. HAZARDOUS MATERIALS.** As defined in DOT Regulation 49 CFR 171 and listed in CFR 172.

**AA. HAZARDOUS SUBSTANCES.** As defined in EPA PL 96-510.

**5. APPLICABLE DRAWINGS.** The drawings applicable to this project are listed in the Index of Drawings as included herein.

**6. PROPOSAL REQUIREMENTS.** In addition to those herein before described items to be submitted with the Bidder's Proposal, the bidder shall submit, with his proposal, a list of all subcontractors the bidder proposes to use on the work of this Contract.

After the Owner accepts the bidder's proposal and such bidder is awarded a Contract, the successful bidder may not substitute a subcontractor listed in the proposal without the prior written approval of the Owner. Such approval shall be obtained at least ten calendar days prior to the date scheduled for that subcontractor to begin work.

**7. ACCESS TO THE WORK.** Access to the work shall be via the access routes designated on the Contract Layout Plan. The Contractor shall identify access routes with suitable signs, barricades and similar equipment. The entire access route and construction site shall be kept free and clean of all debris at all times and maintained in good repair by the Contractor. All damage to the access route caused by the actions of the Contractor or his agents shall be immediately repaired to the satisfaction of the Owner.

No separate payment will be made for complying with the requirements of this paragraph "ACCESS TO THE WORK." No other access to the work site will be permitted without written approval by the Owner and Engineer. Contractor's vehicles and equipment, including vehicles and equipment of the subcontractors and others coming under the Contractor's control, will not be permitted to traverse other airfield areas or pavements without written approval of the Owner and Engineer. Contractor's vehicles, equipment and materials may be stored in the area designated on the Plans. Upon completion of the work, the storage area shall be cleaned up and returned to its original condition to the satisfaction of the Owner. No separate payment will be made for cleanup and restoration of the storage area. Personal services, such as canteen trucks, will not be permitted beyond this area and drivers of vehicles being operated beyond this area shall be subject to loss of permission to enter the construction site.

## **8. SHOP DRAWINGS, PRODUCT DATA AND SAMPLES.**

**A.** Shop drawings are drawings, diagrams, schedules and other data specially prepared for the work by the Contractor or any subcontractor, manufacturer, supplier or distributor to illustrate some portion of the work.

**B.** Product data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams or other information furnished by the Contractor to illustrate a material, product or system for some portion of the work.

**C.** Samples are physical examples that illustrate materials, equipment or workmanship and establish standards by which the work will be judged.

**D.** The Contractor shall review, approve and submit, with reasonable promptness and in such sequence as to cause no delay in the work or in the work of the Owner or any separate contractor, all shop drawings, product data and samples required by the Contract Documents.

**E.** By approving and submitting shop drawings, product data and samples, the Contractor represents that he has determined and verified all materials, field measurements and field construction criteria related thereto, or will do so, and that he has checked and coordinated the information contained within such submittals with the requirements of the work and of the Contract Documents.

**F.** The Contractor shall not be relieved of responsibility for any deviation from the requirements of the Contract Documents by the Engineer's approval of shop drawings, product data or samples unless the Contractor has specifically informed the Engineer in writing of such deviation at the time of submission and the Engineer has given written approval of the specific deviation. The Contractor shall not be relieved from responsibility for errors or omissions in the shop drawings, product data or samples by the Engineer's approval thereof.

**G.** The Contractor shall direct specific attention, in writing or on resubmitted shop drawings, product data or samples to revisions other than those requested by the Engineer on previous submittals.

**H.** No portion of the work requiring submission of a shop drawing, product data or sample shall be commenced until the submittals have been approved by the Engineer as provided in the General Provisions, Section 50. All such portions of the work shall be in accordance with approved submittals.

**I.** The Contractor shall not reproduce the Engineer's project drawings for shop drawing use without prior written approval of the Engineer.

**J.** The Contractor shall submit six copies, or at Engineer's option, one reproducible copy and one print of all shop drawings required for the work of the various trades unless greater quantities are specifically requested for certain equipment. Of these, three copies, or the reproducible copy, will be annotated as appropriate and returned to the Contractor with appropriate action indicated. By agreement with the Engineer, the Contractor may submit more than the required number of copies. Receipt of less than the required number of copies will be cause for withholding the shop drawings, product data or samples from being checked until receipt of the necessary additional copies. Shop drawings shall be forwarded to Reynolds, Smith and Hills, Inc. 4525 Airport Approach Road, Duluth, MN 55811. The Contractor's letter of submittal must conform to the typical Contractor's "Transmittal Letter" which is available from the Engineer. The quantity of transmittal letters to be submitted shall be equal to the number of sets of drawings, product data or samples being submitted plus one. Each drawing or part of the drawings, product data or samples shall be listed separately on the letter and identified as indicated thereon. Failure to do this will cause rejection of the submittal. The Engineer will return to the Contractor the same transmittal letter, with the shop drawings, product data or samples disposition noted thereon along with the shop drawings, product data or samples when the review is completed. The Contractor shall forward separate transmittal letters for submitting each group of shop drawings, product data or samples common to a specification section.

**K.** In checking shop drawings, product data or samples prior to submittal, the Contractor is requested to note corrections or comments on the shop drawings, product data or samples in green pen.

**L.** Drawings returned to the Contractor will be stamped "Approved," "Approved as Noted," "Returned for Corrections," or "Not Approved." Drawings stamped "Approved as Noted" need not be returned for further approval if the notations are acceptable to the Contractor and subcontractors. Drawings stamped "Returned for Corrections" or "Not Approved" shall require new submission. Comments and corrections by the Engineer will be made in red pen on blue or black line prints.



**M.** Samples shall be submitted to the **Project Engineer of record**, accompanied with the same transmittal letter prescribed for shop drawings. Checking by Contractor of product data and samples before transmittal is required the same as for shop drawings.

## **9. PROJECT DOCUMENTATION.**

**A.** Project Drawings: The successful Contractor will be furnished, at no charge, one (1) disc of the Conformance Drawings and Specifications. Any hard copies required by the contractor may be purchased at actual cost of reproduction.

A field set of Plans and Specifications shall remain on the job site at all times and shall be available at all times to the Engineer.

The Contractor shall immediately include plainly and conspicuously on the field set of drawings, and at appropriate paragraphs in the specifications, all changes or corrections made by addenda, field orders and change orders as they are issued.

Approved copies of all shop drawings, product data, samples and other submittals are to be kept on the job site at all times and shall be available at all times to the Engineer.

Changes and deviations from the existing conditions shall be submitted in writing for approval prior to installation. In no case shall any unspecified equipment or materials be installed without prior approval of the Engineer.

### **B. Record Documents:**

**(1)** Definition: Record documents are defined to include those documents or copies relating directly to performance of the work, which the Contractor is required to prepare or maintain for the Owner's records, recording the work as actually performed. In particular, record documents show changes in the work in relation to the way in which shown and specified by original Contract Documents; and show additional information of value to the Owner's records, but not indicated by original Contract Documents. Record documents include newly prepared drawings (if any are specified), marked-up copies of contract drawings, shop drawings, specifications, addenda, field orders, change orders, marked-up product data submittals, record samples, field records for variable and concealed conditions such as excavations and foundations, and miscellaneous record information on work which is otherwise recorded only schematically or not at all.

**(2)** Record Drawings: The Contractor shall maintain a set of record drawings at the job site. The record drawings shall be kept legible and current and shall be available for inspection at all times by the Engineer. The Contractor shall show all changes or work added on these record drawings in a contrasting color.

**(a)** Mark-Up Procedure: During progress of the work, maintain a blue-line or black-line set of contract drawings and shop drawings, with mark-up of actual installations which vary substantially from the work as originally shown. Mark whatever drawing is most capable of showing actual physical condition, fully and accurately. Where shop drawings are marked up, mark cross-reference on contract drawings at corresponding location. Mark with erasable colored pencil, using separate colors where feasible to distinguish between changes for different categories of Work at same general location. Mark-up important additional information that was either shown schematically or omitted from original drawings. Give particular attention to information on work concealed, which would be difficult to identify or measure and record at a later date. Note alternate numbers, field orders or change order numbers and similar identification. Require each person preparing mark-ups to initial and date mark-ups and indicate name of firm. Label each sheet "PROJECT RECORD" in 1-1/2-inch high letters.

In showing changes in the work, use the same legends as used on the original drawings. Indicate exact locations by dimensions and exact elevations by job datum. Give dimensions from a permanent point.

**(b) Preparation of Transparencies:** In preparation for Certification of Substantial Completion on last major portion of the work, review completed mark-up of record drawings and shop drawings with Engineer. The Engineer will then proceed with preparation of a full set of corrected transparencies for contract drawings. The Engineer will date each updated drawing and label each sheet "RECORD DRAWING" in 1-1/2-inch high letters. Printing as required herein is the responsibility of the Engineer.

**(c) Copies, Distribution:** Upon completion of transparency record drawings, the Engineer shall prepare three blue-line or black-line prints of each drawing, regardless of whether changes and additional information were recorded thereon. The Engineer shall then organize each of three copies into manageable sets, bind with durable paper cover sheets, and print suitable titles and dates. The mark-up set of prints maintained during the construction period shall be bound in the same manner. The Engineer shall also organize transparencies into sets matching print sets, place set in a durable tube-type drawing container (with end caps) and mark end cap of each with suitable identification. The Engineer will retain one copy set. At the completion of the project, the Engineer shall submit one set of transparencies, with changes noted thereon, to the Owner.

**(3)** Record drawings shall contain the names, addresses and phone numbers of the Contractor and all subcontractors.

**(4)** The Engineer shall be the sole judge of the acceptability of the record drawings. Receipt and acceptance of the record drawings is a prerequisite for Final Payment.

**C. Record Specifications:**

**(1)** During the progress of the work, the Contractor shall maintain one copy of the specifications, including addenda, field orders, change orders and similar modifications issued in printed form during construction, marked-up variations (of substance) in actual work in comparison with text of specifications and modifications as issued at the jobsite. Give particular attention to substitutions, selection of options, and similar information on work where it is concealed or cannot otherwise be readily discerned at a later date by direct observation. Note related record drawing information and product data, where applicable. Upon completion of mark-up, the Contractor shall submit all data to the Engineer for the Owner's records. Label front cover "PROJECT RECORD" in 1-1/2-inch high letters.

**(2)** Where the record specifications is printed on one side of page only, mark variation on blank left-hand pages of the record specifications, facing printed right-hand pages containing original text affected by variation.

**D. Record Product Data:** During progress of the work, maintain one copy of each product data submittal, and mark-up significant variations in the actual work in comparison with submitted information. Include both variations in product as delivered to site, and variations from manufacturer's instructions and recommendations for installation. Give particular attention to concealed products and portions of the work that cannot otherwise be readily discerned at a later date by direct observation. Note related field orders and change orders and mark-up of record drawings and specifications. Upon completion of mark-ups, submit complete set of product data submittal to the Engineer for the Owner's records. Label each data submittal "PROJECT RECORD" in 1-1/2-inch high letters.

**E. Record Sample Submittal:** Immediately prior to date(s) of substantial completion, the Engineer and Owner's authorized representatives will meet with the Contractor at the work site and will determine if any of the submitted samples maintained by the Contractor during progress of the work are to be transmitted to

the Owner for record purposes. The Contractor shall comply with the Engineer's instructions for packaging, identification marking and delivery to the Owner's sample storage space. Dispose of other samples in a legal manner specified for disposal as surplus and waste materials, unless otherwise indicated by Engineer.

**F. Miscellaneous Record Submittals:** Refer to other sections of these specifications for requirements of miscellaneous recordkeeping and submittals in connection with actual performance of the work. Immediately prior to date(s) of substantial completion, complete miscellaneous records and place in good order, properly identified and bound or filed, ready for continued use and reference. Submit to the Engineer for the Owner's records. Categories of requirements resulting in miscellaneous work records are recognized to include, but not be limited to, the following:

(1) Required field records on excavations, foundations underground construction, wells and similar Work.

(2) Accurate survey showing locations and elevations of underground lines, including invert elevations of drainage piping, valves, tanks and manholes.

(3) Surveys establishing lines and levels of buildings, where applicable.

(4) Soil treatment certification.

(5) Inspection and Test Reports: Where not processed as shop drawings or product data.

(6) Concrete mix design record.

(7) Asphaltic concrete mix design record.

(8) Concrete block certification, where applicable.

**G. Project Closeout:** Closeout is hereby defined to include general requirements near end of contract time, in preparation for final acceptance, final payment, normal termination of Contract, occupancy by the Owner and similar actions evidencing completion of the work. Specific requirements for individual units or work are specified in other sections. Time of closeout is directly related to substantial completion, and therefore may be a single-time period for the entire work or a series of time periods for individual parts of the work which have been certified as substantially complete at different dates. The time variation, if any, shall be applicable to other provisions of this section.

**H. Prerequisites to Substantial Completion:**

(1) Prior to requesting the Engineer's inspection for Certification of Substantial Completion, for either entire work or portions thereof, complete the following and list no exceptions in request.

(a) In progress payment request coincident with, or first following date claimed, show 100 percent completion for the portion of work claimed as "Substantially Completed," or list incomplete items, value of incompleteness and reasons for being incomplete.

(b) Include supporting documentation for completion as indicated in the Contract Documents.

(c) Submit statement showing accounting of changes to the Contract sum.

(d) Advise the Owner of pending insurance change-over requirements.

(e) Obtain and submit releases enabling Owner's full and unrestricted use of the work and access to services and utilities, including, where required, occupancy permits, operating certificates and similar releases.

(f) Deliver tools, spare parts, extra stocks of materials and similar physical items to the Owner.

(g) Make final change-over of locks and transmit keys, where applicable, to the Owner, and advise the Owner's authorized representatives of change-over in security provisions.

(h) Complete start-up testing of systems, and instructions to the Owner's operating-maintenance personnel. Discontinue, or change over, and remove from project site any temporary facilities and services, along with construction tools and facilities, mock-ups and similar elements.

(2) Inspection Procedures: Upon receipt of the Contractor's request, the Engineer will proceed with the inspection or advise the Contractor of prerequisites not fulfilled. Following initial inspection, the Engineer will prepare the Certificate of Substantial Completion or advise the Contractor of work which must be performed prior to issuance of the certificate and repeat the inspection when requested and assured that work has been substantially completed. Results of completed inspection(s) will form initial "punch list" for Final Acceptance.

**I. Prerequisites to Final Acceptance:**

(1) Prior to requesting the Engineers' final inspection for Certification of Final Acceptance as required by the General Provisions, the Contractor shall complete the following and list known exceptions in the request:

(a) Submit certified copy of the Engineer's final punch list of itemized work to be completed or corrected, stating that each item has been completed or otherwise resolved for acceptance, endorsed and dated by the Engineer.

(b) Submit final meter readings for utilities, measured record of stored fuel, and similar data as of time of Substantial Completion or when Owner took possession of and responsibility for corresponding elements of the Work.

(c) Complete final cleaning up requirements, including touch-up of marred surfaces.

(d) Touch-up and otherwise repair and restore marred exposed finishes.

(2) Reinspection Procedures: Following Substantial Completion, the Contractor shall correct or remedy all punch list items to the satisfaction of the Engineer and Owner within a two (2)-week period after the date of Substantial Completion. If subsequent inspections are necessary after the two-week period in order to eliminate all deficiencies, the cost of all subsequent inspections with respect to the Owner's and Engineer's time and expenses shall be paid by the Contractor. When ready, the Contractor shall request in writing, a final reinspection of the work. Upon completion of reinspection, the Engineer will prepare Certificate of Final Acceptance or advise the Contractor of work not completed or obligations not fulfilled as required for Final Acceptance. If necessary, the above procedures will be repeated.

**J. Prerequisites to Final Payment:**

(1) Final Payment: Final Payment will be made after Final Acceptance of the project by the Engineer and Owner upon request by the Contractor on condition that the Contractor:

**(a)** Furnish properly executed and completed release of claims from all material men and subcontractors who have furnished materials or labor for the work and submit supporting documentation not previously submitted and accepted. Include certificates of insurance for products and completed operations where required.

**(b)** Furnish the Contractor's Affidavit of Release of Claims (2 copies) that all material, men, and subcontractors have been paid in full. In the event they have not been paid in full, the Owner shall retain a sufficient sum to pay them in full and at his option, may make direct payment to obtain complete releases of claim.

**(c)** Furnish Contractor's Final Release of Claim (2 copies).

**(d)** Furnish required sets of record drawings and maintenance and operating instructions of new mechanical equipment.

**(e)** Furnish guarantees signed by subcontractors, material suppliers and countersigned by the Contractor for operating equipment.

**(f)** Submit specific warranties, workmanship-maintenance bonds, maintenance agreements, final certifications and similar documents.

**(g)** Furnish a signed guarantee, in form acceptable to the Engineer and Owner agreeing to repair or replace, as decided by the Engineer, all work and materials that prove defective within one (1) year from the date of Final Acceptance, including restoration of all other Work damaged in making such repairs or replacements.

**(h)** Furnish consent of Surety to Final Payment.

**(i)** Submit final progress payment application, reflecting all final changes to contract quantities and sums.

**(j)** Submit evidence of final, continuing insurance coverage complying with insurance requirements.

**(k)** Certify that all social security, employment and all other taxes (city, state, federal government) have been paid.

**(l)** Provide receipt, as applicable, of affidavits certifying all labor standards of local, state or federal requirements have been complied with by the Contractor.

**(m)** Submit actual DBE participation percentages along with the names, addresses and phone numbers of all DBE subcontractors, material suppliers utilized in the work.

**K. Record Document Submittals:** Specific requirements for record documents are shown in Section 9, PROJECT DOCUMENTATION. Other requirements are indicated in the General Provisions. General submittal requirements are indicated in "Submittals" sections. Do not use record documents for construction purposes; protect from deterioration and loss in a secure, fire-resistive location; provide access to record documents for the Engineer's reference during normal working hours.

**(1) Record Drawings:** The Engineer shall organize record drawing sheets into manageable sets, bind with durable paper cover sheets and print suitable titles, dates and other identification on cover of each set.

(2) Record Specifications: Upon completion of mark-ups, submit to the Engineer for the Owner's records.

(3) Record Product Data: Upon completion of mark-ups, submit complete set to the Engineer for the Owner's records.

(4) Record Sample Submittal: Comply with the Engineer's instructions for packaging, identification marking and delivery to the Owner's sample storage space.

(5) Miscellaneous Record Submittals: Complete miscellaneous records and place in good order, properly identified and bound or filed, ready for continued use and reference. Submit to the Engineer for the Owner's records.

(6) Maintenance Manuals: Complete, place in order, properly identify and submit to the Engineer for the Owner's records.

L. Closeout Procedures: General Operating and Maintenance Instructions: Arrange for each installer of work requiring continuing maintenance or operation to meet with the Owner's authorized representatives, at the work site, to provide basic instructions needed for proper operation and maintenance of the entire work. Include instructions by manufacturer's representatives where installers are not expert in the required procedures. Review maintenance manuals, record documentation, tools, spare parts and materials, lubricants, fuel, identification system, control sequences; hazards, cleaning and similar procedures and facilities. For operational equipment, demonstrate start-up, shut-down, emergency operations, noise and vibration adjustments, safety, economy, efficiency adjustments and similar operations. Review maintenance and operations in relation with application warranties, agreements to maintain bonds, and similar continuing commitments.

## 10. FINAL CLEANING.

A. Provide final cleaning of the work, at time indicated, consisting of cleaning each surface or unit of work to normal "clean" condition.

B. Removal of Protection: Remove temporary protection devices and facilities that were installed during course of the work to protect previous completed work during remainder of the construction period.

C. Compliances: Comply with safety standards and governing regulations for cleaning operations. Do not burn waste materials at site, or bury debris or excess materials on the Owner's property, or discharge volatile or other harmful or dangerous materials into drainage systems; remove waste materials from site and dispose of in a lawful manner.

Where extra materials of value remaining after completion of associated work have become the Owner's property, dispose of these as directed by the Owner.

## 11. CONTRACT DOCUMENTS REVISION/MODIFICATIONS.

Where portions of text have been lined through (example) this text has been deleted and does not apply to this project. Where portions of text have been added with shading (example), this text has been added and is binding to this project. This process is utilized throughout the specifications and contract documents (excluding the plans).

### END OF SPECIAL CONDITIONS - SECTION 1

## **SPECIAL CONDITIONS**

### **SECTION 2**

### **INSURANCE REQUIREMENTS**

(Refer to City of Duluth Insurance Requirements)

**END OF SPECIAL CONDITIONS - SECTION 2**

## **SPECIAL CONDITIONS**

### **SECTION 3**

#### **MISCELLANEOUS**

**1. PROVISIONS REQUIRED BY LAW DEEMED INSERTED.** Each and every provision of law and clause required by law to be inserted in the Contract Documents shall be deemed to be inserted herein and the Contract shall be read and enforced as though it were included herein. If, for any reason, any such provision is not inserted in the Contract, or is not correctly inserted, then upon application of either party, the Contract shall forthwith be physically amended to make such insertion or correction.

**2. CORRELATION OF DOCUMENTS.**

**A.** The drawings and specifications are cooperative and supplementary. Portions of the work which can be best be illustrated by the drawings may not be included in the specifications and portions best described by the specifications may not be depicted on the drawings. All items necessary or incidental to completely construct or erect the work shall be furnished, whether called for in the specifications or shown on the drawings. Anything mentioned in the specifications and not shown on the drawings, or anything shown or mentioned on the drawings and not mentioned in the specifications, shall be of like effect as if shown or mentioned in both.

**B.** In case of disagreement between the drawings and specifications, or within either document itself, the better quality or greater quantity of work shall be estimated and included in the bid and contract price and the matter drawn to the Engineer's attention for decision.

**3. NOTICE AND SERVICE THEREOF.** Where the manner of giving notice is not otherwise provided for in the Contract Documents, any notice to the Contractor from the Owner relative to any part of the Contract shall be in writing and considered delivered and the service thereof completed, when said notice is posted, by certified or registered mail, to the Contractor at the address given in the Contractor's proposal, or at the last business address known to him who gives the notice, or delivered in person to the Contractor or his authorized representative on the site. It is mutually agreed that such notice shall be sufficient and adequate.

**4. SUBCONTRACTING.**

**A.** The Contractor may utilize the services of specialty or minority subcontractors on those parts of the work which, under normal contracting practices, are performed by specialty or minority subcontractors.

**B.** The Owner reserves the right to approve subcontractors for any work. The Contractor, if requested by the Owner, shall submit to the Owner the proposed award and such information as the Owner may require concerning any subcontractor.

**C.** The Contractor shall be as fully responsible to the Owner for the acts and omissions of his subcontractors, and of persons either directly or indirectly employed by them, or under their control, as he is for the acts and omissions of persons directly employed by him.

**D.** The Contractor shall cause appropriate provisions to be inserted in all subcontracts relative to the work to bind subcontractors to the Contractor by the terms of the Contract Documents insofar as applicable to the work of subcontractors, and to give the Contractor the same power as regards terminating any subcontract that the Owner may exercise over the Contractor under any provision of the Contract Documents.



E. Nothing contained in the Contract Documents shall create any contractual relationships between any subcontractor and the Owner.

## 5. PROTECTION OF PERSONS.

A. The Contractor shall:

- (1) At all times protect the lives and health of his employees under the Contract;
- (2) Take all necessary precautions for the safety of all persons on or in the vicinity of the project site.
- (3) Comply with all applicable provisions of Federal, State and Municipal safety laws and building codes.
- (4) Comply with all pertinent provisions of the Manual of Accident Prevention in Construction issued by the Associated General Contractors of America, Inc., latest edition, to prevent accidents or injury to persons on or about or adjacent to the premises where the work is being performed. He shall erect and properly maintain at all times, as required by the conditions and progress of the work, all necessary safeguards for the protection of persons and shall post danger signs warning against the hazards created in part by features of construction such as protruding nails, rod hoists, well holes, falling materials, etc., and he shall designate a responsible member of his organization on the work site whose duty shall be the prevention of accidents;
- (5) Provide for all safeguards for the protection of those having Right-of-Entry during field review and observation of the work.

B. The Contractor shall comply with all provisions of the "Williams-Steiger Occupational Safety and Health Act of 1970" including any amendments thereto and rules and regulations issued pursuant thereto, applicable to the Work and performance of the Contract. Where a State in which work is performed has passed legislation bearing on Occupational Safety and Health, such legislation and amendments thereto, together with rules and regulations issued pursuant thereto, shall be complied with by the Contractor.

## 6. AUTHORITY OF ENGINEER.

A. The Engineer, through its duly authorized representatives, shall furnish engineering services during construction of the work to the extent provided in the Contract Documents. He shall observe and review the work in the process of construction or erection. Compliance with the Contract Documents shall be the Contractor's responsibility notwithstanding such observation or review. The Engineer has authority to recommend suspension of the work to the Owner when it appears such suspension may be necessary to accomplish the proper implementation of the intent of the Contract Documents. The authority to observe, review or recommend suspension of the work, or exercise such other authority as may be granted by the Contract Documents, shall not be construed or interpreted to mean supervision of construction, which is the Contractor's responsibility, nor make the Engineer responsible for providing a safe place for the performance of work by the Contractor or by the Contractor's employees, or those of suppliers or subcontractors, or for access, visits, use, work, travel, or occupancy by any other person. The Engineer shall also have the authority to reject any work, materials, or equipment which do not conform to the Contract Documents and to decide technical questions which arise in the execution of the work.

B. The Engineer shall determine the amount, quality, acceptability, and fitness of the several kinds of work, materials, equipment and supplies which are to be paid for under the Contract and shall decide questions which may arise in relation to said work and its compliance with the Contract Documents. The Engineer's estimates and decisions shall be final and conclusive, except as otherwise expressly provided in

case any question shall arise between the parties to the Contract relative to the Contract Documents, the determination or decision of the Engineer shall be a condition precedent to the right of the Contractor to receive any money or payment for work under the Contract affected in any manner or to any extent by such question.

C. The Engineer shall decide the meaning and intent of any portion of the Contract Documents where the same may be found obscure or be in dispute.

## **7. "GOOD REPAIR" PERIOD.**

A. The Contractor hereby agrees to keep all work constructed under the Contract in good repair for a minimum period of one (1) year, unless a longer period is otherwise specified in the Contract Documents, from the date of acceptance of all of the work by the Owner. No provision of the Contract documents shall be valid which limits the "Good Repair" period to less than one (1) year from the date of acceptance of all of the work by the Owner. The work may be phased. If the work is phased, each phase of Work completed shall be inspected and approved for use by the Owner but shall not be accepted until all work for all phases is complete and a final inspection for all work has been performed.

B. It is intended that this provision shall apply whether or not bond is required, as a personal obligation of the Contractor.

C. The obligations of the Contractor as herein provided shall be in addition to and not in limitation of any obligations imposed upon him by special guarantees required by the Contract Documents or otherwise prescribed by law.

**8. VARIATION FROM ESTIMATED QUANTITIES.** The Contractor may reasonably expect a variation in estimated quantities such that the total payment for the completed work may range from 75 to 125 percent of the total amount of the Contract based on the estimated quantities defined in the proposal. The Contractor will not be allowed any claims for anticipated profits, for loss of profits, or for any damages because of a difference between the estimate of any item defined in the proposal and the amount of the item actually required or for the elimination of any part of the work. Funds for construction of the work herein contemplated are limited. The Owner reserves the right to eliminate or reduce the items of the proposal or any of the work as may be required to bring the cost of the work within the limits of available funds.

**9. WATER FOR CONSTRUCTION.** Water used for construction of this project will be furnished by the Contractor. The Contractor shall make the necessary arrangements with the Owner of the source of water for securing and/or transporting such water. No separate payment will be made for water used but the cost thereof shall be included in the various items of the proposal and bid schedule.

**10. LIGHTS AND POWER.** The Contractor shall provide, at his own expense, temporary lighting and facilities required for the proper prosecution and inspection of the work.

**11. COORDINATION WITH OTHERS.** In the event other contractors are doing work in the same area simultaneously with this project, the Contractor shall coordinate his proposed construction with that of the other contractors. The Contractor shall notify the Engineer of said coordination attempts and the results.

**12. TESTING, INSPECTION, AND CONTROL.** The Owner shall pay for all passing tests, the Contractor shall pay for all failing tests. Charges for failing tests will be deducted from the Contractor's earnings at the end of each month when the Contractor submits his periodic pay requests. The Contractor will pay for all tests, other than acceptance testing, and the costs of those tests shall be incidental to those items that require testing. The contractor shall furnish, at his own expense, all necessary specimens for testing of the materials, as required by the Engineer. The Contractor shall be responsible for notifying the testing laboratory to pick up the test samples. Also, the Engineer reserves the right to test at any location on the project, and at any

frequency he deems necessary before, during and after incorporation of all materials into the project to satisfy himself and ensure that all materials meet the specified requirements. All materials utilized in the project must meet specification requirements before, during and after incorporation into the project. Any additional testing that the Contractor deems necessary to ensure himself that the materials he is installing meet the required specifications and/or as a proof of the authorized testing laboratory shall be solely the expense of the Contractor whether the tests pass or fail.

**13. LINES AND GRADES.** Section 50, Item 50-06 of the General Provisions and Technical Specification P-104, Project Survey and Stakeout includes all requirement for all lines, grades, and measurements necessary to the proper prosecution and control of the work contracted for under these specifications shall be provided by the Contractor and he shall be solely responsible for the accuracy of said lines, grades and measurements.

**14. TRADE NAMES AND MATERIALS.** No material that has been used by the Contractor for any temporary purpose whatsoever is to be incorporated in the permanent structure without written consent of the Engineer.

Where materials or equipment are specified by a trade or brand name, it is not the intention of the Owner to discriminate against an equal product of another manufacturer, but rather to set a definite standard of quality or performance, and to establish an equal basis for the evaluation of bids. Where the words "equivalent", "proper", or "equal to" are used, they shall be understood to mean that the thing referred to shall be proper, the equivalent of, or equal to some other thing, in the opinion or judgement of the Engineer. Unless otherwise specified, all materials shall be the best of their respective kinds and shall be in all cases fully equal to approved samples. Notwithstanding that the words "or equal to" or other such expressions may be used in the plans and specifications in connection with the material, manufactured article or process, the material, manufactured article or process specifically designated shall be used, unless a substitute shall be approved in writing by the Engineer and the Engineer shall have the right to require the use of such specifically designated material, article or process.

**15. PROPERTY LINES AND MONUMENTS.** The Contractor shall protect all property corner markers and any other monument, and when any such markers or monuments are in danger of being disturbed, they shall be properly referenced and if disturbed shall be reset at the expense of the Contractor.

**16. FENCES AND DRAINAGE CHANNELS.** Boundary fences or other improvements removed to permit the installation of the work shall be replaced in the same location and left in a condition as good or better than that in which they were found. Existing fences not to be removed and intersecting with new fencing (fencing outside airport property) shall be connected to the new fencing in a manner acceptable to the fence owner and the Owner and/or Engineer.

Where surface drainage channels are disturbed or blocked during construction, they shall be restored to their original condition of grade and cross section after the work of construction is completed.

**17. DISPOSAL OF WASTE AND SURPLUS EXCAVATION.** All trees, stumps, slashings, brush or other debris to be removed from the site as a preliminary to the construction work shall be removed from the property and legally disposed of in a manner approved by the Engineer and at a site approved by the Owner. No burning on site will be permitted.

All excavated earth in excess of that required for embankment and backfill shall be disposed of in a satisfactory manner as shown on the plans or as directed by the Engineer to a site approved by the Owner.

**18. AIR POLLUTION.** The Contractor shall comply with all Federal, State and Local Requirements.

**19. EXISTING UTILITIES AND SERVICE LINES.** The Contractor shall be responsible for the protection of all existing utilities or service lines crossed or exposed by his construction operations. Where existing utilities or service lines are cut, broken or damaged, the Contractor shall replace or repair the utilities or service lines with

the same type of original material and construction, or better, at his own cost and expense, with the exception of those items included in the bid schedule.

**20. RECORDS OF MATERIALS PURCHASED.** By a certain time each month as defined and established at the preconstruction conference, the Contractor shall furnish to the Engineer, duplicate copies of all invoices for materials furnished to be incorporated into the work, plus a statement of all materials previously included on monthly estimates and incorporated into the work during the preceding month. This information is to be used to determine the value of materials on hand to be included in the monthly estimate for periodical payment.

**21. CONTRACTOR ACCESS TO PROJECT SITE.** The Contractor shall have a specific access route to the project site. This route is shown in the construction drawings. The Contractor shall use this route to bring all equipment and materials in. If the Contractor has a better route that will prevent damage to existing roads or provide safer access to the construction site, the Contractor shall supply a drawing showing the recommended route to the Owner and Engineer for approval at the preconstruction conference.

**22. NIGHTTIME WORK.** In phases of work requiring daytime work, the Contractor shall not perform nighttime work unless given approval in writing by the Engineer. The Contractor shall request in writing approval to perform nighttime work. If the Engineer approves said nighttime work, the Contractor shall coordinate closely with the Engineer and the Owner during any and all approved nighttime work. This includes any nighttime hauling of materials to the project site. If the Contractor wishes to perform nighttime work or haul materials at night, the Contractor shall reimburse the Owner for any nighttime inspection costs incurred by the Owner to adequately and properly inspect said nighttime work or hauling of materials.

In phases of work requiring nighttime work, the Contractor shall perform said nighttime work within the time frame allotted by the Owner. The Contractor shall coordinate with the Owner and Engineer each day before nighttime operations to ensure all special instructions, time limitations, directives, etc. are adhered to each night of nighttime operations. The Contractor shall not enter areas requiring nighttime construction operations until cleared to do so by the Owner. Any violation will result in a \$1,000.00 fine for each individual and each piece of equipment committing the infraction.

**23. DUST CONTROL.** The Contractor shall maintain strict dust control during the project duration. There are operational areas, aircraft parked on the airport as well as commercial facilities that perform maintenance and repair work to aircraft. Therefore, it is imperative that strict dust control be maintained so that damage or nuisance to the areas and facilities described above or airport operational areas is prevented. This dust control shall also include the dust that may occur during any construction procedure.

**24. TRIP TICKETS, INVOICES, WEIGH BILLS, ETC.** The Contractor shall be responsible for supplying any and all trip tickets, invoices, weigh bills, etc. which show the quantities actually used in the construction of the project. All said trip tickets, invoices, weigh bills, etc. shall relate directly to specific bid items. If the Contractor fails to submit said trip tickets, invoices, weigh bills, etc. to the Engineer or his authorized representative prior to or during the time of installation of materials into the project, any material overruns claimed by the Contractor at the end of the project shall not be accepted.

**25. FINAL IN-PLACE EXCAVATION & EMBANKMENT SECTIONS.** At the completion of the project, the Contractor shall submit final in-place earthwork cross sections for the entire project site affected by earthwork operations with the detailed calculations as to as-built excavation and/or embankment. The Contractor may use the cross sections provided in the plans and plot the as-built conditions on those cross section sheets along with the accompanying calculations. The Contractor shall be paid based upon the volume between the original ground line and the as-built ground line. The Contractor shall be paid based on the type of operations for which a bid price was provided.

### END OF SPECIAL CONDITIONS - SECTION 3

## **SPECIAL CONDITIONS**

### **SECTION 4**

#### **LISTING OF DUTIES, RESPONSIBILITIES AND LIMITATIONS OF AUTHORITY OF THE RESIDENT PROJECT REPRESENTATIVE.**

The Owner and/or Engineer shall furnish a Resident Project Representative (RPR), assistants and other field staff to assist the Engineer in observing performance of the Work of the Contractor.

Through more extensive on-site observations of the work in progress and field checks of materials and equipment by the RPR and assistants, the Engineer shall endeavor to provide further protection for the Owner against defects and deficiencies in the work; but, the furnishing of such services will not make the Engineer responsible for or give the Engineer control over construction means, methods, techniques, sequences or procedures or for safety precautions or programs, or responsibility for the Contractor's failure to perform the work in accordance with the Contract Documents.

The duties and responsibilities of the RPR are limited to those of the Engineer in the Engineer's agreement with the Owner and in the construction Contract Documents, and are further limited and described as follows:

##### **A. General**

1. The RPR is the Engineer's agent at the site and will act as directed by and under the supervision of the Engineer, and will confer with the Engineer and Owner regarding the RPR's actions. The RPR's dealings in matters pertaining to the on-site work shall in general be with the Engineer and the Contractor keeping the Owner advised as necessary. The RPR's dealings with subcontractors shall only be through or with the full knowledge and approval of the Contractor. The RPR shall generally communicate with the Owner with the knowledge of and under the direction of the Engineer.

##### **B. Duties and Responsibilities of the RPR**

1. Schedules: Review the progress schedule, schedule of shop drawing, product data and samples submittals and schedule of values prepared by the Contractor and consult with the Engineer concerning acceptability.

2. Conferences and Meetings: Attend meetings with the Contractor and Owner, such as preconstruction conferences, weekly progress meetings, job conferences and other project-related meetings, and prepare and circulate copies of minutes thereof.

3. Liaison:

a. Serve as the Engineer's liaison with the Contractor, working principally through the Contractor's superintendent and assist in understanding the intent of the Contract Documents; and assist the Engineer in serving as the Owner's liaison with the Contractor when the Contractor's operations affect the Owner's on-site operations.

b. Assist in obtaining from the Owner additional details or information, when required for proper execution of the Work.

**4. Shop Drawings and Samples:**

- a.** Record date of receipt of shop drawings, product data and samples.
- b.** Receive samples that are furnished at the site by the Contractor, and notify the Engineer of availability of samples for examination.
- c.** Advise the Engineer and the Contractor of the commencement of any work requiring a shop drawing, product data or sample if the submittal has not been approved by the Engineer.

**5. Review of Work, Rejection of Defective Work, Inspections and Tests:**

- a.** Conduct on-site observations of the work in progress to assist the Engineer in determining if the work is in general proceeding in accordance with the Contract Documents.
- b.** Report to the Engineer whenever the RPR believes that any work is unsatisfactory, faulty or defective or does not conform to the Contract Documents, or has been damaged, or does not meet the requirements of any inspection, test or approval required to be made; and advise the Engineer of work that the RPR believes should be corrected or rejected or should be uncovered for observation, or requires special testing, inspection or approval.
- c.** Verify that tests, equipment and systems startups and operating and maintenance training are conducted in the presence of appropriate personnel, and that the Contractor maintains adequate records thereof; and observe, record and report to the Engineer appropriate details relative to the test procedures and startups.
- d.** Accompany visiting inspectors representing public or other agencies having jurisdiction over the work, record the results of those inspections and report to the Engineer.

**6. Interpretation of Contract Documents:** Report to the Engineer when clarifications and interpretations of the Contract Documents are needed and transmit to the Contractor clarifications and interpretations as issued by the Engineer.

**7. Modifications:** Consider and evaluate the Contractor's suggestions for modifications in drawings or specifications and report the suggestions along with the RPR's recommendations to the Engineer. Transmit to the Contractor decisions as issued by the Engineer.

**8. Records:**

- a.** Maintain at the job site orderly files for correspondence, reports of job conferences, shop drawings, product data and samples, reproductions of original Contract Documents including all work directive changes, addenda, change orders, field orders, additional drawings issued subsequent to the execution of the Contract, the Engineer's clarifications and interpretations of the Contract Documents, progress reports, and other work related documents.
- b.** Keep a diary or log book, recording the Contractor hours on the job site, weather conditions, data relative to questions of work field orders, change orders or changed conditions, list of job site visitors, daily activities, decisions, observations in general, and specific observations in more detail as in the case of observing test procedures; and send copies to the Engineer.
- c.** Record names, addresses and telephone numbers of all the Contractors, subcontractors and major suppliers of materials and equipment.

**9. Reports:**

a. Furnish the Engineer daily progress reports of progress of the work and of the Contractor's compliance with the progress schedule and schedule of shop drawing, product data and sample submittals.

b. Consult with the Engineer in advance of scheduled major tests, inspections or start of important phases of the work.

c. Draft proposed change orders and field orders, obtaining backup material from the Contractor and recommend to the Engineer change orders and field orders.

d. Report immediately to the Engineer and the Owner the occurrence of any accident.

**10. Payment Requests:** Review applications for payment with the Contractor for compliance with the established procedure for their submission and forward with recommendations to the Engineer, noting particularly the relationship of the payment requested to the schedule of values, work completed and materials and equipment delivered at the site but not incorporated in the Work.

**11. Certificates, Maintenance and Operation Manuals:** During the course of the work, verify that certificates, maintenance and operation manuals and other data required to be assembled and furnished by the Contractor are applicable to the items actually installed and in accordance with the Contract Documents, and have this material delivered to the Engineer for review and forwarding to the Owner prior to final payment for the work.

**12. Completion:**

a. Before the Engineer issues a Certificate of Substantial Completion, submit to the Contractor a punch list of observed items requiring completion or correction.

b. Conduct final inspection in the company of the Engineer, the Owner and the Contractor and prepare a final punch list of items to be completed or corrected.

c. Observe that all items on the final punch list have been completed or corrected and make recommendations to the Engineer concerning acceptance.

**C. Limitations of Authority of the Resident Project Representative (RPR):**

1. The RPR shall not authorize any deviation from the Contract Documents or substitution of materials or equipment, unless authorized by the Engineer.

2. The RPR shall not exceed the limitations of the Engineer's authority as set forth in the Contract Documents.

3. The RPR shall not undertake any of the responsibilities of the Contractor, subcontractors or the Contractor's superintendent.

4. The RPR shall not advise on, issue directions relative to or assume control over any aspect of the means, methods, techniques, sequences or procedures of construction unless such advice or directions are specifically required by the Contract Documents.

5. The RPR shall not advise on, issue directions regarding or assume control over safety precautions and programs in connection with the work.

6. The RPR shall not accept shop drawing, product data or sample submittals from anyone other than the Contractor.

7. The RPR shall not authorize the Owner to occupy the work in whole or in part.

8. The RPR shall not participate in specialized field or laboratory tests or inspections conducted by others except as specifically authorized by the Engineer.

**END OF SPECIAL CONDITIONS - SECTION 4**



**SPECIAL CONDITIONS****SECTION 5****SHOP DRAWING SUBMITTAL SUMMARY**

1. The following list is intended to assist the Contractor in identifying shop drawings, product data and samples that are required to complete the work described in the Contract Documents. The list is not necessarily all inclusive and other shop drawings not listed may be required to be submitted by the Contractor to meet the requirements stated in General Provision Section 60, "Control of Materials" and Special Conditions Section 1, Paragraph 9, "Shop Drawings, Product Data and Samples."

Item No.

Item Description

**END OF SPECIAL CONDITIONS - SECTION 5**

## ITEM P-100 MOBILIZATION & GENERAL CONDITIONS

### DESCRIPTION

**100-1.1** The work specified in this item consists of the preparatory work and operations in mobilizing for beginning work on the project, including, but not limited to, those operations necessary for the movement of personnel, equipment, supplies and incidentals to the project site, and for the establishment of temporary offices, buildings, guard houses, utilities, safety equipment and first aid supplies, sanitary and other facilities as required by these specifications and state and local laws and regulations. The cost of bonds and any required insurance and any other preconstruction expenses necessary for the start of the work, excluding the cost of construction materials, shall also be included in this section.

### METHOD OF MEASUREMENT

**100-2.1** Measurement of the item, Mobilization, as specified herein will be on a lump sum basis.

### BASIS OF PAYMENT

**100-3.1** The work and incidental costs covered under this item will be paid for at the Contract lump sum price for the item of mobilization. The Engineer shall make the final determination of the allowable percentage of completion for the payment of mobilization and shall approve the percentage paid based on the percent of contract amount actually earned which will be based upon actual work completed.

PARTIAL PAYMENTS. Partial payments will be made in accordance with the following:

<u>Percent of Contract Amount Earned*</u>	<u>Allowable Percent Of the Lump Sum Price for the Item**</u>
0	0
5	25
10	50
25	75
50	100

\* The Percent of Contract Amount Earned equals the work completed to date (including the total of all previous mobilization) plus or minus work completed associated with executed change orders, if any, divided by the Total Original Contract Amount plus or minus the Total Executed Change Order Amounts, if any.

\*\* In the event the lump sum bid for mobilization exceeds 7.5 percent of the original contract amount for the project, the difference (remainder above 7.5%) will not be paid until the project is complete and the Engineer and Owner has issued a statement of final acceptance as of the date when the Contractor has furnished all of the required reports, certifications and other documentation. The date of final acceptance by the Engineer and Owner will govern, in accordance with statutes and regulations, for payment of retainage or other monies due to the Contractor.

Payment shall be made under:

Item P-100-3.1                      Mobilization and General Conditions -- Per Lump Sum.

### TESTING REQUIREMENTS

**100-4.1** None.

### END OF ITEM P-100

## ITEM P-102 SAFETY AND SECURITY

### GENERAL

**102-1.1** The provisions of this safety and security plan and associated procedures are applicable within the boundaries of the **Duluth International Airport**. A complete understanding of all procedures and requirements contained herein is required to ensure safety during construction. This safety plan is a part of this Contract and deviations from the requirements established herein will be sufficient cause for Contract termination.

Required reference material associated with this safety plan includes:

FAA AC 150/5200-18[C], Airport Safety Self-Inspection  
FAA AC 150/5370-2[F], Operational Safety on Airports During Construction  
FAA AC 150/5370-12[A], Quality Control of Construction for Airport Grant Projects

Copies of these documents are included in the specifications.

### CONTRACTOR SAFETY AND SECURITY OFFICER

**102-2.1 CONTRACTOR SAFETY AND SECURITY OFFICER (CSSO).** The Contractor shall appoint its on-site Construction Superintendent or other qualified individual(s) as its duly authorized representative to serve as Contractor Safety and Security Officer (CSSO) for the duration of the Contract. The CSSO shall thoroughly understand the safety and security requirements of the Contract, the necessity for them and shall have sufficient authority to implement its provisions without significant deviation. The Contractor shall notify the Engineer in writing of the name of the individual(s) selected for the assignment.

The CSSO shall represent the Contractor on safety and security requirements compliance. The CSSO shall be especially knowledgeable regarding the requirements of FAA AC's 150/5200-18, Airport Self Inspection Guide and 150/5370-2 Operational Safety on Airports During Construction, latest edition.

**102-2.2 RESPONSIBILITIES OF THE CONTRACTOR SAFETY AND SECURITY OFFICER.** Prior to the desired date for commencement of any work on the project, the CSSO shall accomplish the following:

**a.** Develop and submit in writing a detailed work sequence schedule with dates and times specified for all milestone events. This sequence schedule shall conform, as a minimum, to the events specified in Section 3.1, Construction Sequence, and shall be subject to the approval of the Engineer. To assure adequate time for coordination, this document shall be submitted at least one week prior to the date of the Preconstruction Conference.

**b.** Develop and submit in writing a detailed outline of the procedures to be followed to maintain safety and security of both Contractor operations and the integrity of airport landside and airside operations during the prosecution of contract work. This plan shall detail, in addition, the procedures to be followed in the event of an accident or fire involving Contractor personnel and the Contractor's efforts to maintain fire protection and security. These procedures shall be subject to the approval of the Engineer and reflect any change as may be deemed necessary.

**c.** Conduct at least one meeting of all Contractor supervisory personnel prior to the start of contract work. The purpose of this meeting is to review the approved Work sequence schedule and safety and security procedures. Attendance at this meeting by the CSSO, all Contractor supervisory personnel and the Engineer is mandatory. This meeting shall also be open to other employees of the

Contractor and others as the Engineer may deem appropriate. Minutes of this meeting shall be taken by the CSSO, copies provided to each supervisor and kept on file in the Contractor's construction office for periodic review and updating.

d. Develop a safety and security orientation program and provide a briefing for all employees of the Contractor and subcontractors that will be used on the project. A similar briefing will be given to new employees prior to their use on contract work. In addition, the CSSO shall be responsible for briefing, from time to time, all Contractor personnel on any changes to safety and security measures deemed necessary.

## CONSTRUCTION SEQUENCING

**102-3.1 CONSTRUCTION SEQUENCE.** The Contractor shall prepare a construction schedule and submit to the Engineer at least one week prior to the pre-construction conference.

**102-3.2 CLOSING RUNWAYS.** The Contractor shall acquaint his supervisors and employees with the sequence of construction and its relationship to airport activity and aircraft operations that are inherent to this airport. No runway, taxiway, apron or airport roadway shall be closed without the written approval of the Owner, to enable necessary NOTAMS and/or advisories to airport fixed based operators (FBOs), tenants and users.

The Contractor shall contact the Engineer a minimum of ten (10) days prior to any requested closing.

Any construction activity within **[250]** feet of the centerline of an active runway or within **[160]** feet of the centerline of an active taxiway or apron requires the closure of the affected area. These safety areas are shown on the phasing plan.

The Engineer will arrange for an inspection prior to return to service of any facility, that has been closed for work, on or adjacent thereto, or that has been used for a crossing point or haul route by the Contractor.

## MARKING AND LIGHTING

**102-4.1** Proper marking and lighting of areas on the airfield associated with the construction shall be the responsibility of the Contractor. This will include properly marking and lighting closed runways, taxiways, taxilanes, and aprons, the limits of construction, material storage areas, equipment storage areas, haul routes, parking areas and other areas defined as required for the Contractor's exclusive use. The Contractor shall erect and maintain around the perimeter of these areas suitable marking and warning devices visible for day and night use. Temporary barricades, flagging, and flashing warning lights shall be required at critical access points. The type and location of marking and warning devices will be approved by the Engineer.

Special emphasis shall be given to open trenches, excavations, heavy equipment marshalling areas, and stockpiled material located in the airport operations area, which shall be predominantly marked by the Contractor with flags and lighted by approved light units during hours of restricted visibility and darkness. All marking shall be in accordance with FAA Advisory Circular (AC) 150/5340-1J or latest edition.

## TRAFFIC CONTROL

**102-5.1 VEHICLE IDENTIFICATION.** The Contractor shall establish and maintain a list of Contractor and subcontractor vehicles authorized to operate on the site. Contractor employee vehicles shall be restricted to the Contractor's staging area and are not allowed in the Airport Operations Area (AOA) at

any time. To be authorized to operate on the airport, each Contractor or subcontractor's vehicle shall:

a. be marked/flagged for high daytime visibility and lighted for nighttime operations. Vehicles that are not marked and/or lighted shall be escorted by a vehicle appropriately marked and/or lighted. Vehicles requiring escort shall be identified on the list.

b. be identified with the name and/or logo of the Contractor and be of sufficient size to be identified at a distance. Vehicles needing intermittent identification could be marked with tape or with commercially available magnetically attached markers. Vehicles that are not appropriately identified shall be escorted by a vehicle that conforms to this requirement. Vehicles requiring escort shall be identified on the list.

c. be operated in a manner that does not compromise the safety of either landside or airside airport operations. If, in the opinion of the Engineer, any vehicle is operated in a manner not fully consistent with this requirement, the Engineer has the right to restrict operation of the vehicle or prohibit its use on the airport.

**102-5.2 ACCESS TO THE SITE OF CONSTRUCTION.** The Contractor's access to the site shall be as shown on the Contract Layout Plan. No other access points shall be allowed unless approved by the Engineer. All Contractor traffic authorized to enter the site shall be experienced in the route or guided by Contractor personnel. The Contractor shall be responsible for traffic control to and from the various construction areas on the site, and for the operation and security of the access gate to the site. A Contractor's flagman or traffic control person shall monitor and coordinate all Contractor traffic at the access gate with Airport Security. The Contractor shall not permit any unauthorized construction personnel or traffic on the site. Access gates to the site shall be locked and secured at all times when not attended by the Contractor. If the Contractor chooses to leave any access gate open, it shall be attended by Contractor personnel who are familiar with the requirements of the Airport Security Program. The Contractor is responsible for the immediate cleanup of any debris deposited along the access route as a result of his construction traffic. Directional signing from the access gate along the delivery route to the storage area, plant site or work site shall be as directed by the Engineer. In addition, the following requirements are applicable:

a. All Contractor traffic authorized to travel on the airport shall have been briefed as part of the Contractor's construction safety and security orientation program, be thoroughly familiar with the access procedures and route for travel or be escorted by personnel authorized by the Contractor Safety and Security Officer (CSSO).

b. The Contractor shall install work site identification signs at the authorized access point(s). If, in the opinion of the Engineer, directional signs are needed for clarity, they shall be installed along the route authorized for access to each construction site.

c. Under no circumstance will Contractor personnel be permitted to drive their individually owned vehicles to any construction site on the airport. All vehicles must be parked in the area designated for employee parking and out of secured airport property.

d. In addition to the inspection and cleanup required at the end of each shift, the Contractor is responsible for the immediate cleanup of any debris generated along the construction site access route(s) as a result of construction related traffic or operations whether or not created by Contractor personnel.

**102-5.3 MATERIAL SUPPLIERS.** All material suppliers, subcontractors and visitors to the work site are obligated to follow the same safety and security operating procedures as the Contractor. All material suppliers shall make their deliveries using the same access points and routes as the Contractor and shall

be advised of the appropriate delivery procedures at the time the materials order is placed. The Contractor shall not use the Airport address for any delivery but shall use the street address appropriate to the location of the entrance of the work site. If it is not practical to conform to the vehicle identification requirements of Section 102-5.1 and the safety and security operations program requirements of Section 102-2.2, the Contractor shall be prepared to escort all suppliers, subcontractors and visitors while they are on the airport.

**102-5.4 PERSONNEL IDENTIFICATION.** All employees, agents, vendors, invitees, etc. of the Contractor or subcontractors requiring access to the construction site shall, conform to the Security Program.

## **GENERAL SAFETY REQUIREMENTS**

**102-6.1** All Contractor vehicles that are authorized to operate on the airport outside of the designated construction area limits or haul routes as defined herein shall display in full view above the vehicle a flashing amber (yellow) dome-type light or a three-foot by three-foot, or larger, orange and white checkerboard flag, each checkerboard color being one-foot square. Vehicles must be under control of a Contractor mobile (two-way) radio operator (flagmen) monitoring the Airport frequency. Vehicle operators must be vigilant for conflict with any aircraft and give way to any operating aircraft.

All Contractor vehicles that are required to operate outside of the construction area limits as defined herein and cross active runways, taxiways, aprons, or runway approach clear zones shall do so under the direct control of a flagman who is monitoring the Airport frequency. Flagmen and two-way radios shall be furnished by the Contractor. Flagmen shall be instructed in the use of two-way radios prior to use. All aircraft traffic on runways, taxiways and aprons shall have priority over Contractor's traffic.

Construction vehicles not in use for extended periods during the work day, or during nights and weekends (nonwork periods) shall be parked away from active runways, taxiways, and aprons in designated vehicle marshalling areas.

**102-6.2** In order to protect all aircraft traffic, aviation related businesses, terminal apron areas, etc. from potential damage caused by foreign object debris (FOD) generated by construction activities, the Contractor shall provide a vacuum truck as required at the startup of construction to daily vacuum all pavements affected by construction. The vacuum truck shall remain on-site for the duration of the project and shall be available at the discretion of the Owner to vacuum pavement areas adjacent to the construction areas to ensure no FOD is present on pavements within 500 feet of any construction area. Protecting the aircraft, airport tenants, users, public, etc. against FOD is a critical safety issue therefore the cost of the vacuum truck will be included in the cost established for this specification item.

## **CONSTRUCTION CONTROL**

**102-7.1** A primary and alternate responsible Contractor's representative shall be designated by the Contractor. The Contractor's representatives shall be available locally on a 24-hour basis. Names of the primary and alternate, including phone number, shall be made available to the Engineer by the Contractor. The Contractor shall insure that the names and phone numbers are kept current and made available to the Engineer.

## **CONSTRUCTION TECHNIQUES**

**102-8.1** Construction shall be planned and conducted throughout this project in such a manner as to allow the maintenance of completely safe airport operations. Every effort shall be made to reduce the impact of construction activity on overall airport operations. To this end the Contractor's activities shall be

conducted in such a manner so as to preclude, except where absolutely required, open excavations, trenches, ditches and above ground obstacles such as booms on cranes or obstacle markers such as wooden saw horses. The primary responsibility for assuring that the safest possible construction techniques are followed rests with the Contractor Safety and Security Officer (CSSO).

### METHOD OF MEASUREMENT

**102-9.1** The item of Safety and Security shall be measured as a lump sum item when required and furnished for the life of the Contract.

### BASIS OF PAYMENT

**102-10.1** Payment shall be made for airport safety and security measures for personnel or materials related to this specification item and incidentally required to satisfy the specified objective(s) under item P-102-10.0, Safety and Security. This compensation shall be full compensation for furnishing all materials and for all labor, equipment, tools, and incidentals necessary to complete the item.

PARTIAL PAYMENTS. Partial payments will be made in accordance with the following:

<u>Percentage of Original Contract Earned</u>	<u>Allowable Percent of the Lump Sum Price for the Item</u>
5	15
15	20
25	25
50	50
75	75
100 (or Contract Completion)	100

Payment shall be made under:

Item P-102-10.1	Safety and Security - Per Lump Sum.
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### TESTING REQUIREMENTS

**102-11.1** None.

### END OF ITEM P-102

## ITEM P-104 PROJECT SURVEY AND STAKEOUT

### DESCRIPTION

**104-1.1** Under this item, the Contractor shall do all necessary surveying required to construct all elements of the work as shown on the Contract Drawings and specified in the proposal and specifications. This shall include but not be limited to stakeout, layout and elevations for pavements, structures, forms and appurtenances as shown and required, consistent with the current practices and shall be performed by qualified personnel acceptable to the Engineer. The stakeout survey shall proceed immediately following the award of the Contract or as soon as authorized by the Owner and shall be expeditiously progressed to completion in a manner and at a rate satisfactory to the Engineer. The Contractor shall keep the Engineer fully informed as to the progress of the stakeout survey. All survey work shall be provided under the direction of a licensed land surveyor.

### MATERIALS

**104-2.1** All instruments, equipment, stakes and any other material necessary to perform the work satisfactorily shall be provided by the Contractor.

All stakes used shall be of a type approved by the Engineer. It shall be the Contractor's responsibility to maintain these stakes in their proper position and location at all times.

The Contractor shall supply to the Engineer a rod, level and tripod for his exclusive use during the entire project. The rod shall be 15 feet in length with hundredth-of-a-foot graduation. The level shall be self-leveling and have documentation demonstrating it has been calibrated within one month of the work commencement. All provided equipment shall be in good working order and maintained by the Contractor throughout the course of the project.

### CONSTRUCTION METHODS

**104-3.1** The Contractor shall trim trees, brush and other interfering objects, not inconsistent with the Contract Drawings, from survey lines in advance of all survey work to permit accurate and unimpeded work by his stakeout survey crews.

The exact position of all work shall be established from control points, baseline transit points or other points of similar nature that are shown on the Contract Drawings and/or modified by the Engineer. Any error, apparent discrepancy or absence in or of data shown or required for accurately accomplishing the stakeout survey shall be referred to the Engineer for interpretation or furnishing when such is observed or required.

The Contractor shall place two offset stakes or references at each centerline station and at such intermediate locations as the Engineer may direct. From computations and measurements made by the Contractor, these stakes shall be clearly and legibly marked with the correct centerline station number, offset and cut or fill so as to permit the establishment of the exact centerline location and elevation during construction. If markings become faded or blurred for any reason, the markings shall be restored by the Contractor at the request of the Engineer. He shall locate and place all cut, fill, slope, fine grade or other stakes and points, as the Engineer may direct, for the proper progress of the work. All control points shall be properly guarded and flagged for easy identification.

Drainage structures shall be staked out by the Contractor at the locations and elevations shown on the Contract Drawings or specified by the Engineer.



Reference points, baselines, stakes and benchmarks for borrow pits shall be established by the Contractor.

Permanent survey marker locations shall be established and referenced by the Contractor.

The Contractor shall be responsible for the accuracy of his work and shall maintain all reference points, stakes, etc., throughout the life of the work. Damaged or destroyed points, benchmarks or stakes, or any reference points made inaccessible by the progress of the construction, shall be replaced or transferred by the Contractor. Any of the above points which may be destroyed or damaged shall be transferred by the Contractor before they are damaged or destroyed. All control points shall be referenced by ties to acceptable objects and recorded. Any alterations or revisions in the ties shall be so noted and the information furnished to the Engineer immediately. All stakeout survey work shall be referenced to the centerlines shown on the Contract Drawings. All computations necessary to establish the exact position of the work from control points shall be made and preserved by the Contractor. All computations, survey notes and other records necessary to accomplish the work, shall be neatly made. Such computations, survey notes and other records shall be made available to the Engineer upon request and shall become the property of the Owner and delivered to the Engineer not later than the date of acceptance of the Contract.

The Contractor shall furnish, at his expense, all horizontal and vertical control, all staking and layout of construction work called for on the plans and the Engineer and Owner shall not be responsible for such work. However, the Owner and Engineer reserve the right to check all said lines, grades, and measurements with their appointed surveyor. Should the Owner's surveyor detect errors in said lines, grades, and measurements, the Contractor shall pay for all said surveying costs and subsequent surveying costs performed to verify correction of errors found in said lines, grades and measurements. Included in this are all blue top staking for subgrade and base course installation. Definition of an error shall be a discrepancy of 1/4" or more. In the case of a discrepancy between the technical specifications and this defined tolerance, this tolerance shall govern.

Prior to the final cross-section survey of the work by the Contractor, the Contractor shall reestablish centerline or baseline points and stationing as required by the Engineer.

Prior to the final cross-section survey of any borrow pits, the Contractor shall reestablish the baseline points and stationing, as well as any necessary benchmarks as required by the Engineer.

During the progress of the construction work, the Contractor will be required to furnish all of the surveying and stakeout incidental to the proper location by line and grade for each phase of the work. For paving and any other operation requiring extreme accuracy, the Contractor will restake with pins or other acceptable hubs located directly adjacent to the work at a spacing directed by the Engineer.

Any existing stakes, iron pins, survey monuments or other markers defining property lines which may be disturbed during construction shall be properly tied into fixed reference points before being disturbed and accurately reset in their proper position upon completion of the work.

Just prior to completion of the work, the Contractor shall reestablish, if necessary, and retie all control points as permanently as possible and to the satisfaction of the Engineer.

**104-3.2** The Contractor shall be required to submit cross sectional data to the Engineer at monthly intervals prior to the Contractor submittal of the monthly application for payment so that the Engineer can verify the quantities of various earthwork and materials volumes for payment. All cross sectional data provided at any time will be in AutoCad 2000 or higher format only. No other formats will be accepted. If the data is submitted in another format other than AutoCad, no earthwork or other materials volumes will be calculated and approved for payment. The earthwork shall include, but not be limited to, unclassified

excavation, embankment, new or existing subbase courses, new or existing base courses, sand/asphalt subgrade, topsoil, etc.

#### **METHOD OF MEASUREMENT**

**104-4.1** Payment will be made at the lump sum price bid for this item.

#### **BASIS OF PAYMENT**

**104-5.1** The lump sum price bid shall include the cost of furnishing all labor, equipment, instruments and all other material necessary to satisfactorily complete the work's surveying and stakeout. Partial payments will be made at the discretion of the Engineer as the work progresses based generally on the percentage of actual work completed compared to the total construction cost.

Payment will be made under:

Item P-104-5.1

Project Survey and Stakeout - Per Lump Sum.

#### **TESTING REQUIREMENTS**

**104-6.1** None.

#### **END OF ITEM P-104**

## ITEM P-106 REMOVAL OF PAINTED PAVEMENT MARKING

### DESCRIPTION

**106-1.1** This item shall consist of furnishing all labor, materials and equipment required for the removal of markings which are no longer appropriate, including the removal of temporary painted pavement markings installed under this contract, as directed by the Engineer.

### EQUIPMENT

**106-2.1** Equipment, tools and machines used in the performance of the removal operation shall be safe and in satisfactory working condition at all times. The Contractor shall provide satisfactory evidence that the Contractor's equipment has been used in the performance of similar work.

**106-2.2** The water blasting equipment shall be truck mounted and shall be capable of water pressures of 2,000 to 40,000 psi. The equipment shall be capable of adjusting the pressure to accomplish paint removal without damaging the paving surface. The equipment shall be capable of following a straight line and be maneuverable to accommodate various pavement markings. The spray width needs to be able to accommodate lines from 4" to 8" wide. If water blasting is used to remove lines on active airfield pavements, a vacuum system will be provided to allow for timely repainting and the prevention of any debris being ingested into propellers or turbine engines once the water blasting equipment has exited the active pavements.

**106-2.3** The Contractor shall submit the proposed water blasting equipment to the Engineer as a formal submittal for his review and approval prior to use of the equipment on the project.

### PERFORMANCE

**106-3.1** This removal operation will be accomplished with high pressure water blasting. Milling, grinding and sandblasting are prohibited for the removal of either temporary or permanent markings on finished pavement surfaces. The use of chemicals will also not be permitted. The Contractor shall furnish all equipment, water trucks and labor for delivery of water to the job site. Water is available for the Contractor's use from hydrants on airport property. If the Contractor chooses to use water from this source, he shall provide and attach a water meter to the hydrant(s). The Contractor shall obtain any and all permits, pay any and all fees and provide to the Engineer the written approval of the authority having jurisdiction over the water source that all requirements for its use have been met. The quantity of water used, as measured by the meter, shall be charged to the Contractor at the Owner's prevailing rate.

**106-3.2** The removal method applied to the surface shall not be damaging to portland cement or asphaltic concrete surfaces, joint sealing material or light fixtures. If it is deemed by the Engineer that damage to any existing facility is caused by an operational error, such as permitting a pressure water jet to dwell in one location for an extensive time, the Contractor shall repair said damage without additional compensation from the Owner.

**106-3.3** Paint removal shall be defined as the removal of at least 95 percent of the existing markings. The 95 percent removal will be determined by the Engineer by visual inspection. In addition to the visual determination, the 95 percent removal level is defined such that there will not be any remaining surface of undisturbed paint or individual contiguous areas larger than one square inch where the surface of the pavement material is not clearly exposed.

**106-3.4** The water blasting method used shall not materially damage the structural integrity of the pavement. Any damage caused by the Contractor's operations shall be corrected at the Contractor's

expense and in a manner approved by the Engineer. The Contractor shall take precautions to protect the public from any damage due to his operations. Accumulation of sand, water, dust, or other residue resulting from the removal operation shall be removed as the work progresses and legally disposed of off airport property.

#### **METHOD OF MEASUREMENT**

**106-4.1** The quantity of painted pavement marking removal to be paid shall be the number of square feet of painted pavement marking removed in accordance with the specifications and accepted by the Engineer.

#### **BASIS OF PAYMENT**

**106-5.1** Payment shall be at the contract unit price per square foot for removal of painted pavement markings. The price shall be full compensation for furnishing all materials and for all labor, equipment, tools and incidentals necessary to complete the item.

Payment will be made under:

Item P-106-5.1

Painted Pavement Marking Removal - Per Square Foot.

#### **TESTING REQUIREMENTS**

**106-6.1** None.

#### **END OF ITEM P-106**

## ITEM P-107 PAVEMENT DEMOLITION

### DESCRIPTION

**107-1.1** This item consists of the demolition of existing portland cement and/or bituminous concrete pavement as shown on the plans. Removal of demolished pavements shall be as specified herein.

### CONSTRUCTION METHODS

**107-2.1** Existing pavements shall be broken into pieces of such size easily handled by power-driven machinery or other suitable means.

**107-2.2** Where only a portion of the existing pavement is to be demolished, special care shall be exercised to avoid damage to that portion of the pavement to remain in place. The existing pavement shall be cut to the neat lines shown on the plans or established by the Engineer, and any existing pavement beyond the neat lines so established which is damaged or destroyed by these operations shall be replaced at the Contractor's expense with no additional compensation from the Owner.

**107-2.3** Portland cement and bituminous concrete pavements which are demolished shall be legally disposed of off Airport property. The cost of removal and disposal of all demolished pavement shall be included in the unit price for Bituminous Concrete Pavement or Portland Cement Concrete Pavement Demolition.

Pavement demolition will include but not necessarily be limited to, any existing foundations, slabs, footings, etc. either made of concrete or asphalt which must, in the opinion of the Engineer, be removed to install new pavements, earthwork, seeding, sod, perform proper site grading, provide for positive site grading, etc. to complete the project to the intent established within the plans and specifications. Any of the above mentioned demolition related items are to be removed regardless of which bid item is utilized for payment. It is incumbent upon the Contractor to visit the site and include all such existing conditions in the bid item provided for in the bid schedule.

In the event the demolished portland cement concrete and/or bituminous concrete pavements are used either as recycled asphalt pavement (RAP) or pavement that will be crushed and utilized as base or subbase material on the project, the cost for removal and operations performed to reuse the demolished pavements shall be included in the unit prices for which the material will be used.

### MEASUREMENT

**107-3.1** Existing portland cement and/or bituminous concrete pavement demolition as prescribed above will be measured by the square yard of pavement material demolished regardless of its thickness.

### BASIS OF PAYMENT

**107-4.1** The work performed as prescribed by this item will be paid for at the contract unit price bid per square yard for Portland Cement Concrete Pavement Demolition and/or Bituminous Concrete Pavement Demolition, which prices shall be full compensation for saw cutting, breaking up the pavement and for all labor, tools, equipment, manipulation, and incidentals necessary to complete the work.

Payment shall be made under:

<del>Item P-107-4.1</del>	<del>Portland Cement Concrete Pavement Demolition - Per Square Yard.</del>
Item P-107-4.2	Remove and Dispose Concrete Sidewalk - Per Square Yard.
Item P-107-4.3	Remove & Dispose Asphalt Pavement Full-Depth - Per Square Yard.
Item P-107-4.4	Remove Concrete Curb and Gutter - Per Linear Foot.
Item P-107-4.5	Remove Street Sign – Per Each.

### TESTING REQUIREMENTS

**107-5.1** None.

**END OF ITEM P-107**

## ITEM P-109 SAWCUTTING

### DESCRIPTION

**109-1.1** This work shall consist of sawcutting the edge of existing portland cement and/or asphaltic concrete pavements to provide a uniform joint alignment in sound material, as shown on the Plans or as directed by the Engineer.

### EQUIPMENT

**109-2.1** Saws shall be power-driven, self-propelled, wheel or track-mounted, and capable of cutting to a depth of at least three (3) inches in one pass. The Contractor shall make the necessary number of passes to cut through the portland cement and/or bituminous concrete pavement. The use of a cutting wheel mounted on a roller, grader or similar equipment, or the use of pneumatically driven hand-held tools, will only be approved if the Contractor can demonstrate to the satisfaction of the Engineer that such equipment can consistently produce satisfactory results. Multi-blade arbor saws shall be used to construct sealant reservoirs.

### CONSTRUCTION METHODS

**109-3.1** The Contractor shall establish the line to be cut using chalkline or similar means in accordance with the details shown on the Plans or as directed by the Engineer. The finished cut shall be true to line, smooth and vertical and shall not deviate from the established line more than 1/2-inch from side to side or end to end of the pavement being sawcut.

**109-3.2** The existing paving material beyond the saw cut on the construction side shall be removed to the depth of the final cut and disposed of legally off Airport property. The saw cut depth shall be full depth so that spalling or other breakage of the existing pavement along the bottom of the pavement does not occur. If spalling or other breakage of the existing pavement along the bottom of the pavement does occur, the Contractor shall relocate the saw cut line to a point deeper in the existing pavement to remove completely any spalled or broken pavement so that the subbase under the existing pavement is not damaged and the new pavement can be constructed up against the existing pavement without either the new or existing pavement strength and pavement section being compromised.

**109-3.3** All dust, chips, slurry, or waste material shall be carefully collected and removed from the site in accordance with the general safety requirements of the Contract and disposed of legally off the airport property.

### METHOD OF MEASUREMENT

**109-4.1** Sawcutting will not be measured for payment.

### BASIS OF PAYMENT

**109-5.1** No separate payment will be made for Sawcutting. The cost of the work described in this Item shall be considered incidental to installation of the various other elements included in the project.

### TESTING REQUIREMENTS

**109-6.1** None.

### END OF ITEM P-109

## ITEM P-152 EXCAVATION AND EMBANKMENT

### DESCRIPTION

**152-1.1** This item covers excavation, disposal, placement, and compaction of all materials within the limits of the work required to construct safety areas, runways, taxiways, aprons, and intermediate as well as other areas for drainage, building construction, parking, or other purposes in accordance with these specifications and in conformity to the dimensions and typical sections shown on the plans.

**152-1.2 CLASSIFICATION.** All material excavated shall be classified as defined below:

**a. Unclassified Excavation.** Unclassified excavation shall consist of the excavation and disposal of all material, regardless of its nature, which is not otherwise classified and paid for under the following items.

**b. Rock Excavation.** Rock excavation shall include all solid rock in ledges, in bedded deposits, in unstratified masses, and conglomerate deposits which are so firmly cemented they cannot be removed without blasting ~~or using rippers~~. All boulders containing a volume of more than 1/2 cubic yard (0.4 cubic meter) will be classified as "rock excavation."

**c. Muck Excavation.** ~~Muck excavation shall consist of the removal and disposal of deposits or mixtures of soils and organic matter not suitable for foundation material. Muck shall include materials that will decay or produce subsidence in the embankment. It may be made up of decaying stumps, roots, logs, humus, or other material not satisfactory for incorporation in the embankment.~~

**d. Drainage Excavation.** ~~Drainage excavation shall consist of all excavation made for the primary purpose of drainage and includes drainage ditches, such as intercepting, inlet or outlet, temporary levee construction, or any other type as shown on the plans.~~

**e. Borrow Excavation.** Borrow excavation shall consist of approved material required for the construction of embankment or for other portions of the work in excess of the quantity of usable material available from required excavations. Borrow material shall be obtained from areas within the limits of the airport property but outside the normal limits of necessary grading, or from areas outside the airport.

**152-1.3 Unsuitable Excavation.** Any material containing vegetable or organic matter, such as muck, peat, organic silt, or sod shall be considered unsuitable for use in embankment construction. Material, when approved by the Engineer as suitable to support vegetation, may be used on the embankment slope.

**152-1.4 CONTAMINATED MATERIAL.** All borrow material shall be naturally occurring and originate from a source that has not been impacted from any known or unknown environmental concern, industrial process, or other uncontrolled activities such as, but not limited to, emergency responses, hazardous material incidents or discharges of any regulated/adverse chemical compounds.

The borrow material shall be free of any industrial waste, sanitary waste, household waste or solid waste, and shall not exhibit any signs of sludge, staining, pitting, strong pungent noxious odors, non-aqueous phase liquids, foreign debris, and hazardous substance and petroleum product containers or other pollutants.

The borrow material shall not contain or have come in contact with asbestos, polychlorinated biphenyl's (PCBs), petroleum wastes, medical wastes, radioactive waste or other classified waste.



The borrow material shall not be classified as a listed hazardous waste as defined by the United States Environmental Protection Agency (USEPA) in 40 CFR Part 261 Subpart D or having the characteristics of hazardous waste (ignitability, corrosivity, reactivity or toxicity) defined in 40 CFR Part 261 Subpart C. In addition, the borrow material shall be free of petroleum contaminants of concern as defined in Table II of Chapter 62-777 Florida Administrative Code, other pollutants identified by the Florida Department of Environmental Protection Waste Management Rules or other regulated substances that have State Cleanup Standard requirements.

Prior to bringing any borrow material on-site, the Contractor shall identify the intended source(s) of borrow material he proposes to use in the project, and notify the Engineer of those locations. The Engineer shall visit the proposed borrow site(s) and perform an inspection of the site(s), perform the necessary testing of the borrow materials identified by the Contractor for use in the project to establish that the materials meet the requirements of the specifications, and to establish the boundaries of the borrow stockpiles.

The Contractor shall be required to perform limited Phase I Site Assessment of the proposed borrow materials to establish a benchmark of acceptable materials to be used in the project. The Contractor shall also perform a soil characterization study of the borrow material before such material is approved for use on-site. The Contractor shall also certify, in writing, to the Engineer and Owner that the materials delivered to the site are from the approved borrow sources.

The Engineer, at his discretion, will perform random soil characterization testing of individual truck loads of borrow materials as they enter the project site to verify they are from the approved borrow sources based upon the soil characterizations of the approved sources and those of the random tested materials.

If test results determine that soils are contaminated, construction activities will cease and the Florida Department of Environmental Protection (FDEP) and the Federal Environmental Protection Agency (EPA) shall be notified of the violation(s). There may also be fines and/or penalties levied against the Contractor by any jurisdiction having authority over the project site as well as the FDEP and EPA. Any fines or penalties levied against the Owner due to the contaminated soil shall be passed on to the Contractor who shall be solely responsible for payment of those fines. Any costs associated with the testing by the Engineer that determines that contaminated soils of materials brought to the site are present shall be paid by the Contractor. Also, any material brought to the site that is determined to be contaminated shall be removed in its totality by the Contractor at no additional cost to the Owner and remediation and/or disposal of contaminated soils shall be required in accordance with the rules and regulations of the jurisdiction(s) having authority.

## CONSTRUCTION METHODS

**152-2.1 General.** ~~Before beginning excavation, grading, and embankment operations in any area, the area shall be completely cleared and grubbed in accordance with Item P-151.~~

The suitability of material to be placed in embankments shall be subject to approval by the Engineer. All unsuitable material shall be disposed of in waste areas shown on the plans ~~or disposed of legally off airport property.~~ All waste areas shall be graded to allow positive drainage of the area and of adjacent areas. When disposed of on the airport, ~~the~~ the surface elevation of waste areas shall not extend above the surface elevation of adjacent usable areas of the airport, unless specified on the plans or approved by the Engineer.

When the Contractor's excavating operations encounter artifacts of historical or archaeological significance, the operations shall be temporarily discontinued. At the direction of the Engineer, the Contractor shall excavate the site in such a manner as to preserve the artifacts encountered and allow for their removal. Such excavation will be paid for as extra work.

Those areas outside of the pavement areas in which the top layer of soil material has become compacted, by hauling or other activities of the Contractor shall be scarified and disked to a depth of 4 in (100 mm), in order to loosen and pulverize the soil.

If it is necessary to interrupt existing surface drainage, sewers or under-drainage, conduits, utilities, or similar underground structures, the Contractor shall be responsible for and shall take all necessary precautions to preserve them or provide temporary services. When such facilities are encountered, the Contractor shall notify the Engineer, who shall arrange for their removal if necessary. The Contractor shall, at his/her own expense, satisfactorily repair or pay the cost of all damage to such facilities or structures that may result from any of the Contractor's operations during the period of the contract.

**152-2.2 EXCAVATION.** No excavation shall be started until the work has been staked out by the Contractor and the Engineer has reviewed and approved obtained elevations and measurements of the ground surface provided by the Contractor. All Only suitable excavated material shall be used in the formation of embankment, subgrade, or for other purposes shown on the plans. All unsuitable material, as defined in paragraph 152-1.3, shall be disposed of legally as shown on the plans at locations off airport.

When the volume of the excavation exceeds that required to construct the embankments to the grades indicated, the excess shall be used to grade the areas of ultimate development or disposed of as directed by the Owner/Engineer. When the volume of excavation is not sufficient for constructing the fill to the grades indicated, the deficiency shall be obtained from borrow areas.

The grade shall be maintained so that the surface is well drained at all times. When necessary, temporary drains and drainage ditches shall be installed to intercept or divert surface water that may affect the work. Such temporary drains and drainage ditches shall be the responsibility of the Contractor and shall not be paid for separately but shall be included in other items of work.

**a. Selective Grading.** When selective grading is indicated on the plans, the more suitable material as designated by the Engineer as approved in paragraphs 1.3 and/or 1.4 shall be used in constructing the embankment or in capping the pavement subgrade. If, at the time of excavation, it is not possible to place this material in its final location, it shall be stockpiled in approved areas so that it can be measured for payment for rehandling as specified in paragraph 3.3.

**b. Undercutting.** Rock, shale, hardpan, loose rock, boulders, or other material unsatisfactory for safety areas, subgrades, roads, shoulders, or any areas intended for turving shall be excavated to a minimum depth of 12 in (300 mm), or to the depth specified by the Engineer, below the subgrade. Muck, peat, matted roots, or other yielding material, unsatisfactory for subgrade foundation, shall be removed to the depth specified. Unsuitable materials shall be disposed of at locations shown on the plans. This excavated material shall be paid for at the contract unit price per cubic yard (per cubic meter) for [rock excavation]. The excavated area shall be refilled with suitable material obtained from the grading operations or borrow areas and compacted to specified densities. The necessary refilling will constitute a part of the embankment. Where rock cuts are made and refilled with selected material, any pockets created in the rock surface shall be drained in accordance with the details shown on the plans. A material that is high in moisture content and which yields under proof rolling does not necessarily classify as unsuitable material unless so classified in accordance with Section 152-1.3. Undercutting of suitable but wet material does not constitute unsuitable material. The Contractor is required to manipulate and dry the material unless the material is classified as unsuitable in accordance with Section 152-1.3. If the material is classified as unsuitable material, then the Contractor shall remove the material to the depth directed by the Engineer but not greater than 3-feet below subgrade. The backfill of such areas shall not begin until the volume of the excavation is determined by cross sections or other means acceptable to the Engineer. The backfill shall be accomplished in the same manner as other embankment called out in this section with regard to the thickness and compaction requirements. The payment for the backfill shall be in accordance with a specific pay item designated for use as a backfill material and acceptable for use by

the Engineer. The backfill material may consist of borrow excavation, unclassified excavation or select backfill and may be P-154, P-209, milled bituminous concrete, crushed recycled portland cement concrete or other materials acceptable to the Engineer. All select backfill shall pass 1-1/2-inch sieve.

**c. Overbreak.** Overbreak, including slides, is that portion of any material displaced or loosened beyond the finished work as planned or authorized by the Engineer. The Engineer shall determine if the displacement of such material was unavoidable and his/her decision shall be final. All overbreak shall be graded or removed by the Contractor and disposed of as directed; however, payment will not be made for the removal and disposal of overbreak that the Engineer determines as avoidable. Unavoidable overbreak will be classified as "Unclassified Excavation."

**d. Removal of Utilities.** The removal of existing structures and utilities required to permit the orderly progress of work will be accomplished by someone other than the Contractor, for example, the utility authority having jurisdiction unless otherwise shown on the plans. All existing foundations shall be excavated for at least 2 feet (60 cm) below the top of subgrade or as indicated on the plans, and the material disposed of as directed. All foundations thus excavated shall be backfilled with suitable material and compacted as specified herein.

**e. Compaction Requirements.** The subgrade under areas to be paved shall be compacted to a depth of **[12 inches]** and to a density of not less than **[100]** percent of the maximum density as determined by the modified Proctor Compaction Test ASTM **[D1557]**. The material to be compacted shall be within +/- 2 percent of optimum moisture content before rolled to obtain the prescribed compaction (except for expansive soils).

~~The in-place field density shall be determined in accordance with ASTM D 1556 or ASTM D 2167. The~~ in-place field densities shall be determined in accordance with ASTM D 6938/D 3017 with verification by ASTM D 1556. Stones or rock fragments larger than 4 in (100 mm) in their greatest dimension will not be permitted in the top 6 in (150 mm) of the subgrade. The finished grading operations, conforming to the typical cross section, shall be completed and maintained at least 1,000 feet (300 m) ahead of the paving operations or as directed by the Engineer.

In cuts, all loose or protruding rocks on the back slopes shall be barred loose or otherwise removed to line of finished grade of slope, before installation of topsoil. All cut-and-fill slopes shall be uniformly dressed to the slope, cross section, and alignment shown on the plans or as directed by the Engineer.

~~Blasting will be permitted only when proper precautions are taken for the safety of all persons, the work, and the property. All damage done to the work or property shall be repaired at the Contractor's expense. All operations of the Contractor in connection with the transportation, storage, and use of explosives shall conform to all state and local regulations and explosive manufacturers' instructions, with applicable approved permits reviewed by the Engineer. Any approval given, however, will not relieve the Contractor of his/her responsibility in blasting operations.~~

~~Where blasting is approved, the Contractor shall employ a vibration consultant, approved by the Engineer, to advise on explosive charge weights per delay and to analyze records from seismograph recordings. The seismograph shall be capable of producing a permanent record of the three components of the motion in terms of particle velocity, and in addition shall be capable of internal dynamic calibration.~~

~~In each distinct blasting area, where pertinent factors affecting blast vibrations and their effects in the area remain the same, the Contractor shall submit a blasting plan of the initial blasts to the Engineer for approval. This plan must consist of hole size, depth, spacing, burden, type of explosives, type of delay sequence, maximum amount of explosive on any one delay period, depth of rock, and depth of overburden if any. The maximum explosive charge weights per delay included in the plan shall not be increased without the approval of the engineering.~~

~~The Contractor shall keep a record of each blast fired its date, time and location; the amount of explosives used, maximum explosive charge weight per delay period, and, where necessary, seismograph records identified by instrument number and location.~~

~~These records shall be made available to the Engineer on a monthly basis or in tabulated form at other times as required.~~

**152-2.3 BORROW EXCAVATION.** ~~Borrow areas within the airport property are indicated on the plans. Borrow excavation shall be made only at these designated locations and within the horizontal and vertical limits as staked or as directed. Unless specifically identified on the plans, there are no on-airport borrow areas available on airport property for use by the Contractor.~~

When borrow sources are outside the boundaries of the airport property, it shall be the Contractor's responsibility to locate and obtain the supply, subject to the approval of the Engineer. The Contractor shall notify the Engineer, at least 15 days prior to beginning the excavation, so necessary measurements and tests can be made. All unsuitable material shall be disposed of by the Contractor. All borrow pits shall be opened up to expose the vertical face of various strata of acceptable material to enable obtaining a uniform product. Borrow pits shall be excavated to regular lines to permit accurate measurements, and they shall be drained and left in a neat, presentable condition with all slopes dressed uniformly. Prior to any borrow source being utilized on the project, the Contractor shall submit test reports of material properties for the borrow source. The Engineer shall approve all sources and test results prior to any material from the borrow source being installed. The Engineer shall also have the opportunity to visit the borrow source and perform any testing, on the behalf of the Owner, to verify Contractor supplied test reports. If the tests conducted at the proposed borrow site fail the specification requirements, the cost for such testing will be the responsibility of the Contractor.

**152-2.4 DRAINAGE EXCAVATION.** Drainage excavation shall consist of excavating for drainage ditches such as intercepting; inlet or outlet, for temporary levee construction; or for any other type as designed or as shown on the plans. The work shall be performed in the proper sequence with the other construction. All satisfactory material shall be placed in fills; unsuitable material shall be placed in waste areas or as directed. Intercepting ditches shall be constructed prior to starting adjacent excavation operations. All necessary work shall be performed to secure a finish true to line, elevation, and cross section.

The Contractor shall maintain ditches constructed on the project to the required cross section and shall keep them free of debris or obstructions until the project is accepted. The Contractor shall also be required to meet the requirements of any erosion and sedimentation control methods defined by the State in which the project is being constructed has established.

**152-2.5 PREPARATION OF EMBANKMENT AREA.** Where an embankment is to be constructed to a height of 4 feet (120 cm) or less, all sod and vegetable matter shall be removed from the surface upon which the embankment is to be placed, and the cleared surface shall be completely broken up by plowing or scarifying to a minimum depth of 6 in (150 mm). This area shall then be compacted as indicated in paragraph 2.6. When the height of fill is greater than 4 feet (120 cm), sod not required to be removed shall be thoroughly disked and recompacted to the density of the surrounding ground before construction of embankment.

Where embankments are to be placed on natural slopes steeper than 3 to 1, horizontal benches shall be constructed as shown on the plans.

No direct payment shall be made for the work performed under this section. The necessary clearing and clearing and grubbing and the quantity of excavation removed will be paid for under the respective items of work.

**152-2.6 FORMATION OF EMBANKMENTS.** Embankments shall be formed in successive horizontal layers of not more than 8 in (200 mm) in loose depth for the full width of the cross section, unless otherwise approved by the Engineer.

The grading operations shall be conducted, and the various soil strata shall be placed, to produce a soil structure as shown on the typical cross section or as directed. Materials such as brush, hedge, roots, stumps, grass and other organic matter, shall not be incorporated or buried in the embankment.

Operations on earthwork shall be suspended at any time when satisfactory results cannot be obtained because of rain, freezing, or other unsatisfactory conditions of the field. The Contractor shall drag, blade, or slope the embankment to provide proper surface drainage.

The material in the layer shall be within +/-2 percent of optimum moisture content before rolling to obtain the prescribed compaction. In order to achieve a uniform moisture content throughout the layer, wetting or drying of the material and manipulation shall be required when necessary. Should the material be too wet to permit proper compaction or rolling, all work on all of the affected portions of the embankment shall be delayed until the material has dried to the required moisture content. Sprinkling of dry material to obtain the proper moisture content shall be done with approved equipment that will sufficiently distribute the water. Sufficient equipment to furnish the required water shall be available at all times. Samples of all embankment materials for testing, both before and after placement and compaction, will be taken for each [1,000 cubic yards]. Based on these tests, the Contractor shall make the necessary corrections and adjustments in methods, materials or moisture content in order to achieve the correct embankment density.

Rolling operations shall be continued until the embankment is compacted to not less than the density shown in Table 1, Subgrade Compaction Requirements for Flexible Pavements 95 percent of maximum density for noncohesive soils, and 90 percent of maximum density for cohesive soils as determined by ASTM [ ]. Under all areas to be paved, the embankments shall be compacted to a depth of [ ] and to a density of not less than [ ] percent of the maximum density as determined by ASTM [ ].

On all areas outside of the pavement areas, no compaction will be required on the top 4 in (100 mm).

~~The in-place field density shall be determined in accordance with ASTM D 1556 or ASTM D 2167.~~ The in-place field densities shall be determined in accordance with ASTM D 6938/D 3017 with verification by ASTM D 1556.

Compaction areas shall be kept separate, and no layer shall be covered by another until the proper density is obtained.

During construction of the embankment, the Contractor shall route his/her equipment at all times, both when loaded and when empty, over the layers as they are placed and shall distribute the travel evenly over the entire width of the embankment. The equipment shall be operated in such a manner that hardpan, cemented gravel, clay, or other chunky soil material will be broken up into small particles and become incorporated with the other material in the layer.

In the construction of embankments, layer placement shall begin in the deepest portion of the fill; as placement progresses, layers shall be constructed approximately parallel to the finished pavement grade line.

When rock and other embankment material are excavated at approximately the same time, the rock shall be incorporated into the outer portion of the embankment and the other material shall be incorporated under the future paved areas. Stones or fragmentary rock larger than 4 in (100 mm) in their greatest dimensions will not be allowed in the top 6 in (150 mm) of the subgrade. Rockfill shall be brought up in

layers as specified or as directed and every effort shall be exerted to fill the voids with the finer material forming a dense, compact mass. Rock or boulders shall not be disposed of outside the excavation or embankment areas, except at places and in the manner designated by the Engineer.

When the excavated material consists predominantly of rock fragments of such size that the material cannot be placed in layers of the prescribed thickness without crushing, pulverizing or further breaking down the pieces, such material may be placed in the embankment as directed in layers not exceeding 2 feet (60 cm) in thickness. Each layer shall be leveled and smoothed with suitable leveling equipment and by distribution of spalls and finer fragments of rock. These type lifts shall not be constructed above an elevation 4 feet (120 cm) below the finished subgrade.

Frozen material shall not be placed in the embankment nor shall embankment be placed upon frozen material.

There will be no separate measurement of payment for compacted embankment, and all costs incidental to placing in layers, compacting, diskings, watering, mixing, sloping, and other necessary operations for construction of embankments will be included in the contract price for excavation, borrow, or other items.

**152-2.7 FINISHING AND PROTECTION OF SUBGRADE.** After the subgrade has been substantially completed the full width shall be conditioned by removing any soft or other unstable material that will not compact properly. The resulting areas and all other low areas, holes or depressions shall be brought to grade with suitable select material. Scarifying, blading, rolling and other methods shall be performed to provide a thoroughly compacted subgrade shaped to the lines and grades shown on the plans.

Grading of the subgrade shall be performed so that it will drain readily. The Contractor shall take all precautions necessary to protect the subgrade from damage. ~~He/she~~ **The Contractor** shall limit hauling over the finished subgrade to that which is essential for construction purposes.

All ruts or rough places that develop in a completed subgrade shall be smoothed and recompacted. No subbase, base, or surface course shall be placed on the subgrade until the subgrade has been approved by the Engineer.

**152-2.8 HAUL.** All hauling will be considered a necessary and incidental part of the work. Its cost shall be considered by the Contractor and included in the contract unit price for the pay of items of work involved. No payment will be made separately or directly for hauling on any part of the work.

**152-2.9 TOLERANCES.** In those areas upon which a subbase or base course is to be placed, the top of the subgrade shall be of such smoothness that, when tested with a 16 ft (4.8 m) straightedge applied parallel and at right angles to the centerline, it shall not show any deviation in excess of ~~1/2-inch (12 mm)~~ **1/4-inch (6 mm)**, or shall not be more than 0.05 ft (0.015 m) from true grade as established by grade hubs or pins. Any deviation in excess of these amounts shall be corrected by loosening, adding, or removing materials; reshaping; and recompacting by sprinkling and rolling.

On safety areas, intermediate and other designated areas, the surface shall be of such smoothness that it will not vary more than 0.10 ft (0.03 m) from true grade as established by grade hubs. Any deviation in excess of this amount shall be corrected by loosening, adding or removing materials, and reshaping.

**152-2.10 TOPSOIL.** When topsoil is specified or required as shown on the plans or under Item T-905, it shall be salvaged from stripping or other grading operations. The topsoil shall meet the requirements of Item T-905. If, at the time of excavation or stripping, the topsoil cannot be placed in its proper and final section of finished construction, the material shall be stockpiled at approved locations. Stockpiles shall not be placed within **[250]** feet of runway pavement or **[160]** feet of taxiway pavement and shall not be placed on areas that subsequently will require any excavation or embankment. If, in the judgment of the Engineer, it is practical to place the salvaged topsoil at the time of excavation or stripping, the material shall be placed in its final position without stockpiling or further rehandling.

Upon completion of grading operations, stockpiled topsoil shall be handled and placed as directed, or as required in Item T-905.

No direct payment will be made for topsoil as such under Item P-152. The quantity removed and placed directly or stockpiled shall be paid for at the contract unit price per cubic yard (cubic meter) for "Unclassified Excavation."

When stockpiling of topsoil and later rehandling of such material is directed by the Engineer, the material so rehandled shall be paid for at the contract unit price per cubic yard (cubic meter) for "Topsoiling," as provided in Item T-905.

**152-2.11 ACCEPTANCE SAMPLING AND TESTING FOR DENSITY.** "Subgrade shall be accepted for density on a lot basis. A lot will consist of one day's production where it is not expected to exceed 2,400 square yards (2,000 square meters). A lot will consist of one-half day's production where a day's production is expected to consist of between 2,400 and 4,800 square yards (2,000 and 4,000 square meters).

Each lot shall be divided into two equal sublots. One test shall be made for each subplot. Sampling locations will be determined by the Engineer on a random basis in accordance with statistical procedures contained in ASTM D 3665.

Each lot will be accepted for density when the field density is at least the density as specified in Table No. 1 – Subgrade Compaction Requirements of the maximum density of laboratory specimens prepared from samples of the subgrade material delivered to the job site. The specimens shall be compacted and tested in accordance with ASTM D 698 or ASTM D 1557. The in-place field density shall be determined in accordance with ASTM D 1556 or D 6938. If the specified density is not attained, the entire lot shall be reworked and/or recompacted and two additional random tests made. This procedure shall be followed until the specified density is reached.

In lieu of the core method of field density determination, acceptance testing may be accomplished using a nuclear gage in accordance with ASTM D 6938. The gage should be field calibrated in accordance with Paragraph 4 of ASTM D 6938. Calibration tests shall be conducted on the first lot of material placed that meets the density requirements.

Use of ASTM D 6938 results in a wet unit weight, and when using this method, ASTM D 3017 shall be used to determine the moisture content of the material. The calibration curve furnished with the moisture gages shall be checked as described in Paragraph 7 of ASTM D 3017. The calibration checks of both the density and moisture gages shall be made at the beginning of a job and at intervals as determined by the Engineer and or materials testing laboratory.

If a nuclear gage is used for density determination, two random readings shall be made for each subplot. There shall be no less than six density/moisture tests performed for each 2,000 square yards of subgrade. At least one test shall be by the sand cone method and at least five evenly distributed nuclear density/moisture tests will be taken in the area covering the 2,000 square yards of which one nuclear density/moisture test shall be taken at the sand cone test location so that calibration of the nuclear to sand cone test can be verified.

**TABLE NO. 1 - SUBGRADE COMPACTION REQUIREMENTS**

<b>DESIGN AIRCRAFT</b>	<b>Gross Weight (Lbs.)</b>	<b>NON-COHESIVE SOILS</b> Depth of Compaction in Inches				<b>COHESIVE SOILS</b> Depth of Compaction in Inches			
		100%	95%	90%	85%	100%	95%	90%	85%
Single Wheel	30,000	8	8-18	18-32	32-44	6	6-9	9-12	12-17
	50,000	10	10-24	24-36	36-48	6	6-9	9-16	16-20
	75,000	12	12-30	30-40	40-52	6	6-12	12-19	19-25
Dual Wheel (Incls. C-130)	50,000	12	12-28	28-38	38-50	6	6-10	10-17	17-22
	100,000	17	17-30	30-42	42-55	6	6-12	12-19	19-25
	150,000	19	19-32	32-46	46-60	7	7-14	14-21	21-28
	200,000	21	21-37	37-53	53-69	9	8-16	16-24	24-32
Dual Tandem (Incls. 757, 767, A-300)	100,000	14	14-26	26-38	38-49	12	12-15	15-22	22-30
	200,000	17	17-30	30-43	43-56	12	12-16	12-26	26-36
	300,000	20	20-34	34-48	48-63	12	12-17	12-30	30-42
	400,000	23	23-41	41-59	59-76	12	12-18	18-36	36-48
DC-10, L-1011, 747	400,000	21	21-36	36-55	55-70	12	12-18	18-32	32-48
	600,000	23	23-41	41-59	59-76	12	12-22	22-36	36-54
	800,000	23	23-41	41-59	59-76	12	12-24	24-40	40-60

**Notes:**

1. Noncohesive soils, for the purpose of determining compaction control, are those with a plasticity index (P.I.) of less than 6.
2. Tabulated values denote depths below the finished subgrade above which densities should equal or exceed the indicated percentage of the maximum dry density as specified herein.
3. Note that for any gross weight equal to or less than 60,000 pounds, Standard Density requirements per ASTM D 698 shall be required. For any gross weights in excess of 60,000 pounds, Modified Proctor Density requirements per ASTM D 1557 shall be required. Field testing of in-place densities shall be done pursuant to ASTM D 1556 or ASTM D 6938 as approved by the Engineer.
4. The subgrade in cut areas shall be compacted to the same requirements as specified above.
5. For any depths below those shown on this chart, compaction shall be to a minimum of 80%.
6. The bolded row defined above establishes the depths for which specific densities will be required for this project.

**METHOD OF MEASUREMENT**

**152-3.1** The quantity of excavation to be paid for shall be the number of cubic yards (cubic meters) measured in its original position.

Measurement shall not include the quantity of materials excavated without authorization beyond normal slope lines, or the quantity of material used for purposes other than those directed.

**152-3.2** Borrow material shall be paid for on the basis of the number of cubic yards (~~cubic meters~~) measured in its original position at the borrow pit.

**152-3.3** ~~Stockpiled material shall be paid for on the basis of the number of cubic yards (cubic meters) measured in the stockpiled position as soon as the material has been stockpiled.~~



**152-3.3** For payment specified by the cubic yard (cubic meter), measurement for all **[borrow]** shall be computed by the average end area method. The end area is that bound by the original ground line which shall include the area where the top 4-inches of existing topsoil was removed established by field cross sections and the final theoretical pay line without new topsoil established by **[borrow]** cross sections shown on the plans, subject to verification by the Engineer. After completion of all **[borrow]** operations and prior to the placing of base or subbase material, the final **[borrow]** shall be verified by the Engineer ~~by means of field cross sections taken randomly at intervals not exceeding 500 linear feet (150 meters)~~. Contractor who will provide final in-place earthwork cross sections for the entire project site affected by earthwork operations with the detailed calculations as to as-built excavation and/or embankment. The Contractor shall provide cross sections at intervals of not exceeding 50 linear feet (15 meters) in an electronic format of AutoCad Release 2004 or higher.

In the event the borrow operations are performed in phases, the Contractor shall provide the required cross sections and calculations for each phase prior to installation of topsoil and sod or seeding so that final in-place earthwork quantities can be established and approved prior to starting another phase of work.

**152-3.4** For payment specified by the cubic yard (cubic meter), measurement for all **[excavation]** shall be computed by the average end area method. The end area is that bound by the original ground line which includes the existing top 4-inches of topsoil established by field cross sections and the final theoretical pay line without topsoil established by **[excavation]** cross sections shown on the plans, subject to verification by the Engineer. After completion of all **[excavation]** operations and prior to the placing of base or subbase material, the final **[excavation]** shall be verified by the Engineer ~~by means of field cross sections taken randomly at intervals not exceeding 500 linear feet (150 meters)~~. Contractor who will provide final in-place earthwork cross sections for the entire project site affected by earthwork operations with the detailed calculations as to as-built excavation and/or embankment. The Contractor shall provide cross sections at intervals of not exceeding 50 linear feet (15 meters) in an electronic format of AutoCad Release 2004 or higher.

In the event the excavation and/or embankment operations are performed in phases, the Contractor shall provide the required cross sections and calculations for each phase prior to installation of topsoil and sod or seeding so that final in-place earthwork quantities can be established and approved prior to starting another phase of work.

~~Final field cross sections shall be employed if the following changes have been made:-~~

~~a. Plan width of embankments or excavations are changed by more than plus or minus 1.0 ft (0.3 meter); or~~

~~b. Plan elevations of embankments or excavations are changed by more than plus or minus 0.5 ft (0.15 meter).~~

**152-3.5** For payment specified by the cubic yard (cubic meter), measurement for all **[embankment]** shall be computed by the average end area method. The end area is that bound by the original ground line which shall include the area where the top 4-inches of existing topsoil was removed established by field cross sections and the final theoretical pay line without new topsoil established by **[embankment]** cross sections shown on the plans, subject to verification by the Engineer. After completion of all **[embankment]** operations and prior to the placing of base or subbase material, the final **[embankment]** shall be verified by the Engineer ~~by means of field cross sections taken randomly at intervals not exceeding 500 linear feet (150 meters)~~. Contractor who will provide final in-place earthwork cross sections for the entire project site affected by earthwork operations with the detailed calculations as to as-built

excavation and/or embankment. The Contractor shall provide cross sections at intervals of not exceeding 50 linear feet (15 meters) in an electronic format of AutoCad Release 2004 or higher.

In the event the excavation and/or embankment operations are performed in phases, the Contractor shall provide the required cross sections and calculations for each phase prior to installation of topsoil and sod or seeding so that final in-place earthwork quantities can be established and approved prior to starting another phase of work.

## BASIS OF PAYMENT

**152-4.1** For "Unclassified excavation" payment shall be made at the contract unit price per cubic yard (cubic meter). This price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.

**152-4.2** For "Rock Excavation" payment shall be made at the contract unit price per cubic yard (~~cubic meter~~). This price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.

**152-4.3** For "Common Borrow" payment shall be made at the contract unit price per cubic yard (~~cubic meter~~). This price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.

~~**152-4.3** For "Unsuitable Excavation and Sand Backfill" payment shall be made at the contract unit price per cubic yard (cubic meter). This price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.~~

~~**152-4.4** For "Geotextile Fabric Type V" payment shall be made at the contract unit price per square yard (square meter). This price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.~~

~~**152-4.5** For "Excavation From Holding Ponds" payment shall be made at the contract unit price per cubic yard (cubic meter). This price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.~~

~~**152-4.6** For "Contaminated Soil Disposal" payment shall be made at the contract unit price per cubic yard (cubic meter). This price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.~~

**152-4.7** For "Embankment in Place" payment shall be made at the contract unit price per cubic yard (cubic meter). This price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

Item P-152-4.1	Unclassified Excavation -- Per Cubic Yard ( <del>Cubic Meter</del> )
Item P-152-4.2	Rock Excavation -- Per Cubic Yard ( <del>Cubic Meter</del> )
Item P-152-4.3	Common Borrow-- Per Cubic Yard ( <del>Cubic Meter</del> )
<del>Item P 152-4.4</del>	<del>Geotextile Fabric Type V -- Per Square Yard (Square Meter)</del>
<del>Item P 152-4.5</del>	<del>Excavation From Holding Ponds -- Per Cubic Yard (Cubic Meter)</del>

~~Item P-152 4.6 Contaminated Soil Disposal Per Cubic Yard (Cubic Meter)~~

~~Item P-152 4.7 Embankment in Place Per Cubic Yard (Cubic Meter)~~

### TESTING REQUIREMENTS

ASTM D 698	Test for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures, Using 5.5-pound (2.49 kg) Rammer and 12 in (305 mm) Drop
ASTM D 1556	Test for Density of Soil In Place by the Sand-Cone Method
ASTM D 1557	Test for Laboratory Compaction Characteristics of Soil Using Modified Effort
ASTM D 2167	Test for Density and Unit Weight of Soil In Place by the Rubber Balloon Method.
ASTM D 6938	In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth)
ASTM D 3017	Moisture Content of Soil and Soil Aggregate in Place by Nuclear Methods

**END OF ITEM P-152**

## ITEM P-156 TEMPORARY AIR AND WATER POLLUTION, SOIL EROSION, AND SILTATION CONTROL

### DESCRIPTION

**156-1.1** This item shall consist of temporary control measures as shown on the plans or as ordered by the Engineer during the life of a contract to control water pollution, soil erosion, and siltation through the use of berms, dikes, dams, sediment basins, fiber mats, gravel, mulches, grasses, slope drains, and other erosion control devices or methods.

The temporary erosion control measures contained herein shall be coordinated with the permanent erosion control measures specified as part of this contract to the extent practical to assure economical, effective, and continuous erosion control throughout the construction period.

Temporary control may include work outside the construction limits such as borrow pit operations, equipment and material storage sites, waste areas, and temporary plant sites.

**156-1.2** Any permits which the Owner has obtained for any purpose such as NPDES, SPCC, etc., does not include nor cover the Contractor's haul routes, equipment access points, staging areas, office compounds, materials stockpiles, blending and batch plant areas and operations or other project related activity areas outside the project limits or off site.

**156-1.3** The Contractor shall prepare all required documentation, pay all fees and perform all services and work necessary to obtain all permits and approvals from any and all local, state and federal regulatory agencies for the Contractor's staging, stockpile, blending and batch plant areas and operations. The cost of all permitting shall be subsidiary to other items of work.

**156-1.4** The Contractor shall develop a Pollution Prevention Plan to supplement the Owner's Stormwater Pollution Prevention Plan (SWPPP) as contained in the drawings. The plan shall be in strict compliance with the National Pollutant Discharge Elimination System (NPDES) permit issued or approved by the U.S. Environmental Protection Agency (EPA) pursuant to 40 CFR Part 122.6. The Plan shall address all measures to dispose of, control, or prevent the discharge of solid, hazardous and sanitary wastes to the waters of the U.S. The plan shall include procedures to control offsite tracking of soil by vehicles and construction equipment and procedures for cleanup and reporting of non-storm water discharges such as contaminated groundwater or accidental spills.

The Contractor shall also be required to submit a written documentation that all required permits have been obtained to the Engineer prior to start up of construction activities.

### MATERIALS

**156-2.1 GRASS.** Grass that will not compete with the grasses sown later for permanent cover shall be a quick-growing species (such as ryegrass, Italian ryegrass, or cereal grasses) suitable to the area providing a temporary cover. Expressly prohibited from use at all times is Millet seed in any combination or percentage with other seeds.

**156-2.2 MULCHES.** Mulches may be hay, straw, fiber mats, netting, bark, wood chips, or other suitable material reasonably clean and free of noxious weeds and deleterious materials.

**156-2.3 FERTILIZER.** Fertilizer shall be a standard commercial grade and shall conform to all Federal and state regulations and to the standards of the Association of Official Agricultural Chemists.

**156-2.4 SLOPE DRAINS.** Slope drains may be constructed of pipe, fiber mats, rubble, Portland Cement Concrete, bituminous concrete, or other materials that will adequately control erosion.

**156-2.5 OTHER.** All other materials shall meet commercial grade standards and shall be approved by the Engineer before being incorporated into the project.

**156-2.6 SOIL STABILIZATION MAT.** Soil Stabilization mat as specified in the plans shall be installed at the locations called for and shall be paid for by the square yard and shall include all materials, equipment, preparation, excavation, placing of materials and for all equipment, tools and incidentals necessary to complete the installation.

**156-2.7 OPEN BURNING OF COMBUSTIBLE WASTES.** The following requirements shall govern open burning of combustible wastes on airport property:

- a. No tires, oils, asphalt, paint, or coated metals will be permitted to be burned at any time.
- b. Burning will not be permitted within 1,000 feet of a residential or built-up area or within 100 feet of standing timber or flammable growth.
- c. Burning will not be permitted unless the prevailing wind is away from any nearby town or built-up area.
- d. Burning will not be permitted during a local air inversion or other climatic condition as would result in a pall of smoke over a nearby town or built-up area.
- e. Burning will not be permitted when the danger of brush or forest fires is made known by State, local or Federal officials.
- f. No open pile burning will be allowed at any time.
- g. Burning shall be authorized only when the proposed process for burning is submitted to the Owner and Engineer prior to bid opening and the process is approved by the Owner. The submittal for the burning process shall include the mechanical system proposed, temperatures, smoke discharge levels expected, and any other requirement that the process may be inherent to the process.
- h. If burning is not allowed, all debris including combustible wastes will be removed from the airport and disposed of off-airport at a location acceptable to the Owner.

## CONSTRUCTION REQUIREMENTS

**156-3.1 GENERAL.** In the event of conflict between these requirements and pollution control laws, rules, or regulations of other Federal, state, or local agencies, the more restrictive laws, rules, or regulations shall apply.

The Engineer shall be responsible for assuring compliance to the extent that construction practices, construction operations, and construction work are involved.

**156-3.2 SCHEDULE.** Prior to the start of construction, the Contractor shall submit a Pollution Control Plan including schedules for accomplishment of temporary and permanent erosion control work, as are applicable for clearing and grubbing; grading; construction; paving; and structures at watercourses. The Contractor shall also submit a proposed method of erosion and dust control on haul roads and borrow pits and a plan for disposal of waste materials. Work shall not be started until the erosion control schedules and methods of operation for the applicable construction have been accepted by the Engineer.

**156-3.3 AUTHORITY OF ENGINEER.** The Engineer has the authority to limit the surface area of erodible earth material exposed by clearing and grubbing, to limit the surface area of erodible earth material exposed by excavation, borrow and fill operations, and to direct the Contractor to provide immediate permanent or temporary pollution control measures to minimize contamination of adjacent streams or other watercourses, lakes, ponds, or other areas of water impoundment.

**156-3.4 CONSTRUCTION DETAILS.** The Contractor will be required to incorporate all permanent erosion control features into the project at the earliest practicable time as outlined in the accepted schedule. Except where future construction operations will damage slopes, the Contractor shall perform the permanent seeding and mulching and other specified slope protection work in stages, as soon as substantial areas of exposed slopes can be made available. Temporary erosion and pollution control measures will be used to correct conditions that develop during construction that were not foreseen during the design stage; that are needed prior to installation of permanent control features; or that are needed temporarily to control erosion that develops during normal construction practices, but are not associated with permanent control features on the project.

Where erosion is likely to be a problem, clearing and grubbing operations should be scheduled and performed so that grading operations and permanent erosion control features can follow immediately thereafter if the project conditions permit; otherwise, temporary erosion control measures may be required between successive construction stages.

The Engineer will limit the area of clearing and grubbing, excavation, borrow, and embankment operations in progress, commensurate with the Contractor's capability and progress in keeping the finish grading, mulching, seeding, and other such permanent control measures current in accordance with the accepted schedule. Should seasonal limitations make such coordination unrealistic, temporary erosion control measures shall be taken immediately to the extent feasible and justified.

In the event that temporary erosion and pollution control measures are required due to the Contractor's negligence, carelessness, or failure to install permanent controls as a part of the work as scheduled or are ordered by the Engineer, such work shall be performed by the Contractor at his/her own expense. The Engineer may increase or decrease the area of erodible earth material to be exposed at one time as determined by analysis of project conditions.

The erosion control features installed by the Contractor shall be acceptably maintained by the Contractor during the construction period.

Whenever construction equipment must cross watercourses at frequent intervals, and such crossings will adversely affect the sediment levels, temporary structures should be provided.

Pollutants such as fuels, lubricants, bitumen, raw sewage, wash water from concrete mixing operations, and other harmful materials shall not be discharged into or near rivers, streams, and impoundments or into natural or manmade channels leading thereto.

The Contractor shall provide equipment wash out areas and these areas will be so constructed and protected to not allow any discharge of silt, fuels, lubricants and other harmful materials into nearby impoundments, ponds or surface water drainage systems.

The Contractor shall periodically inspect the pollution control features at the intervals stated in the approved Pollution Control Plan, and immediately after each rainfall and at least daily during prolonged rainfall and immediately correct any deficiencies. The Contractor shall review the location of pollution control features for effectiveness. If deficiencies exist, the Contractor shall correct as directed by the Engineer.

Remove sediment deposits when the deposit reaches approximately 1/3 of the volume capacity of the sediment control feature, or as otherwise required. Remove all sediment deposits when the sediment control feature is removed. Grade and dress area to restore to preconstruction condition or finish grade as called for on the plans.

Operate and maintain turbidity barriers as required by permit to contain turbidity that may occur as a result of construction operations.

In compliance with the General Provisions Section 50, Control of Work, the Contractor shall continuously maintain permanent and temporary pollution control features. Maintenance shall include periodic watering and mowing of grassed areas. There shall be no additional or separate compensation paid to the Contractor for such work.

If construction is suspended, the Contractor shall inspect, maintain and operate temporary and permanent pollution control features during such suspension. If suspension is part of the project phasing and sequencing plan, or if the suspension is requested by the Contractor, the Contractor shall not be paid additional or separate compensation for the Contractor to inspect, maintain and operate the pollution control facilities.

The Contractor is also responsible for the removal of all temporary erosion/pollution control facilities and the restoration of those sites. This work will include the repair of any trenching for silt fence, removal of all silt build-up, the removal of fencing, barriers and silt bales and the associated stakes and appurtenances, and the placing of seeding or sodding to restore those sites. All inlets, catch basins and manholes constructed for this project shall be cleaned and the new drainage pipes flushed. All materials taken from the facilities or flushed from the new piping system shall be collected by the Contractor and disposed of off site.

## METHOD OF MEASUREMENT

**156-4.1** Temporary erosion and pollution control work required which is not attributed to the Contractor's negligence, carelessness, or failure to install permanent controls will be performed as scheduled or ordered by the Engineer. Completed and accepted work will be measured as follows:

~~a. Temporary seeding and mulching will be measured by the square yard (square meter).~~

~~b. Temporary slope drains will be measured by the linear foot (meter).~~

~~c. Temporary benches, dikes, dams, and sediment basins will be measured by the cubic yard (cubic meter) of excavation performed, including necessary cleaning of sediment basins, and the cubic yard (cubic meter) of embankment placed at the direction of the Engineer, in excess of plan lines and elevations.~~

~~d. All fertilizing will be measured by the ton (kg).~~

~~a. Erosion and sedimentation control will be measured by the lump sum.~~

~~b. Silt fence will be measured by the linear foot (meter).~~

c. Inlet and outlet protection will be measured by each.

**156-4.2** Control work performed for protection of construction areas outside the construction limits, such as borrow and waste areas, haul roads, equipment and material storage sites, and temporary plant sites,

will not be measured and paid for directly but shall be considered as a subsidiary obligation of the Contractor with costs included in the contract prices bid for the items to which they apply.

### BASIS OF PAYMENT

**156-5.1** Accepted quantities of temporary water pollution, soil erosion, and siltation control work ordered by the Engineer and measured as provided in paragraph 156-4.1 will be paid for under:

~~Item P-156-5.1 Temporary seeding and mulching -- per square yard (square meter)~~

~~Item P-156-5.2 Temporary slope drains -- per linear foot (meter)~~

~~Item P-156-5.3 Temporary benches, dikes, dams and sediment basins -- per cubic yard (cubic meter)~~

~~Item P-156-5.4 Fertilizing -- per ton (kg)~~

Item P-156-5.1 Erosion Control – Inlet Protection On Pavement -- Per Each

Where other directed work falls within the specifications for a work item that has a contract price, the units of work shall be measured and paid for at the contract unit price bid for the various items.

Temporary control features not covered by contract items that are ordered by the Engineer will be paid for in accordance with Section 90-05.

### END OF ITEM P-156



## ITEM P-620 RUNWAY AND TAXIWAY PAINTING

### DESCRIPTION

**620-1.1** This item shall consist of the painting of numbers, markings, and stripes on the surface of runways, taxiways, and aprons, in accordance with these specifications and at the locations shown on the plans, or as directed by the Engineer.

### MATERIALS

**620-2.1 MATERIALS ACCEPTANCE.** The Contractor shall furnish manufacturer's certified test reports for materials shipped to the project. The certified test reports shall include a statement that the materials meet the specification requirements. The reports can be used for material acceptance or the Engineer may perform verification testing. The reports shall not be interpreted as a basis for payment. The Contractor shall notify the Engineer upon arrival of a shipment of materials to the site. The material quantities shall be verified "on-site" to match the square feet of markings. Quantities shall be calculated in accordance with the coverage rates outlined below for both paint and glass beads.

**620-2.2 PAINT.** Paint shall be [~~waterborne, epoxy, methacrylate, solvent-base, or preformed thermoplastic~~] in accordance with the requirements of paragraph 620-2.2 [a ]. Paint shall be furnished in [White - 37925, Yellow - 33538 or 33655, Pink – 1 part Red – 31136 to 2 parts White – 37925, Red - 31136 and Black - 37038] in accordance with Federal Standard No. 595. In the event paved islands require painting to identify that they are not usable pavements, paint shall be furnished in Green - 34138 or 34230 or 34540 or an approved green color as specifically specified or required by the Owner. The Owner shall be responsible for defining which color of green paint is utilized. In the event the Owner wishes to utilize a different shade of green than specified herein, the contractor shall submit color samples of Federal Standard 595C or latest edition authorized paint colors for approval by the Owner and Engineer prior to ordering any green paint.

**a. Waterborne.** Paint shall meet the requirements of Federal Specification TT-P-1952E, [~~Type I, Type II, or Type III~~]. Waterborne black paint shall be used to outline a border at least 6-inches (150 mm) wide around markings on all light colored pavements.

**b. Epoxy.** Paint shall be a two component, minimum 99 percent solids type system conforming to the following:

**(1) Pigments.** Component A. Percent by weight.

——— **(a) White:** Titanium Dioxide, ASTM D 476, type II shall be 18 percent minimum (~~16.5 percent minimum at 100 percent purity~~).

——— **(b) Yellow and Colors:** Titanium Dioxide, ASTM D 476, type II shall be 14 to 17 percent. Organic yellow, other colors, and tinting as required to meet color standard. Epoxy resin shall be 75 to 79 percent.

**(2) Epoxy Content.** Component A. The weight per epoxy equivalent, when tested in accordance with ASTM D 1652 shall be the manufacturer's target plus or minus 50.

**(3) Amine Number.** Component B. When tested in accordance with ASTM D 2074 shall be the manufacturer's target plus or minus 50.

**(4) Prohibited Materials.** The manufacturer shall certify that the product does not contain mercury, lead, hexavalent chromium, halogenated solvents, nor any carcinogen as defined in 29 CFR 1910.1200 in amounts exceeding permissible limits as specified in relevant Federal Regulations.

**(5) Daylight Directional Reflectance.**

—————**(a) White:** The daylight directional reflectance of the white paint shall not be less than 75 percent (relative to magnesium oxide), when tested in accordance with Federal Test Method Standard No. 141D/GEN, Method 6121.

—————**(b) Yellow:** The daylight directional reflectance of the yellow paint shall not be less than 38 percent (relative to magnesium oxide), when tested in accordance with Federal Test Method Standard No. 141D/GEN. The x and y values shall be consistent with the Federal Hegman yellow color standard chart for traffic yellow standard 33538, or shall be consistent with the tolerance listed below:

x .462	x .470	x .479	x .501
y .438	y .455	y .428	y .452

**(6) Accelerated Weathering.**

—————**(a) Sample Preparation.** Apply the paint at a wet film thickness of 0.013 in (0.33 mm) to four 3 by 6 in (8 by 15 cm) aluminum panels prepared as described in Federal Test Method Standard No. 141D/GEN, Method 2013. Air dry the sample 48 hours under standard conditions.

—————**(b) Testing Conditions.** Test in accordance with ASTM G 15453 using both Ultra Violet (UV-B) Light and condensate exposure, 72 hours total, alternating 4 hour UV exposure at 60 degree C, and 4 hours condensate exposure at 40 °C.

—————**(c) Evaluation.** Remove the samples and condition for 24 hours under standard conditions. Determine the directional reflectance and color match using the procedures in paragraph 620-2.2b(5) above. Evaluate for conformance with the color requirements.

**(7) Volatile Organic Content.** Determine the volatile organic content in accordance with 40 CFR Part 60 Appendix A, Method 24.

**(8) Dry Opacity.** Use Procedure B, Method B of Method 4121 of Federal Test Method Standard No. 141D/GEN. The wet film thickness shall be 0.015 in (0.12 mm). The minimum opacity for white and colors shall be 0.92.

**(9) Abrasion Resistance.** Subject the panels prepared in paragraph 620-2.2b(6) to the abrasion test in accordance with ASTM D 968, Method A, except that the inside diameter of the metal guide tube shall be from 0.747 to 0.750 in (18.97 to 19.05 mm). Five liters of unused sand shall be used for each test panel. The test shall be run on two test panels. [Note: five liters of sand weighs 17.5 lb. (7.94 kg).] Both baked and weathered paint films shall require not less than 150 liters of sand for the removal of the paint films.

**(10) Hardness, Shore.** Hardness shall be at least 80 when tested in accordance with ASTM D 2240.

**c. Methacrylate.** Paint shall be a two component, minimum 99 percent solids-type system conforming to the following:

**(1) Pigments.** Component A. Percent by weight.

\_\_\_\_\_ **(a) White:** Titanium Dioxide, ASTM D 476, type II shall be 6 percent minimum. Methacrylate resin shall be 18 percent minimum.

\_\_\_\_\_ **(b) Yellow and Colors:**

Titanium Dioxide, ASTM D 476, type II shall be 6 percent minimum.

Organic yellow, other colors, and tinting as required to meet color standard.

Methacrylate resin shall be 18 percent minimum.

**(2) Prohibited Materials.** The manufacturer shall certify that the product does not contain mercury, lead, hexavalent chromium, halogenated solvents, nor any carcinogen as defined in 29 CFR 1910.1200 in amounts exceeding permissible limits as specified in relevant Federal Regulations.

**(3) Daylight Directional Reflectance:**

\_\_\_\_\_ **(a) White:** The daylight directional reflectance of the white paint shall not be less than 75 percent (relative to magnesium oxide), when tested in accordance with Federal Test Method Standard No. 141D/GEN, Method 6121.

\_\_\_\_\_ **(b) Yellow:** The daylight directional reflectance of the yellow paint shall not be less than 45 percent (relative to magnesium oxide), when tested in accordance with Federal Test Method Standard No. 141D/GEN. The x and y values shall be consistent with the Federal Hegman yellow color standard chart for traffic yellow standard 33538, or shall be consistent with the tolerance listed below:

x .462	x .470	x .479	x .501
y .438	y .455	y .428	y .452

**(4) Accelerated Weathering.**

\_\_\_\_\_ **(a) Sample Preparation.** Apply the paint at a wet film thickness of 0.013 in (0.33 mm) to four 3 by 6 in (8 by 15 cm) aluminum panels prepared as described in Method 2013 of Federal Test Method Standard No. 141D/GEN. Air dry the sample 48 hours under standard conditions.

\_\_\_\_\_ **(b) Testing Conditions.** Test in accordance with ASTM G 53-154 using both Ultra Violet (UV-B) Light and condensate exposure, 72 hours total, alternating 4 hour UV exposure at 60 degree C, and 4 hours condensate exposure at 40 °C.

\_\_\_\_\_ **(c) Evaluation.** Remove the samples and condition for 24 hours under standard conditions. Determine the directional reflectance and color match using the procedures in paragraph 620-2.2c(3) above. Evaluate for conformance with the color requirements.

**(5) Volatile Organic Content.** Determine the volatile organic content in accordance with 40 CFR Part 60 Appendix A, Method 24.

**(6) Dry Opacity.** Use Procedure B, Method B of Method 4121 of Federal Test Method Standard No. 141D/GEN. The wet film thickness shall be 0.015 in (0.12 mm). The minimum opacity for white and colors shall be 0.92.

**(7) Abrasion Resistance.** Subject the panels prepared in paragraph 620-2.2c(4) to the abrasion test in accordance with ASTM D 968, Method A, except that the inside diameter of the metal guide tube shall be from 0.747 to 0.750 in (18.97 to 19.05 mm). Five liters of unused sand shall be used for each test panel. The test shall be run on two test panels. [Note: 5 liters of sand weighs 17.5 lb. (7.94 kg).] Both baked and weathered paint films shall require not less than 150 liters of sand for the removal of the paint films.

~~(8) Hardness, Shore.~~ Hardness shall be at least 80 when tested in accordance with ASTM D 2240.

~~d. Solvent Base.~~ Paint shall meet the requirements of Federal Specification ~~[A-A-2886A Type I or Type II].~~

**e. Preformed Thermoplastic Airport Pavement Markings.** Markings must be composed of ester modified resins in conjunction with aggregates, pigments, and binders that have been factory produced as a finished product. The material must be impervious to degradation by aviation fuels, motor fuels, and lubricants.

(1) The markings must be able to be applied in temperatures as low as 35 °F without any special storage, preheating, or treatment of the material before application.

(a) The markings must be supplied with an integral, non-reflectorized black border.

**(2) Graded Glass Beads.**

(a) The material must contain a minimum of thirty percent (30%) intermixed graded glass beads by weight. The intermixed beads shall conform to **[Federal Specification. TT-B-1325D, Type I, gradation A]** **[Federal Specification. TT-B-1325D, Type IV]**.

(b) The material must have factory applied coated surface beads in addition to the intermixed beads at a rate of 1 lb. (± 10%) per 10 sq. ft. These factory applied coated surface beads shall have a minimum of 90% true spheres, minimum refractive index of 1.50, and meet the following gradation.

Size Gradation		Retained, %	Passing, %
US Mesh	µm		
12	1700	0 - 2%	98 - 100%
14	1400	0 - 3.5%	96.5 - 100%
16	1180	2 - 25%	75 - 98%
18	1000	28 - 63%	37 - 72%
20	850	63 - 72%	28 - 37%
30	600	67 - 77%	23 - 33%
50	300	89 - 95%	5 - 11%
80	200	97 - 100%	0 - 3%

**(3) Heating Indicators.** The top surface of the material (same side as the factory applied surface beads) shall have regularly spaced indents. These indents shall act as a visual cue during application that the material has reached a molten state so satisfactory adhesion and proper bead embedment has been achieved and a post-application visual cue that the installation procedures have been followed.

**(4) Pigments.** Percent by weight.

(a) **White:** Titanium Dioxide, ASTM D 476, type II shall be 10 percent minimum.

(b) **Yellow and Colors:** Titanium Dioxide, ASTM D 476, type II shall be 1 percent minimum. Organic yellow, other colors, and tinting as required to meet color standard.

**(5) Prohibited Materials.** The manufacturer shall certify that the product does not contain mercury, lead, hexavalent chromium, halogenated solvents, nor any carcinogen as defined in 29 CFR 1910.1200 in amounts exceeding permissible limits as specified in relevant Federal Regulations.

**(6) Daylight Directional Reflectance.**

**(a) White:** The daylight directional reflectance of the white paint shall not be less than 75 percent (relative to magnesium oxide), when tested in accordance with Federal Test Method Standard No. 141D/GEN, Method 6121.

**(b) Yellow:** The daylight directional reflectance of the yellow paint shall not be less than 45 percent (relative to magnesium oxide), when tested in accordance with Federal Test Method Standard No. 141D/GEN. The x and y values shall be consistent with the Federal Hegman yellow color standard chart for traffic yellow standard 33538, or shall be consistent with the tolerance listed below:

x	.462	x	.470	x	.479	x	.501
y	.438	y	.455	y	.428	y	.452

**(7) Skid Resistance.** The surface, with properly applied and embedded surface beads, must provide a minimum resistance value of 45 BPN when tested according to ASTM E303.

**(8) Thickness.** The material must be supplied at a nominal thickness of 65 mil (1.7 mm).

**(9) Environmental Resistance.** The material must be resistant to deterioration due to exposure to sunlight, water, salt, or adverse weather conditions and impervious to aviation fuels, gasoline, and oil.

**(10) Retroreflectivity.** The material, when applied in accordance with manufacturer's guidelines, must demonstrate a uniform level of nighttime retroreflection when tested in accordance to ASTM E1710.

**(11) Packaging.** A protective film around the box must be applied in order to protect the material from rain or premature aging.

**(12) Manufacturing Control and ISO Certification.** The manufacturer must be ISO 9001:2000 certified and provide proof of current certification. The scope of the certification shall include manufacture of reflective markings.

**a.** The markings must be a resilient thermoplastic product with uniformly distributed glass beads throughout the entire cross-sectional area. The markings must be resistant to the detrimental effects of aviation fuels, motor fuels and lubricants, hydraulic fluids, de-icers, anti-icers, protective coatings, etc. Lines, legends, and symbols must be capable of being affixed to bituminous and/or Portland cement concrete pavements by the use of a large radiant heater. Colors shall be available as required.

**b.** The markings must be capable of conforming to pavement contours, breaks, and faults through the action of airport traffic at normal pavement temperatures. The markings must be capable of fully conforming to grooved pavements, including pavement grooving per FAA AC 150/5320-12, current version. The markings shall have resealing characteristics, such that it is capable of fusing with itself and previously applied thermoplastics when heated with a heat source per manufacturer's recommendation.

**c.** Multicolored markings must consist of interconnected individual pieces of preformed thermoplastic pavement marking material, which through a variety of colors and patterns, make up the desired design. The individual pieces in each large marking segment (typically more than 20 ft. long) must be factory assembled with a compatible material and interconnected so that in the field it is not necessary to assemble the individual pieces within a marking segment. Obtaining multicolored effect by overlaying

materials of different colors is not acceptable due to resulting inconsistent marking thickness and inconsistent application temperature in the marking/substrate interface.

e. The marking material must set up rapidly, permitting the access route to be re-opened to traffic a maximum of 15 minutes after application.

f. The marking material shall have an integral color throughout the thickness of the marking material.

**620-2.3 REFLECTIVE MEDIA.** Glass beads shall meet the requirements for [Federal Specification, TT-B-1325D, Type III ]. Glass beads shall be treated with ~~all compatible coupling agents recommended by the manufacturers of the paint and reflective media to ensure adhesion and embedment.~~ adhesion promoting and/or flotation coatings. The Retroreflective readings at application should meet values ranging from 700 to 1100 millicandellas on the white markings and 400 to 900 millicandellas on yellow markings.

Paint Color	Glass Beads, Type I, Gradation A	Glass Beads, Type III	Glass Beads, Type IV
White	See Table 1.	See Table 1.	See Table 1.
Yellow	See Table 1.	See Table 1.	See Table 1.
Red	See Table 1 and Note.	Not used.	See Table 1 and Note.
Pink	See Table 1 and Note.	Not used.	See Table 1 and Note.
Black	Not used.	Not used.	See Table 1 and Note.

## CONSTRUCTION METHODS

**620-3.1 WEATHER LIMITATIONS.** The painting shall be performed only when the surface is dry and when the surface temperature is at least 45 °F (7 °C) and rising and the pavement surface temperature is at least 5 °F (2.7 °C) above the dew point. **[Painting operations shall be discontinued when the surface temperature exceeds [120 ] degrees F** Markings shall not be applied when the pavement temperature is greater than 120 °F (49 °C).

**620-3.2 EQUIPMENT.** Equipment shall include the apparatus necessary to properly clean the existing surface, a mechanical marking machine, a bead dispensing machine, and such auxiliary hand-painting equipment as may be necessary to satisfactorily complete the job. The equipment shall be able to paint from 6-inches to 36-inches in a single pass with the capability of applying two colors simultaneously.

The mechanical marker shall be an atomizing spray-type or airless-type marking machine suitable for application of traffic paint. It shall produce an even and uniform film thickness at the required coverage and shall apply markings of uniform cross-sections and clear-cut edges without running or spattering and without over spray.

**620-3.3 PREPARATION OF SURFACE.** Immediately before application of the paint, the surface shall be dry and free from dirt, grease, oil, laitance, or other foreign material that would reduce the bond between the paint and the pavement. The area to be painted shall be cleaned by high pressure water blasting to remove all loose and poorly bonded paint, mildew or other surface contaminants. A vacuum sweeper shall be provided to remove the majority of the water and debris as the cleaning proceeds. The Engineer shall be given 24-hours notice prior to the commencement of painting operations to insure adequate cleaning measures have been performed ~~sweeping and blowing or by other methods as required to remove all dirt, laitance, and loose materials without damage to the pavement surface. Use of any chemicals or impact abrasives during surface preparation shall be approved in advance by the Engineer.~~

**[Paint shall not be applied to Portland cement concrete pavement until the areas to be painted are clean of curing material. Sandblasting or high-pressure water shall be used to remove curing materials.]**

**620-3.4 LAYOUT OF MARKINGS.** The proposed markings shall be laid out in advance of the paint application. The locations of markings to receive glass beads shall be shown on the plans. ~~The locations of markings to receive glass beads shall be shown on the plans.~~ Markings to be repainted shall be verified for proper location and alignment in accordance with the tolerances shown under 620-3.5 below. All markings shall receive glass beads unless otherwise noted on the plans.

**620-3.5 APPLICATION.** Paint shall be applied at the locations and to the dimensions and spacing shown on the plans. Paint shall not be applied until the layout and condition of the surface has been approved by the Engineer. The edges of the markings shall not vary from a straight line more than 1/2 in (12 mm) in 50 ft (15 m) and marking dimensions and spacings shall be within the following tolerances:

Dimension and Spacing	Tolerance
36 in (910 mm) or less	±1/2 in (12 mm)
greater than 36 in to 6 ft (910 mm to 1.85 m)	± 1 in (25 mm)
greater than 6 ft to 60 ft (1.85 m to 18.3 m)	± 2 in (51 mm)
greater than 60 ft (18.3 m)	± 3 in (76 mm)

The paint shall be mixed in accordance with the manufacturer's instructions and applied to the pavement with a marking machine at the rate shown in Table 1. The addition of thinner will not be permitted. A period of **[30 days]** shall elapse between placement of a bituminous surface course or seal coat and application of the paint. . If the runway must be placed in service before the 30-day cure time, markings shall be applied at 1/2 rate without glass beads. After the 30-day cure time, a full application of paint and beads shall be applied to all affected markings. If the airport requires beads be applied to the paint that was applied at 1/2 rate, the beads shall be applied at a rate that will produce Retroreflective readings at application that meet values ranging from [   to   ] millicandellas on the white markings and [   to   ] millicandellas on yellow markings. Once the asphalt pavements have cured and the pavement is ready for final full application of markings, all existing glass beads (if present) shall be swept clear of the temporary paint and the temporary paint prepared in accordance with these specifications to receive the full and final painting.

Paint installation shall be monitored for correct application rates (film thickness). Wet film thickness gauges shall be used in wet paint to ascertain the "wet film thickness" of the paint. The proper paint thickness is necessary to properly anchor the glass beads and verify the paint coverage matches the application rates below. Wet film thickness should be 15 mils wet.

Green paint shall be applied to paved islands only as designated on the plans and in the specific areas shown on the plans. If the contractor has concerns or questions about the location and/or layout of the areas to receive green paint, the contractor shall notify the Engineer for a clarification prior to performing any painting. Green paint shall only be applied to paved islands when specifically authorized or required by the Owner.

**Table 1 Application Rates For Paint And Glass Beads  
(See Note regarding Red and Pink Paint)**

<b>Paint Type</b>	<b>Paint Sq ft per gallon, ft<sup>2</sup>/gal. (Sq ms per liter, m<sup>2</sup>/l)</b>	<b>Glass Beads, Type I, Gradation A Pounds per gallon of paint-lb./gal. (Km per liter of paint- kg/l)</b>	<b>Glass Beads, Type III Pounds per gallon of paint-lb./gal. (Km per liter of paint- kg/l)</b>	<b>Glass Beads, Type IV Pounds per gallon of paint-lb./gal. (Km per liter of paint- kg/l)</b>
*	*	*	*	*
Note: The glass bead application rate for Red and Pink paint shall be reduced by 2 lb./gal. (0.24 kg/l) for Type I and Type IV beads. Type III beads shall not be applied to Red or Pink paint.				

**Application Rates For Paint And Glass Beads For Table 1**

<b>Paint Type</b>	<b>Paint Sq ft per gallon, ft<sup>2</sup>/gal. (Sq m per liter, m<sup>2</sup>/l)</b>	<b>Glass Beads, Type I, Gradation A Pounds per gallon of paint-lb./gal. (Km per liter of paint- kg/l)</b>	<b>Glass Beads, Type III Pounds per gallon of paint-lb./gal. (Km per liter of paint-kg/l)</b>	<b>Glass Beads, Type IV Pounds per gallon of paint-lb./gal. (Km per liter of paint-kg/l)</b>
<b>Waterborne</b>	115 ft <sup>2</sup> /gal. max (2.8 m <sup>2</sup> /l)	7 lb./gal. min (0.85 kg/l)	10 lb./gal. min (1.2 kg/l)	--
<b>Waterborne</b>	90 ft <sup>2</sup> /gal. max (2.2 m <sup>2</sup> /l)	--	--	8 lb./gal. min (1.0 kg/l)
<b>Solvent Base</b>	115 ft <sup>2</sup> /gal. max (2.8 m <sup>2</sup> /l)	7 lb./gal. min (0.85 kg/l)	10 lb./gal. min (1.2 kg/l)	--
<b>Solvent Base</b>	90 ft <sup>2</sup> /gal. max (2.2 m <sup>2</sup> /l)	--	--	8 lb./gal. min (1.0 kg/l)
<b>Epoxy</b>	90 ft <sup>2</sup> /gal. max (2.2 m <sup>2</sup> /l)	10 lb./gal. min (1.2 kg/l)	15 lb./gal. min (1.8 kg/l)	10 lb./gal. min (1.2 kg/l)
<b>Methacrylate</b>	45 ft <sup>2</sup> /gal. max (1.1 m <sup>2</sup> /l)	14 lb./gal. min (1.7 kg/l)	20 lb./gal. min (2.4 kg/l)	15 lb./gal. min (1.8 kg/l)

Glass beads shall be distributed upon the marked areas at the locations shown on the plans to receive glass beads immediately after application of the paint. A dispenser shall be furnished that is properly designed for attachment to the marking machine and suitable for dispensing glass beads as the paint is applied. Each bead dispenser shall be calibrated in the presence of the inspector or their designated representative in accordance with the manufacturer's recommendations. A calibration kit consisting of a scaled beaker and a stopwatch is available from the glass bead manufacturer. Glass beads shall be applied at the rate shown in Table 1. Glass beads shall not be applied to black paint. Glass beads shall adhere to the cured paint or all marking operations shall cease until corrections are made.

Retro-Reflectivity readings measure the effective light return for glass beads and are correlated to low light or nighttime visibility. Retro-Reflective readings shall measure a minimum of 700 millicandellas per



square meter per lux for white paint and a minimum of 400 for yellow paint. Readings shall be taken within three (3) days of application using an approved 30 meter retro-reflectometer (Miralux or LTL 2000).

All emptied containers shall be returned to the paint storage area for checking by the Engineer. The containers shall not be removed from the airport or destroyed until authorized by the Engineer.

### 620-3.6 APPLICATION--PREFORMED AIRPORT PAVEMENT MARKINGS.

**a. Asphalt and Portland cement** To ensure minimum single-pass application time and optimum bond in the marking/substrate interface, the materials must be applied using a variable speed self-propelled mobile heater with an effective heating width of no less than 16 ft (4.88 m) and a free span between supporting wheels of no less than 18 ft (5.49 m). The heater must emit thermal radiation to the marking material in such a manner that the difference in temperature of 2 in (5.08 cm) wide linear segments in the direction of heater travel must be within 5 percent of the overall average temperature of the heated thermoplastic material as it exits the heater. The material must be able to be applied at ambient and pavement temperatures down to 35 °F (2 °C) without any preheating of the pavement to a specific temperature. The material must be able to be applied without the use of a thermometer. The pavement shall be clean, dry, and free of debris. A non-VOC sealer with a maximum applied viscosity of 250 centiPoise (ASTM D 2393) must be applied to the pavement shortly before the markings are applied. The supplier must enclose application instructions with each box/package.

**620-3.7 PROTECTION AND CLEANUP.** After application of the markings, all markings shall be protected from damage until dry. All surfaces shall be protected from excess moisture and/or rain and from disfiguration by spatter, splashes, spillage, or drippings. The Contractor shall remove from the work area all debris, waste, loose or unadhered reflective media, and by-products generated by the surface preparation and application operations to the satisfaction of the Engineer. The Contractor shall dispose of these wastes in strict compliance with all applicable state, local, and Federal environmental statutes and regulations.

### METHOD OF MEASUREMENT

**620-4.1** The quantity of runway and taxiway markings and associated surface preparation to be paid for shall be ~~[the number of square feet (square meters) of painting and the number of pounds (km) of reflective media] [the number of square feet (square meters) of preformed markings] [one complete item in place]~~ performed in accordance with the specifications and accepted by the Engineer.

### BASIS OF PAYMENT

**620-5.1** Payment shall be made at the respective contract ~~[price per square foot (square meter)] [lump sum price]~~ for runway and taxiway painting and associated surface preparation ~~[, and [price per pound (km)] [lump sum price] [price per square foot (square meter)] [lump sum price] for preformed markings]~~ for reflective media. This price shall be full compensation for furnishing all materials and for all labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

Item P-620-5.1-1 Runway and Taxiway Painting ~~[per square foot (square meter)] [lump sum]~~

Item P-620-5.1-2 Reflective Media ~~[per pound (km)] [lump sum]~~

Item P-620-5.1 Pavement Marking (Yellow) with Reflective Beads Including Surface Preparation -- Per Square Foot (square meter)

<del>Item P-620-5.2</del>	<del>Pavement Marking (Black) without Reflective Beads Including Surface Preparation -- Per Square Foot (square meter)</del>
Item P-620-5.3	Pavement Marking (White) with Reflective Beads Including Surface Preparation -- Per Square Foot (square meter)
<del>Item P-620-5.4</del>	<del>Painted Parking Position Marking with Reflective Beads -- Per Each.</del>
Item P-620-5.5	Handicap Symbol Pavment Marking with Reflective Beads -- Per Each.
Item P-620-5.6	Pavement Marking – Turn Arrow -- Per Each.

### TESTING REQUIREMENTS

ASTM C 136	Sieve Analysis of Fine and Coarse Aggregates
ASTM C 146	Chemical Analysis of Glass Sand
ASTM C 371	Wire-Cloth Sieve Analysis of Nonplastic Ceramic Powders
ASTM D 92	Test Method for Flash and Fire Points by Cleveland Open Cup
ASTM D 711	No-Pick-Up Time of Traffic Paint
ASTM D 968	Standard Test Methods for Abrasion Resistance of Organic Coatings by Falling Abrasive
ASTM D 1213-54 (1975)	Test Method for Crushing Resistance of Glass Spheres
ASTM D 1652	Test Method for Epoxy Content of Epoxy Resins
ASTM D 2074	Test Method for Total Primary, Secondary, and Tertiary Amine Values of Fatty Amines by Alternative Indicator Method
ASTM D 2240	Test Method for Rubber Products-Durometer Hardness
ASTM G 15453	Operating Light and Water-Exposure Apparatus (Fluorescent Light Apparatus UV-Condensation Type) for Exposure of Nonmetallic Materials.
Federal Test Method Standard No. 141D/GEN	Paint, Varnish, Lacquer and Related Materials; Methods of Inspection, Sampling and Testing

### MATERIAL REQUIREMENTS

ASTM D 476	Specifications for Dry Pigmentary Titanium Dioxide Pigments Products
Code of Federal Regulations	40 CFR Part 60, Appendix A – Definition of Traverse Point Number and Location

Code of Federal Regulations	29 CFR Part 1910.1200 – Hazard Communications
FED SPEC TT-B-1325D	Beads (Glass Spheres) Retroreflective
AASHTO M 247	Glass Beads Used in Traffic Paints
FED SPEC TT-P-1952E	Paint, Traffic and Airfield Marking, Waterborne
Commercial Item Description (CID) A-A-2886B	Paint, Traffic, Solvent Based
FED STD 595	Colors used in Government Procurement

**END OF ITEM P-620**

## ITEM D-705 PIPE UNDERDRAINS FOR AIRPORTS

### DESCRIPTION

**705-1.1** This item shall consist of the construction of pipe drains in accordance with these specifications and in reasonably close conformity with the lines and grades shown on the plans.

### MATERIALS

**705-2.1 GENERAL.** Materials shall meet the requirements shown on the plans and specified below.

**705-2.2 PIPE.** The pipe shall be of the type called for on the plans or in the proposal and shall be in accordance with the following appropriate requirements.

ASTM C 444	Perforated Concrete Pipe
ASTM C 654	Porous Concrete Pipe
ASTM A 762	Polymer Precoated Perforated Corrugated Steel Pipe
AASHTO M 196	Perforated Corrugated Aluminum Alloy Pipe
ASTM F 758	Smooth-Wall Perforated PVC Pipe
ASTM F 794	Poly (Vinyl Chloride) Ribbed Drain Pipe & Fittings Based on Controlled Inside Diameter
ASTM F 949	Poly (Vinyl Chloride)(PVC) Corrugated Sewer Pipe With a Smooth Interior and Fittings
ASTM F 2562	Steel Reinforced Thermoplastic (HDPE) Ribbed Pipe and Fittings for Non-Pressure Drainage and Sewerage
ASTM A 760	Perforated Corrugated Steel Pipe
AASHTO M 196	Bituminous-Coated Perforated Corrugated
AASHTO M 252	Aluminum Alloy Pipe and M 190 Corrugated Polyethylene Drainage Tubing (all types)
AASHTO M 294M	Corrugated Polyethylene Pipe, 300 to 1200 mm Diameter (all types)
AASHTO M 304	Poly (Vinyl Chloride) (PVC) Profile Wall Drain Pipe and Fittings Based on Controlled Inside Diameter
AASHTO MP-20	Steel Reinforced Polyethylene (PE) Ribbed Pipe

**705-2.4 ELASTOMERIC SEALS.** Elastomeric seals shall conform to the requirements of ASTM F 477.

**705-2.5 POROUS BACKFILL.** Porous backfill shall be free of clay, humus, or other objectionable matter, and shall conform to the gradation in Table 1 when tested in accordance with ASTM C 136.

**Table 1. Gradation Of Porous Backfill**

Sieve Designation (square openings)	Percentage by Weight Passing Sieves	
	Porous Material No. 1	Porous Material No. 2
1-1/2 in (38 mm)		100
1 in (25 mm)		90 - 100
3/8 in (9.5 mm)	100	25 - 60
No. 4 (4.75 mm)	95 – 100	5 - 40
No. 8 (2.36 mm)		0 - 20
No. 16 (1.18 mm)	45 – 80	
No. 50 (0.30 mm)	10 – 30	
No. 100 (0.15 mm)	0 – 10	

When two courses of porous backfill are specified in the plans, the finer of the materials shall conform to particle size tabulated herein for porous material No. 1. The coarser granular material shall meet the gradation given in the tabulation for porous material No. 2.

**705-2.6. GRANULAR MATERIAL.** Granular material used for backfilling shall conform to the requirements of ASTM D 2321 for Class IA, IB, or II materials, or shall meet the requirements of AASHTO Standard Specification for Highway Bridges Section 30.

**705-2.7. FILTER FABRIC.** The filter fabric shall conform to the requirements of AASHTO M 288-99, Class 2.

**Table 2**

Fabric Property	Test Method	Test Requirement
Grab Tensile Strength, lbs	ASTM D 4632	125 min
Grab Tensile Elongation %	ASTM D 4632	50 min
Burst Strength, psi	ASTM D 3785	125 min
Trapezoid Tear Strength, lbs	ASTM D 4533	55 min
Puncture Strength, lbs	ASTM D 4833	40 min
Abrasion, lbs	ASTM D 4886	15 max loss
Equivalent Opening Size	ASTM D 4751	70-100
Permittivity sec <sup>-1</sup>	ASTM D 4491	0.80
Accelerated Weathering (UV Stability) (Strength Retained - %)	ASTM D 4355 *(500 hrs exposure)	70

**705-2.8. CONTROLLED LOW STRENGTH MATERIAL (CLSM).** Controlled low strength material shall conform to the requirements of Item P-153. When CLSM is used all joints shall have elastomeric seals.

## CONSTRUCTION METHODS

**705-3.1 EQUIPMENT.** All equipment necessary and required for the proper construction of pipe underdrains shall be on the project, in first-class working condition, and approved by the Engineer before construction is permitted to start.

**705-3.2 EXCAVATION.** The width of the pipe trench shall be sufficient to permit satisfactory jointing of the pipe and thorough tamping of the bedding material under and around the pipe, but shall not be less than the external diameter of the pipe plus 6 in (150 mm) on each side. The trench walls shall be approximately vertical.

Where rock, hardpan, or other unyielding material is encountered, it shall be removed below the foundation grade for a depth of at least 4 in (100 mm). The excavation below grade shall be backfilled with selected fine compressible material, such as silty clay or loam, and lightly compacted in layers not over 6 in (150 mm) in uncompacted depth to form a uniform but yielding foundation.

Where a firm foundation is not encountered at the grade established, due to soft, spongy, or other unstable soil, the unstable soil shall be removed and replaced with approved granular material for the full trench width. The Engineer shall determine the depth of removal necessary. The granular material shall be compacted to provide adequate support for the pipe.

Excavated material not required or acceptable for backfill shall be disposed of by the Contractor as directed by the Engineer. The excavation shall not be carried below the required depth; when this is done, the trench shall be backfilled at the Contractor's expense with material approved by the Engineer and compacted to the density of the surrounding earth material.

The bed for the pipe shall be so shaped that at least the lower quarter of the pipe shall be in continuous contact with the bottom of the trench. Spaces for the pipe bell shall be excavated accurately to size to clear the bell so that the barrel supports the entire weight of the pipe.

The Contractor shall do such trench bracing, sheathing, or shoring necessary to perform and protect the excavation as required for safety and conformance to governing laws. Unless otherwise provided, the bracing, sheathing, or shoring shall be removed by the Contractor after the completion of the backfill to at least 12 in (300 mm) over the top of the pipe. The sheathing or shoring shall be pulled as the granular backfill is placed and compacted to avoid any unfilled spaces between the trench wall and the backfill material. The cost of bracing, sheathing, or shoring, and the removal of same, shall be included in the unit price bid per foot (meter) for the pipe.

### **705-3.3 LAYING AND INSTALLING PIPE.**

**a. Concrete Pipe.** The laying of the pipe in the finished trench shall be started at the lowest point and laid upgrade. When bell and spigot pipe is used, the bells shall be laid upgrade. If tongue and groove pipe is used, the groove end shall be laid upgrade. Holes in perforated pipe shall be placed down, unless otherwise shown on the plans. The pipe shall be firmly and accurately set to line and grade so that the invert will be smooth and uniform. Pipe shall not be laid on frozen ground.

Pipe which is not true in alignment, or which shows any settlement after laying, shall be taken up and relaid without extra compensation.

**b. Metal Pipe.** The metal pipe shall be laid with the separate sections joined firmly together with bands, with outside laps of circumferential joints pointing upgrade, and with longitudinal laps on the sides. Any metal in the pipe or bands that is not protected thoroughly by galvanizing shall be coated with a suitable asphaltum paint.

During installation, the asphalt-protected pipe shall be handled without damaging the asphalt coating. Any breaks in the bitumen or treatment of the pipe shall be refilled with the type and kind of bitumen used in coating the pipe originally.

**c. PVC or Polyethylene Pipe.** PVC or polyethylene pipe shall be installed in accordance with the requirements of ASTM D 2321 or AASHTO Standard Specification for Highway Bridges Section 30.

Perforations shall meet the requirements of AASHTO M 252 or M 294 Class 2, unless otherwise indicated on the plans. The pipe shall be laid accurately to line and grade.

**d. All Types of Pipe.** The upgrade end of pipelines, not terminating in a structure, shall be plugged or capped as approved by the Engineer.

Unless otherwise shown on the plans, a 4 in (100 mm) bed of granular backfill material shall be spread in the bottom of the trench throughout the entire length under all perforated pipe underdrains.

Pipe outlets for the underdrains shall be constructed when required or shown on the plans. The pipe shall be laid with tight-fitting joints. Porous backfill is not required around or over pipe outlets for underdrains. All connections to other drainage pipes or structures shall be made as required and in a satisfactory manner. If connections are not made to other pipes or structures, the outlets shall be protected and constructed as shown on the plans.

**e. Filter Fabric.** The filter fabric shall be installed in accordance with the manufacturer's recommendations, or in accordance with AASHTO M 288-99 APPENDIX, unless otherwise shown on the plans.

**705-3.4 MORTAR.** The mortar shall be of the desired consistency for caulking and filling the joints of the pipe and for making connections to other pipes or to structures. Mortar that is not used within 45 minutes after water has been added shall be discarded. Retempering of mortar shall not be permitted.

**705-3.5 JOINTS IN CONCRETE PIPE.** When open or partly open joints are required or specified, they shall be constructed as indicated on the plans. The pipe shall be laid with the ends fitted together as designed. If bell and spigot pipe is used, mortar shall be placed along the inside bottom quarter of the bell to center the following section of pipe.

The open or partly open joints shall be surrounded with granular material meeting requirements of porous backfill No. 2 or as indicated on the plans. This backfill shall be placed so its thickness will be not less than 3 in (75 mm) nor more than 6 in (150 mm), unless otherwise shown on the plans.

When the original material excavated from the trench is impervious, commercial concrete sand or granular material meeting requirements of porous backfill No. 1 shall surround porous backfill No. 2, as shown on the plans or as directed by the Engineer.

When the original material excavated from the trench is pervious and suitable, it may be used as backfill in lieu of porous backfill No. 1, when indicated on the plans or as directed by the Engineer.

#### **705-3.6 BACKFILLING.**

**a. Earth.** All trenches and excavations shall be backfilled within a reasonable time after the pipes are installed, unless other protection of the pipe is directed. The backfill material shall be selected material from excavation or borrow; material which is placed within a nominal pipe diameter distance at the sides of the pipe and 1 ft (30 cm) over the top shall be material that can be readily compacted. It shall not contain stones retained on a 3 in (75 mm) sieve, frozen lumps, chunks of highly plastic clay, or any other material that is objectionable to the Engineer. The material shall be moistened or dried, if necessary to be compacted by the method in use. Backfill material shall be approved by the Engineer. Special care shall be taken in placing the backfill. Great care shall be used to obtain thorough compaction under the haunches and along the sides to the top of the pipe.

The backfill shall be placed in loose layers not exceeding 6 in (150 mm) in depth under and around the pipe, and not exceeding 8 in (200 mm) over the pipe. Successive layers shall be added and thoroughly compacted by hand and pneumatic tampers, approved by the Engineer, until the trench is

completely filled and brought to the proper elevation. Backfilling shall be done in a manner to avoid injurious top or side pressures on the pipe.

In embankments and for other areas outside of pavements, the backfill shall be compacted to the density required for embankments in unpaved areas under Item P-152 Excavation and Embankment. Under paved areas, the subgrade and any backfill shall be compacted to the density required for embankments for paved areas under Item P-152.

**b. Granular Material.** When granular backfill is required, its placement in the trench and about the pipe shall be as shown on the plans. Special care shall be taken in placing the backfill. The granular backfill shall not contain a damaging amount of foreign matter, nor shall earth from the sides of the trench or from the windrow be allowed to filter into the backfill. When required by the Engineer, a template shall be used to properly place and keep separate the two sizes of backfill. The backfill shall be placed in loose layers not exceeding 6 in (150 mm) in depth and compacted by hand and pneumatic tampers to the requirements as given for earth backfill. Backfilling shall be done in a manner to avoid injurious top or side pressure on the pipe. The granular backfill shall be made to the elevation of the trench, as shown on the plans.

When perforated pipe is specified, granular backfill material shall be placed along the full length of the pipe. The position of the granular material shall be as shown on the plans. If the original material excavated from the trench is pervious and suitable, it shall be used in lieu of porous backfill No. 1.

When porous backfill is to be placed in paved or adjacent areas prior to the completion of grading or subgrade operations, the backfill material shall be placed immediately after laying the pipe. The depth of this granular backfill shall be not less than 12 in (300 mm), measured from the top of the underdrain. During subsequent construction operations, this minimum backfill of 12 in (300 mm) of depth shall not be disturbed until such time as the underdrains are to be completed. When the underdrains are to be completed, the unsuitable material shall be removed until the porous backfill is exposed. That part of the porous backfill that contains objectionable material shall be removed and replaced with suitable material. The cost of removing and replacing any such unsuitable material shall be borne by the Contractor.

Whenever a granular subbase blanket course is to be used under pavements which extends several ft beyond the edge of paving to the outside edge of the underdrain trench, the granular backfill material over the underdrains shall be placed in the trench up to an elevation of 2 in (50 mm) above the bottom surface of the granular subbase blanket course. Immediately prior to the placing of the granular subbase blanket course, the Contractor shall blade this excess trench backfill from the top of the trench onto the adjacent subgrade where it can be incorporated into the granular subbase blanket course. Any unsuitable material that remains over the underdrain trench shall be removed and replaced. The subbase material shall be placed to provide clean contact between the subbase material and the underdrain granular backfill material for the full width of the underdrain trench.

**c. Controlled Low Strength Material (CLSM).** Controlled low strength material shall conform to the requirements of Item P-153 Controlled Low-Strength Material (CLSM).

**d. Deflection Testing.** The Engineer may at any time, notwithstanding previous material acceptance, reject or require re-installation of pipe that exceeds 5 percent deflection when measured in accordance with ASTM D 2321, including Appendices.

**705-3.7 CONNECTIONS.** When the plans call for connections to existing or proposed pipe or structures, these connections shall be watertight and made so that a smooth uniform flow line will be obtained throughout the drainage system.

**705-3.8 CLEANING AND RESTORATION OF SITE.** After the backfill is completed, the Contractor shall dispose of all surplus material, dirt, and rubbish from the site. Surplus dirt may be deposited in



embankments, shoulders, or as ordered by the Engineer. Except for paved areas of the airport, the Contractor shall restore all disturbed areas to their original condition.

### METHOD OF MEASUREMENT

**705-4.1** The length of pipe to be paid for shall be the number of linear feet (meters) of pipe underdrains in place, completed, and approved; measured along the centerline of the pipe from end or inside face of structure to the end or inside face of structure, whichever is applicable. The several classes, types, and sizes shall be measured separately. All fittings, porous backfill and filter fabric shall be included in the footage as typical pipe sections in the pipeline being measured.

**705-4.2** The quantity of porous backfill to be paid for shall be the number of cubic yards (cubic meters) of porous backfill No. 1 and No. 2, complete in place and accepted, and shall be determined from the dimensions given on the plans by typical trench sections indicating the placement of porous backfill or dimensions ordered by the Engineer.

**705-4.3** The quantity of filter fabric to be paid for shall be the number of square yards (square meters) of filter fabric in place, completed, and approved; and shall be determined from the dimensions given on the plans by typical trench sections indicating the placement of filter fabric or dimensions ordered by the Engineer.

### BASIS OF PAYMENT

**705-5.1** Payment will be made at the contract unit price per linear foot (meter) for pipe underdrains of the type, class, and size designated; at the contract unit price ~~[per cubic yard (cubic meter)] [per ton (metric ton)]~~ for porous backfill No. 1; the contract unit price ~~[per cubic yard (cubic meter)] [per ton (metric ton)]~~ for porous backfill No. 2, and at the contract unit price per square yard (square meter) for filter fabric. ~~[per linear foot (meter)]~~ **COMPLETE (including porous backfill and filter fabric.)** These prices shall be full compensation for furnishing all materials and for all preparation, excavation, and installation of these materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

Item D-705-5.1	Install 6" Underdrain with Fabric Pipe Wrap and Porous Backfill – Per Linear Foot
Item D-705-5.3	Remove Irrigation Conduit – Per Linear Foot
Item D-705-5.4	Remove Underdrain. – Per Linear Foot
Item D-705-5.5	Remove Sewer Pipe (Storm) 12"-18" Dia – Per Linear Foot
<del>Item D-705-5.5</del>	<del>[ ] inch pipe (mm pipe) [ ] per linear foot (meter) COMPLETE (including porous backfill and filter fabric)</del>

### MATERIAL REQUIREMENTS

ASTM A 760	Corrugated Steel Pipe, Metallic Coated for Sewers and Drains
ASTM A 762	Corrugated Steel Pipe, Polymer Precoated for Sewers and Drains
ASTM C 136	Sieve Analysis of Fine and Coarse Aggregates

ASTM C 144	Aggregate for Masonry Mortar
ASTM C 150	Portland Cement
ASTM C 444	Perforated Concrete Pipe
ASTM C 654	Porous Concrete Pipe
ASTM D 2321	Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity-Flow Applications
ASTM D 3034	Type PSM Poly(Vinyl Chloride) (PVC) Sewer Pipe and Fittings
ASTM F 477	Elastomeric Seals (Gaskets) for Joining Plastic Pipe
ASTM F 758	Smooth Wall Poly(Vinyl Chloride) (PVC) Plastic Underdrain Systems for Highway, Airport, and Similar Drainage
ASTM F 794	Poly (Vinyl Chloride) Ribbed Drain Pipe & Fittings Based on Controlled Inside Diameter
ASTM F 949	Poly (Vinyl Chloride)(PVC) Corrugated Sewer Pipe with a Smooth Interior and Fittings
ASTM F 2562	Steel Reinforced Thermoplastic (HDPE) Ribbed Pipe and Fittings for Non-Pressure Drainage and Sewerage
AASHTO M 190	Bituminous Coated Corrugated Metal Culvert Pipe and Pipe Arches
AASHTO M 196	Corrugated Aluminum Alloy Culverts and Underdrains
AASHTO M 252	Corrugated Polyethylene Drainage Tubing
AASHTO M 288-99	Geotextile Specification for Highway Applications
AASHTO M 294M	Corrugated Polyethylene Pipe, 300 to 1200 mm Diameter
AASHTO M 304	Poly (Vinyl Chloride) (PVC) Profile Wall Drain Pipe and Fittings Based on Controlled Inside Diameter
AASHTO MP-20	Steel Reinforced Polyethylene (PE) Ribbed Pipe
AASHTO	Standard Specifications for Highway Bridges

**END OF ITEM D-705**

## ITEM D-751 MANHOLES, CATCH BASINS, INLETS AND INSPECTION HOLES

### DESCRIPTION

**751-1.1** This item shall consist of construction of manholes, catch basins, inlets, and inspection holes, in accordance with these specifications, at the specified locations and conforming to the lines, grades, and dimensions shown on the plans or required by the Engineer. All structures, castings, etc. in the Runway and Taxiway safety areas shall comply with FAA Advisory Circular 150/5320-6, Latest Edition and shall be aircraft rated. All other structures shall conform to these specifications and plans.

**751-1.2 SUBMITTALS.** Shop drawing of each component shall be submitted to the Engineer for review and approval and shall be approved prior to ordering any materials for this item. This submittal shall include the proposed method of installation for all components. The submittal shall include data on all component parts of this item. The data shall be sufficient, in the opinion of the Engineer, to determine compliance with the contract documents. The Contractor's submittals shall be submitted to the Engineer 30 days prior to start up of construction. The complete submittal shall be reviewed, approved, signed and sealed by a licensed registered Professional Engineer for the state in which the project is located.

**751-1.3 QUALIFICATIONS.** The Engineer reserves the right to reject any and all equipment, materials, procedures, etc., which, in the Engineer's opinion, does not meet the system design and the standards and codes specified herein.

**751-1.4 REFERENCED MATERIALS.** Additional details pertaining to specific items covered in this section are contained in Federal Advisory Administration (FAA) Advisory Circulars (AC's), Latest Edition, listed below:

150/5300-13	Airport Design (Latest Edition)
150/5320-6	Airport Pavement Design and Evaluation (Latest Edition)
150/5370-2	Operational Safety on Airports During Construction (Latest Edition)
150/5370-10	Standards for Specifying Construction of Airports (Latest Edition)

The Contractor is responsible for obtaining and using the latest Edition of the referenced FAA Advisory Circulars. This list is not all inclusive but is offered as a convenience to the Contractor.

### MATERIALS

**751-2.1 BRICK.** The brick shall conform to the requirements of ASTM C 32, Grade SM.

**751-2.2 MORTAR.** Mortar shall consist of one part portland cement and two parts sand. The portland cement shall conform to the requirements of ASTM C 150, Type I. The sand shall conform to the requirements of ASTM C 144.

**751-2.3 CONCRETE.** Plain and reinforced concrete used in structures, connections of pipes with structures, and the support of structures or frames shall conform to the requirements of Item P-610. Concrete produced by a reputable local supplier of ready-mix or transit-mix concrete designed for a minimum compressive strength of 4,000 psi at 28 days, unless otherwise specified, may be used when approved by the Engineer. The Contractor shall submit the ready-mix or transit-mix design to the Engineer at least 30 days prior to startup of construction.

**751-2.4 PRECAST CONCRETE PIPE MANHOLE RINGS.** Precast concrete pipe manhole rings shall conform to the requirements of ASTM C 478. Unless otherwise specified, the risers and offset cone sections shall have an inside diameter of not less than 36-inches (90 cm) nor more than 48-inches (120 cm). The precast concrete pipe manhole rings shall be designed to withstand a 250 psi tire pressure when the structure is inside the runway, taxiway or apron safety area and an HS-20 loading when the structure is outside the runway, taxiway or apron safety area.

**751-2.5 CORRUGATED METAL.** Corrugated metal shall conform to the requirements of AASHTO M 36.

**751-2.6 FRAMES, COVERS, AND GRATES.** The castings shall conform to one of the following requirements:

- a. Gray iron castings shall meet the requirements of ASTM A 48, Class 30B and 35B.
- b. Malleable iron castings shall meet the requirements of ASTM A 47.
- c. Steel castings shall meet the requirements of ASTM A 27.
- d. Structural steel for grates and frames shall conform to the requirements of ASTM A 283, Grade D.
- e. Ductile iron castings shall conform to the requirements of ASTM A 536.
- f. Austempered ductile iron castings shall conform to the requirements of ASTM A 897.

All castings shall be designed to withstand a 250 psi tire pressure when the structure is inside the runway, taxiway or apron safety area and an HS-20 loading when the structure is outside the runway, taxiway or apron safety area.

All castings or structural steel units shall conform to the dimensions shown on the plans and shall be designed to support the loadings, aircraft gear configuration and/or direct loading, specified.

Each frame and cover or grate unit shall be provided with fastening members to prevent it from being dislodged by traffic but which will allow easy removal for access to the structure.

The frame and cover or grate unit shall be cast flush with the top of the manhole slab. The frame and cover or grate unit manufacturer shall certify that the cover or unit is rated to exceed the requirements of the 250 psi tire pressure or HS-20 loading. Each cover shall have the word "Storm Drainage" or other approved designation cast on one piece.

All castings shall be thoroughly cleaned. After fabrication, structural steel units shall be galvanized to meet the requirements of ASTM A 123.

**751-2.7 STEPS.** The steps or ladder bars shall be gray or malleable cast iron or galvanized steel. The steps shall be the size, length, and shape shown on the plans and those steps that are not galvanized shall be given a coat of bituminous paint, when directed.

**751-2.8 REINFORCING STEEL.** All reinforcing steel shall be deformed bars of new billet steel meeting the requirements of ASTM A 615, Grade 60.

**751-2.9 PRECAST CONCRETE STRUCTURES.** Precast concrete structures shall be constructed on prepared or previously placed slab foundations and shall conform to the dimensions and locations shown on the contract drawings. All precast concrete sections necessary to build a completed structure shall be furnished. The different sections shall fit together readily and all joints shall be sealed with a butyl rubber gasket type sealant. The top of the upper precast concrete member shall be suitably formed and dimensioned to receive the metal frame and cover or grate, or other cap, as required.

**751-2.10 SEALANTS.** Joints between precast concrete sections shall be sealed with a butyl rubber gasket type sealant that meets all of the requirements of Federal Specification SS-S-210A, Sealing Compound, Preformed Plastic, for Expansion Joints and Pipe Joints.

**751-2.11 SUBMITTALS.** Submittals of "Shop and Setting Drawings", "Working Drawings", "Catalogue Data" and "Certifications" for review shall be submitted in accordance with appropriate sections of the specifications. Submittals and Certifications required are as follows:

a. Certifications and Concrete Mix Design submittals in accordance with Item P-610, Structural Portland Cement Concrete.

b. Catalogue data and certifications that frames and covers meet the requirements specified.

c. Catalogue data and certification that ladders meet the requirements specified.

d. Certification that reinforcing steel meets the requirements specified.

e. Submittal of Strength Design Calculations, Shop Drawings and Certifications for Pre-cast units.

f. Shop Drawings when structure to be built is at variance with plans or hydraulic assist.

## CONSTRUCTION METHODS

### 751-3.1 UNCLASSIFIED EXCAVATION.

a. The Contractor shall do all excavation for structures and structure footings to the lines and grades or elevations, shown on the plans, or as staked by the Engineer. The excavation shall be of sufficient size to permit the placing of the full width and length of the structure or structure footings shown. The elevations of the bottoms of footings, as shown on the plans, shall be considered as approximate only; and the Engineer may order, in writing, changes in dimensions or elevations of footings necessary to secure a satisfactory foundation.

b. Boulders, logs, or any other objectionable material encountered in excavation shall be removed. All rock or other hard foundation material shall be cleaned of all loose material and cut to a firm surface either level, stepped, or serrated, as directed by the Engineer. All seams or crevices shall be cleaned out and grouted. All loose and disintegrated rock and thin strata shall be removed. When concrete is to rest on a surface other than rock, special care shall be taken not to disturb the bottom of the excavation, and excavation to final grade shall not be made until just before the concrete or reinforcing is to be placed.

c. The Contractor shall do all bracing, sheathing, or shoring necessary to implement and protect the excavation and the structure as required for safety or conformance to governing laws. The cost of bracing, sheathing, or shoring shall be included in the unit price bid for the structure.

d. Unless otherwise provided, bracing, sheathing, or shoring involved in the construction of this item

shall be removed by the Contractor after the completion of the structure. Removal shall be effected in a manner that will not disturb or mar finished masonry. The cost of removal shall be included in the unit price bid for the structure.

e. After each excavation is completed, the Contractor shall notify the Engineer to that effect; and concrete or reinforcing steel shall be placed after the Engineer has approved the depth of the excavation and the character of the foundation material.

### **751-3.2 BRICK STRUCTURES.**

~~— a. Foundations. A prepared foundation shall be placed for all brick structures after the foundation excavation is completed and accepted. Unless otherwise specified, the base shall consist of reinforced concrete mixed, prepared, and placed in accordance with the requirements of Item P-610.~~

~~— b. Laying Brick. All brick shall be clean and thoroughly wet before laying so that they will not absorb any appreciable amount of additional water at the time they are laid. All brick shall be laid in freshly made mortar. Mortar that is not used within 45 minutes after water has been added shall be discarded. Retempering of mortar shall not be permitted. An ample layer of mortar shall be spread on the beds and a shallow furrow shall be made in it that can be readily closed by the laying of the brick. All bed and head joints shall be filled solid with mortar. End joints of stretchers and side or cross joints of headers shall be fully buttered with mortar and a shoved joint made to squeeze out mortar at the top of the joint. Any bricks that may be loosened after the mortar has taken its set, shall be removed, cleaned, and relaid with fresh mortar. No broken or chipped brick shall be used in the face, and no spalls or bats shall be used except where necessary to shape around irregular openings or edges; in which case, full bricks shall be placed at ends or corners where possible, and the bats shall be used in the interior of the course. In making closures, no piece of brick shorter than the width of a whole brick shall be used; and wherever practicable, whole brick shall be used and laid as headers.~~

~~— c. Joints. All joints shall be slushed with mortar at every course, but slushing alone will not be considered adequate for making an acceptable joint. Exterior faces shall be laid up in advance of backing. Exterior faces shall be back-plastered or pargeted with a coat of mortar not less than 3/8-inch (9 mm) thick before the backing is laid up. Prior to pargeting, all joints on the back of face courses shall be cut flush. Unless otherwise noted, joints shall be not less than 1/4-inch (6 mm) nor more than 1/2-inch (12 mm) wide and whatever width is adopted shall be maintained uniform throughout the work.~~

~~— d. Pointing. Face joints shall be neatly struck, using the weather joint. All joints shall be finished properly as the laying of the brick progresses. When nails or line pins are used the holes shall be immediately plugged with mortar and pointed when the nail or pin is removed.~~

~~— e. Cleaning. Upon completion of the work all exterior surfaces shall be thoroughly cleaned by scrubbing and washing down with water and, if necessary to produce satisfactory results, cleaning shall be done with a 5% solution of muriatic acid which shall then be rinsed off with liberal quantities of clean fresh water.~~

~~— f. Curing and Cold Weather Protection. In hot or dry weather, or when directed by the Engineer, the brick masonry shall be protected and kept moist for at least 48 hours after laying the brick. Brick masonry work or pointing shall not be done when there is frost in the brick or when the air temperature is below 50 F (10 C) unless the Contractor has on the project ready to use, suitable covering and artificial heating devices necessary to keep the atmosphere surrounding the masonry at a temperature of not less than 60 F (15 C) for the duration of the curing period.~~

No brick products shall be used to adjust the elevation between the precast or cast-in-place concrete structure and the top and rim and cover or inlet. All adjustments shall be cast-in-place concrete meeting the requirements of P-610, Structural Portland Cement Concrete.

**751-3.3 CONCRETE STRUCTURES.** Concrete structures shall be built on prepared foundations, conforming to the dimensions and form indicated on the plans. The construction shall conform to the requirements specified in Item P-610. Any reinforcement required shall be placed as indicated on the plans and shall be approved by the Engineer before the concrete is poured.

All invert channels shall be constructed and shaped accurately so as to be smooth, uniform, and cause minimum resistance to flowing water. The interior bottom shall be sloped downward toward the outlet.

**751-3.4 PRECAST CONCRETE PIPE STRUCTURES.** Precast concrete pipe structures shall be constructed on prepared or previously placed slab foundations and shall conform to the dimensions and locations shown on the plans. All precast concrete pipe sections necessary to build a completed structure shall be furnished. The different sections shall fit together readily, and all jointing and connections shall be cemented with mortar. The top of the upper precast concrete pipe member shall be suitably formed and dimensioned to receive the metal frame and cover or grate, or other cap, as required. Provision shall be made for any connections for lateral pipe, including drops and leads that may be installed in the structure. The flow lines shall be smooth, uniform, and cause minimum resistance to flow. The metal steps that are embedded or built into the side walls shall be aligned and placed at vertical intervals of 12-inches (300 mm). When a metal ladder replaces the steps, it shall be securely fastened into position.

~~**751-3.5 CORRUGATED METAL STRUCTURES.** Corrugated metal structures shall be constructed on prepared foundations, conforming to the dimensions and locations as shown on the plans. The structures shall be prefabricated. standard or special fittings shall be furnished to provide pipe connections or branches of correct dimensions. The connections or branches shall be of sufficient length to accommodate connecting bands. The fittings shall be welded in place to the metal structures. When indicated, the structures shall be placed on a reinforced concrete base. The top of the metal structure shall be designed so that either a concrete slab or metal collar may be attached to which can be fastened a standard metal frame and grate or cover. Steps or ladders shall be furnished as shown on the plans.~~

**751-3.6 INLET AND OUTLET PIPES.** Inlet and outlet pipes shall extend through the walls of the structures for a sufficient distance beyond the outside surface to allow for connections but shall be cut off flush with the wall on the inside surface, unless otherwise directed. For concrete or brick structures, the mortar shall be placed around these pipes so as to form a tight, neat connection.

**751-3.7 PLACEMENT AND TREATMENT OF CASTINGS, FRAMES, AND FITTINGS.** All castings, frames, and fittings shall be placed in the positions indicated on the plans or as directed by the Engineer, and shall be set true to line and to correct elevation. If frames or fittings are to be set in concrete or cement mortar, all anchors or bolts shall be in place and position before the concrete or mortar is placed. The unit shall not be disturbed until the mortar or concrete has set.

When frames or fittings are to be placed upon previously constructed masonry, the bearing surface or masonry shall be brought true to line and grade and shall present an even bearing surface in order that the entire face or back of the unit will come in contact with the masonry. The unit shall be set in mortar beds and anchored to the masonry as indicated on the plans or as directed and approved by the Engineer. All units shall set firm and secure.

After the frames or fittings have been set in final position and the concrete or mortar has been allowed to harden for 7 days, then the grates or covers shall be placed and fastened down.

**751-3.8 INSTALLATION OF STEPS.** The steps shall be installed as indicated on the plans or as directed by the Engineer. When the steps are to be set in concrete, they shall be placed and secured in position before the concrete is poured. When the steps are installed in brick masonry, they shall be placed as the masonry is being built. The steps shall not be disturbed or used until the concrete or mortar has hardened for at least 7 days. After this period has elapsed, the steps shall be cleaned and painted, unless they have been galvanized.

When steps are required with precast concrete pipe structures, they shall be cast into the sides of the pipe at the time the pipe sections are manufactured or set in place after the structure is erected by drilling holes in the concrete and cementing the steps in place.

~~When steps are required with corrugated metal structures, they shall be welded into aligned position at a vertical spacing of 12-inches (300 mm).~~

In lieu of steps, prefabricated ladders may be installed. In the case of brick or concrete structures, the ladder shall be held in place by grouting the supports in drilled holes. ~~In the case of metal structures, the ladder shall be secured by welding the top support and grouting the bottom support into drilled holes in the foundation or as directed.~~

### **751-3.9 BACKFILLING.**

a. After a structure has been completed, the area around it shall be filled with approved material, in horizontal layers not to exceed 8-inches (200 mm) in loose depth, and compacted to the density required in Item P-152. Each layer shall be deposited all around the structure to approximately the same elevation. The top of the fill shall meet the elevation shown on the plans or as directed by the Engineer.

b. Backfilling shall not be placed against any structure until permission is given by the Engineer. In the case of concrete, such permission shall not be given until the concrete has been in place 7 days, or until tests made by the laboratory under supervision of the Engineer establish that the concrete has attained sufficient strength to provide a factor of safety against damage or strain in withstanding any pressure created by the backfill or the methods used in placing it.

c. When required, the Engineer may direct the Contractor to add, at his own expense, sufficient water during compaction to assure a complete consolidation of the backfill. The Contractor shall be responsible for all damage or injury done to ducts, structures, property or persons due to improper placing or compacting of backfill. The cost of all backfill and compaction efforts shall be included in the unit price bid for the manhole, catch basin, inlet or inspection hole.

ed. Backfill shall not be measured for direct payment. Performance of this work shall be considered on obligation of the Contractor covered under the contract unit price for the structure involved.

**751-3.10 CLEANING AND RESTORATION OF SITE.** After the backfill is completed, the Contractor shall dispose of all surplus material, dirt, and rubbish from the site. Surplus dirt may be deposited in embankments, shoulders, or as ordered by the Engineer. The Contractor shall restore all disturbed areas to their original condition.

After all work is completed, the Contractor shall remove all tools and equipment, leaving the entire site free, clear, and in good condition.

**751-3.11 MANHOLE ADJUSTMENTS.** The Contractor shall adjust the tops of existing manholes in areas to be paved to the new elevations shown on the contract drawings. The Contractor shall be responsible for determining the exact height adjustment required to raise the top of each inlet or manhole to the new elevation. The existing top elevation of each inlet or manhole to be adjusted shall be



determined in the field and added or subtracted from the proposed top elevation. The Contractor shall not use brick products to adjust inlet or manhole tops.

The Contractor shall remove the existing top section or ring and cover from the inlet, manhole structure or manhole access. The Contractor shall then install precast concrete sections or grade rings of the required dimensions to adjust the inlet or manhole top to the new proposed elevation. Finally, the Contractor shall reinstall the inlet or manhole top section or ring and cover on top and check the new top elevation.

The Contractor shall install steps in the new precast concrete sections or grade rings as required to match the spacing of the steps in the existing structure being adjusted. The new steps shall be aligned with the existing steps.

The Contractor shall construct a concrete slab around the top of adjusted structures located in graded areas that are not to be paved. The concrete slab shall conform to the dimensions shown on the contract drawings.

**751-3.12 INSPECTION.** Prior to final approve of the manholes, catch basins, inlets and inspection holes, the Engineer, accompanied by the Contractor, shall make a through inspection, by an appropriate method, of the entire installation. Any indication of defects in material or workmanship shall be further investigated and corrected. Defects due to the Contractor's negligence shall be corrected by the Contractor without additional compensation and as directed by the Engineer.

**751-3.13 REMOVAL OF WATER.** If water is encountered in the excavated areas, the Contractor shall dewater the area and obtain optimum moisture content prior to placing concrete, structure or subbase. Performance of the work described in this section is not payable directly, but shall be considered as a subsidiary obligation of the Contractor and included in the contract price for the pay items of work involved.

## **STORM CHAMBER DETENTION SYSTEM**

### **METHOD OF MEASUREMENT**

**751-4.1** Manholes, catch basins, inlets, and inspection holes shall be measured by the unit, completed in place and accepted. All required excavation, sheeting and bracing, all required backfilling, restoration of all surfaces, all required connections and dewatering shall be included as part of the unit completed.

### **BASIS OF PAYMENT**

**751-5.1** The accepted quantities of manholes, catch basins, inlets, and inspection holes will be paid for at the contract unit price per each in place when completed. This price shall be full compensation for furnishing all materials and for all preparation, excavation, backfilling and placing of the materials; furnishing and installation of such specials and connections to pipes and other structures as may be required to complete the item as shown on the plans; and for all labor equipment, tools and incidentals necessary to complete the structure.

Payment will be made under:

Item D-751-5.1	REMOVE MANHOLES OR CATCH BASINS -- Per Each
Item D-751-5.2	INSTALL NEW MANHOLE/CATCHBASIN, TYPE G -- Per Each

Item D-751-5.3	INSTALL NEW MANHOLE/CATCHBASIN, 4' DIA -- Per Each
Item D-751-5.4	INSTALL NEW MANHOLE/CATCHBASIN, 7' DIA -- Per Each
<del>Item D-751-7.5</del>	<del>INSTALL NEW MANHOLE/CATCHBASIN, 7' DIA -- Per Each</del>
<del>Item D-751-7.6</del>	<del>INSTALL NEW 42" DIA. END SECTION -- Per Each</del>
<del>Item D-751-7.7</del>	<del>RECONSTRUCT MANHOLES OR CATCH BASINS -- Per Each</del>
<del>Item D-751-7.8</del>	<del>STORM CHAMBER DETENTION SYSTEM -- Per LUMP SUM</del>
Item D-751-5.5	STORM DRAINAGE FRAME AND COVER, AS SPECIFIED -- Per Each
<del>Item D-751-7.10</del>	<del>WATER QUALITY UNIT -- Per LUMP SUM</del>
Item D-751-7.6	ADJUST EXISTING STORM OR SANITARY MH CASTING -- Per Each

#### MATERIAL REQUIREMENT

ASTM A 27	Steel Castings, Carbon, for General Application
ASTM A 47	Ferritic Malleable Iron Castings
ASTM A 48	Gray Iron Castings
ASTM A 123	Zinc Coating (Hot-Dip) on Iron and Steel Hardware
ASTM A 283	Low and Intermediate Tensile Strength Carbon Steel Plates, Shapes, and Bars
ASTM A 536	Ductile Iron Castings
ASTM A 897	Austempered Ductile Iron Castings
ASTM C 32	Sewer and Manhole Brick (Made from Clay or Shale)
ASTM C 144	Aggregate for Masonry Mortar
ASTM C 150	Portland Cement
ASTM C 478	Precast Reinforced Concrete Manhole Sections
AASHTO M 36	Zinc Coated (Galvanized) Corrugated Iron or Steel Culverts and Underdrains

#### END OF ITEM D-751

## ITEM T-904 SODDING

### DESCRIPTION

**904-1.1** This item shall consist of furnishing, hauling, and placing approved live sod on prepared areas in accordance with this specification at the locations shown on the plans or as directed by the Engineer.

### MATERIALS

**904-2.1 SOD.** Sod furnished by the Contractor shall have a good cover of living or growing grass. This shall be interpreted to include grass that is seasonally dormant during the cold or dry seasons and capable of renewing growth after the dormant period. All sod shall be obtained from areas where the soil is reasonably fertile and contains a high percentage of loamy topsoil. Sod shall be cut or stripped from living, thickly matted turf relatively free of weeds or other undesirable foreign plants, large stones, roots, or other materials that might be detrimental to the development of the sod or to future maintenance. At least 70% of the plants in the cut sod shall be composed of the species stated in the special provisions, and any vegetation more than 6 in (150 mm) in height shall be mowed to a height of 3 in (75 mm) or less before sod is lifted. Sod, including the soil containing the roots and the plant growth showing above, shall be cut uniformly to a thickness not less than that stated in the special provisions herein.

**Millet grass is expressly prohibited from being a part of the sod anywhere on the project. Should the Contractor utilize Millet knowingly or unknowingly in the sod used on the project, an initial fine of \$1,000.00 will be levied. An additional \$1,000.00 per day fine shall be levied on the Contractor for each day the Millet seed is not removed from the sod used on the project. The fines levied shall be recorded daily and shall be deducted from the Contractor's earnings at the end of the project. The Contractor shall submit a certification of the sod provided for this project stating no millet is present or used in the sod.**

~~**904-2.2 LIME.** Lime shall conform to the requirements of 901-2.2.~~

~~**904-2.3 FERTILIZER.** Fertilizer shall conform to the requirements of 901-2.3. Fertilizers shall be 10-10-10 commercial fertilizer and spread at the rate of 100 pounds per acre as a minimum or type and rate as recommended by the United States Department of Agriculture Local Extension Service Office to achieve the best results for the time of year, placement geography and irrigation conditions.~~

**904-2.4 WATER.** The water shall be sufficiently free from oil, acid, alkali, salt, or other harmful materials that would inhibit the growth of grass. It shall be subject to the approval of the Engineer prior to use.

**904-2.5 SOIL FOR REPAIRS.** The soil for fill and topsoiling of areas to be repaired shall conform to the requirements of 901-2.4. prior to any sod placement, shall be at least of equal quality to that which exists in areas adjacent to the area to be repaired. The soil shall be free from stones larger than 2 inches (50 mm) in any diameter, sticks, stumps, and other debris that might interfere with sodding, growth of grasses, or subsequent maintenance of grass covered areas. Such soil shall comply with requirements of Item P-152, Excavation and Embankment, for embankment or topsoil depending on location and placement, as directed by the Engineer. The Engineer shall approve material before material is placed.

### CONSTRUCTION METHODS

**904-3.1 GENERAL.** Areas to be solid, strip, or spot sodded shall be shown on the plans. Areas requiring special ground surface preparation such as tilling and those areas in a satisfactory condition that are to remain undisturbed shall also be shown on the plans.

Suitable equipment necessary for proper preparation of the ground surface and for the handling and placing of all required materials shall be on hand, in good condition, and shall be approved by the

Engineer before the various operations are started. The Contractor shall demonstrate to the Engineer before starting the various operations that the application of required materials will be made at the specified rates.

**904-3.2 PREPARING THE GROUND SURFACE.** After grading of areas has been completed and before applying fertilizer and limestone, areas to be sodded shall be raked or otherwise cleared of stones larger than 2 in (50 mm) in any diameter, sticks, stumps, and other debris which might interfere with sodding, growth of grasses, or subsequent maintenance of grass-covered areas. If any damage by erosion or other causes occurs after grading of areas and before beginning the application of fertilizer and ground limestone, the Contractor shall repair such damage. This may include filling gullies, smoothing irregularities, and repairing other incidental damage.

**904-3.3 APPLYING FERTILIZER AND GROUND LIMESTONE.** Following ground surface preparation, fertilizer shall be uniformly spread at a rate which will provide not less than the minimum quantity of each fertilizer ingredient, as stated in the special provisions. If use of ground limestone is required, it shall then be spread at a rate that will provide not less than the minimum quantity stated in the special provisions—T-901, Seeding, Section 901-2.3, Fertilizer. These materials shall be incorporated into the soil to a depth of not less than 2 in (50 mm) by discing, raking, or other methods acceptable to the Engineer. Any stones larger than 2 in (50 mm) in any diameter, large clods, roots, and other litter brought to the surface by this operation shall be removed.

**904-3.4 OBTAINING AND DELIVERING SOD.** After inspection and approval of the source of sod by the Engineer, the sod shall be cut with approved sod cutters to such a thickness that after it has been transported and placed on the prepared bed, but before it has been compacted, it shall have a uniform thickness of not less than 2 in (50 mm). Sod sections or strips shall be cut in uniform widths, not less than 10 in (250 mm), and in lengths of not less than 18 in (45 cm), but of such length as may be readily lifted without breaking, tearing, or loss of soil. Where strips are required, the sod must be rolled without damage with the grass folded inside. The Contractor may be required to mow high grass before cutting sod.

The sod shall be transplanted within 24 hours from the time it is stripped, unless circumstances beyond the Contractor's control make storing necessary. In such cases, sod shall be stacked, kept moist, and protected from exposure to the air and sun and shall be kept from freezing. Sod shall be cut and moved only when the soil moisture conditions are such that favorable results can be expected. Where the soil is too dry, permission to cut sod may be granted only after it has been watered sufficiently to moisten the soil to the depth the sod is to be cut.

The Contractor shall, for each load of sod, submit a written certification from the sod source certifying the sod sources are free of Tropical Soda Apple seed source and plants as well as Millet seed. Any Tropical Soda Apple plants or Millet seed that propagate in the areas of new sod shall be controlled by the Contractor, at the Contractor's sole cost without compensation, until all Tropical Soda Apple plants and/or Millet grass have been eradicated in the affected areas. The time frame for eradication or emergence of plant specimens shall be the full and complete Warranty Period or as directed by the Owner.

**904-3.5 LAYING SOD.** Sodding shall be performed only during the seasons when satisfactory results can be expected. Frozen sod shall not be used and sod shall not be placed upon frozen soil. Sod may be transplanted during periods of drought with the approval of the Engineer, provided the sod bed is watered to moisten the soil to a depth of at least 4 in (100 mm) immediately prior to laying the sod.

The sod shall be moist and shall be placed on a moist earth bed. Pitch forks shall not be used to handle sod, and dumping from vehicles shall not be permitted. The sod shall be carefully placed by hand, edge to edge and with staggered joints, in rows at right angles to the slopes, commencing at the base of the area to be sodded and working upward. The sod shall immediately be pressed firmly into contact with the sod bed by tamping or rolling with approved equipment to provide a true and even surface, and insure knitting without displacement of the sod or deformation of the surfaces of sodded areas. Where the sod

may be displaced during sodding operations, the workmen when replacing it shall work from ladders or treaded planks to prevent further displacement. Screened soil of good quality shall be used to fill all cracks between sods. The quantity of the fill soil shall not cause smothering of the grass. Where the grades are such that the flow of water will be from paved surfaces across sodded areas, the surface of the soil in the sod after compaction shall be set approximately 1 in (25 mm) below the pavement edge. Where the flow will be over the sodded areas and onto the paved surfaces around manholes and inlets, the surface of the soil in the sod after compaction shall be placed flush with pavement edges.

On slopes steeper than 1 vertical to 2-1/2 horizontal and in v-shaped or flat-bottom ditches or gutters, the sod shall be pegged with wooden pegs not less than 12 in (300 mm) in length and have a cross-sectional area of not less than 3/4 sq in (18 sq mm). The pegs shall be driven flush with the surface of the sod.

**904-3.6 WATERING.** Adequate water and watering equipment must be on hand before sodding begins, and sod shall be kept moist until it has become established and its continued growth assured. In all cases, watering shall be done in a manner that will avoid erosion from the application of excessive quantities and will avoid damage to the finished surface. The Contractor will be required to water sodded areas three days per week until the sod is well established, has good color and is approved by the Engineer. The Contractor shall water every other day such that the sod is watered at least three times per week. If the Contractor does not water the required three days per week, the days missed shall have the payment for sod per square foot reduced at a pro-rata share based upon the number of total days calculated for watering (less any rain days) times the number of days missed. It is imperative that the Contractor water consistently to ensure proper sod growth.

#### **904-3.7 ESTABLISHING TURF.**

**a. General.** The Contractor shall provide general care for the sodded areas as soon as the sod has been laid and shall continue until final inspection and acceptance of the work.

**b. Protection.** All sodded areas shall be protected against traffic or other use by warning signs or barricades approved by the Engineer.

**c. Mowing.** The Contractor shall mow the sodded areas with approved mowing equipment, depending upon climatic and growth conditions and the needs for mowing specific areas. In the event that weeds or other undesirable vegetation are permitted to grow to such an extent that, either cut or uncut, they threaten to smother the sodded species, they shall be mowed and the clippings raked and removed from the area.

**904-3.8 REPAIRING.** When the surface has become bullied or otherwise damaged during the period covered by this contract, the affected areas shall be repaired to re-establish the grade and the condition of the soil, as directed by the Engineer, and shall then be sodded as specified in 904-3.5.

### **METHOD OF MEASUREMENT**

**904-4.1** This item shall be measured on the basis of the area in square yards (square meters) of the surface covered with sod and accepted.

### **BASIS OF PAYMENT**

**904-5.1** This item will be paid for on the basis of the contract unit price per square yard (square meter) for sodding, which price shall be full compensation for all labor, equipment, material, staking, and incidentals necessary to satisfactorily complete the items as specified.

Payment will be made under:

Item T-904-5.1 Sodding -- Per Square Yard (~~square meter~~)

**END OF ITEM T-904**

## ITEM T-905 TOPSOILING

### DESCRIPTION

**905-1.1** This item shall consist of preparing the ground surface for topsoil application, removing topsoil from designated stockpiles or areas to be stripped on the site or from approved sources off the site, and placing and spreading the topsoil on prepared areas in accordance with this specification at the locations shown on the plans or as directed by the Engineer.

### MATERIALS

**905-2.1 TOPSOIL.** Topsoil shall be the surface layer of soil with no admixture of refuse or any material toxic to plant growth, and it shall be reasonably free from subsoil and stumps, roots, brush, stones (2 in or more in diameter), and clay lumps or similar objects. Brush and other vegetation that will not be incorporated with the soil during handling operations shall be cut and removed. Ordinary sods and herbaceous growth such as grass and weeds are not to be removed but shall be thoroughly broken up and intermixed with the soil during handling operations. The topsoil or soil mixture, unless otherwise specified or approved, shall have a pH range of approximately 5.5 pH to 7.6 pH, when tested in accordance with the methods of testing of the association of official agricultural chemists in effect on the date of invitation of bids. The organic content shall be not less than 3% nor more than 20% as determined by the wet-combustion method (chromic acid reduction). There shall be not less than 20% nor more than 80% of the material passing the 200 mesh (0.075 mm) sieve as determined by the wash test in accordance with ASTM C 117.

Natural topsoil may be amended by the Contractor with approved materials and methods to meet the above specifications.

**905-2.2 INSPECTION AND TESTS.** Within 10 days following acceptance of the bid, the Engineer shall be notified of the source of topsoil to be furnished by the Contractor. The topsoil shall be inspected to determine if the selected soil meets the requirements specified and to determine the depth to which stripping will be permitted. At this time, the Contractor may be required to take representative soil samples from several locations within the area under consideration and to the proposed stripping depths, for testing purposes as specified in 905-2.1.

### CONSTRUCTION METHODS

**905-3.1 GENERAL.** Areas to be topsoiled shall be shown on the plans. If topsoil is available on the site, the location of the stockpiles or areas to be stripped of topsoil and the stripping depths shall be shown on the plans.

Suitable equipment necessary for proper preparation and treatment of the ground surface, stripping of topsoil, and for the handling and placing of all required materials shall be on hand, in good condition, and approved by the Engineer before the various operations are started.

**905-3.2 PREPARING THE GROUND SURFACE.** Immediately prior to dumping and spreading the topsoil on any area, the surface shall be loosened by discs or spike-tooth harrows, or by other means approved by the Engineer, to a minimum depth of 2 in (50 mm) to facilitate bonding of the topsoil to the covered subgrade soil. The surface of the area to be topsoiled shall be cleared of all stones larger than 2 in (50 mm) in any diameter and all litter or other material which may be detrimental to proper bonding, the rise of capillary moisture, or the proper growth of the desired planting. Limited areas, as shown on the plans, which are too compact to respond to these operations shall receive special scarification.

Grades on the area to be topsoiled, which have been established by others as shown on the plans, shall be maintained in a true and even condition. Where grades have not been established, the areas shall be smooth-graded and the surface left at the prescribed grades in an even and properly compacted condition to prevent, insofar as practical, the formation of low places or pockets where water will stand.

**905-3.3 OBTAINING TOPSOIL.** Prior to the stripping of topsoil from designated areas, any vegetation, briars, stumps and large roots, rubbish or stones found on such areas, which may interfere with subsequent operations, shall be removed using methods approved by the Engineer. Heavy sod or other cover, which cannot be incorporated into the topsoil by discing or other means shall be removed.

When suitable topsoil is available on the site, the Contractor shall remove this material from the designated areas and to the depth as directed by the Engineer. The topsoil shall be spread on areas already tilled and smooth-graded, or stockpiled in areas approved by the Engineer. Any topsoil stockpiled by the Contractor shall be rehandled and placed without additional compensation. Any topsoil that has been stockpiled on the site by others, and is required for topsoiling purposes, shall be removed and placed by the Contractor. The sites of all stockpiles and areas adjacent thereto which have been disturbed by the Contractor shall be graded if required and put into a condition acceptable for seeding.

When suitable topsoil is secured off the airport site, the Contractor shall locate and obtain the supply, subject to the approval of the Engineer. The Contractor shall notify the Engineer sufficiently in advance of operations in order that necessary measurements and tests can be made. The Contractor shall remove the topsoil from approved areas and to the depth as directed. The topsoil shall be hauled to the site of the work and placed for spreading, or spread as required. Any topsoil hauled to the site of the work and stockpiled shall be rehandled and placed without additional compensation.

**905-3.4 PLACING TOPSOIL.** The topsoil shall be evenly spread on the prepared areas to a uniform depth of 2 in (50 mm) after compaction, unless otherwise shown on the plans or stated in the special provisions. Spreading shall not be done when the ground or topsoil is frozen, excessively wet, or otherwise in a condition detrimental to the work. Spreading shall be carried on so that turving operations can proceed with a minimum of soil preparation or tilling.

After spreading, any large, stiff clods and hard lumps shall be broken with a pulverizer or by other effective means, and all stones or rocks (2 in (50 mm) or more in diameter), roots, litter, or any foreign matter shall be raked up and disposed of by the Contractor. After spreading is completed, the topsoil shall be satisfactorily compacted by rolling with a cultipacker or by other means approved by the Engineer. The compacted topsoil surface shall conform to the required lines, grades, and cross sections. Any topsoil or other dirt falling upon pavements as a result of hauling or handling of topsoil shall be promptly removed.

## METHOD OF MEASUREMENT

~~**905-4.1** Topsoil obtained on the site shall be measured by the number of cubic yards (cubic meters) of topsoil measured in its original position and stripped or excavated. Topsoil stockpiled by others and removed for topsoiling by the Contractor shall be measured by the number of cubic yards (cubic meters) of topsoil measured in the stockpile. Topsoil shall be measured by volume in cubic yards (cubic meters) computed by the method of end areas.~~

**905-4.1** Topsoil shall be measured by the number of cubic yards of topsoil measured in its final position, complete in place.

~~**905-4.2** Topsoil obtained off the site shall be measured by the number of cubic yards (cubic meters) of topsoil measured in its original position and stripped or excavated. Topsoil shall be measured by volume in cubic yards (cubic meters) computed by the method of end areas.~~



### BASIS OF PAYMENT

**905-5.1** Payment will be made at the contract unit price per cubic yard (cubic meter) for topsoiling removed from stockpile and placed in its final position ~~(obtained on the site)~~. This price shall be full compensation for furnishing all materials and for all preparation, placing, and spreading of the materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

~~**905-5.2** Payment will be made at the contract unit price per cubic yard (cubic meter) for topsoiling (obtained off the site). This price shall be full compensation for furnishing all materials and for all preparation, placing, and spreading of the materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.~~

Payment will be made under:

Item T-905-5.1      Topsoiling (Obtained on Site or Removed from Stockpile) -- Per Cubic Yard (cubic meter)

Item T-905-5.2      Topsoiling (Furnished from Off the Site) -- Per Cubic Yard (cubic meter)

~~Item T-905-5.1      Topsoiling (Obtained on Site) -- Per Cubic Yard (cubic meter)~~

~~Item T-905-5.2      Topsoiling (Removed from Stockpile) -- Per Cubic Yard (cubic meter)~~

Item T-905-5.1      Topsoiling (Furnished from Off the Site) -- Per Cubic Yard (cubic meter)

### TESTING MATERIALS

ASTM C 117      Materials Finer than 75- $\mu$ m (No. 200) Sieve in Mineral Aggregates by Washing

### END OF ITEM T-905

## ITEM L-105 ALTERATIONS, REMOVAL AND DEMOLITION

### GENERAL

**105-1.1 DEFINITIONS.** Alterations shall mean any change or rearrangement in the component parts, including structural, mechanical, electrical systems, or internal or external arrangements of an existing structure.

Removal shall mean the dismantling of existing materials, components, equipment, and utilities. Removed items shall be handled, prepared for storage, transported to storage areas as specified.

Demolition shall mean the dismantling and disposal of existing materials, components, equipment, and utilities which cannot or will not be reused or which will have no salvage value, or which cannot be reused due to unreparable damage caused by age, non-demolition related reasons, etc. All demolished items not designated to be turned over to the Owner shall be disposed of in a safe manner and at a location acceptable to the Owner.

All items to be turned over to the Owner shall be properly enclosed or boxed to protect the items from damage and transported by the Contractor to a location on the Owner's property, designated by the Engineer and/or the Owner.

The installation and/or removal of lighting equipment may be critical to airport operations; therefore, the Contractor shall follow the work schedule established in the plans and specifications or as directed by the Engineer. The system shall be installed in accordance with the National Electrical Code and/or local code requirements.

The Contractor shall provide temporary wiring as required to reconnect existing circuits to provide guidance for aircraft to pass through the construction areas on those taxiways/runways which must remain open. The Contractor shall check all temporary circuits before dark each day to assure that they are operational. In the event of failure, the Contractor shall immediately take steps to restore operation. The cost of temporary and reconnected lighting shall be absorbed in the various work items.

**105-1.2 CONDITION OF EXISTING FACILITIES.** The Contractor shall verify the areas, conditions, and features necessary to tie into existing construction. This verification shall be done prior to submittal of shop drawings, fabrication or erection, construction or installation. The Contractor shall be responsible for the accurate tie-in of the new work to existing facilities.

Special attention is called to the fact that there may be piping, fixtures or other items in the existing systems which must be removed or relocated in order to perform the alteration work. All conduit, wiring, boxes, etc., that do not comply with these specifications shall be removed or corrected to comply with these specifications. All unused conduit not removed shall be identified and a pull line shall be installed. The work shall include all removal and relocation required for completion of the alterations and the new construction.

Whenever the scope of work requires connection to an existing circuit, the circuit's insulation resistance shall be tested, in the presence of the Owner and Engineer. The Contractor shall record the results on the forms included in these specifications. When the circuit is returned to its final condition, the circuit's insulation resistance shall be checked again in the presence of the Owner and Engineer. The Contractor shall record the results on the forms included in these specifications. The second reading shall be equal to or greater than the first reading or the Contractor shall make the necessary repairs to the circuit to bring the second reading above the first reading. All repair costs including a complete replacement of the cable, if necessary, shall be borne by the Contractor. All test results shall be submitted in the Operation

and Maintenance Manuals as described in Item L-106, Submittals, Record Documents and Maintenance Manuals.

**105-1.3 OCCUPANCY AND USE OF EXISTING FACILITIES.** The Owner will occupy and use the facilities within the areas of work during the entire construction period. The Contractor shall be required to plan and coordinate his activities in order to provide all necessary controls for the abatement of dust, noise, and inconvenience to the Owner personnel during all phases of the work.

**105-1.4 VACATING OCCUPIED AREAS.** The Owner will remove all portable items of furniture, equipment, and fixtures prior to the start of work.

**105-1.5 SAFETY REQUIREMENTS.** The Contractor shall conduct alterations and removal operations in a manner that will ensure the safety of persons in accordance with the requirements of CFR 29 PART 1926 and 1910.

**105-1.6 CLASSIFICATION OF REMOVED/DEMOLISHED ITEMS.** Existing materials and equipment indicated to be removed will be classified as "salvageable" and shall remain the property of the Owner or will be classified as "debris" and shall be disposed of legally off the airport.

Reusable salvaged items:

Salvaged materials and equipment shall be reused in the work as described on the contract drawings, unless noted otherwise.

Items classified as debris shall be legally disposed of off the airport property. The cost of such disposal shall be included in the cost of other items of work.

Retained salvaged items:

Salvaged materials and equipment to be retained by the Owner but not reused in the work shall be turned over to the Owner at a site at the facility to be determined by the Owner. Retained salvaged items shall be stored on Owner property where indicated by the Owner.

**105-1.7 TEMPORARY PROTECTION.** The Contractor shall provide and maintain the following requirements.

Protection of persons and property shall be provided throughout the progress of the work in accordance with these specifications.

Provide temporary enclosures and partitions prior to starting alterations and removal of work. Such items shall protect existing materials, equipment, and other remaining building or system components from damage by weather and construction operations.

Provide temporary enclosures to isolate space utilized by equipment during construction, from dirt, dust, noise, and unauthorized entry.

Provide temporary exits, entrances, and protected passages where work prevents the use of existing facilities.

Provide weathertight temporary enclosures over and around openings to be made in existing exterior construction prior to the start of work. The Contractor shall maintain such temporary enclosures until new construction will protect the interior of existing facilities from the elements.

Provide temporary exterior wall construction which will be designed and fabricated to resist an applied horizontal wind pressure of not less than 130 mph.

Provide temporary exterior roof construction which will be capable of supporting an applied vertical live load of not less than 200 psf, uniformly distributed over the entire roof area.

Design and fabricate temporary enclosures to maintain temperatures inside the existing facilities within a range of plus-or-minus 5 degrees F of normal operating conditions.

Provide temporary jet blast structures which will withstand the jet blast with a safety factor of 2.

## EXECUTION

**105-2.1 DISCONNECTING UTILITIES.** Prior to the start of work, the necessary utilities serving each area of alteration or removal will be shut off by the Owner and shall be disconnected and sealed by the Contractor, as required. Lockout/Tag/Try procedures shall be utilized in accordance with Item L-104, General Electrical Safety Requirements and Temporary Airfield Lighting.

**105-2.2 TEMPORARY UTILITY SERVICES.** The Contractor shall install temporary utility services in satisfactory operating condition before disconnecting existing utilities. Such temporary services shall be maintained during the period of construction and removed only after new permanent services have been tested and are in operation.

**105-2.3 REMOVAL WORK.** The Contractor shall not disturb the existing construction beyond that indicated or necessary for installation of new work. Temporary shoring and bracing for support of building components to prevent settlement or other movement shall be as indicated and as required to protect the work.

The Contractor shall provide protective measures to control accumulation and migration of dust and dirt in all areas of work, particularly those adjacent to occupied areas. The Contractor shall remove dust, dirt, and debris from the areas of work daily.

**105-2.4 SALVAGEABLE MATERIALS AND EQUIPMENT.** The Contractor shall remove all salvageable materials and equipment in a manner that will cause the least possible damage thereto. Removed items which are to be retained by the Owner shall be carefully handled, stored, and protected.

The Contractor shall provide identification tags on all items boxed or placed in containers, indicating the type, size, and quantity of materials.

**105-2.5 BUILDINGS AND STRUCTURES.** The Contractor shall perform removal operations in existing buildings as indicated and as otherwise required to complete the work.

Existing concrete shall be demolished, removed, and disposed of. Square, straight edges shall be provided where existing concrete adjoins new work and at other locations where indicated. Existing steel reinforcement shall be protected where indicated; otherwise, it shall be cut off flush with face of concrete.

The Contractor shall dismantle steel components at field connections and in a manner that will prevent bending or damage.

The use of flame-cutting torches will be permitted only when other methods of dismantling are not practical, and when approved in writing by the Owner and/or Engineer.

**105-2.6 ELECTRICAL EQUIPMENT AND FIXTURES.** Wiring systems and components shall be

salvaged. Loose items shall be boxed and tagged for identification.

All unused conduit not removed shall have a pull string installed and shall be noted on the record drawings.

Primary, secondary, control, communication, and signal circuits shall be disconnected at the point of attachment to their distribution system.

The Contractor shall remove and salvage electrical fixtures. Incandescent lamps, mercury-vapor lamps, and fluorescent lamps shall be salvaged, boxed and tagged for identification, and protected from breakage.

The Contractor shall remove and salvage switches, receptacles, fixtures, transformers, constant current regulators, meters, instruments, plates, circuit breakers, panelboards, outlet boxes, and similar items. These items shall be boxed, and tagged for identification according to type and size.

The Contractor shall remove and dispose of conductors and conduits not used in the finished work and shown to be demolished on the plans.

## DEMOLITION

**105-3.1 DEMOLITION OPERATIONS.** Demolition operations shall be conducted to ensure the safe passage of persons to and from facilities occupied and used by the Owner and to prevent damage by falling debris or other cause to adjacent buildings, structures, and other facilities.

The sequence of operations shall be such that maximum protection from inclement weather will be provided for materials and equipment located in partially dismantled structures.

**105-3.2 MAINTAINING TRAFFIC.** Demolition operations and removal of debris to disposal areas shall be conducted to ensure minimum interference with runways, taxiways, aprons, roads, streets, walks, and other facilities occupied and used by the Owner.

Streets, walks, runways, taxiways and other facilities occupied and used by the Owner shall not be closed or obstructed without written permission from the Owner.

**105-3.3 REFERENCE STANDARDS REQUIREMENTS.** Demolition operations shall be conducted to ensure the safety of persons in accordance with ANSI A 10.6 Safety Requirements for Demolition.

Demolition shall be conducted in accordance with OSHA, State and local requirements.

## DISPOSAL OF DEMOLISHED MATERIALS

**105-4.1 GENERAL.** The Contractor shall dispose of debris, rubbish, scrap, and other non-salvageable materials resulting from demolition operations. Demolished materials shall not be stored or disposed of on Airport property.

**105-4.2 REMOVAL FROM OWNER PROPERTY.** Materials classified as debris shall be transported from Owner property and legally disposed of at no additional cost to the Owner. Permits and fees for disposal shall be paid by the Contractor.

## ALTERATION WORK

**105-5.1 GENERAL.** Cutting, patching, repairing, and other alteration work shall be done by tradesman

skilled in the particular trade or work required.

Where required to patch or extend existing construction, or both, such alteration work shall match existing exposed surface materials in finish, color, texture, and pattern.

Salvaged items for reuse shall be as approved by the Engineer and Owner.

#### **METHOD OF MEASUREMENT**

**105-6.1** This item includes all materials, labor, transportation incidentals and services required for the building demolition as shown on the plans. It is the intent of the demolition pay item that all equipment, devices, fixtures, wiring, materials, systems and appurtenances, etc. which are no longer required as a result of the project to be removed shall be measured by the lump sum.

**105-6.2** This item includes all materials, labor, transportation incidentals and services required for the airfield electrical demolition as shown on the plans. It is the intent of the demolition pay item that all equipment, devices, fixtures, wiring, materials, systems and appurtenances, etc. which are no longer required as a result of the project to be removed shall be measured by the lump sum.

#### **BASIS OF PAYMENT**

**105-7.1** Payment will be made at the contract price for the required building demolition. This price shall be full compensation for furnishing all material, equipment and for all preparation, removal of the salvageable materials or debris and equipment and for all labor, equipment, tools and incidentals necessary to complete this item.

**105-7.2** Payment will be made at the contract price for required airfield electrical demolition. This item includes all materials, labor, transportation, incidentals and services required for the demolition as shown on the plans. This item includes any temporary wiring, fixtures, etc. required to maintain the existing airfield lighting systems to the satisfaction of the Owner and Engineer. It is the intent of the demolition pay item that all equipment, devices, fixtures, wiring, materials, systems and appurtenances, etc. which are no longer required as a result of the project be removed.

Payment will be made under:

Item L-105-5.2 Remove Existing Electrical Communications Conduit and Cable – Per Linear Foot.

Item L-105-5.3 Remove Existing Electrical Communications Handhole -- Per Each.

#### **END OF ITEM L-105**

## ITEM L-108 UNDERGROUND POWER CABLE FOR AIRPORTS

### DESCRIPTION

**108-1.1** This item shall consist of furnishing and installing power cables direct buried and furnishing and/or installing power cables within conduit or duct banks in accordance with these specifications at the locations shown on the plans. It includes excavation and backfill of trench for direct-buried cables only. Also included are the installation of counterpoise wires, ground wires, ground rods and connections, cable splicing, cable marking, cable testing, and all incidentals necessary to place the cable in operating condition as a completed unit to the satisfaction of the Engineer. This item shall not include the installation of duct banks or conduit, trenching and backfilling for duct banks or conduit, or furnishing or installation of any cable for FAA facilities. Requirements and payment for trenching and backfilling for the installation of underground conduit and duct banks is covered under Item L-110 "Airport Underground Electrical Duct Banks and Conduits."

**108-1.2 REFERENCED** Additional information pertaining to the items covered in this section are contained in the Federal Aviation Administration (FAA) Advisory Circulars (AC's), latest edition, listed below:

150/5345-7	Specification for L-824 Underground Electrical Cable for Airport Lighting Circuits
150/5345-26	Specification for L-823 Plug and Receptacle, Cable Connectors
150/5345-53	Airport Lighting Equipment Certification Program
150/5370-10	Standard for Specifying Construction of Airports
150/5370-2	Operational Safety on Airports During Construction
150/5370-10	Standard for Specifying Construction of Airports

The contractor is responsible for obtaining and using the latest edition of the referenced FAA Advisory Circulars. This list is not all inclusive but is offered as a convenience to the Contractor.

All new electrical systems should be tested to compare their compatibility to installed equipment. Operational tests shall be performed to ensure no increase in electromagnetic interference (EMI) occurs over the original findings.

### EQUIPMENT AND MATERIALS

#### 108-2.1 GENERAL.

**a.** Airport lighting equipment and materials covered by Federal Aviation Administration (FAA) specifications shall be approved under the Airport Lighting Equipment Certification Program described in Advisory Circular (AC) 150/5345-53, current version.

**b.** All other equipment and materials covered by other referenced specifications shall be subject to acceptance through manufacturer's certification of compliance with the applicable specification, when

~~requested by the Engineer.~~ The Contractor shall submit the manufacturer's certificate of compliance and the applicable specification sections to the Engineer for approval before the equipment and material are ordered.

c. Manufacturer's certifications shall not relieve the Contractor of the Contractor's responsibility to provide materials in accordance with these specifications and acceptable to the Engineer. Materials supplied and/or installed that do not materially comply with these specifications shall be removed, when directed by the Engineer and replaced with materials, which do comply with these specifications, at the sole cost of the Contractor.

d. All materials and equipment used to construct this item shall be submitted to the Engineer for approval prior to ordering the equipment. Submittals consisting of marked catalog sheets or shop drawings shall be provided. Submittal data shall be presented in a clear, precise and thorough manner. Original catalog sheets are preferred. Photocopies are acceptable provided they are as good a quality as the original. Clearly and boldly mark each copy to identify pertinent products or models applicable to this project. Indicate all optional equipment and delete non-pertinent data. Submittals for components of electrical equipment and systems shall identify the equipment for which they apply on each submittal sheet. Markings shall be boldly and clearly made with arrows or circles (highlighting is not acceptable). Contractor is solely responsible for delays in project accruing directly or indirectly from late submissions or resubmissions of submittals. The Contractor's submittals shall be in accordance with Item L-106, Submittals, Record Documents and Maintenance Manuals.

e. The data submitted shall be sufficient, in the opinion of the Engineer, to determine compliance with the plans and specifications. [The Contractor's submittals shall be neatly bound in a properly sized 3-ring binder, tabbed by specification section.] The Contractor's submittals shall be submitted to the Engineer within fifteen (15) days of the notice to proceed. Submittals shall comply with Section L-106. The Engineer reserves the right to reject any and all equipment, materials or procedures, which, in the Engineer's opinion, does not meet the system design and the standards and codes, specified herein.

f. All equipment and materials furnished and installed under this section shall be guaranteed against defects in materials and workmanship for a period of at least [twelve (12) months] from final acceptance by the Owner. The defective materials and/or equipment shall be repaired or replaced, at the Owner's discretion, with no additional cost to the Owner. The Contractor shall be responsible to maintain an insulation resistance of 50 megohms minima, (1000 V megger) with isolation transformers connected in new circuits and new segments of existing circuits through the end of the contract warranty period.

**108-2.2 CABLE.** Underground cable for airfield lighting facilities (runway and taxiway lights and signs) shall conform to the requirements of AC 150/5345-7, Specification for L-824 Underground Electrical Cable for Airport Lighting Circuits. Conductor sizes noted above shall not apply to leads furnished by manufacturers on airfield lighting transformers and fixtures.

Wire for electrical circuits up to 600 volts shall comply with Specification L-824 and/or Federal Specification J-C-30 and shall be type THWN-2.

Cable type, size, number of conductors, strand and service voltage shall be as specified on the plans.

**108-2.3 ~~BARE COPPER WIRE FOR (COUNTERPOISE, BARE COPPER WIRE GROUND AND GROUND RODS).~~** Wire for counterpoise or ground installations for airfield lighting systems shall be bare No. 6 AWG solid, single conductor for counterpoise wire and ~~or~~ 600V insulated, XHHW insulation, No. 6 AWG stranded single conductor for ground wire conforming to ASTM B 3 and ASTM B 8, and shall be ~~[bare copper wire] [tinned copper]~~ conforming to the requirements of ASTM D 33.



Ground rods shall be ~~[solid stainless steel]~~ ~~[copper]~~ or **[copper-clad steel]**. The ground rods shall be of the length and diameter specified on the plans, but in no case shall they be less than 8-10-feet (240305 cm) long nor less than 5/8 3/4-in (45 19 mm) in diameter.

**108-2.4 CABLE CONNECTIONS.** In-line connections of underground primary cables shall be of the type called for on the plans, and shall be one of the types listed below. No separate payment will be made for cable connections.

**a. The Cast Splice.** A cast splice, employing a plastic mold and using epoxy resin equivalent to that manufactured by Minnesota Mining and Manufacturing Company, "Scotchcast" Kit No. 82--B, or as manufactured by Hysol® Corporation, "Hyseal Epoxy Splice" Kit No. E1135, or equivalent, is used for potting the splice is acceptable.

**b. The Field-attached Plug-in Splice.** Figure 3 of AC 150/5345-26, Specification for L-823 Plug and Receptacle, Cable Connectors, employing connector kits, is acceptable for field attachment to single conductor cable. It shall be the Contractor's responsibility to determine the outside diameter of the cable to be spliced and to furnish appropriately sized connector kits and/or adapters and heat shrink tubing with integral sealant.

**c. The Factory-Molded Plug-in Splice.** Specification for L-823 Connectors, Factory-Molded to Individual Conductors, is acceptable.

**d. The Taped or Heat-Shrunk Splice.** Taped splices employing field-applied rubber, or synthetic rubber tape covered with plastic tape is acceptable. The rubber tape should meet the requirements of ASTM D 4388 and the plastic tape should comply with Mil Spec. MIL-I-24391 or Fed. Spec. A-A-55809. Heat shrinkable tubing shall be heavy-wall, self-sealing tubing rated for the voltage of the wire being spliced and suitable for direct-buried installations. The tubing shall be factory coated with a thermoplastic adhesive-sealant that will adhere to the insulation of the wire being spliced forming a moisture- and dirt-proof seal. Additionally, heat shrinkable tubing for multi-conductor cables, shielded cables, and armored cables shall be factory kits designed for the application. Heat shrinkable tubing and tubing kits shall be manufactured by Tyco Electronics/ Raychem Corporation, Energy Division, or approved equivalent.

In all the above cases, connections of cable conductors shall be made using crimp connectors using a crimping tool designed to make a complete crimp before the tool can be removed. All L-823/L-824 splices and terminations shall be made in accordance with the manufacturer's recommendations and listings.

All connections of counterpoise, grounding conductors and ground rods shall be made by the exothermic process or approved equivalent, except the base can ground clamp connector shall be used for attachment to the base can. All exothermic connections shall be made in accordance with the manufacturer's recommendations and listings.

**108-2.5 SPLICER QUALIFICATIONS.** Every airfield lighting cable splicer shall be qualified in making cable splices and terminations on cables rated above 5,000 volts AC. The Contractor shall submit to the Engineer proof of the qualifications of each proposed cable splicer for the cable type and voltage level to be worked on. Cable splicing/terminating personnel shall have a minimum of three (3) years continuous experience in terminating/splicing medium voltage cable.

**108-2.6 CONCRETE.** Concrete for cable markers shall conform to Specification Item P-610, "Structural Portland Cement Concrete."

**108-2.7 FLOWABLE BACKFILL.** Flowable material used to backfill trenches for power cable trenches shall conform to the requirements of Item P-153 "Controlled Low Strength Material".

**108-2.8 CABLE IDENTIFICATION TAGS.** Cable identification tags shall be made from a non-corrosive material with the circuit identification stamped or etched onto the tag. The tags shall be of the type as detailed on the plans.

**108-2.9 TAPE.** Electrical tapes shall be Scotch Electrical Tapes – number Scotch 88 (1-1/2" wide) and Scotch 130C linerless rubber splicing tape (2" wide), as manufactured by the Minnesota Mining and Manufacturing Company, or approved equivalent.

**108-2.10 ELECTRICAL COATING.** Scotchkote™ shall be as manufactured by Minnesota Mining and Manufacturing Company, or approved equivalent.

**108-2.11 EXISTING CIRCUITS.** Whenever the scope of work requires, connection to an existing circuit, the circuit's insulation resistance shall be tested, in the presence of the Engineer. The test shall be performed in accordance with this item and prior to any activity affecting the respective circuit. The Contractor shall record the results on forms acceptable to the engineer. When the work affecting the circuit is complete, the circuit's insulation resistance shall be checked again, in the presence of the Engineer. The Contractor shall record the results on forms acceptable to the engineer. The second reading shall be equal to or greater than the first reading or the Contractor shall make the necessary repairs to the circuit to bring the second reading above the first reading. All repair costs including a complete replacement of the L-823 connectors, L-830 transformers and L-824 cable, if necessary, shall be borne by the Contractor. All test results shall be submitted in the Operation and Maintenance (O&M) Manual.

**108-2.12 TEMPORARY CIRCUITING.** Refer to Item L-104 General Electrical Safety Requirements and Temporary Airfield Lighting for requirements. Basis for payment shall be as included in this section.

## CONSTRUCTION METHODS

**108-3.1 GENERAL.** The Contractor shall install the specified cable at the approximate locations indicated on the plans. Unless otherwise shown on the plans, all cable required to cross under pavements expected to carry aircraft loads shall be installed in concrete encased duct banks. Wherever possible, cable shall be run without splices, from connection to connection.

Cable connections between lights will be permitted only at the light locations for connecting the underground cable to the primary leads of the individual isolation transformers. The Contractor shall be responsible for providing cable in continuous lengths for home runs or other long cable runs without connections, unless otherwise authorized in writing by the Engineer or shown on the plans.

In addition to connectors being installed at individual isolation transformers, L-823 cable connectors for maintenance and test points shall be installed at locations shown on the plans. Cable circuit identification markers shall be installed on both sides of the L-823 connectors installed or at least once in each access point where L-823 connectors are not installed.

Provide not less than 3 feet of cable slack on each side of all connections, isolation transformers, light units, and at points where cable is connected to field equipment. Where provisions must be made for testing or for future above grade connections, provide enough slack to allow the cable to be extended at least 1 ft vertically above the top of the access structure. This requirement also applies where primary cable passes through empty base cans, junction and access structures to allow for future connections, or as designated by the Engineer.

**108-3.2 INSTALLATION IN DUCT BANKS OR CONDUITS.** This item includes the installation of the cable in duct banks or conduit as described below. The maximum number and voltage ratings of cables

installed in each single duct or conduit, and the current-carrying capacity of each cable shall be in accordance with the latest National Electric Code, or the code of the local agency or authority having jurisdiction.

The Contractor shall make no connections or splices of any kind in cables installed in conduits or duct banks.

Unless otherwise designated in the plans, where ducts are in tiers, use the lowest ducts to receive the cable first, with spare ducts left in the upper levels. Check duct routes prior to construction to obtain assurance that the shortest routes are selected and interferences are avoided.

Duct banks or conduits shall be installed as a separate item in accordance with Item L-110, "Airport Underground Electrical Duct Banks and Conduit." The Contractor shall run a flexible mandrel, 1/4-inch less than the conduit size, 2 wire brushes, and a rag through duct banks or conduit prior to installation of cable to insure that the duct bank or conduit is open, continuous and clear of debris. ~~Mandrel size shall be compatible with conduit size.~~ The Contractor shall swab out all conduits/ducts and clean base can, manhole, etc. interiors IMMEDIATELY prior to pulling cable. Once cleaned and swabbed the base cans and all accessible points of entry to the duct/conduit system shall be kept closed except when installing cables. Cleaning of ducts, base cans, manholes, etc. is incidental to the pay item of the item being cleaned. All raceway systems left open, after initial cleaning, for any reason shall be recleaned at the Contractor's expense. All accessible points shall be kept closed when not installing cable. The Contractor shall verify existing ducts proposed for use in this project as clear and open. The Contractor shall notify the Engineer of any blockage in the existing ducts. The cable shall be installed in a manner to prevent harmful stretching of the conductor, injury to the insulation, or damage to the outer protective covering. The ends of all cables shall be sealed with moisture-seal tape providing moisture-tight mechanical protection with minimum bulk, or alternately, heat shrinkable tubing before pulling into the conduit and it shall be left sealed until connections are made. Where more than one cable is to be installed in a conduit, all cable shall be pulled in the conduit at the same time. The pulling of a cable through duct banks or conduits may be accomplished by hand winch or power winch with the use of cable grips or pulling eyes. Maximum pulling tensions shall be governed by cable manufacturer's recommendations. A non-hardening lubricant ~~recommended for~~ approved for use with the type of cable being installed shall be used where pulling lubricant is required.

The Contractor shall submit to the engineer, a cable installation plan for all cable pulls. Cable installation plan shall include:

- a. Site layout drawing with cable pulls identified in numeric order of expected pulling sequence and direction of cable pull.
- b. List of cable installation equipment.
- c. Lubricant manufacturer's application instructions.
- d. Procedure for resealing cable ends to prevent moisture from entering cable.
- e. Cable pulling tension calculations of all cable pulls.
- f. Cable percentage conduit fill.
- g. Cable sidewall thrust pressure.
- h. Cable minimum bend radius and minimum diameter of pulling wheels used.

- i. Cable jam ratio.
- j. Maximum allowable pulling tension on each different type and size of conductor.
- k. Maximum allowable pulling tension on pulling device.

Contractor shall submit pulling tension values to the Engineer prior to any cable installation. ~~If required by the Engineer,~~ pulling tension values for cable pulls shall be monitored by a dynamometer in the presence of the Engineer. Cable pull tensions shall be recorded by the Contractor and reviewed by the Engineer. Cables exceeding the maximum allowable pulling tension values shall be removed and replaced by the Contractor at the Contractor's expense.

The manufacturer's minimum bend radius or the NEC requirements whichever is more restrictive shall apply. Cable installation, handling and storage shall be per manufacturer's recommendations. During cold weather, particular attention shall be paid to the manufacturer's minimum installation temperature. Cable shall not be installed when the temperature is at or below the manufacturer's minimum installation temperature. At the Contractor's option, the Contractor may submit a plan, for review by the Engineer, for heated storage of the cable and maintenance of an acceptable cable temperature during installation when temperatures are below the manufacturer's minimum cable installation temperature.

Cable shall not be dragged across base can or manhole edges, pavement or earth. When cable must be coiled, lay cable out on a canvas tarp or use other appropriate means to prevent abrasion to the cable jacket.

**108-3.3 INSTALLATION OF DIRECT-BURIED CABLE IN TRENCHES.** Unless otherwise specified, the Contractor shall not use a cable plow for installing the cable. Cable shall be unreeled uniformly in place alongside or in the trench and shall be carefully placed along the bottom of the trench. The cable shall not be unreeled and pulled into the trench from one end. Slack cable sufficient to provide strain relief shall be placed in the trench in a series of S curves. Sharp bends or kinks in the cable shall not be permitted. Where cables must cross over each other, a minimum of 3 in vertical displacement shall be provided with the topmost cable depth at or below the minimum required depth below finished grade.

Primary airfield lighting cables installed shall have cable circuit identification markers attached on both sides of each L-823 connector and on each airport lighting cable entering or leaving cable access points, such as manholes, handholes, pull boxes, junction boxes, etc. Markers shall be of sufficient length for imprinting the cable circuit identification legend on one line, using letters not less than ¼ in in size. The cable circuit identification shall match the circuits noted on the construction plans.

**a. Trenching.** Where turf is well established and the sod can be removed, it shall be carefully stripped and properly stored. Trenches for cables may be excavated manually or with mechanical trenching equipment. Walls of trenches shall be essentially vertical so that a minimum of surface is disturbed. Graders shall not be used to excavate the trench with their blades. The bottom surface of trenches shall be essentially smooth and free from coarse aggregate. Unless otherwise specified, cable trenches shall be excavated to a minimum depth of 18 in below finished grade, except as follows:

(1) When off the airport or crossing under a roadway or driveway, the minimum depth shall be 36 in unless otherwise specified.

(2) Minimum cable depth when crossing under a railroad track, shall be 42 in unless otherwise specified.

Dewatering necessary for cable installation, erosion and turbidity control, in accordance with Federal, State, and Local requirements is incidental to its respective pay items as part of Item L-108. The cost of

all excavation regardless of type of material encountered, shall be included in the unit price bid for the L-108 Item.

The Contractor shall excavate all cable trenches to a width not less than 6 in. Unless otherwise specified on the plans, all cables in the same location and running in the same general direction shall be installed in the same trench.

When rock is encountered, the rock shall be removed to a depth of at least 3 in below the required cable depth and it shall be replaced with bedding material of earth or sand containing no mineral aggregate particles that would be retained on a 1/4 in sieve. Flowable backfill material may alternatively be used. The Contractor shall ascertain the type of soil or rock to be excavated before bidding. All such rock removal shall be performed and paid for under Item P-152.

Duct bank or conduit markers temporarily removed for trench excavations shall be replaced as required.

It is the Contractor's responsibility to locate existing utilities within the work area prior to excavation. Where existing active cables cross proposed installations, the Contractor shall insure that these cables are adequately protected. Where crossings are unavoidable, no splices will be allowed in the existing cables, except as specified on the plans. Installation of new cable where such crossings must occur shall proceed as follows:

(1) Existing cables shall be located manually. Unearthed cables shall be inspected to assure absolutely no damage has occurred.

(2) Trenching, etc., in cable areas shall then proceed, with approval of the Engineer, with care taken to minimize possible damage or disruption of existing cable, including careful backfilling in area of cable.

In the event that any previously identified cable is damaged during the course of construction, the Contractor shall be responsible for the complete repair or replacement.

**b. Backfilling.** After the cable has been installed, the trench shall be backfilled. The first layer of backfill in the trench shall be 3 in deep, loose measurement, and shall be either earth or sand containing no mineral aggregate particles that would be retained on a 1/4 in sieve. This layer shall not be compacted. The second layer shall be 5 in deep, loose measurement, and shall contain no particles that would be retained on a 1 in sieve. The remaining 3<sup>rd</sup> and subsequent layers of backfill shall not exceed 8 in of loose measurement and be excavated or imported material and shall not contain stone or aggregate larger than 4 in maximum diameter.

The second and subsequent layers shall be thoroughly tamped and compacted to at least the density of the adjacent undisturbed soil, and to the satisfaction of the Engineer. If necessary to obtain the desired compaction, the backfill material shall be moistened or aerated as required.

Trenches shall not contain pools of water during backfilling operations. The trench shall be completely backfilled and tamped level with the adjacent surface, except that when turf is to be established over the trench, the backfilling shall be stopped at an appropriate depth consistent with the type of turfing operation to be accommodated. A proper allowance for settlement shall also be provided. Any excess excavated material shall be removed and disposed of in accordance with the plans and specifications.

Underground electrical warning (caution) tape shall be installed in the trench above all direct-buried cable. Contractor shall submit a sample of the proposed warning tape for acceptance by the Engineer. If not shown on the plans, the warning tape shall be located 6 in above the direct-buried cable or the

counterpoise wire if present. A 4-6 in wide polyethylene film detectable tape, with a metalized foil core, shall be installed above all direct buried cable or counterpoise. The tape shall be of the color and have a continuous legend as indicated on the plans. The tape shall be installed 8 in minimum below finished grade.

**c. Restoration.** Where soil and sod has been removed, it shall be replaced as soon as possible after the backfilling is completed. All areas disturbed by work shall be restored to its original condition. The restoration shall include the **[sodding] [topsoiling] [fertilizing] [liming] [seeding] [sprigging]** and **[mulching]** as shown on the plans. Refer to specifications T-901 Seeding, T-904 Sodding and T-908 Mulching. The Contractor shall be held responsible for maintaining all disturbed surfaces and replacements until final acceptance. When trenching is through paved areas, restoration shall be equal to existing conditions and compaction shall meet the requirements of Item P-152 Excavation and Embankment. Restoration shall be considered incidental to the pay item of which it is a component part.

**108-3.4 CABLE MARKERS FOR DIRECT-BURIED CABLE.** The location of direct buried circuits shall be marked by a concrete slab marker, 2 feet (60 cm) square and 4-6 in (100 - 150 mm) thick, extending approximately 1 in (25 mm) above the surface. Each cable run from a line of lights and signs to the equipment vault shall be marked at approximately every 200 feet (60 m) along the cable run, with an additional marker at each change of direction of cable run. All other direct-buried cable shall be marked in the same manner. Cable markers shall be installed directly above the cable. The Contractor shall impress the word "CABLE" and directional arrows on each cable marking slab. The letters shall be approximately 4 in (100 mm) high and 3 in (75 mm) wide, with width of stroke 1/2 in (12 mm) and 1/4 in (6 mm) deep.

The location of each underground cable connection, except at lighting units, or isolation transformers, or power adapters shall be marked by a concrete marker slab placed above the connection. The Contractor shall impress the word "SPlice" on each slab. The Contractor also shall impress additional circuit identification symbols on each slab as directed by the Engineer. All cable markers and splice markers shall be painted international orange. Paint shall be specifically manufactured for uncured exterior concrete. Furnishing and installation of cable markers is incidental to the respective cable pay item.

**108-3.5 SPLICING.** Connections of the type shown on the plans shall be made by experienced personnel regularly engaged in this type of work and shall be made as follows:

**a. Cast Splices.** These shall be made by using crimp connectors for jointing conductors. Molds shall be assembled, and the compound shall be mixed and poured in accordance with manufacturer's instructions and to the satisfaction of the Engineer.

**b. Field-attached Plug-in Splices.** These shall be assembled in accordance with manufacturer's instructions. These splices shall be made by plugging directly into mating connectors. In all cases the joint where the connectors come together shall be wrapped with at least one layer of rubber or synthetic rubber tape and one layer of plastic tape, one-half lapped, extending at least 1-1/2 in (37 mm) on each side of the joint.

**c. Factory-Molded Plug-in Splices.** These shall be made by plugging directly into mating connectors. In all cases, the joint where the connectors come together shall be wrapped with at least one layer of rubber or synthetic rubber tape and one layer of plastic tape, one-half lapped, extending at least 1-1/2 in (37 mm) on each side of the joint.

**d. Taped or Heat-Shrunk Splices.** A taped splice shall be made in the following manner: Bring the cables to their final position and cut so that the conductors will butt. Remove insulation and jacket allowing for bare conductor of proper length to fit compression sleeve connector with 1/4 in (6 mm) of bare conductor on each side of the connector. Prior to splicing, the two ends of the cable insulation shall be penciled using a tool designed specifically for this purpose and for cable size and type. Do not use emery paper on splicing operation since it contains metallic particles. The copper conductors shall be

thoroughly cleaned. Join the conductors by inserting them equidistant into the compression connection sleeve. Crimp conductors firmly in place with crimping tool that requires a complete crimp before tool can be removed. Test the crimped connection by pulling on the cable. Scrape the insulation to assure that the entire surface over which the tape will be applied (plus 3 in (75 mm) on each end) is clean. After scraping wipe the entire area with a clean lint-free cloth. Do not use solvents.

Apply high-voltage rubber tape one-half lapped over bare conductor. This tape should be tensioned as recommended by the manufacturer. Voids in the connector area may be eliminated by highly elongating the tape, stretching it just short of its breaking point. Throughout the rest of the splice less tension should be used. Always attempt to exactly half-lap to produce a uniform buildup. Continue buildup to 1-1/2 times cable diameter over the body of the splice with ends tapered a distance of approximately 1 in (25 mm) over the original jacket. Cover rubber tape with two layers of vinyl pressure-sensitive tape one-half lapped. Do not use glyptol or lacquer over vinyl tape as they react as solvents to the tape. No further cable covering or splice boxes are required.

Heat shrinkable tubing shall be installed following manufacturer's instructions. Direct flame heating shall not be permitted unless recommended by the manufacturer. Cable surfaces within the limits of the heat-shrink application shall be clean and free of contaminants prior to application.

**108-3.6 BARE COUNTERPOISE WIRE INSTALLATION FOR LIGHTNING PROTECTION AND GROUNDING.** If shown on the plans or included in the job specifications, bare counterpoise copper wire shall be installed for lightning protection of the underground cables. Counterpoise wire shall be installed in the same trench for the entire length of buried cable, conduits and duct banks that are installed to contain airfield cables. Where the cable or duct/conduit trench runs parallel to the edge of pavement, the counterpoise shall be installed in a separate trench located half the distance between the pavement edge and the cable or duct/conduit trench. In trenches not parallel to pavement edges, counterpoise wire shall be installed continuously a minimum of 4 in above the cable, conduit or duct bank, or as shown on the plans if greater. Additionally, counterpoise wire shall be installed at least 8 in below the top of subgrade in paved areas or 10 in below finished grade in un-paved areas. This dimension may be less than 4 in where conduit is to be embedded in existing pavement. Counterpoise wire shall not be installed in conduit.

The counterpoise wire shall be routed around to each light fixture base, mounting stake, or junction/access structures. The counterpoise wire shall also be exothermically welded to ground rods installed as shown on the plans but not more than 500 ft (150 m) apart around the entire circuit.

The counterpoise system shall be continuous and terminate ~~at~~ outside the transformer vault or ~~at separate from~~ the power source. It shall be securely attached to the vault or equipment external ground ring or other made electrode grounding system. The connections shall be made as shown on the plans and in the specifications.

If shown on the plans or in the specifications, a separate equipment (safety) ground system shall be provided in addition to the counterpoise wire using one of the following methods:

(1) A ground rod installed at and securely attached to each light fixture base, mounting stake if painted, and to all metal surfaces at junction/access structures.

(2) Install an insulated equipment ground conductor internal to the conduit system and securely attached it to each light fixture base and to all metal surfaces at junction/access structures. This equipment ground conductor shall also be exothermically welded to ground rods installed not more than 500 feet (150 m) apart around the circuit.

**a. Counterpoise Wire Installation Above Multiple Conduits and Duct Banks.** Counterpoise wires shall be installed above multiple conduits/duct banks for airfield lighting cables, with the intent being to provide a complete cone of protection over the airfield lighting cables. When multiple conduits and/or duct banks for airfield cable are installed in the same trench, the number and location of counterpoise wires above the conduits shall be adequate to provide a complete cone of protection measured 22 ½ degrees each side of vertical.

Where duct banks pass under pavement to be constructed in the project, the counterpoise shall be placed above the duct bank. Reference details on the construction plans.

**b. Counterpoise Wire Installation at Existing Duct Banks.** When airfield lighting cables are indicated on the plans to be routed through existing duct banks, the new counterpoise wiring shall be terminated at ground rods at each end of the existing duct bank where the cables being protected enter and exit the duct bank. The new counterpoise conductor shall be bonded to the existing counterpoise system.

**108-3.7 EXOTHERMIC BONDING.** Bonding of ground and counterpoise wire shall be by the exothermic welding process. Only personnel experienced in and regularly engaged in this type of work shall make these connections.

Contractor shall demonstrate to the satisfaction of the Engineer, the welding kits, materials and procedures to be used for welded connections prior to any installations in the field. The installations shall comply with the manufacturer's recommendations and the following:

a. All slag shall be removed from welds.

b. For welds at light fixture base cans, all galvanized coated surface areas and "melt" areas, both inside and outside of base cans, damaged by exothermic bond process shall be restored by coating with a liquid cold-galvanizing compound conforming to U.S. Navy galvanized repair coating meeting Mil. Spec. MIL-P-21035. Surfaces to be coated shall be prepared and compound applied in accordance with manufacturer's recommendations.

c. All buried copper and weld material at weld connections shall be thoroughly coated 6 mil of 3M "Scotchkote," or approved equivalent, or coated with coal tar Bitumastic® material to prevent surface exposure to corrosive soil or moisture.

**108-3.8 TESTING.** The Contractor shall furnish all necessary equipment and appliances for testing the airport electrical systems and underground cable circuits before and after installation. The Contractor shall perform all tests in the presence of the Engineer. The Contractor shall demonstrate the electrical characteristics to the satisfaction of the Engineer. All costs for testing are incidental to the respective item being tested. For phased projects, the tests must be completed by phase and results meeting the specifications below must be maintained by the Contractor throughout the entire project as well as during the ensuing warranty period.

Earth resistance testing methods shall be submitted to the Engineer for approval. Earth resistance testing results shall be recorded on an approved form and testing shall be performed in the presence of the Engineer. All such testing shall be at the sole expense of the Contractor.

Should the counterpoise or ground grid conductors be damaged or suspected of being damaged by construction activities the Contractor shall test the conductors for continuity with a low resistance ohmmeter. The conductors shall be isolated such that no parallel path exists and tested for continuity.

The Engineer shall approve of the test method selected. All such testing shall be at the sole expense of the Contractor.



After installation, the Contractor shall test and demonstrate to the satisfaction of the Engineer the following:

- a. That all affected lighting power and control circuits (existing and new) are continuous and free from short circuits.
- b. That all affected circuits (existing and new) are free from unspecified grounds.
- c. That the insulation resistance to ground of all new non-grounded series circuits or cable segments is not less than 50 megohms.
- d. That the insulation resistance to ground of all non-grounded conductors of new multiple circuits or circuit segments is not less than 50 megohms.
- e. That all affected circuits (existing and new) are properly connected in accordance with applicable wiring diagrams.
- f. That all affected circuits (existing and new) are operable. Tests shall be conducted that include operating each control not less than 10 times and the continuous operation of each lighting and power circuit for not less than 1/2 hour.
- g. That the impedance to ground of each ground rod does not exceed 25 ohms prior to establishing connections to other ground electrodes. The fall-of-potential ground impedance test shall be used, as described by ANSI/IEEE Standard 81, to verify this requirement.

Two copies of tabulated results of all cable tests performed shall be supplied by the Contractor to the Engineer. Where connecting new cable to existing cable, ground resistance tests shall be performed on the new cable prior to connection to the existing circuit.

There are no approved "repair" procedures for items that have failed testing other than complete replacement.

Refer to Item L-131 for additional testing requirements.

**108-3.9 CABLE INSTALLATION REPORTS.** Submit copies of the information described below in 8-1/2-inch by 11-inch binders having a minimum of 5 rings from which material may readily be removed and replaced, including a separate section for each cable pull. Sections shall be separated by heavy plastic dividers with tabs, with all data sheets signed and dated by the person supervising the pull.

- a. Site layout drawing with all cable pulls numerically identified.
- b. A list of all equipment used, with calibration certifications.
- c. The manufacturer of and quantity of lubricant used on pull.
- d. The cable manufacturer and type of cable. The dates of cable pulls, time of day, and ambient temperature.
- e. The length of cable pulls and calculated cable pulling tensions.
- f. The actual cable pulling tensions encountered during pull.

## METHOD OF MEASUREMENT

**108-4.1** Trenching shall be measured by the linear feet (meters) of trench, including the excavation, backfill, and restoration, completed, measured as excavated, and accepted as satisfactory.

When specified, separate measurement shall be made for trenches of various specified widths.

The cost of all excavation, backfill, dewatering and restoration regardless of the type of material encountered shall be included in the unit price bid for the work.

**108-4.2** Cable or counterpoise wire installed in trench, duct bank or conduit shall be measured by the number of linear feet (meters) of cable or counterpoise wire installed in trenches, duct bank or conduit, including ground rods and grounding connectors, and trench marking tape ready for operation, and accepted as satisfactory by the Engineer. Separate measurement shall be made for each cable or counterpoise wire installed in trench, duct bank or conduit. The measurement for this item ~~[shall]~~ **[shall not]** include additional quantities required for slack.

## BASIS OF PAYMENT

**108-5.1** Payment will be made at the contract unit price for trenching, cable and bare counterpoise wire installed in trench (direct-buried), or cable and equipment ground installed in duct bank or conduit, in place by the Contractor and accepted by the Engineer. This price shall be full compensation for furnishing all materials and for all preparation and installation of these materials, and for all labor, equipment, tools, and incidentals, including ground rods and ground connectors and trench marking tape, necessary to complete this item.

Payment will be made under:

- Item L-108-5.1      ~~Trenching for direct-buried cable per linear foot (meter)~~
- Item L-108-5.2      ~~**[No. 8 AWG] [No. 6 AWG]** L-824C Cable, installed in trench, duct bank or conduit per linear foot (meter)~~
- Item L-108-5.3      ~~Bare Counterpoise Wire, installed in trench, duct bank or conduit, including ground rods and ground connectors per linear foot (meter)~~
- Item L-108-5.4      ~~Bare or insulated equipment ground, installed in duct bank or conduit including ground rods and ground conductors per linear foot (meter)~~

~~Item L-108-5.1      1/C No. 8 AWG, 5kV, L-824C Cable, Series Lighting Cable Installed in Duct Bank or Conduit Per Linear Foot (meter)~~

~~Item L-108-5.2      1/C No. 6 AWG, Bare Copper Counterpoise Wire Installed In Trench, Including Ground Rods And Grounding Connectors Per Linear Foot (meter)~~

Item L-108-5.3      2/C #8 600V THHN Cable -- Per Linear Foot (meter)

~~Item L-108-5.4      1/C #6 600V THHN Cable Per Linear Foot (meter)~~

Item L-108-5.5	1/C #4 Equipment Ground -- Per Linear Foot (meter)
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<del>Item L-108-5.6</del>	<del>1/C NO. 6 AWG, 5KV, Type L-824 Cable, Equipment Ground, Installed in Conduit -- Per Linear Foot (meter)</del>
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### MATERIAL REQUIREMENTS

AC 150/5345-7	Specification for L-824 Underground Electrical Cable for Airport Lighting Circuits
AC 150/5345-26	Specification for L-823 Plug and Receptacle Cable Connectors
FED SPEC J-C-30	Cable and Wire, Electrical Power, Fixed Installation (cancelled; replaced by A-A-59544 Cable and Wire, Electrical (Power, Fixed Installation))
FED SPEC A-A-55809 ASTM B 3	Insulation Tape, Electrical, Pressure-Sensitive Adhesive, Plastic Soft or Annealed Copper Wire
ASTM D 4388	Rubber tapes, Nonmetallic Semiconducting and Electrically Insulating

### REFERENCE DOCUMENTS

NFPA No. 70	National Electrical Code (NEC)
MIL-S-23586C	Sealing Compound, Electrical, Silicone Rubber
NN	Building Industry Consulting Service International (BICSI)
ANSI/IEEE Std 81	IEEE Guide for Measuring Earth Resistivity, Ground Impedance, and Earth Surface Potentials of a Ground System

### END OF ITEM L-108

## ITEM L-110 AIRPORT UNDERGROUND ELECTRICAL DUCT BANKS AND CONDUITS

### DESCRIPTION

**110-1.1** This item shall consist of underground electrical conduits and duct banks (single or multiple conduits encased in concrete) installed in accordance with this specification at the locations and in accordance with the dimensions, designs, and details shown on the plans. This item shall include furnishing and installing of all underground electrical duct banks and individual and multiple underground conduits. It shall also include all turfing trenching, backfilling, removal, and restoration of any paved or turfed areas; counterpoise wire, concrete encasement, mandreling, pulling lines, duct markers, plugging of conduits, and the testing of the installation as a completed system ready for installation of cables in accordance with the plans and specifications. This item shall also include furnishing and installing conduits and all incidentals for providing positive drainage of the system. Verification of existing ducts is incidental to the pay items provided in this specification.

### EQUIPMENT AND MATERIALS

#### 110-2.1 GENERAL.

**a.** All equipment and materials covered by referenced specifications shall be subject to acceptance through manufacturer's certification of compliance with the applicable specification when so requested by the Engineer.

**b.** Manufacturer's certifications shall not relieve the Contractor of the Contractor's responsibility to provide materials in accordance with these specifications and acceptable to the Engineer. Materials supplied and/or installed that do not materially comply with these specifications shall be removed, when directed by the Engineer and replaced with materials, which do comply with these specifications, at the sole cost of the Contractor.

**c.** All materials and equipment used to construct this item shall be submitted to the Engineer for approval prior to ordering the equipment. Submittals consisting of marked catalog sheets or shop drawings shall be provided. Submittal data shall be presented in a clear, precise and thorough manner. Original catalog sheets are preferred. Photocopies are acceptable provided they are as good a quality as the original. Clearly and boldly mark each copy to identify pertinent products or models applicable to this project. Indicate all optional equipment and delete non-pertinent data. Submittals for components of electrical equipment and systems shall identify the equipment for which they apply on each submittal sheet. Markings shall be boldly and clearly made with arrows or circles (highlighting is not acceptable). Contractor is solely responsible for delays in project accruing directly or indirectly from late submissions or resubmissions of submittals. The Contractor's submittals shall be in accordance with Item L-106, Submittals, Record Documents and Maintenance Manuals.

**d.** The data submitted shall be sufficient, in the opinion of the Engineer, to determine compliance with the plans and specifications. [The Contractor's submittals shall be neatly bound in a properly sized 3-ring binder, tabbed by specification section.] The Contractor's submittals shall be submitted to the Engineer within fifteen (15) days of the notice to proceed. Submittals shall comply with Item L-106. The Engineer reserves the right to reject any and all equipment, materials or procedures, which, in the Engineer's opinion, does not meet the system design and the standards and codes, specified herein.

**e.** All equipment and materials furnished and installed under this section shall be guaranteed against defects in materials and workmanship for a period of at least [twelve (12) months] from final acceptance by the Owner. The defective materials and/or equipment shall be repaired or replaced, at the Owner's discretion, with no additional cost to the Owner.

**110-2.2 STEEL CONDUIT.** Rigid galvanized steel conduit and fittings shall be hot dipped galvanized inside and out and conform to the requirements of Underwriters Laboratories Standard 6, 514B, and 1242.

**110-2.3 PLASTIC CONDUIT.** Plastic conduit and fittings shall conform to the requirements of Fed. Spec. W--C-1094, Underwriters Laboratories Standards UL-651 and Article 352 of the current National Electrical Code shall be one of the following, as shown on the plans:

- a. Type I--Schedule 40 PVC suitable for underground use either direct-buried or encased in concrete.
- b. Type II--Schedule 40 PVC suitable for either above ground or underground use.

The type of adhesive shall be as recommended by the conduit/fitting manufacturer.

**110-2.4 SPLIT CONDUIT.** Split conduit shall be pre-manufactured for the intended purpose and shall be made of steel or plastic.

**110-2.5 CONDUIT SPACERS.** Conduit spacers shall be prefabricated interlocking units manufactured for the intended purpose. They shall be of double wall construction made of high grade, high density polyethylene complete with interlocking cap and base pads, They shall be designed to accept No. 4 reinforcing bars installed vertically.

**110-2.6 CONCRETE.** Concrete shall conform to Item P-610, Structural Portland Cement Concrete, using [1 ] inch maximum size coarse aggregate with a minimum 28 day compressive strength of [4,000 ] psi. Where reinforced duct banks are specified, reinforcing steel shall conform to ASTM A 615 Grade 60. Concrete and reinforcing steel are incidental to the respective pay item of which they are a component part.

**110-2.7 FLOWABLE BACKFILL.** Flowable material used to back fill conduit and duct bank trenches shall conform to the requirements of Item P-153 "Controlled Low Strength Material".

**110-2.8 DETECTABLE WARNING TAPE** Plastic, detectable, color as noted magnetic tape shall be polyethylene film with a metallized foil core and shall be 4 - 6 in (75 - 150 mm) wide. Detectable tape is incidental to the respective bid item.

**110-2.9 COUNTERPOISE WIRE.** Counterpoise wire shall be as specified in Item L-110 Airport Underground Electrical Duct Banks and Conduits.

## CONSTRUCTION METHODS

**110-3.1 GENERAL.** The Contractor shall install underground duct banks and conduits at the approximate locations indicated on the plans. The Engineer shall indicate specific locations as the work progresses, if required to differ from the plans. Duct banks and conduits shall be of the size, material, and type indicated on the plans or specifications. Where no size is indicated on the plans or in the specifications, conduits shall be not less than 2 in (50 mm) inside diameter or comply with the National Electrical Code based on cable to be installed, whichever is larger. All duct bank and conduit lines shall be laid so as to grade toward access points and duct or conduit ends for drainage. Unless shown otherwise on the plans, grades shall be at least 3 in (75 mm) per 100 feet (30 m). On runs where it is not practicable to maintain the grade all one way, the duct bank and conduit lines shall be graded from the center in both directions toward access points or conduit ends, with a drain into the storm drainage system. Pockets or traps

where moisture may accumulate shall be avoided. No duct bank or underground conduit shall be less than 18 in below finished grade. Where under pavement, the top of the duct bank shall not be less than 18 in below the subgrade.

The Contractor shall mandrel each individual conduit whether the conduit is direct-buried or part of a duct bank. ~~A flexible~~ ~~An iron-shod~~ mandrel, not more than ¼ in (6 mm) smaller than the bore of the conduit shall be pulled or pushed through each conduit. The mandrel shall have a leather or rubber gasket slightly larger than the conduit hole.

The Contractor shall swab out all conduits/ducts and clean base can, manhole, pull boxes, etc. interiors IMMEDIATELY prior to pulling cable. Once cleaned and swabbed the base cans, manhole, pull boxes, etc. and all accessible points of entry to the duct/conduit system shall be kept closed except when installing cables. Cleaning of ducts, base cans, manholes, etc. is incidental to the pay item of the item being cleaned. All raceway systems left open, after initial cleaning, for any reason shall be recleaned at the Contractor's expense. All accessible points shall be kept closed when not installing cable. The Contractor shall verify existing ducts proposed for use in this project as clear and open. The Contractor shall notify the Engineer of any blockage in the existing ducts.

For pulling the permanent wiring, each individual conduit, whether the conduit is direct-buried or part of a duct bank, shall be provided with a 200 pound test polypropylene pull rope. The ends shall be secured and sufficient length shall be left in access points to prevent it from slipping back into the conduit. Where spare conduits are installed, as indicated on the plans, the open ends shall be plugged with removable tapered plugs, designed for this purpose.

All conduits shall be securely fastened in place during construction and shall be plugged to prevent contaminate from entering the conduits. Any conduit section having a defective joint shall not be installed. Ducts shall be supported and spaced apart using approved spacers at intervals not to exceed 5 feet. Unless otherwise shown on the plans, concrete encased duct banks shall be used when crossing under pavements expected to carry aircraft loads.

~~Where turf is well established and the sod can be removed, it shall be carefully stripped and properly stored.~~

Trenches for conduits and duct banks may be excavated manually or with mechanical trenching equipment unless in pavement, in which case they shall be excavated with mechanical trenching equipment. Walls of trenches shall be essentially vertical so that a minimum of shoulder surface is disturbed. Blades of graders shall not be used to excavate the trench.

When rock is encountered, the rock shall be removed to a depth of at least 3 in below the required conduit or duct bank depth and it shall be replaced with bedding material of earth or sand containing no mineral aggregate particles that would be retained on a 1/4 in sieve. Flowable backfill may alternatively be used. The Contractor shall ascertain the type of soil or rock to be excavated before bidding. All such rock removal shall be performed and paid for under Item P-152 Excavation and Embankment.

Underground electrical warning (Caution) tape shall be installed in the trench above all underground duct banks and conduits in unpaved areas. Contractor shall submit a sample of the proposed warning tape for approval by the Engineer. If not shown on the plans, the warning tape shall be located six in above the duct/conduit or the counterpoise wire if present.

Joints in plastic conduit shall be prepared in accordance with the manufacturer's recommendations for the particular type of conduit. Plastic conduit shall be prepared by application of a plastic cleaner and brushing a plastic solvent on the outside of the conduit ends and on the inside of the couplings. The conduit fitting shall then be slipped together with a quick one-quarter turn twist to set the joint tightly.

Where more than one conduit is placed in a single trench, or in duct banks, joints in the conduit shall be staggered a minimum of 2 feet.

Changes in direction of runs exceeding 10 degrees, either vertical or horizontal, shall be accomplished using manufactured sweep bends.

Whether or not specifically indicated on the drawings, where the soil encountered at established duct bank grade is an unsuitable material, as determined by the Engineer, the unsuitable material shall be removed in accordance with Item P-152 and replaced with suitable material. Alternatively, additional duct bank supports that are adequate and stable shall be installed, as approved by the Engineer.

All excavation shall be unclassified and shall be considered incidental to the respective L-110 pay item of which it is a component part. Dewatering necessary for duct installation, erosion and turbidity control, in accordance with Federal, State, and Local requirements is incidental to its respective pay item as a part of Item L-110. The cost of all excavation regardless of type of material encountered, shall be included in the unit price bid for the L-110 Item.

Unless otherwise specified, excavated materials that are deemed by the Engineer to be unsuitable for use in backfill or embankments shall be removed and disposed of offsite.

Any excess excavation shall be filled with suitable material approved by the Engineer and compacted in accordance with item P-152.

It is the Contractor's responsibility to locate existing utilities within the work area prior to excavation. Where existing active cables cross proposed installations, the Contractor shall insure that these cables are adequately protected. Where crossings are unavoidable, no splices will be allowed in the existing cables, except as specified on the plans. Installation of new cable where such crossings must occur shall proceed as follows:

(1) Existing cables shall be located manually. Unearthed cables shall be inspected to assure absolutely no damage has occurred

(2) Trenching, etc., in cable areas shall then proceed with approval of the Engineer, with care taken to minimize possible damage or disruption of existing cable, including careful backfilling in area of cable. In the event that any previously identified cable is damaged during the course of construction, the Contractor shall be responsible for the complete repair.

**110-3.2 DUCT BANKS.** Unless otherwise shown in the plans, duct banks shall be installed so that the top of the concrete envelope is not less than 18 in (45 cm) below the bottom of the base or stabilized base course layers where installed under runways, taxiways, aprons, or other paved areas, and not less than 18 in (45 cm) below finished grade where installed in unpaved areas.

Unless otherwise shown on the plans, duct banks under paved areas shall extend at least 3 feet (90 cm) beyond the edges of the pavement or 3 feet (90 cm) beyond any underdrains that may be installed alongside the paved area. Trenches for duct banks shall be opened the complete length before concrete is placed so that if any obstructions are encountered, proper provisions can be made to avoid them. Unless otherwise shown on the plans, all duct banks shall be placed on a layer of concrete not less than 3 in (75 mm) thick prior to its initial set. Where two or more conduits in the duct bank are intended to carry conductors of equivalent voltage insulation rating, the Contractor shall space the conduits not less than 1-1/2 in (37 mm) apart (measured from outside wall to outside wall). Where two or more conduits in the duct bank are intended to carry conductors of differing voltage insulation rating, the Contractor shall space the conduits not less than 3 in apart (measured from outside wall to outside wall). All such multiple conduits shall be placed using conduit spacers applicable to the type of conduit. As the conduit laying progresses, concrete shall be placed around and on top of the conduits not less than 3 in (75 mm) thick unless

otherwise shown on the plans. End bells or couplings shall be installed flush with the concrete encasement at access points.

Conduits forming the duct bank shall be installed using conduit spacers. No. 4 reinforcing bars shall be driven vertically into the soil a minimum of 6 in to anchor the assembly into the earth prior to placing the concrete encasement. For this purpose, the spacers shall be fastened down with locking collars attached to the vertical bars. Spacers shall be installed at 5 ft intervals. Spacers shall be in the proper sizes and configurations to fit the conduits. Locking collars and spacers shall be submitted to the Engineer for review prior to use.

When specified, the Contractor shall reinforce the bottom side and top of encasements with steel reinforcing mesh or fabric or other approved metal reinforcement. When directed, the Contractor shall supply additional supports where the ground is soft and boggy, where ducts cross under roadways, or where shown on the plans. Under such conditions, the complete duct structure shall be supported on reinforced concrete footings, piers, or piles located at approximately 5 ft (150 cm) intervals.

All pavement surfaces that are to have ducts installed therein shall be neatly saw cut to form a vertical face. All excavation shall be included in the contract unit with price for the duct.

Install a plastic, detectable, color as noted, 4 - 6 in (75 – 150 mm) wide tape 8 in (200 mm) minimum below grade above all underground conduit or duct lines not installed under pavement.

When existing cables are to be placed in split duct, encased in concrete, the cable shall be carefully located and exposed by hand tools. Prior to being placed in duct, the Engineer shall be notified so that he may inspect the cable and determine that it is in good condition. Where required, split duct shall be installed as shown on the drawings or as required by the Engineer.

**110-3.3 CONDUITS WITHOUT CONCRETE ENCASEMENT.** Trenches for single-conduit lines shall be not less than 6 in (150 mm) nor more than 12 in (300 mm) wide, and the trench for 2 or more conduits installed at the same level shall be proportionately wider. Trench bottoms for conduits without concrete encasement shall be made to conform accurately to grade so as to provide uniform support for the conduit along its entire length.

Unless otherwise shown on the plans, a layer of fine earth material, at least 4 in (100 mm) thick (loose measurement) shall be placed in the bottom of the trench as bedding for the conduit. The bedding material shall consist of soft dirt, sand or other fine fill, and it shall contain no particles that would be retained on a 1/4 in (6 mm) sieve. The bedding material shall be tamped until firm. Flowable backfill may alternatively used.

Unless otherwise shown on plans, conduits shall be installed so that the tops of all conduits are at least 18 in (45 cm) below the finished grade.

When two or more individual conduits intended to carry conductors of equivalent voltage insulation rating are installed in the same trench without concrete encasement, they shall be spaced not less than 2 in (50 mm) apart (measured from outside wall to outside wall) in a horizontal direction and not less than 6 in (150 mm) apart in a vertical direction. Where two or more individual conduits intended to carry conductors of differing voltage insulation rating are installed in the same trench without concrete encasement, they shall spaced not less than 3 in (75 mm) apart (measured from outside wall to outside wall) in a horizontal direction and not less than 6 in (150 mm) apart in a vertical direction.

Trenches shall be opened the complete length between normal termination points before conduit is installed so that if any unforeseen obstructions are encountered, proper provisions can be made to avoid them.



Conduits shall be installed using conduit spacers. No. 4 reinforcing bars shall be driven vertically into the soil a minimum of 6 in to anchor the assembly into the earth while backfilling. For this purpose, the spacers shall be fastened down with locking collars attached to the vertical bars. Spacers shall be installed at 5 ft intervals. Spacers shall be in the proper sizes and configurations to fit the conduits. Locking collars and spacers shall be submitted to the Engineer for review prior to use.

**110-3.4 MARKERS.** The location of each end and of each change of direction of conduits and duct banks shall be marked by a concrete slab marker 2 feet (60 cm) square and 4 - 6 in (100 - 150 mm) thick extending approximately 1 in (25 mm) above the surface. The markers shall also be located directly above the ends of all conduits or duct banks, except where they terminate in a junction/access structure or building.

The Contractor shall impress the word "DUCT" or "CONDUIT" on each marker slab. The Contractor shall also impress on the slab the number and size of conduits beneath the marker along with all other necessary information as determined by the Engineer. The letters shall be 4 in (100 mm) high and 3 in (75 mm) wide with width of stroke  $\frac{1}{2}$  in (12 mm) and  $\frac{1}{4}$  in (6 mm) deep or as large as the available space permits. Furnishing and installation of duct markers is incidental to the respective duct pay item.

**110-3.5 BACKFILLING FOR CONDUITS.** For conduits, 8 in (200 cm) of sand, soft earth, or other fine fill (loose measurement) shall be placed around the conduits ducts and carefully tamped around and over them with hand tampers. The remaining trench shall then be backfilled and compacted in accordance with Item P-152 "Excavation and Embankment" except that material used for back fill shall be select material not larger than 4 in in diameter.

Flowable backfill may alternatively be used.

Trenches shall not contain pools of water during back, filling operations.

The trench shall be completely backfilled and tamped level with the adjacent surface: except that, where sod is to be placed over the trench, the backfilling shall be stopped at a depth equal to the thickness of the sod to be used, with proper allowance for settlement.

Any excess excavated material shall be removed and disposed of in accordance with instructions issued by the Engineer.

**110-3.6 BACKFILLING FOR DUCT BANKS.** After the concrete has cured, the remaining trench shall be backfilled and compacted in accordance with Item P-152 "Excavation and Embankment" except that the material used for backfill shall be select material not larger than 4 in in diameter. In addition to the requirements of P-152, where duct banks are installed under pavement, one moisture/density test per lift shall be made for each 250 linear feet of duct bank or one work period's construction, whichever is less.

Flowable backfill may alternatively be used.

Trenches shall not contain pools of water during backfilling operations.

The trench shall be completely backfilled and tamped level with the adjacent surface: except that, where sod is to be placed over the trench, the backfilling shall be stopped at a depth equal to the thickness of the sod to be used, with proper allowance for settlement.

Any excess excavated material shall be removed and disposed of in accordance with instructions issued by the Engineer.

**110-3.7 RESTORATION.** Where sod has been removed, it shall be replaced as soon as possible after the backfilling is completed. All areas disturbed by the work shall be restored to its original condition. The

restoration shall include **[sodding]**, **[topsoiling]**, **[fertilizing]**, **[liming]**, **[seeding]**, **[sprigging]** and **[mulching]** as shown on the plans. Refer to specifications T-901 Seeding, T-904 Sodding and T-908 Mulching. The Contractor shall be held responsible for maintaining all disturbed surfaces and replacements until final acceptance. All restoration shall be considered incidental to the respective L-110 pay item.

### METHOD OF MEASUREMENT

**110-4.1** Underground conduits and duct banks shall be measured by the linear feet (meter) of conduits and duct banks installed, including encasement, counterpoise wire, locator tape, trenching and backfill with designated, resolution, and for drain lines, the termination at the drainage structure, all measured in place, completed, and accepted. Separate measurement shall be made for the various types and sizes.

### BASIS OF PAYMENT

**110-5.1** Payment will be made at the contract unit price per linear foot for each type and size of conduit and duct bank completed and accepted, including trench and backfill with the designated material, and, for drain lines, the termination at the drainage structure. This price shall be full compensation for furnishing all materials and for all preparation, assembly, and installation of these materials, and for all labor, equipment, tools, and incidentals necessary to complete this item in accordance with the provisions and intent of the plans and specifications.

Payment will be made under:

~~Item L-110-5.1 Electrical Duct Bank, [# and Size] per linear foot (meter)~~

~~Item L-110-5.2 Electrical Conduit [# and size] per linear foot (meter)~~

Item L-110-5.1 1-Way, 2", Schedule 80 PVC, **direct buried**-- Per Linear Foot

~~Item L-110-5.2 1-Way, 2", Schedule 40 **PVC, in paved areas** Per Linear Foot~~

~~Item L-110-5.3 4-Way, 4" Concrete encased Ductbank, -- Per Linear Foot~~

~~Item L-110-5.4 Concrete Encase 1-Way, 2" PVC Conduit, Schedule 40, Direct Buried -- Per Linear Foot~~

### MATERIAL REQUIREMENTS

Fed. Spec. W-C-1094	Conduit and Conduit Fittings; Plastic, Rigid (cancelled; replaced by UL 514 Boxes, Nonmetallic Outlet, Flush Device Boxes, & Covers, and UL 651 Standard for Conduit & Hope Conduit, Type EB & A Rigid PVC)
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Underwriters Laboratories Standard 6	Rigid Metal Conduit
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Underwriters Laboratories Standard 514B	Fittings for Cable and Conduit
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Underwriters Laboratories  
Standard 1242

Intermediate Metal Conduit

Underwriters Laboratories  
Standard 651

Schedule 40 and 80 Rigid PVC Conduit (for Direct Burial)

Underwriters Laboratories  
Standard 651A

Type EB and A Rigid PVC Conduit and HDPE Conduit (for  
concrete encasement)

**END OF ITEM L-110**

**SPECIAL PROVISIONS  
Job Number: 13-4401  
(Duluth International Airport)  
(MAY 15, 2013)**

**CITY of DULUTH  
PROJECT SPECIFICATIONS**

**Duluth International Airport  
New Parking Structure and  
Exterior Wayfinding Signage  
Bid Package 2D  
Issue for Bid**

**City of Duluth, MN  
411 West 1<sup>st</sup> St.  
Duluth, MN 55802**

**Bid # 13-4401**

**Opening Date: 05/15/13**

**Time: 2:00 pm**

**Place: City Hall, Room 400, Duluth MN**

**SPECIAL PROVISIONS**  
**Job Number: 13-4401**  
**(Duluth International Airport)**  
**(MAY 15, 2013)**

**SP-1**

**SPECIFICATIONS SIGNATURE PAGE**

I HEREBY CERTIFY THAT THIS PLAN, specification or report  
was prepared by me or under my direct supervision and that I am a duly  
Licensed Professional Engineer under the laws of the State of Minnesota.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Typed or Printed Name

\_\_\_\_\_  
Date

\_\_\_\_\_  
License No.

**SPECIAL PROVISIONS**  
**Job Number: 13-4401**  
**(Duluth International Airport)**  
**(MAY 15, 2013)**

SP-2

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**SPECIAL PROVISIONS**  
**Job Number: 13-4401**  
**(Duluth International Airport)**  
**(MAY 15, 2013)**

**SP-3**

The following forms and regulations/rules/statutes and interpretations, which are incorporated by reference in this contract, are available on the World Wide Web at the sites listed below. The City of Duluth will use its best efforts to ensure that the most recent, applicable forms and regulations/rules/statutes and interpretations are included on the web sites provided; however, if you are the successful bidder, prior to signing the contract, you are responsible for comparing the versions of the forms and regulations/rules/statutes and interpretations attached to the contract which you are signing with the versions on the web to ensure conformity.

**THE VERSIONS OF THE FORMS AND REGULATIONS/RULES/STATUTES and INTERPRETATION ATTACHED TO THE CONTRACT WILL BE CONTROLLING. HARD COPIES OF ALL FORMS ARE AVAILABLE AT THE ENGINEERING DIVISION, EXCEPT THE NON-COLLUSION AND AFFIRMATIVE ACTION POLICY STATEMENT, WHICH ARE AVAILABLE AT THE CITY OF DULUTH PURCHASING DEPARTMENT.**

Item listing from web:

FORM	WEB SITE
Affidavit of Non-Collusion (required by awarded contractor only)	<a href="http://www.duluthmn.gov/engineering/construction_documents.cfm">www.duluthmn.gov/engineering/construction_documents.cfm</a>
Affirmative Action Policy Statement/Certificate - EEO (required by awarded contractor only)	<a href="http://www.duluthmn.gov/engineering/construction_documents.cfm">www.duluthmn.gov/engineering/construction_documents.cfm</a>
Bidder's Label for submitting project bids	<a href="http://www.duluthmn.gov/engineering/construction_documents.cfm">www.duluthmn.gov/engineering/construction_documents.cfm</a>
Certified Payroll Report form WH347 (front side only)	<a href="http://www.dol.gov/whd/forms/WH347.pdf">www.dol.gov/whd/forms/WH347.pdf</a>
Contractor's Haul Route	<a href="http://www.duluthmn.gov/engineering/construction_documents.cfm">www.duluthmn.gov/engineering/construction_documents.cfm</a>
Debarment/Suspension Notice 12-13-2011	<a href="http://www.dot.state.mn.us/pre-letting/prov/order/suspension.pdf">www.dot.state.mn.us/pre-letting/prov/order/suspension.pdf</a>
HUD 4010	<a href="http://www.hud.gov/offices/adm/hudclips/forms/files/4010.pdf">www.hud.gov/offices/adm/hudclips/forms/files/4010.pdf</a>
IC-134 form	<a href="http://www.taxes.state.mn.us/Forms_and_Instructions/ic134.pdf">www.taxes.state.mn.us/Forms_and_Instructions/ic134.pdf</a>
IC-134 on-line submittal (click: Submit Contractor Affidavit; r-side of screen)	<a href="http://www.mndor.state.mn.us/">www.mndor.state.mn.us/</a>
MN Rules 5200.1105 & .1106	<a href="http://www.duluthmn.gov/engineering/construction_documents.cfm">www.duluthmn.gov/engineering/construction_documents.cfm</a>
MN Statutes 177.41 to 177.44	<a href="http://www.revisor.mn.gov/statutes/?id=177">www.revisor.mn.gov/statutes/?id=177</a>
Notice to Bidders Prompt Payment to Subs	<a href="http://www.duluthmn.gov/engineering/construction_documents.cfm">www.duluthmn.gov/engineering/construction_documents.cfm</a>
One-Call Instructions	<a href="http://www.duluthmn.gov/engineering/construction_documents.cfm">www.duluthmn.gov/engineering/construction_documents.cfm</a>
Purchasing Division General Specifications	<a href="http://www.duluthmn.gov/engineering/construction_documents.cfm">www.duluthmn.gov/engineering/construction_documents.cfm</a>
Request to Sublet TP-21834 (5-12-09)	<a href="http://www.duluthmn.gov/engineering/construction_documents.cfm">www.duluthmn.gov/engineering/construction_documents.cfm</a>
Statement of Compliance Form (12-10)	<a href="http://www.dot.state.mn.us/const/labor/forms.html">www.dot.state.mn.us/const/labor/forms.html</a>
Statement of Compliance Form - 2 <sup>nd</sup> page WH347	<a href="http://www.dol.gov/whd/wh347.pdf">www.dol.gov/whd/wh347.pdf</a>
Supplemental General Conditions Part II 4/15/11	<a href="http://www.duluthmn.gov/engineering/construction_documents.cfm">www.duluthmn.gov/engineering/construction_documents.cfm</a>

**SPECIAL PROVISIONS**  
**Job Number: 13-4401**  
**(Duluth International Airport)**  
**(MAY 15, 2013)**

**NOTICE TO ALL BIDDERS:**

The City of Duluth Public Works & Utilities Department – Engineering Division 2011 Edition Standard Construction Specifications book and any addendums or supplements is incorporated by reference and is deemed to be a part hereof as if fully incorporated and set forth herein. The Standard Construction Specification is available on the City website at [www.duluthmn.gov/engineering/index.cfm](http://www.duluthmn.gov/engineering/index.cfm).

**SP-4     SCOPE OF WORK** The project scope consists of: The construction of a four level parking structure, civil sitework, landscaping, and roadway wayfinding signage. The parking garage will include approximately 225 parking spaces, including accessible parking, for use by the general public. Ready Rental Parking – Approximately 91 parking spaces for parking of rental cars ready for use. DAA Vehicle Parking & Maintenance Facility – Approximately 50 parking spaces for DAA use. The project also includes a pedestrian Bridge to the Terminal.

**SP-5     SALVAGE AND REINSTALL TYPE “C” LIGHT W/FOUNDATION**

**SP-5.1** The contractor shall provide all labor, equipment and materials necessary to provide and salvage and reinstall Type “C” light with foundation.

**SP-5.2** Measurement will be made by each unit of salvage and reinstall Type C Light provided and installed.

**SP 5.3** Payment for SALVAGE AND REINSTALL TYPE “C” LIGHT shall be made under Item SP 5.3.

**SP-6     SALVAGE TYPE “C” LIGHT AND PROVIDE TO OWNER/ DEMOLISH CONCRETE BASE**

**SP-6.1** The contractor shall provide all labor, equipment and materials necessary to Salvage Type “C” Light and provide to owner and Demolish Concrete Base

**SP-6.2** Measurement will be made by each unit to salvage and demolish.

**SP 6.3** Payment for SALVAGE TYPE “C” LIGHT AND PROVIDE TO OWNER / DEMOLISH CONCRETE BASE shall be made under Item SP 6.3.

**SP-7     SALVAGE AND REINSTALL GATE OPERATOR W/NEW LOOPS**

**SP-7.1** The contractor shall provide all labor, equipment and materials necessary to salvage, and re-install the AMANO McGANN AMG-1700 SERIES PARKING GATE and install two new vehicle detector loops and new foundation. The PARKING GATE shall have a minimum 6” foundation and anchor bolt system as recommended by the manufacturer. Loop detectors shall be per Mn/DOT specification 2565.3G in non metallic conduit. Placement shall be such that saw cuts into wearing course pavement shall not be allowed.

**SP-7.2** Measurement will be made by each unit to salvage and reinstalled.

**SP 7.3** Payment for SALVAGE AND REINSTALL GATE OPERATOR W/ NEW LOOPS shall be made under Item SP 7.3.

**SP-8     TRAFFIC CONTROL ALLOWANCE**

**SP-8.1** The contractor shall include a \$10,000.00 allowance to be used to pay for traffic control measures.

**SP-8.2** The contractor shall submit a detailed traffic control plan for each phase of construction. The contractor shall furnish, install, and maintain all traffic control devices required in their submitted and approved traffic control plan.



**SPECIAL PROVISIONS**  
**Job Number: 13-4401**  
**(Duluth International Airport)**  
**(MAY 15, 2013)**

**SP-8.3** Measurement will be made by each unit of traffic control device provided and installed.

**SP-8.4** Payment for TRAFFIC CONTROL ALLOWANCE shall be made under Item 8.4.

**SP-9**     **PRIVATE UTILITY LOCATING SERVICE**

**SP-9.1** The contractor shall retain a certified utility locating service to locate all private (DAA owned) utilities within the project limits.

**SP-9.2** Measurement of the item PRIVATE UTILITY LOCATING SERVICE will be on a lump sum basis.

**SP-9.3** Payment for PRIVATE UTILITY LOCATING SERVICE shall be made under Item SP 9.3.

**SP-10**   **ADJUST EXISTING WATER VALVE**

**SP-10.1** The contractor shall provide all labor, equipment and materials necessary to complete all work associated with adjusting the valve casting near parking lot exit plaza with the exception of bituminous paving. The work shall include but not limited the following:

**Bituminous pavement sawing, bituminous pavement demolition, excavation, new valve riser box top section per City of Duluth standards to match existing, aggregates to match existing section, backfill, and compaction completed in 8 inch lifts.**

Bituminous Paving shall be completed under the MNDOT 2360 bid item at the contract unit price.

**SP-10.2** Measurement will be made by the lump sum.

**SP-10.3** Payment for Adjust Existing Water Valve shall be made under Item 10.3.

**SP-11**   **TERMINAL BUILDING WORK**

**SP-11.1** The contractor shall provide all labor, equipment and materials necessary to complete all work associated with the following specifications:

**071300 – Sheet Membrane Waterproofing, 072123 – Foundation/Slab on Grade Insulation, 310516 – Aggregate Materials, 312000 – Earth Moving**

The contractor shall provide all review these specifications thoroughly and provide the required signed submittals.

**SP-11.2** Measurement will be made by the lump sum.

**SP-11.3** Payment for TERMINAL BUILDING WORK shall be made under Item 11.3.

**SP-12**   **(2503.511) CORRUGATED HDPE PIPE SEWER**

**SP-12.1** The contractor shall provide all labor, equipment and materials necessary to install CORRUGATED HDPE PIPE SEWER. Item CORRUGATED HDPE PIPE SEWER shall include Pipe Sewer Excavation, 6" of Aggregate Bedding (MnDot 3149.2H) and Granular Backfill (MnDot 2451, 3149.2D 7% Mod) which shall be considered incidental to item CORRUGATED HDPE PIPE SEWER. Aggregate Bedding shall be used under all CORRUGATED HDPE PIPE SEWER and shall extend from 6" under the pipe to the spring line of the

**SPECIAL PROVISIONS**  
**Job Number: 13-4401**  
**(Duluth International Airport)**  
**(MAY 15, 2013)**

CORRUGATED HDPE PIPE SEWER. Granular Backfill shall be used in all CORRUGATED HDPE PIPE SEWER trenches from the spring line of the CORRUGATED HDPE PIPE SEWER to the bottom of the proposed pavement section and shall be constructed in accordance with the City of Duluth 2009 Edition Standard Construction Specifications 2105 Excavation, Backfill and Compaction for Utilities. Any required bends or fittings shall be paid for as Lineal Foot of CORRUGATED HDPE PIPE SEWER.

**SP-12.2** Measurement will be made by each lineal foot of CORRUGATED HDPE PIPE SEWER constructed as specified.

**SP-12.3** Payment for each lineal foot of CORRUGATED HDPE PIPE SEWER will be made under 2503.511 CORRUGATED HDPE PIPE SEWER at the contract price which shall be compensation in full for constructing CORRUGATED HDPE PIPE SEWER as specified.

**SP-13     (2503.602) CONNECT TO EXISTING STORM MANHOLE**

**SP-13.1** The contractor shall provide all labor, equipment and materials necessary to provide a water tight connection between proposed storm sewer pipe and existing storm sewer manhole.

**SP-13.2** Measurement will be made by the number of each CONNECT TO EXISTING STORM MANHOLE constructed as specified.

**SP-13.3** Payment for each CONNECT TO EXISTING STORM MANHOLE will be made under 2503.602 CONNECT TO EXISTING STORM MANHOLE at the contract price for each which shall be compensation in full for constructing CONNECT TO EXISTING STORM MANHOLE as specified.

**SP-14     (2503) 4 INCH, 8 INCH, OR 10 INCH PVC SEWER SERVICE PIPE**

**SP-14.1** This work shall consist of furnishing and installing, 8 inch, or 10 inch PVC Sewer Pipe (SDR 35) complete in place including excavation, fittings, adapters, and construction joints from 4 feet beyond the wall of the pipe sewer to a termination point or connection to an existing service as the Inspector designates in accordance with the applicable provisions of MN/DOT 2503. All pipe and fittings shall be SDR 35 and connections shall be push-on elastomeric joints which are bonded to the inner wall of the gasket recess of the bell socket.

Sewer service connections shall be installed as provided for in the contract and as may be directed by the Engineer. The sewer service connections and pipelines shall be installed in conformance with all applicable requirements of the main sewer installation. The Engineer, with the assistance of the Contractor, shall keep accurate records of all service installations as to the type, location and elevation at the point of connection (wye), property line and termination, etc. The service installation shall not be backfilled until all required information has been obtained and recorded. Unless otherwise specified, service pipe shall be installed at right angles to the main sewer and at the straight line and grade to the property line. The standard and minimum grade shall be a uniform rise of 1 inch in 4 feet (2%) for sanitary service lines. Pipe bends shall be provided as necessary to bring the service lines to the proper location and grade. Pipe bends shall not exceed 22-½ degrees without approval of the Engineer.

**SP-14.2** Measurement will be made by length along the line of the sewer service pipe to the nearest 0.5 feet.

**SP-14.3** Payment for sewer service pipe will be made under item 2503.511, 4 inch, 8 inch or 10 inch PVC Pipe Sewer, at the Contract price per foot, which shall be compensation in full for all costs of furnishing and installing the sewer service pipe complete in place as specified.

# Geotechnical Evaluation Report

Proposed Parking Structure – Duluth International Airport  
4701 Grinden Drive  
Duluth, Minnesota

*Prepared for*

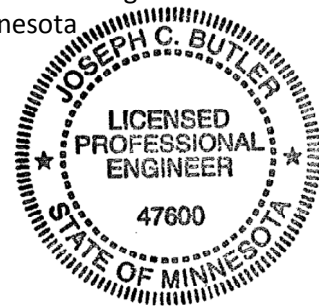
**Reynolds, Smith and Hills, Inc.**

## Professional Certification

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota



Joseph C. Butler, PE  
Project Engineer  
License Number: 47600  
September 28, 2012



Project DU-12-02390

Braun Intertec Corporation

**BRAUN**  
INTERTEC

September 28, 2012

Project DU-12-02390

John Hippchen, PE  
Reynolds, Smith and Hills, Inc.  
4525 Airport Approach Road, Suite A  
Duluth, MN 55811

Re: Geotechnical Evaluation  
Proposed Parking Structure – Duluth International Airport  
4701 Grinden Drive  
Duluth, Minnesota

Dear Mr. Hippchen:

We are pleased to present this Geotechnical Evaluation Report for the proposed parking structure planned for the Duluth International Airport. A summary of our results, and a summary of our recommendations in light of the geotechnical issues influencing design and construction, is presented below. More detailed information and recommendations follow.

## Summary of Results

Twelve borings were completed for the project. The types of soils encountered in the borings are described below. The soils are generally described in the order they were encountered (i.e., from the ground surface down). Please reference the soil boring logs in the Appendix for a more detailed description of soils encountered.

### Surface

Eleven of the borings encountered pavement at the surface. The pavement consisted of 4 to 4 1/2 inches of bituminous over about 8 inches of aggregate base. What appeared to be a sand sub-base was encountered below the aggregate base; the thickness of this layer was variable. Boring ST-01, completed in a landscaped island area, encountered about 4 inches of filled topsoil at the surface.

### Existing Fill

Beneath the surficial layers in each of the borings, fill was generally encountered to depths ranging from about 4 to 12 feet below existing grades. The existing fill was variable in composition and consistency and included a variety of silty sands and sands with gravel and organic materials. Penetration resistances in the fill materials ranged from 3 blows per foot (BPF) to 50 blows for 2 inches of drive, indicating poor to moderate compactive effort.

### Swamp Deposits and Buried Topsoil

Boring ST-08 encountered a layer of organic silt between 6 and 9 feet. This layer could potentially be a buried swamp or an area of thick buried topsoil. Boring ST-12 encountered black silty sand from 7 to 9 feet that contained organic materials. This layer is likely an area of thick buried topsoil.

### **Glacial Tills**

Below the pavements, fill, swamp deposits and buried topsoil, the borings encountered silty sand and sandy silt glacial till to the termination depths of the borings. Penetration resistances in the glacial tills ranged from 4 to 50 blows for 5 inches of drive, indicating they were loose to very dense. However, the tills were, on average, medium dense to dense.

### **Groundwater**

Groundwater was measured or estimated to be down approximately 8 to 14 feet as our borings were advanced. Due to the variable depths/elevations at which groundwater were observed, we suspect that the groundwater was perched. The depths/elevations at which perched groundwater accumulates seasonally and annually will likely vary and could be shallower/higher at the exploration locations and between the exploration locations.

## **Summary of Recommendations**

### **Existing Fill**

All of the borings encountered pavement and/or existing fill at the surface. The fill consisted of silty sand and sand materials, and contained organic materials. In addition, penetration resistances in the fill indicated the fill was poorly to moderately well compacted. Based on these observations, it is our opinion the fill is not suitable for support of foundation or slab on grade loads associated with the proposed parking structure.

We, therefore, recommend all existing fill and underlying swamp deposits and buried topsoils be removed from below the proposed parking structure and replaced with structural fill.

We would like to note that the eastern portion of the proposed structure will have a slab on grade at or above existing grades. We understand there are underground utilities in this area, the underground utilities and their backfills should be considered existing fill and should be removed and replaced with structural fill. The borings also indicate the existing fill is deepest in this area.

After preparation, the proposed parking structure can be supported on conventional spread footings and the floor slabs can be grade supported as proposed.

### **Frost Protection**

The native soils that will be present below foundations and slabs will be silty sands and sandy silts. These materials are considered highly frost susceptible. If the lowest level will not be heated, some level of frost protection will be required to prevent frost heave of the floor slabs and footings.

Frost protection for footings should be accomplished with proper embedment which is discussed in section D.2 of our report. Frost protection of floor slabs can be accomplished by removing all frost susceptible soils to a depth of 7 feet and replacement with non frost susceptible sands.

As an alternative to complete removal of frost susceptible materials, 4 inches of rigid insulation and 2 feet of non frost susceptible sand can be considered. With this alternative, there is still a potential of frost heave and therefore we recommend the floor slab not be tied to the walls or columns, thus allowed to heave and settle with the change in seasons.

For the purposes of the remainder of this report, we have assumed the parking structure will be heated to operating temperatures above freezing.

### **Groundwater**

Groundwater was observed at depths ranging from 8 to 14 feet below existing grades, with the highest elevation observed being 1387 (-14 on the project datum). Based on proposed floor slab elevations of about 1388.42 (-13 on the project datum), it is possible groundwater will be present above floor slab elevations during periods of wet weather. We there recommend a drainage layer and drain tile be installed below the floor slab. Recommendations for a drainage system and draitile is described in section D.3 of our report.

### **Remarks**

Thank you for making Braun Intertec your geotechnical consultant for this project. If you have questions about this report, or if there are other services that we can provide in support of our work to date, please contact Joe Butler at 218.624.4967 or [jbutler@braunintertec.com](mailto:jbutler@braunintertec.com)

Sincerely,

BRAUN INTERTEC CORPORATION



Joseph C. Butler, PE  
Associate Principal / Project Engineer



Mark W. Gothard, PE  
Principal Engineer

c: Paul Johnson, MJB Consulting Engineers  
Mike Dosan, Kraus Anderson Construction Company

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### Appendix

Boring Location Sketch

Log of Boring Sheets ST-01 through ST-12

Descriptive Terminology



## **A. Introduction**

### **A.1. Project Description**

The Duluth International Airport is planning a new parking structure. The proposed structure will be constructed in the existing parking lot, south of the recently constructed new terminal building.

The proposed structure will have four parking levels, the lowest of which will be below grade. There will be a skywalk connecting the new parking structure to the existing terminal building. Limited pavement improvements will be required, new pavements are planned only where the existing pavement is removed to accommodate construction.

### **A.2. Purpose**

The purpose of a geotechnical evaluation is to characterize subsurface geologic conditions at selected exploration locations and evaluate their impact on the design and construction of the proposed parking structure.

### **A.3. Site Conditions**

The proposed parking structure will be located in a recently constructed parking lot. The parking lot consists of bituminous pavement, aggregate base, and a sand sub base. There are also concrete curb and gutter islands and concrete walks associated with the parking lot. There are significant underground utilities along the east side of the proposed structure. Water mains and sanitary sewers enter the new terminal from the south.

### **A.4. Referenced Documents**

Reynolds, Smith and Hill, Inc. (RS & H) provided us with the schematic design structural and architectural drawings. We were also provided a grading plan from the construction of the new parking lot and terminal. An electronic copy of this drawing was used to create the boring location sketch in the appendix of this report.

## **A.5. Scope of Services**

Our scope of services for this project was submitted as a proposal to John Hippchen, PE of RS & H. We received verbal authorization to proceed from Mr. Hippchen on June 6, 2012. We were subsequently issued Work Order 1 on July 16th, 2012. Tasks performed in accordance with our authorized scope of services included:

- Performing a reconnaissance of the site to evaluate equipment access to exploration locations.
- Staking and clearing exploration locations of underground utilities.
- Performing 12 penetration test borings to depths ranging from 20 to 30 feet, a total of 330 linear feet of drilling.
- Performing laboratory tests on selected penetration test samples as needed.
- Preparing this report containing a CAD sketch, exploration logs, a summary of the geologic materials encountered, and recommendations for structure subgrade preparation and the design of the proposed parking structure.

Our scope of services was performed under the terms of our master contract with Reynolds Smith and Hills.

## **A.6. Boring Locations and Elevations**

The borings were staked in the field by measuring from the corners of the parking lot and islands. After completion of our fieldwork, RS&H surveyed the boring locations and provided the ground surface elevations at those locations.

## **B. Results**

### **B.1. Exploration Logs**

#### **B.1.a. Log of Boring Sheets**

Log of Boring sheets for our penetration test borings are included in the Appendix. The logs identify and describe the geologic materials that were penetrated, and present the results of penetration resistance and other in-situ tests performed within them and groundwater measurements.

Strata boundaries were inferred from changes in the penetration test samples and the auger cuttings. Because sampling was not performed continuously, the strata boundary depths are only approximate. The boundary depths likely vary away from the boring locations, and the boundaries themselves may also occur as gradual rather than abrupt transitions.

#### **B.1.b. Geologic Origins**

Geologic origins assigned to the materials shown on the logs and referenced within this report were based on: (1) a review of the background information and reference documents cited above, (2) visual classification of the various geologic material samples retrieved during the course of our subsurface exploration, (3) penetration resistance and other in-situ testing performed for the project, and (4) available common knowledge of the geologic processes and environments that have impacted the site and surrounding area in the past.

### **B.2. Geologic Profile**

Twelve borings were completed for the project. The types of soils encountered in the borings are described below. The soils are generally described in the order they were encountered (i.e., from the ground surface down). Please reference the soil boring logs in the Appendix for a more detailed description of soils encountered.

#### **B.2.a. Surface**

Eleven of the borings encountered pavement at the surface. The pavement consisted of 4 to 4 1/2 inches of bituminous over about 8 inches of aggregate base. What appeared to be a sand sub-base was encountered below the aggregate base; the thickness of this layer was variable.

Boring ST-01, completed in a landscaped island area, encountered about 4 inches of filled topsoil at the

surface.

#### **B.2.b. Existing fill**

Beneath the surficial layers in each of the borings, fill was generally encountered to depths ranging from about 4 to 12 feet below existing grades. The existing fill was variable in composition and consistency and included a variety of silty sand and sands with gravel and organic materials. Penetration resistances in the fill materials ranged from 3 blows per foot (BPF) to 50 blows for 2 inches of drive, indicating poor to moderate compactive effort.

#### **B.2.c. Swamp Deposits and Buried Topsoil**

Borings ST-08 encountered a layer of organic silt between 6 and 9 feet. This layer could potentially be a buried swamp or an area of thick buried topsoil. Boring ST-12 encountered black silty sand from 7 to 9 feet that contained organic materials. This layer is likely an area of thick buried topsoil.

#### **B.2.d. Glacial Tills**

Below the pavements, fill, swamp deposits and buried topsoil, the borings encountered silty sand and sandy silt glacial till to the termination depths of the borings. Penetration resistances in the glacial tills ranged from 4 to 50 blows for 5 inches of drive indicating they were loose to very dense. However, the tills were, on average, medium dense to dense.

#### **B.2.e. Groundwater**

Groundwater was measured or estimated to be down approximately 8 to 14 feet as our borings were advanced. Due to the variable depths/elevations at which groundwater were observed, we suspect that the groundwater was perched. The depths/elevations at which perched groundwater accumulates seasonally and annually will likely vary and could be shallower/higher at the exploration locations and between the exploration locations.

### **C. Basis for Recommendations**

#### **C.1. Design Details**

##### **C.1.a. Building Structure Configuration and Reported Loads**

We understand the proposed parking structure will be a precast concrete structure. The structure will have four parking levels with the lowest level being below grade.

We understand continuous wall loads will be less than 30 kips per linear foot and column loads will be less than 700 kips per column.

#### **C.1.b. Anticipated Grade Changes**

The proposed structure will generally require cuts to accommodate the below grade parking level. The eastern most portion of the structure will have a slab on grade at or above the existing grade level and will require fill to reach footing and slab on grade elevations.

#### **C.1.c. Precautions Regarding Changed Information**

We have attempted to describe our understanding of the proposed construction to the extent it was reported to us by others. Depending on the extent of available information, assumptions may have been made based on our experience with similar projects. If we have not correctly recorded or interpreted the project details, we should be notified. New or changed information could require additional evaluation, analyses and/or recommendations.

### **C.2. Design Considerations**

#### **C.2.a. Existing Fill**

All of the borings encountered pavement and/or existing fill at the surface. The fill consisted of silty sand and sand materials, and contained organic materials. In addition, penetration resistances in the fill indicated the fill was poorly to moderately well compacted. Based on these observations, it is our opinion the fill is not suitable for support of foundation or slab on grade loads associated with the proposed parking structure.

We, therefore, recommend all existing fill and swamp deposits and buried topsoil be removed from below the proposed parking structure and replaced with structural fill.

We would like to note that the eastern portion of the proposed structure will have a slab on grade at or above existing grades. We understand there are underground utilities in this area, the underground utilities and their backfills should be considered existing fill and should be removed and replaced with structural fill. The borings also indicate the existing fill is deepest in this area.

After preparation, the proposed parking structure can be supported on conventional spread footings and the floor slabs can be grade supported as proposed.

### **C.2.b. Frost Protection**

The native soils that will be present below foundations and slabs will be silty sands and sandy silts. These materials are considered highly frost susceptible. If the lowest level will not be heated some level of frost protection will be required to prevent frost heave of the floor slabs and footings.

Frost protection for footings should be accomplished with proper embedment which is discussed in section D.2 below. Frost protection of floor slabs can be accomplished removing all frost susceptible soils to a depth of 7 feet and replacement with non frost susceptible sands.

As an alternative to complete removal of frost susceptible materials, 4 inches of rigid insulation and 2 feet of non frost susceptible sand can be considered. With this alternative, there is still a potential of frost heave and therefore we recommend the floor slab not be tied to the walls or columns, thus allowed to heave and settle with the change in seasons.

For the purposes of the remainder of this report, we have assumed the parking structure will be heated to operating temperatures above freezing.

### **C.2.c. Groundwater**

Groundwater was observed at depths ranging from 8 to 14 feet below existing grades, with the highest elevation observed being 1387 (-14 on the project datum). Based on proposed floor slab elevations of about 1388.42 (-13 on the project datum), it is possible groundwater will be present above floor slab elevations during periods of wet weather. We, therefore, recommend a drainage layer and drain tile be installed below the floor slab. A drainage system and draintile is described in section D.3 below.

## **C.3. Construction Considerations**

It is our judgment that soil corrections at this site can be performed using conventional earthwork equipment and techniques. However, it should be noted that some cobbles and boulders can be expected and may required additional effort for removal.

Excavations for the parking structure will likely encounter perched groundwater. We expect that sumps and pumps should be able to control groundwater.

Portions of the structure could receive 10 or more feet of backfill during backfilling of the foundation walls and during soil corrections. To reduce the risk of this fill consolidating under its own weight we recommend the backfill consist of sand and gravel. Sand and gravel will need to be imported.

## **D. Recommendations**

### **D.1. Parking Structure Subgrade Preparation**

#### **D.1.a. Excavations**

We recommend completely removing pavement, existing fill, buried topsoil and swamp deposits from below the parking structure. Based on the borings, excavation depths are expected to range from approximately 1 to 12 feet. The excavation for the lower level will remove most of the fill from the parking structure footprint, however, at the east end, where there is a slab on grade near existing grades, there is existing fill and utilities. In this area, significant soil corrections will be required.

Excavation depths will vary between the borings. Portions of the excavations may also be deeper than indicated by the borings. Contractors should also be prepared to extend excavations in wet or fine-grained soils to remove disturbed bottom soils.

To provide lateral support to replacement backfill, additional required fill and the structural loads they will support, we recommend oversizing (widening) the excavations 1 foot horizontally beyond the outer edges of the building perimeter footings, or pavement limits, for each foot the excavations extend below bottom-of-footing or pavement subgrade elevations.

#### **D.1.b. Excavation Dewatering**

We recommend removing groundwater from the excavations. Sumps and pumps can be considered for dewatering this project.

#### **D.1.c. Selecting Excavation Backfill and Additional Required Fill**

We recommend that imported material needed for soil corrections, to replace excavation spoils or balance cut and fill quantities, consist of sand having less than 12 percent of the particles by weight passing a #200 sieve. Sand meeting this gradation will need to be imported.

Where free draining sands are required, such as in the drainage layer below the lower level floor slab or against retaining walls, we recommend sand have less than 50 percent of the particles by weight passing a #40 sieve and less than 5 percent of the particles by weight passing a #200 sieve. Sand meeting this gradation will need to be imported.

#### **D.1.d. Placement and Compaction of Backfill and Fill**

We recommend spreading backfill and fill in loose lifts of approximately 12 inches. We recommend compacting backfill and fill in accordance with the criteria presented below in Table 1. The relative compaction of utility backfill should be evaluated based on the structure below which it is installed, and vertical proximity to that structure.

**Table 1. Compaction Recommendations Summary**

<b>Reference</b>	<b>Relative Compaction, percent (ASTM D 698 – standard Proctor)</b>	<b>Moisture Content Variance from Optimum, percentage points</b>
Below foundations	98	-3 to +3
Below slabs	95	-3 to +3
Below pavements, within 3 feet of subgrade elevations	100	-3 to +3
Below pavements, more than 3 feet below subgrade elevations	95	-3 to +3
Below landscaped surfaces	90	NA

## **D.2. Spread Footings**

### **D.2.a. Embedment Depth**

For frost protection, we recommend embedding perimeter footings 60 inches below the lowest exterior grade. Interior footings may be placed directly below floor slabs. We recommend embedding building footings not heated during winter construction, and other unheated footings associated with canopies, stoops or sidewalks 72 inches below the lowest exterior grade.

### **D.2.b. Net Allowable Bearing Pressure**

We recommend sizing spread footings to exert a net allowable bearing pressure of 4,000 pounds per square foot (psf). This value includes a safety factor of at least 3.0 with regard to bearing capacity failure. The net allowable bearing pressure can be increased by one-third its value for occasional transient loads, but not for repetitive loads due to traffic, or for other live loads from snow or occupancy.

### **D.2.c. Settlement**

We estimate that total and differential settlements among the footings will amount to less than 1 and 1/2 inch, respectively, under the reported loads. Structures similar to the proposed can generally accommodate settlements of this magnitude.



### **D.3. Retaining (Basement) Walls**

#### **D.3.a. Drainage Control**

As indicated above, it appears that groundwater currently exists near proposed floor slab elevations. We recommend the lower level be water-proofed and a sub-floor drain system be installed to maintain a dry floor and walls.

The drainage layer can consist of sand and gravel with 100 percent passing the 1 1/2 inch sieve, less than 50 percent passing the 40 sieve, and less than 5 percent passing the 200 sieve. At a minimum, drain tile should be placed around the perimeter of the floor slabs. Consideration should be given to placing draitile every 40 feet throughout the floor slab subgrade. We recommend a backup for the pump be provided in case of power outages.

We recommend installing subdrains behind the retaining walls, adjacent to the wall footings, below the slab elevation. Preferably the subdrains should consist of perforated pipes embedded in washed gravel, which in turn is wrapped in filter fabric. Perforated pipes encased in a filter “sock” and embedded in washed gravel, however, may also be considered.

We recommend routing the subdrains to a sump and pump capable of routing any accumulated groundwater to a storm sewer or other suitable disposal site.

General waterproofing of retaining walls surrounding occupied or potentially occupied areas is recommended even with the use of free-draining backfill because of the potential cost impacts related to seepage after construction is complete.

#### **D.3.b. Selection, Placement and Compaction of Backfill**

Unless a drainage composite is placed against the backs of the exterior perimeter below-grade walls, we recommend that backfill placed within 2 horizontal feet of those walls consist of sand having less than 50 percent of the particles by weight passing a #40 sieve and less than 5 percent of the particles by weight passing a #200 sieve. Sand meeting this gradation will need to be imported. We recommend that the balance of the backfill placed against exterior perimeter walls also consist of sand, though it is our opinion that the sand may contain up to 12 percent of the particles by weight passing a #200 sieve.

Because subsurface conditions are conducive to the accumulation of water against interior as well as exterior perimeter below-grade walls, it is our opinion that interior walls should also be backfilled with imported sand having less than 50 percent of the particles by weight passing a #40 sieve and less than 5 percent of the particles by weight passing a #200 sieve. We also recommend the balance of these

excavations also be backfilled with sand with less than 10 percent passing the 200 sieve, this will help reduces settlement of thick fills and the potential for settlement of the grade supported slabs.

We recommend a walk behind compactor be used to compact the backfill placed within about 5 feet of the retaining walls. Further away than that, a self-propelled compactor can be used. Compaction criteria for below-grade walls should be determined based on the compaction recommendations provided above in Section D.1.

Exterior backfill not capped with slabs or pavement should be capped with a low-permeability soil to limit the infiltration of surface drainage into the backfill. The finished surface should also be sloped to divert water away from the walls.

### **D.3.c. Configuring and Resisting Lateral Loads**

Below-grade wall design can be based on active earth pressure conditions if the walls are allowed to rotate slightly. If rotation cannot be tolerated, then design should be based on at-rest earth pressure conditions. Rotation up to 0.002 times the wall height is generally required when walls are backfilled with sand\*. Rotation up to 0.02 times the wall height is required when walls are backfilled with clay.

- \* To design for sand backfill, excavations required for wall construction should be wide enough and flat enough so that sand is present within a zone that (1) extends at least two horizontal feet beyond the bottom outer edges of the wall footings (the wall heel, not the stem) and then (2) rises up and away from the wall at an angle no steeper than 60 degrees from horizontal. We anticipate these geometric conditions will be met if the excavations meet OSHA requirements for the types of soils likely to be exposed in the excavation, and the wall footings are cast against wood forms rather than any portion of the excavation.

Recommended equivalent fluid pressures for wall design based on active and at-rest earth pressure conditions are presented below in Table 2. Assumed wet unit backfill weights, and internal friction angles are also provided. The recommended equivalent fluid pressures in particular assume a level backfill with no surcharge – they would need to be revised for sloping backfill or other dead or live loads that are placed within a horizontal distance behind the walls that is equal to the height of the walls. Our design values also assume that the walls are drained so that water cannot accumulate behind the walls.

**Table 2. Recommended Below-Grade Wall Design Parameters**

<b>Backfill</b>	<b>Wet Unit Weight (pcf)</b>	<b>Friction Angle (deg)</b>	<b>Equivalent Fluid Pressure, Active Case (pcf)</b>	<b>Equivalent Fluid Pressure, At-Rest Case (pcf)</b>
Sand	120	30	40	60

Resistance to lateral earth pressures will be provided by passive resistance against the retaining wall footings, and by sliding resistance along the bottoms of the wall footings. For imported sand soils, we recommend assuming a passive pressure equal to 360 pcf and a sliding coefficient equal to 0.6. For on-site soils, we recommend assuming a passive pressure equal to 280 pcf and a sliding coefficient equal to 0.4. These values are un-factored.

## **D.4. Interior Slabs**

### **D.4.a. Subgrade Modulus**

Because we have recommended a sand drainage layer that will improve the strength of the floor subgrade, we recommend using a modulus of subgrade reaction,  $k$ , of 200 pounds per square inch per inch of deflection (pci) to design the slabs.

If there is a location where native silty sand or sandy silt soils are anticipated, we recommend using a modulus of subgrade reaction,  $k$ , of 100 pounds per square inch per inch of deflection (pci) to design the slabs.

### **D.4.b. Frost Protection**

The native soils that will be present below foundations and slabs will be silty sand and sandy silts. These materials are considered highly frost susceptible. If the lowest level will not be heated some level of frost protection will be required to prevent frost heave of the floor slabs and footings.

Frost protection of floor slabs can be accomplished removing all frost susceptible soils to a depth of 7 feet and replacement with non frost susceptible sands.

As an alternative to complete removal of frost susceptible materials, 4 inches of rigid insulation and 2 feet of non frost susceptible sand can be considered. With this alternative, there is still a potential of frost heave and therefore we recommend the floor slab not be tied to the walls or columns, thus allowed to heave and settle with the change in seasons.

For the purposes of the remainder of this report, we have assumed the parking structure will be heated to operating temperatures above freezing. We should be contacted to discuss the above options if the parking structure will not be heated.

### **D.4.c. Moisture Vapor Protection**

If floor coverings or coatings less permeable than the concrete slab will be used, we recommend that a

vapor retarder or vapor barrier be placed immediately beneath the slab. Some contractors prefer to bury the vapor retarder or barrier beneath a layer of sand to reduce curling and shrinkage, but this practice risks trapping water between the slab and vapor retarder or barrier.

Regardless of where the vapor retarder or barrier is placed, we recommend consulting with floor covering manufacturers regarding the appropriate type, use and installation of the vapor retarder or barrier to preserve warranty assurances.

## **D.5. Exterior Slabs**

Exterior slabs will be underlain with silty sand or sand, the silty sands are considered moderately to highly frost-susceptible. If these soils become saturated and freeze, unfavorable amounts of heaving could occur. Grading to direct surface drainage away from buildings helps limit the potential for saturation and subsequent heaving to occur. Still, even limited amounts of movement can create tripping hazards to building residents, employees and guests. One way to help limit the potential for heaving to occur is to remove the frost-susceptible silty sand soils present below the overlying slab “footprints” down to bottom-of-footing grades or to a maximum depth of 5 feet below subgrade elevation, whichever is least, and replace them with nonfrost-susceptible (NFS) backfill consisting of sand having less than 5 percent of the particles by weight passing a #200 sieve.

If the banks of excavations to remove frost-susceptible soils from below exterior slabs are not sloped, abrupt transitions between frost-susceptible and NFS backfill will exist along which unfavorable amounts of differential heaving may still occur. Such transitions could exist between exterior slabs and pavements, between slabs and sidewalks, and along the slabs themselves should excavations be confined only to the building entrances. NSF backfill is also likely to be more permeable than the soils it replaces, and so can also trap infiltrating surface drainage and groundwater that can contribute to heaving at transitions. To address these issues, we recommend:

- Sloping the banks of excavations to remove frost-susceptible soils at a 3:1 (horizontal:vertical) or flatter gradient.
- Sloping the bottoms of the excavations to drain away from the building.
- Installing perforated drainpipes along the bottom outer edges of the excavations to collect and dispose of surface drainage and groundwater that could otherwise accumulate within the backfill and contribute to heaving.

Another alternative is to support the slabs on frost-depth footings, and suspending the slabs at least 4 inches above the underlying subgrade soils to accommodate heaving without it affecting the slabs.

## **D.6. Construction Quality Control**

### **D.6.a. Excavation Observations**

We recommend having a geotechnical engineer observe all excavations related to subgrade preparation and spread footing, slab-on-grade and exterior slab construction. The purpose of the observations is to evaluate the competence of the geologic materials exposed in the excavations, and the adequacy of required excavation oversizing.

### **D.6.b. Materials Testing**

We recommend density tests be taken in excavation backfill and additional required fill placed below spread footings, slab-on-grade construction, beside foundation walls behind basement walls, and below pavements.

We also recommend slump, air content and strength tests of Portland cement concrete.

### **D.6.c. Cold Weather Precautions**

If site grading and construction is anticipated during cold weather, all snow and ice should be removed from cut and fill areas prior to additional grading. No fill should be placed on frozen subgrades. No frozen soils should be used as fill.

Concrete delivered to the site should meet the temperature requirements of ASTM C 94. Concrete should not be placed on frozen subgrades. Concrete should be protected from freezing until the necessary strength is attained. Frost should not be permitted to penetrate below footings.

## **E. Procedures**

### **E.1. Penetration Test Borings**

The penetration test borings were drilled with a floatation tire, all terrain carrier-mounted core and auger drill equipped with hollow-stem auger. The borings were performed in accordance with ASTM D 1586. Penetration test samples were taken at 2 1/2- or 5-foot intervals. Actual sample intervals and

corresponding depths are shown on the boring logs.

Penetration test boreholes that met the Minnesota Department of Health (MDH) Environmental Borehole criteria were sealed with an MDH-approved grout.

## **E.2. Material Classification and Testing**

### **E.2.a. Visual and Manual Classification**

The geologic materials encountered were visually and manually classified in accordance with ASTM Standard Practice D 2488. A chart explaining the classification system is attached. Samples were placed in jars or bags and returned to our facility for review and storage.

## **E.3. Groundwater Measurements**

The drillers checked for groundwater as the penetration test borings were advanced, and again after auger withdrawal. The boreholes were then backfilled or allowed to remain open for an extended period of observation as noted on the boring logs.

## **F. Qualifications**

### **F.1. Variations in Subsurface Conditions**

#### **F.1.a. Material Strata**

Our evaluation, analyses and recommendations were developed from a limited amount of site and subsurface information. It is not standard engineering practice to retrieve material samples from exploration locations continuously with depth, and therefore strata boundaries and thicknesses must be inferred to some extent. Strata boundaries may also be gradual transitions, and can be expected to vary in depth, elevation and thickness away from the exploration locations.

Variations in subsurface conditions present between exploration locations may not be revealed until additional exploration work is completed, or construction commences. If any such variations are revealed, our recommendations should be re-evaluated. Such variations could increase construction costs, and a contingency should be provided to accommodate them.

### **F.1.b. Groundwater Levels**

Groundwater measurements were made under the conditions reported herein and shown on the exploration logs, and interpreted in the text of this report. It should be noted that the observation periods were relatively short, and groundwater can be expected to fluctuate in response to rainfall, flooding, irrigation, seasonal freezing and thawing, surface drainage modifications and other seasonal and annual factors.

## **F.2. Continuity of Professional Responsibility**

### **F.2.a. Plan Review**

This report is based on a limited amount of information, and a number of assumptions were necessary to help us develop our recommendations. It is recommended that our firm review the geotechnical aspects of the designs and specifications, and evaluate whether the design is as expected, if any design changes have affected the validity of our recommendations, and if our recommendations have been correctly interpreted and implemented in the designs and specifications.

### **F.2.b. Construction Observations and Testing**

It is recommended that we be retained to perform observations and tests during construction. This will allow correlation of the subsurface conditions encountered during construction with those encountered by the borings, and provide continuity of professional responsibility.

## **F.3. Use of Report**

This report is for the exclusive use of the parties to which it has been addressed. Without written approval, we assume no responsibility to other parties regarding this report. Our evaluation, analyses and recommendations may not be appropriate for other parties or projects.

## **F.4. Standard of Care**

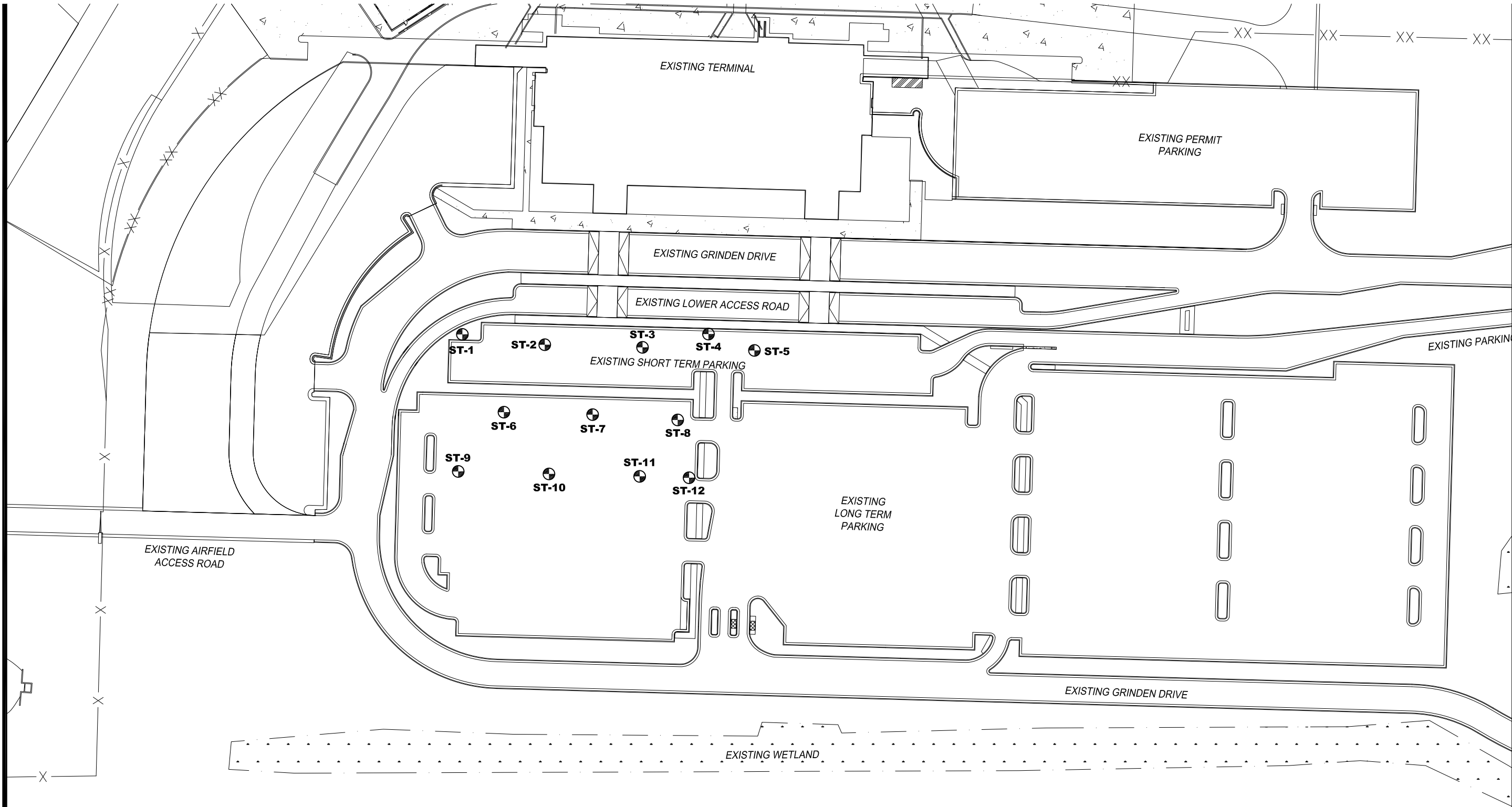
In performing its services, Braun Intertec used that degree of care and skill ordinarily exercised under similar circumstances by reputable members of its profession currently practicing in the same locality. No warranty, express or implied, is made.

## **Appendix**



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 **DENOTES APPROXIMATE LOCATION OF  
STANDARD PENETRATION TEST BORING**



50' 0 100'

SCALE: 1"= 100'

# BRAUN INTERTEC

11001 Hampshire Avenue So.  
Minneapolis, MN 55438  
PH. (952) 995-2000  
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Base Dwg Provided By:  
RS&H

SOIL BORING LOCATION SKETCH  
GEOTECHNICAL EVALUATION  
DULUTH AIRPORT PARKING STRUCTURE  
4701 GRINDEN DRIVE  
DULUTH, MINNESOTA

Project No:  
DU1202390

Drawing No:  
DU1202390

Scale: 1"= 100'  
Drawn By: JAG  
Date Drawn: 8/13/12  
Checked By: JCB  
Last Modified: 8/14/12

Sheet: 1 of 1  
Fig: 1

(See Descriptive Terminology sheet for explanation of abbreviations)

LOG OF BORING N:\GINT\PROJECTS\DULUTH\2012\02390.GPJ BRAUN\_V8\_CURRENT.GDT 8/14/12 10:44

<b>Braun Project DU-12-02390</b> <b>Geotechnical Evaluation</b> <b>Proposed Parking Structure - Duluth International Airport</b> <b>4701 Grinden Drive</b> <b>Duluth, Minnesota</b>					<b>BORING: ST-01</b> LOCATION: 10 feet north of desired location. Offset into lawn area. See attached sketch.		
DRILLER: M. Heinzen		METHOD: 3 1/4" HSA, Autohammer		DATE: 7/2/12		SCALE: 1" = 4'	
Elev. feet	Depth feet	Symbol	Description of Materials (Soil-ASTM D2488 or D2487, Rock-USACE EM1110-1-2908)	BPF	WL	Tests or Notes	
1397.5	0.0						
1397.1	0.4	FILL	FILL: Silty Sand, fine-grained, dark brown, moist.			Ground surface elevations at the boring locations were surveyed by Reynolds, Smith, and Hills, Inc.	
		FILL	FILL: Silty Sand, fine- to medium-grained, with Gravel, brown, moist.				
1393.5	4.0			16			
		SM	SILTY SAND, fine- to medium-grained, with a trace of Gravel, brown, moist to wet at 12 1/2 feet, medium dense. (Glacial Till)	20			
				17		An open triangle in the water level (WL) column indicates the depth at which groundwater was observed while drilling. Groundwater levels fluctuate.	
				24			
				56			
1383.5	14.0	ML	SANDY SILT, with a little Gravel, a few cobbles from 20 to 22 feet, brown, moist, medium dense. (Glacial Till)	26			
				72/7"		Caused by cobble.	
				31			
1371.5	26.0		END OF BORING.				
Water observed at a depth of 12 1/2 feet while drilling.  Water observed at a depth of 21 feet with 24 1/2 feet of hollow-stem auger in the ground.  Water observed at a depth of 17 1/2 feet with a cave-in depth of 20 feet immediately after withdrawal of auger.  Boring then backfilled with bentonite grout.							

(See Descriptive Terminology sheet for explanation of abbreviations)

LOG OF BORING N:\GINT\PROJECTS\DULUTH\2012\02390.GPJ BRAUN\_V8\_CURRENT.GDT 8/14/12 10:44

<b>Braun Project DU-12-02390</b> <b>Geotechnical Evaluation</b> <b>Proposed Parking Structure - Duluth International Airport</b> <b>4701 Grinden Drive</b> <b>Duluth, Minnesota</b>					<b>BORING: ST-02</b> LOCATION: See attached sketch.		
DRILLER: M. Heinzen		METHOD: 3 1/4" HSA, Autohammer		DATE: 7/2/12		SCALE: 1" = 4'	
Elev. feet	Depth feet	Symbol	Description of Materials (Soil-ASTM D2488 or D2487, Rock-USACE EM1110-1-2908)	BPF	WL	Tests or Notes	
1396.9	0.0						
1396.6	0.3	BIT	FILL: 3 1/2 inches of Bituminous surfacing.				
1395.9	1.0	AGG	FILL: Aggregate base.				
		SM	SILTY SAND, fine- to medium-grained, with Gravel, brown, moist, medium dense. (Glacial Till)	26			
				27			
				26			
1387.9	9.0						
		ML	SANDY SILT, with a trace of Gravel and cobbles, brown, wet, dense. (Glacial Till)	48	▽		
				45			
				55			
1378.9	18.0						
		ML	SANDY SILT, with Gravel and cobbles, brown, moist, dense to very dense. (Glacial Till)	43			
				50/5"			
				54			
1365.9	31.0						
END OF BORING.							

[illegible]

(See Descriptive Terminology sheet for explanation of abbreviations)

LOG OF BORING N:\GINT\PROJECTS\DULUTH\2012\02390.GPJ BRAUN\_V8\_CURRENT.GDT 8/14/12 10:44

<b>Braun Project DU-12-02390</b> <b>Geotechnical Evaluation</b> <b>Proposed Parking Structure - Duluth International Airport</b> <b>4701 Grinden Drive</b> <b>Duluth, Minnesota</b>					<b>BORING: ST-03</b> <b>LOCATION: See attached sketch.</b>		
<b>DRILLER:</b> M. Heinzen		<b>METHOD:</b> 3 1/4" HSA, Autohammer		<b>DATE:</b> 7/2/12		<b>SCALE:</b> 1" = 4'	
Elev. feet	Depth feet	Symbol	Description of Materials (Soil-ASTM D2488 or D2487, Rock-USACE EM1110-1-2908)	BPF	WL	Tests or Notes	
1396.9	0.0						
1396.6	0.3	BIT	FILL: 3 1/2 inches of Bituminous surfacing.				
1395.9	1.0	AGG	FILL: Aggregate base.				
		SM	SILTY SAND, with Gravel and a few cobbles, brown, moist, dense to medium dense. (Glacial Till)				
				46			
				17			
				33			
				24			
				36			
				21			
1378.9	18.0	ML	SANDY SILT, with Gravel and a few cobbles, brown, moist, dense. (limestone)				
				32			
				49			
				45			

(See Descriptive Terminology sheet for explanation of abbreviations)

LOG OF BORING N:\GINT\PROJECTS\DULUTH\2012\02390.GPJ BRAUN\_V8\_CURRENT.GDT 8/14/12 10:44

<b>Braun Project DU-12-02390</b> <b>Geotechnical Evaluation</b> <b>Proposed Parking Structure - Duluth International Airport</b> <b>4701 Grinden Drive</b> <b>Duluth, Minnesota</b>						BORING: <b>ST-03 (cont.)</b> LOCATION: See attached sketch.	
DRILLER: M. Heinzen		METHOD: 3 1/4" HSA, Autohammer		DATE: <b>7/2/12</b>		SCALE: <b>1" = 4'</b>	
Elev. feet	Depth feet	Symbol	Description of Materials (Soil-ASTM D2488 or D2487, Rock-USACE EM1110-1-2908)	BPF	WL	Tests or Notes	
1364.9	32.0						
1363.9	33.0						
—		SM	SILTY SAND, fine- to medium-grained, with Gravel, brown, moist, medium dense. (Glacial Till)	21			
1360.9	36.0						
			END OF BORING.				
			Water not observed while drilling.				
			Water not observed to cave-in depth of 22 1/2 feet immediately after withdrawal of auger.				
			Boring then backfilled with bentonite grout.				

(See Descriptive Terminology sheet for explanation of abbreviations)

LOG OF BORING N:\GINT\PROJECTS\DULUTH\2012\02390.GPJ BRAUN\_V8\_CURRENT.GDT 8/14/12 10:44

Braun Project DU-12-02390					BORING: <b>ST-04</b>	
Geotechnical Evaluation Proposed Parking Structure - Duluth International Airport 4701 Grinden Drive Duluth, Minnesota					LOCATION: See attached sketch.	
DRILLER: M. Heinzen		METHOD: 3 1/4" HSA, Autohammer			DATE: 7/3/12	SCALE: 1" = 4'
Elev. feet	Depth feet	Symbol	Description of Materials (Soil-ASTM D2488 or D2487, Rock-USACE EM1110-1-2908)	BPF	WL	Tests or Notes
1397.4	0.0					
1397.0	0.4	BIT	FILL: 4 1/2 inches of Bituminous surfacing.			
1396.4	1.0	AGG	FILL: Aggregate base.			
		FILL	FILL: Poorly Graded Sand with Silt, fine- to medium-grained, with Gravel, brown, moist.			
				13		
1393.4	4.0					
		FILL	FILL: Silty Sand, fine-grained, with Gravel, brown, moist.			
				21		
1390.4	7.0					
		FILL	FILL: Sandy Silt, mixed with Topsoil, brown and black, moist.			
				8		
				3		
1385.4	12.0	CL	LEAN CLAY, reddish brown, wet, rather stiff to very dense. (Glacial Till)			
				11		
				20		
1380.4	17.0	ML	SANDY SILT, with a little Gravel, brown, moist, medium dense. (Glacial Till)			
				20		
				30		
				25		
1365.4	32.0					

(See Descriptive Terminology sheet for explanation of abbreviations)

LOG OF BORING N:\GINT\PROJECTS\DULUTH\2012\02390.GPJ BRAUN\_V8\_CURRENT.GDT 8/14/12 10:44

<b>Braun Project DU-12-02390</b> <b>Geotechnical Evaluation</b> <b>Proposed Parking Structure - Duluth International Airport</b> <b>4701 Grinden Drive</b> <b>Duluth, Minnesota</b>					BORING: <b>ST-04 (cont.)</b>	
					LOCATION: See attached sketch.	
DRILLER: M. Heinzen		METHOD: 3 1/4" HSA, Autohammer		DATE: <b>7/3/12</b>	SCALE: <b>1" = 4'</b>	
Elev. feet	Depth feet	Symbol	Description of Materials (Soil-ASTM D2488 or D2487, Rock-USACE EM1110-1-2908)	BPF	WL	Tests or Notes
1365.4	32.0	SM	SILTY SAND, fine- to medium-grained, brown, wet, medium dense.  (Glacial Till)			
1361.4	36.0		END OF BORING.  Water observed at a depth of 15 feet while drilling.  Water observed at a depth of 7 1/2 feet with a cave-in depth of 8 /12 feet immediately after withdrawal of auger.  Boring immediately backfilled.	14		



(See Descriptive Terminology sheet for explanation of abbreviations)

LOG OF BORING N:\GINT\PROJECTS\DULUTH\2012\02390.GPJ BRAUN\_V8\_CURRENT.GDT 8/14/12 10:44

<b>Braun Project DU-12-02390</b> <b>Geotechnical Evaluation</b> <b>Proposed Parking Structure - Duluth International Airport</b> <b>4701 Grinden Drive</b> <b>Duluth, Minnesota</b>					BORING: <b>ST-05</b> LOCATION: See attached sketch.		
DRILLER: M. Heinzen		METHOD: 3 1/4" HSA, Autohammer		DATE: <b>7/3/12</b>		SCALE: <b>1" = 4'</b>	
Elev. feet	Depth feet	Symbol	Description of Materials (Soil-ASTM D2488 or D2487, Rock-USACE EM1110-1-2908)	BPF	WL	Tests or Notes	
1396.9	0.0						
1396.6	0.3	BIT	FILL: 4 inches of Bituminous surfacing.				
1395.9	1.0	AGG	FILL: Aggregate base.				
		FILL	FILL: Silty Sand, fine- to medium-grained, with Gravel, brown, moist.				
				23			
				33			
1389.9	7.0	FILL	FILL: Silty Sand, fine-grained, mixed with Topsoil, black and brown, moist.				
				7			
				4			
1384.9	12.0	ML	SILT, brown, moist to wet, medium dense. (Glaciofluvium)				
				15			
				11			
1378.9	18.0	ML	SANDY SILT, with Gravel, brown, wet, dense to medium dense. (Glacial Till)				
				35			
				23			
1370.9	26.0		END OF BORING.				
Water observed at a depth of 19 1/2 feet while drilling.  Water not observed with 24 1/2 feet of hollow stem auger in the ground.  Water not observed to cave-in depth of 19 feet immediately after withdrawal of auger.  Boring then backfilled with bentonite grout.							

(See Descriptive Terminology sheet for explanation of abbreviations)

LOG OF BORING N:\GINT\PROJECTS\DULUTH\2012\02390.GPJ BRAUN\_V8\_CURRENT.GDT 8/14/12 10:44

<b>Braun Project DU-12-02390</b> <b>Geotechnical Evaluation</b> <b>Proposed Parking Structure - Duluth International Airport</b> <b>4701 Grinden Drive</b> <b>Duluth, Minnesota</b>					<b>BORING: ST-06</b> LOCATION: See attached sketch.		
DRILLER: M. Heinzen		METHOD: 3 1/4" HSA, Autohammer		DATE: 7/3/12		SCALE: 1" = 4'	
Elev. feet	Depth feet	Symbol	Description of Materials (Soil-ASTM D2488 or D2487, Rock-USACE EM1110-1-2908)	BPF	WL	Tests or Notes	
1396.2	0.0						
1395.9	0.3	BIT	FILL: 4 inches of Bituminous surfacing.				
		AGG	FILL: Aggregate Base.				
1394.2	2.0						
		FILL	FILL: Silty Sand, fine- to medium-grained, mixed with Sand and Gravel, brown, moist.	18			
1392.2	4.0						
		ML	SILT, brown, moist, medium dense. (Glaciofluvium)	11			
1389.2	7.0						
		SM	SILTY SAND, fine- to medium-grained, with Gravel, brown, moist to wet and 10 feet, dense. (Glacial Till)	44			
				44	▽		
				25		No recovery.	
1382.2	14.0						
		ML	SANDY SILT, brown, wet, dense to medium dense. (Water observed at a depth of _ feet when rechecked _ hours after withdrawal of the auger.)	47			
				25			
1370.2	26.0			51			
			END OF BORING.				
			Water observed at a depth of 10 feet while drilling.				
			Water observed at a depth of 23 feet with 24 1/2 feet of hollow-stem auger in the ground.				
			Water observed at a depth of 15 1/2 feet with a cave-in depth of 17 feet immediately after withdrawal of auger.				
			Boring then backfilled with bentonite grout.				

(See Descriptive Terminology sheet for explanation of abbreviations)

LOG OF BORING N:\GINT\PROJECTS\DULUTH\2012\02390.GPJ BRAUN\_V8\_CURRENT.GDT 8/14/12 10:44

<b>Braun Project DU-12-02390</b> <b>Geotechnical Evaluation</b> <b>Proposed Parking Structure - Duluth International Airport</b> <b>4701 Grinden Drive</b> <b>Duluth, Minnesota</b>					BORING: <b>ST-07</b> LOCATION: See attached sketch.		
DRILLER: M. Heinzen		METHOD: 3 1/4" HSA, Autohammer		DATE: <b>7/3/12</b>		SCALE: <b>1" = 4'</b>	
Elev. feet	Depth feet	Symbol	Description of Materials (Soil-ASTM D2488 or D2487, Rock-USACE EM1110-1-2908)	BPF	WL	Tests or Notes	
1395.6	0.0						
1395.3	0.3	BIT	FILL: 4 inches of Bituminous surfacing.				
1394.6	1.0	AGG	FILL: Aggregate base.				
		FILL	FILL: Poorly Graded Sand with Silt, fine- to medium-grained, with Gravel, brown, moist.				
				43			
1391.6	4.0						
		SM	SILTY SAND, fine-grained, brown, moist, medium dense. (Glacial Till)				
				20			
1388.6	7.0						
		ML	SANDY SILT, with Gravel, brown, moist, medium dense. (Glacial Till)				
				25			
				13			
				25			
				23			
1378.6	17.0						
		ML	SANDY SILT, brown, wet, dense to very dense. (Glacial Till)				
				41	▽		
				79			
1369.6	26.0						
END OF BORING.							
Water observed at a depth of 19 feet while drilling.							
Water observed at a depth of 8 1/2 feet with a cave-in depth of 14 1/2 feet immediately after withdrawal of auger.							
Boring then backfilled with bentonite grout.							



(See Descriptive Terminology sheet for explanation of abbreviations)

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<b>Braun Project DU-12-02390</b> <b>Geotechnical Evaluation</b> <b>Proposed Parking Structure - Duluth International Airport</b> <b>4701 Grinden Drive</b> <b>Duluth, Minnesota</b>					BORING: <b>ST-08 (cont.)</b>	
					LOCATION: See attached sketch.	
DRILLER: M. Heinzen		METHOD: 3 1/4" HSA, Autohammer		DATE: <b>7/3/12</b>	SCALE: <b>1" = 4'</b>	
Elev. feet 1363.3	Depth feet 32.0	Symbol	Description of Materials (Soil-ASTM D2488 or D2487, Rock-USACE EM1110-1-2908)	BPF	WL	Tests or Notes
			Water observed at a depth of 12 feet while drilling.  Water not observed to cave-in depth of 19 feet immediately after withdrawal of auger.  Boring then backfilled with bentonite grout.			

(See Descriptive Terminology sheet for explanation of abbreviations)

LOG OF BORING N:\GINT\PROJECTS\DULUTH\2012\02390.GPJ BRAUN\_V8\_CURRENT.GDT 8/14/12 10:44

Braun Project DU-12-02390				BORING: ST-09		
Geotechnical Evaluation				LOCATION: See attached sketch.		
Proposed Parking Structure - Duluth International Airport						
4701 Grinden Drive						
Duluth, Minnesota						
DRILLER: M. Heinzen		METHOD: 3 1/4" HSA, Autohammer		DATE: 7/5/12	SCALE: 1" = 4'	
Elev. feet	Depth feet	Symbol	Description of Materials (Soil-ASTM D2488 or D2487, Rock-USACE EM1110-1-2908)	BPF	WL	Tests or Notes
1394.6	0.0					
1394.3	0.3	BIT	FILL: 4 inches of Bituminous.			
1393.6	1.0	AGG	FILL: Aggregate base.			
		FILL	FILL: Poorly Graded Sand with Silt, fine- to medium-grained, with Silty Sand, brown, moist.			
				50/3"		
1390.6	4.0					
		SM	SILTY SAND, fine- to medium-grained, with Gravel, brown, moist, medium dense to dense. (Glacial Till)	22		
				37		
				28		
				25		
1380.6	14.0					
		ML	SANDY SILT, brown, moist to wet at 25 feet, dense to medium dense to very dense. (Glacial Till)	37		
				25		
				43		
				71		
1363.6	31.0					
			END OF BORING.			

(See Descriptive Terminology sheet for explanation of abbreviations)

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<b>Braun Project DU-12-02390</b> <b>Geotechnical Evaluation</b> <b>Proposed Parking Structure - Duluth International Airport</b> <b>4701 Grinden Drive</b> <b>Duluth, Minnesota</b>					<b>BORING: ST-09 (cont.)</b> <b>LOCATION: See attached sketch.</b>		
<b>DRILLER:</b> M. Heinzen		<b>METHOD:</b> 3 1/4" HSA, Autohammer		<b>DATE:</b> 7/5/12		<b>SCALE:</b> 1" = 4'	
<b>Elev.</b> feet 1362.6	<b>Depth</b> feet 32.0	<b>Symbol</b>	<b>Description of Materials</b> <small>(Soil-ASTM D2488 or D2487, Rock-USACE EM1110-1-2908)</small>	<b>BPF</b>	<b>WL</b>	<b>Tests or Notes</b>	
<div style="display: flex;"> <div style="flex: 1; border-right: 1px solid black; margin-right: 5px;"> <!-- Vertical scale markings --> </div> <div style="flex: 4; padding: 5px;"> <p>Water observed at a depth of 25 feet while drilling.</p> <p>Water not observed with 29 1/2 feet of hollow stem auger in the ground.</p> <p>Water not observed to cave-in depth of 25 feet immediately after withdrawal of auger.</p> <p>Boring immediately backfilled.</p> </div> <div style="flex: 1; border-left: 1px solid black; margin-left: 5px;"> <!-- Vertical scale markings --> </div> </div>							

(See Descriptive Terminology sheet for explanation of abbreviations)

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Braun Project DU-12-02390					BORING: <b>ST-10</b>	
Geotechnical Evaluation Proposed Parking Structure - Duluth International Airport 4701 Grinden Drive Duluth, Minnesota					LOCATION: See attached sketch.	
DRILLER: M. Heinzen		METHOD: 3 1/4" HSA, Autohammer			DATE: <b>7/5/12</b>	SCALE: <b>1" = 4'</b>
Elev. feet	Depth feet	Symbol	Description of Materials (Soil-ASTM D2488 or D2487, Rock-USACE EM1110-1-2908)	BPF	WL	Tests or Notes
1393.6	0.0					
1393.2	0.4	BIT	FILL: 4 1/2 inches of Bituminous surfacing.			
1392.6	1.0	AGG	FILL: Aggregate base.			
		FILL	FILL: Poorly Graded Sand with Silt, fine- to medium-grained, with Gravel, brown, moist.			
				53		
1389.6	4.0	SM	SILTY SAND, fine- to medium-grained, with Gravel, brown, moist, medium dense to dense. (Glacial Till)			
				17		
				16		
				44		
1381.6	12.0	ML	SILT, brown, moist to wet, medium dense. (Glaciofluvium)			
				19		
				13	▽	
1375.6	18.0	ML	SANDY SILT, with Gravel and cobbles, brown, moist to wet, dense to medium dense. (Glacial Till)			
				36		
				23		
1362.6	31.0			53		
			END OF BORING.			



(See Descriptive Terminology sheet for explanation of abbreviations)

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<b>Braun Project DU-12-02390</b> <b>Geotechnical Evaluation</b> <b>Proposed Parking Structure - Duluth International Airport</b> <b>4701 Grinden Drive</b> <b>Duluth, Minnesota</b>					BORING: <b>ST-10 (cont.)</b>	
					LOCATION: See attached sketch.	
DRILLER: M. Heinzen		METHOD: 3 1/4" HSA, Autohammer		DATE: <b>7/5/12</b>		SCALE: <b>1" = 4'</b>
Elev. feet 1361.6	Depth feet 32.0	Symbol	Description of Materials (Soil-ASTM D2488 or D2487, Rock-USACE EM1110-1-2908)	BPF	WL	Tests or Notes
			Water observed at a depth of 15 feet while drilling.  Water observed at a depth of 28 1/2 feet with 29 1/2 feet of hollow-stem auger in the ground.  Water observed at a depth of 22 feet with a cave-in depth of 23 1/2 feet immediately after withdrawal of auger.  Boring then backfilled with bentonite grout.			

(See Descriptive Terminology sheet for explanation of abbreviations)

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Braun Project DU-12-02390 Geotechnical Evaluation Proposed Parking Structure - Duluth International Airport 4701 Grinden Drive Duluth, Minnesota				BORING: <b>ST-11</b> LOCATION: See attached sketch.		
DRILLER: M. Heinzen		METHOD: 3 1/4" HSA, Autohammer		DATE: <b>7/5/12</b>		SCALE: <b>1" = 4'</b>
Elev. feet	Depth feet	Symbol	Description of Materials (Soil-ASTM D2488 or D2487, Rock-USACE EM1110-1-2908)	BPF	WL	Tests or Notes
1393.0	0.0					
1392.6	0.4	BIT	FILL: 4 1/2 inches of Bituminous surfacing.			
1392.0	1.0	AGG	FILL: Aggregate base.			
		FILL	FILL: Poorly Graded Sand with Silt, with Gravel, brown, moist.			
				46		
1389.0	4.0					
		FILL	FILL: Silty Sand, with wood, brown with black, moist.			
				13		
1386.0	7.0					
		SM	SILTY SAND, with seams of waterbearing Sand, brown, wet, medium dense to loose. (Glacial Till)			
				14		
				16		
				4		
				15		
1375.0	18.0					
		ML	SANDY SILT, with a trace of Gravel, brown, moist to wet, dense to very dense. (Glacial Till)			
				52		
				52		
1362.0	31.0			*		50/6" (set)
			END OF BORING.			

[illegible]



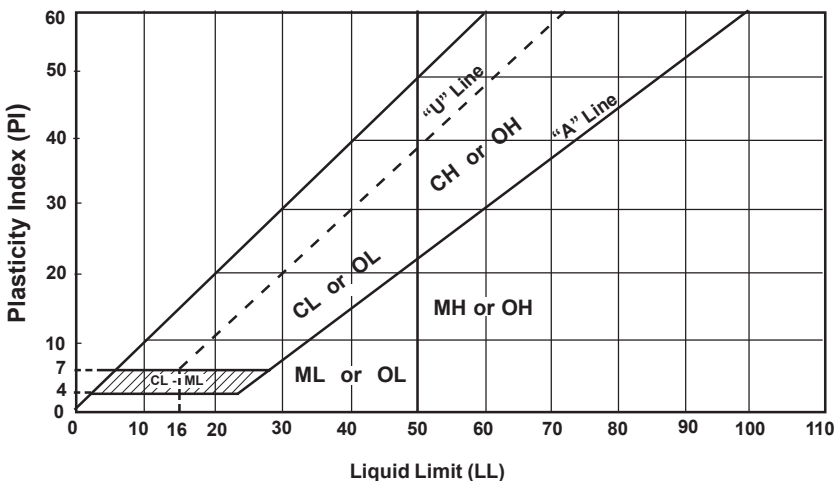
(See Descriptive Terminology sheet for explanation of abbreviations)

LOG OF BORING N:\GINT\PROJECTS\DULUTH\2012\02390.GPJ BRAUN\_V8\_CURRENT.GDT 8/14/12 10:44

<b>Braun Project DU-12-02390</b> <b>Geotechnical Evaluation</b> <b>Proposed Parking Structure - Duluth International Airport</b> <b>4701 Grinden Drive</b> <b>Duluth, Minnesota</b>					<b>BORING: ST-12 (cont.)</b> LOCATION: 50 feet west of desired location. Underground utility conflicts. See attached sketch.		
DRILLER: M. Heinzen		METHOD: 3 1/4" HSA, Autohammer		DATE: 7/5/12		SCALE: 1" = 4'	
Elev. feet 1360.9	Depth feet 32.0	Symbol	Description of Materials (Soil-ASTM D2488 or D2487, Rock-USACE EM1110-1-2908)	BPF	WL	Tests or Notes	
Boring then backfilled with bentonite grout.							

Criteria for Assigning Group Symbols and Group Names Using Laboratory Tests <sup>a</sup>					Soils Classification	
					Group Symbol	Group Name <sup>b</sup>
Coarse-grained Soils more than 50% retained on No. 200 sieve	Gravels More than 50% of coarse fraction retained on No. 4 sieve	Clean Gravels 5% or less fines <sup>e</sup>	$C_u \geq 4$ and $1 \leq C_c \leq 3$ <sup>c</sup>	GW	Well-graded gravel <sup>d</sup>	
			$C_u < 4$ and/or $1 > C_c > 3$ <sup>c</sup>	GP	Poorly graded gravel <sup>d</sup>	
	Gravels with Fines More than 12% fines <sup>e</sup>	Fines classify as ML or MH	GM	Silty gravel <sup>d f g</sup>		
		Fines classify as CL or CH	GC	Clayey gravel <sup>d f g</sup>		
	Sands 50% or more of coarse fraction passes No. 4 sieve	Clean Sands 5% or less fines <sup>i</sup>	$C_u \geq 6$ and $1 \leq C_c \leq 3$ <sup>c</sup>	SW	Well-graded sand <sup>h</sup>	
			$C_u < 6$ and/or $1 > C_c > 3$ <sup>c</sup>	SP	Poorly graded sand <sup>h</sup>	
	Sands with Fines More than 12% <sup>i</sup>	Fines classify as ML or MH	SM	Silty sand <sup>f g h</sup>		
		Fines classify as CL or CH	SC	Clayey sand <sup>f g h</sup>		
Fine-grained Soils 50% or more passed the No. 200 sieve	Silts and Clays Liquid limit less than 50	Inorganic	PI > 7 and plots on or above "A" line <sup>j</sup>	CL	Lean clay <sup>k l m</sup>	
			PI < 4 or plots below "A" line <sup>j</sup>	ML	Silt <sup>k l m</sup>	
		Organic	Liquid limit - oven dried < 0.75	OL	Organic clay <sup>k l m n</sup>	
			Liquid limit - not dried < 0.75	OL	Organic silt <sup>k l m o</sup>	
	Silts and clays Liquid limit 50 or more	Inorganic	PI plots on or above "A" line	CH	Fat clay <sup>k l m</sup>	
			PI plots below "A" line	MH	Elastic silt <sup>k l m</sup>	
		Organic	Liquid limit - oven dried < 0.75	OH	Organic clay <sup>k l m p</sup>	
			Liquid limit - not dried < 0.75	OH	Organic silt <sup>k l m q</sup>	
Highly Organic Soils		Primarily organic matter, dark in color and organic odor		PT	Peat	

- a. Based on the material passing the 3-in (75mm) sieve.  
b. If field sample contained cobbles or boulders, or both, add "with cobbles or boulders or both" to group name.  
c.  $C_u = D_{60} / D_{10}$   $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$   
d. If soil contains  $\geq 15\%$  sand, add "with sand" to group name.  
e. Gravels with 5 to 12% fines require dual symbols:  
GW-GM well-graded gravel with silt  
GW-GC well-graded gravel with clay  
GP-GM poorly graded gravel with silt  
GP-GC poorly graded gravel with clay  
f. If fines classify as CL-ML, use dual symbol GC-GM or SC-SM.  
g. If fines are organic, add "with organic fines" to group name.  
h. If soil contains  $\geq 15\%$  gravel, add "with gravel" to group name.  
i. Sands with 5 to 12% fines require dual symbols:  
SW-SM well-graded sand with silt  
SW-SC well-graded sand with clay  
SP-SM poorly graded sand with silt  
SP-SC poorly graded sand with clay  
j. If Atterberg limits plot in hatched area, soil is a CL-ML, silty clay.  
k. If soil contains 10 to 29% plus No. 200, add "with sand" or "with gravel" whichever is predominant.  
l. If soil contains  $\geq 30\%$  plus No. 200, predominantly sand, add "sandy" to group name.  
m. If soil contains  $\geq 30\%$  plus No. 200 predominantly gravel, add "gravelly" to group name.  
n. PI  $\geq 4$  and plots on or above "A" line.  
o. PI < 4 or plots below "A" line.  
p. PI plots on or above "A" line.  
q. PI plots below "A" line.



Laboratory Tests

<b>DD</b>	Dry density, pcf	<b>OC</b>	Organic content, %
<b>WD</b>	Wet density, pcf	<b>S</b>	Percent of saturation, %
<b>MC</b>	Natural moisture content, %	<b>SG</b>	Specific gravity
<b>LL</b>	Liquid limit, %	<b>C</b>	Cohesion, psf
<b>PL</b>	Plastic limit, %	$\phi$	Angle of internal friction
<b>PI</b>	Plasticity index, %	<b>qu</b>	Unconfined compressive strength, psf
<b>P200</b>	% passing 200 sieve	<b>qp</b>	Pocket penetrometer strength, tsf

## Particle Size Identification

Boulders	.....	over 12"
Cobbles	.....	3" to 12"
Gravel	.....	
Coarse	.....	3/4" to 3"
Fine	.....	No. 4 to 3/4"
Sand	.....	
Coarse	.....	No. 4 to No. 10
Medium	.....	No. 10 to No. 40
Fine	.....	No. 40 to No. 200
Silt	.....	< No. 200, PI < 4 or below "A" line
Clay	.....	< No. 200, PI $\geq 4$ and on or above "A" line

## Relative Density of Cohesionless Soils

Very loose	.....	0 to 4 BPF
Loose	.....	5 to 10 BPF
Medium dense	.....	11 to 30 BPF
Dense	.....	31 to 50 BPF
Very dense	.....	over 50 BPF

## Consistency of Cohesive Soils

Very soft	.....	0 to 1 BPF
Soft	.....	2 to 3 BPF
Rather soft	.....	4 to 5 BPF
Medium	.....	6 to 8 BPF
Rather stiff	.....	9 to 12 BPF
Stiff	.....	13 to 16 BPF
Very stiff	.....	17 to 30 BPF
Hard	.....	over 30 BPF

## Drilling Notes

Standard penetration test borings were advanced by 3 1/4" or 6 1/4" ID hollow-stem augers unless noted otherwise. Jetting water was used to clean out auger prior to sampling only where indicated on logs. Standard penetration test borings are designated by the prefix "ST" (Split Tube). All samples were taken with the standard 2" OD split-tube sampler, except where noted.

Power auger borings were advanced by 4" or 6" diameter continuous-flight, solid-stem augers. Soil classifications and strata depths were inferred from disturbed samples augered to the surface and are, therefore, somewhat approximate. Power auger borings are designated by the prefix "B."

Hand auger borings were advanced manually with a 1 1/2" or 3 1/4" diameter auger and were limited to the depth from which the auger could be manually withdrawn. Hand auger borings are indicated by the prefix "H."

**BPF:** Numbers indicate blows per foot recorded in standard penetration test, also known as "N" value. The sampler was set 6" into undisturbed soil below the hollow-stem auger. Driving resistances were then counted for second and third 6" increments and added to get BPF. Where they differed significantly, they are reported in the following form: 2/12 for the second and third 6" increments, respectively.

**WH:** WH indicates the sampler penetrated soil under weight of hammer and rods alone; driving not required.

**WR:** WR indicates the sampler penetrated soil under weight of rods alone; hammer weight and driving not required.

**TW** indicates thin-walled (undisturbed) tube sample.

**Note:** All tests were run in general accordance with applicable ASTM standards.

**NEW PARKING STRUCTURE AND  
EXTERIOR WAYFINDING SIGNAGE  
DULUTH INTERNATIONAL AIRPORT  
DULUTH, MINNESOTA**

**SECTION 01 10 00 - SUMMARY OF WORK**

**1. GENERAL**

- A. All work furnished under this Project Manual shall be installed at the following location in accordance with the Contract Documents:
  - 1. At: Duluth International Airport  
New Parking Structure and Exterior Wayfinding Signage  
Bid Package 2D  
Duluth, Minnesota
  - 2. For: Duluth Airport Authority  
4701 Grinden Drive  
Duluth, MN 55811
- B. The provisions of Part 2 through 6, Part 9 and 10 of the specifications, and Division 1, General Requirements, shall apply to all work of the Contract.
- C. The Scope of Work for the Duluth International Airport, New Parking Structure and Exterior Wayfinding Signage Bid Package 2D includes all work required for complete construction in accordance with the Contract Documents.
- D. Construction Contract: Construction will be accomplished under Multiple Prime Contracts as described in Section 01 01 40 – Work Scope Descriptions.
- E. Coordination: Project will require close cooperation and coordination with Owner, Owner's Construction Manager (CM) and Contractor and Subcontractors. Contractor shall: consider such coordination in his work; schedule the Work with subcontractors and the Owner and Construction Manager, particularly near the end of the Project, keep the Owner and Construction Manager advised of his schedule to complete the Work.
- F. Examination of Site and Documents: In submitting a bid and in accepting a Contract award, the Contractor represents he has examined the site, existing conditions as well as the entire set of documents, in accordance with the General Conditions and agrees to be bound by all conditions of the site, existing conditions and all documents, without additional cost.
  - 1. Contractor's questions regarding this project must be directed to the Architect of record submitted through the Construction Manager. The Owner's employees are not authorized to make decisions or give direction regarding any aspect of this project.
- G. Construction Limits: Except as specifically indicated or as may be necessary to complete the work under the contract, activities of the contract shall be limited to within the limits designated on the drawings.

## 2. USE OF BUILDING BY OWNER

- A. Owner reserves the right to let other contracts in connection with this Project or in connection with existing buildings. Contractor shall afford other contractors reasonable opportunity for the introduction and storage of their materials and execution of their work, and shall properly connect and coordinate his work with theirs.
- B. Owner reserves the right to jointly occupy the premises with the Contractor in the performance of his duties and functions. The Owner also reserves the right to: enter into the Project and premises at all times; make installations of materials and equipment at appropriate times as the Work progresses; install equipment, furniture and furnishings when spaces are at appropriate stages of completion. Contractor shall coordinate work with the Owner and cooperate with the Owner to minimize undue interferences. Any activities required by the Contractor that may interfere with the Owner's occupation of the premises or Project during the work must be coordinated with the Owner and Construction Manager and may be required to be completed during alternate time periods.
- C. If any part, unit, phase, or the entire Project is substantially complete or ready for occupancy, the Owner may, upon notice to the Contractor, enter into and make use of the Work that is substantially complete.

## 3. CONTRACTOR'S USE OF PREMISES

- A. General: During the construction period the Contractor shall have full use of the premises for construction operations, including use of the site. The Contractor's use of the premises is limited only by the Owner's right to perform construction operations with its own forces or to employ separate contractors on portions of the project.
  - 1. Confine operations to areas within Contract limits indicated. Portions of the site beyond areas in which construction operations are indicated are not to be disturbed.
  - 2. Keep driveways and entrances serving the premises clear and available to the Owner at all times. Do not use these areas for parking or storage of materials. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on site.
- B. Site Storage Areas: As determined by Construction Manager. The Construction Manager shall establish and govern the use of available space.
- C. Site Protection: Protect existing trees and other plantings which are not to be removed and all features of adjacent buildings, paved surfaces which are to remain and are susceptible to damage from ordinary operations of the Contractor, trucking or other activity.
- D. Restoration: All improvements on or about the site and adjacent property which are not shown to be altered, removed or otherwise changed, and which have been damaged or disturbed by any work or operations under this contract, shall be



restored to the conditions which existed previous to starting work. All existing buildings, structures, or other features shall be protected from damage by any operation in connection with the Project. The Contractor shall replace or repair, at his own expense (and to the satisfaction of the Owner), all damage to existing buildings, sidewalks, curbs, drives, fencing, lawns, plants, trees, shrubbery and other property resulting from work of this Contract, from whatever cause.

4. CONSTRUCTION SCHEDULE

A. Refer to Section 01 32 13 – Schedules.

END OF SECTION 01 10 00

**NEW PARKING STRUCTURE AND  
EXTERIOR WAYFINDING SIGNAGE  
DULUTH INTERNATIONAL AIRPORT  
DULUTH, MINNESOTA**

**SECTION 01 20 00 - APPLICATIONS  
FOR PAYMENT**

**PART 1 - GENERAL**

**1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

**1.2 SUMMARY**

- A. This Section specifies administrative and procedural requirements governing the Contractor's Applications for Payment.
  - 1. Coordinate the Schedule of Values and Applications for Payment with the Contractor's Construction Schedule, Submittal Schedule, and List of Subcontracts.
- B. Related Sections: The following Sections contain requirements that relate to this Section.
  - 1. Schedules: The Contractor's Construction Schedule and Submittal Schedule are specified in Division 1 Section 01 33 00 - SUBMITTALS.

**1.3 SCHEDULE OF VALUES**

- A. Coordination: Coordinate preparation of the Schedule of Values with preparation of the Contractor's Construction Schedule.
  - 1. Correlate line items in the Schedule of Values with other required administrative schedules and forms, including:
    - a. Contractor's Construction Schedule.
    - b. Application for Payment forms, including Continuation Sheets.
    - c. List of subcontractors.
    - d. Schedule of allowances.
    - e. Schedule of alternates.
    - f. Schedule of submittals.
  - 2. Submit one copy of the Schedule of Values to the Construction Manager for approval at the earliest possible date but no later than 21 days before the date scheduled for submittal of the initial Applications for Payment.
  - 3. Subschedules: Where Work is separated into phases requiring separately phased payments, provide subschedules showing values correlated with each phase of payment.
- B. Format and Content: Use the Project Manual Table of Contents as a guide to establish the format for the Schedule of Values.
  - 1. Identification: Include the following Project identification on the Schedule of Values:
    - a. Project name and location.
    - b. Name of the Architect.
    - c. Project number.
    - d. Contractor's name and address.

- e. Date of submittal.
2. Arrange the Schedule of Values in tabular form with separate columns to indicate the following for each item listed:
  - a. Related Specification Section or Division.
  - b. Description of Work / generic name of the item.
  - c. Name of subcontractor.
  - d. Name of manufacturer or fabricator.
  - e. Name of supplier.
  - f. Change Orders (numbers) that affect value.
  - g. Dollar value.
  - h. Percentage of Contract Sum to nearest one hundredth percent, adjusted to total 100 percent.
3. Provide a breakdown of the Contract Sum in sufficient detail, acceptable to the Architect, to facilitate continued evaluation of Applications for Payment and progress reports. Break principal subcontract amounts down into several line items.
4. Round amounts to nearest whole dollar; the total shall equal the Contract Sum.
5. Provide a separate line item in the Schedule of Values for each part of the Work where Applications for Payment may include materials or equipment, purchased or fabricated and stored, but not yet installed.
  - a. Differentiate between items stored on-site and items stored off-site. Include requirements for insurance and bonded warehousing, if required.
6. Provide separate line items on the Schedule of Values for initial cost of the materials, for each subsequent stage of completion, and for total installed value of that part of the Work.
7. Margins of Cost: Show line items for indirect costs and margins on actual costs only when such items are listed individually in Applications for Payment. Each item in the Schedule of Values and Applications for Payment shall be complete. Include the total cost and proportionate share of general overhead and profit margin for each item.
  - a. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the Schedule of Values or distributed as general overhead expense, at the Contractor's option.
8. Schedule Updating: Update and resubmit the Schedule of Values prior to the next Applications for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.

#### 1.4 APPLICATIONS FOR PAYMENT

- A. Each Application for Payment shall be consistent with previous applications and payments as certified by the Construction Manager and paid for by the Owner.
  1. The initial Application for Payment, the Application for Payment at time of Substantial Completion, and the final Application for Payment involve additional requirements.
- B. Payment Application Times: Payment applications are due to the Construction Manager on the 1st day of each month. The period of construction work covered by each payment request is the period indicated in the Owner-Contractor agreement or, if none is indicated therein, starting the day following the end of the preceding period. Pay application meetings, which all Prime Contractors are required to attend, occur

on the 3<sup>rd</sup> Thursday of each month. Refer to General Conditions and other Contract Documents for other dates related to payment application times.

- C. Payment Application Forms: Use AIA Document G732 (old version G702CMA) and Continuation Sheets G703 as the form for Applications for Payment.
- D. Application Preparation: Complete every entry on the form. Include notarization and execution by a person authorized to sign legal documents on behalf of the Contractor. The Architect will return incomplete applications without action.
  - 1. Entries shall match data on the Schedule of Values and the Contractor's Construction Schedule. Use updated schedules if revisions were made.
  - 2. Include amounts of Change Orders and Construction Change Directives issued prior to the last day of the construction period covered by the application.
- E. Report of DBE Activity: With each Application for Payment, submit a Report of DBE Activity for the construction period covered by the application for payment.
- F. Transmittal: Submit five (5) signed and notarized original copies of each Application for Payment to the Construction Manager by a method ensuring receipt within 24 hours. One copy shall be complete, including waivers of lien and similar attachments, when required.
  - 1. Transmit each copy with a transmittal form listing attachments and recording appropriate information related to the application, in a manner acceptable to the Construction Manager.
  - 2. Each Application for Payment must be submitted directly to the Construction Manager's office at 8625 Rendova Street N.E., P.O. Box 158, Circle Pines, MN 55014 for processing. Do not submit to jobsites or branch offices.
- G. Waivers of Mechanics Lien: With each Application for Payment, submit waivers of mechanics liens from every entity who may lawfully be entitled to file a mechanics lien arising out of the Contract, including but not limited to subcontractors, and suppliers, for the construction period covered by the previous application.
  - 1. Submit partial waivers on each item for the amount requested, prior to deduction for retainage, on each item.
  - 2. When an application shows completion of an item, submit final or full waivers.
  - 3. The Owner reserves the right to designate which entities involved in the Work must submit waivers.
  - 4. Waiver Delays: Submit each Application for Payment with the Contractor's waiver of mechanics lien for the period of construction covered by the application.
    - a. Submit final Applications for Payment with or preceded by final waivers from every entity involved with performance of the Work covered by the application that is lawfully entitled to a lien.
  - 5. Waiver Forms: Submit waivers of lien on forms and executed in a manner acceptable to Owner.
- H. Initial Application for Payment: Administrative actions and submittals, that must precede or coincide with submittal of the first Application for Payment, include the following:
  - 1. List of subcontractors.
  - 2. List of principal suppliers and fabricators.

3. Schedule of Values.
  4. Contractor's Construction Schedule (preliminary if not final).
  5. Schedule of principal products.
  6. Schedule of unit prices.
  7. Submittal Schedule (preliminary if not final).
  8. List of Contractor's staff assignments.
  9. List of Contractor's principal consultants.
  10. Copies of building permits.
  11. Copies of authorizations and licenses from governing authorities for performance of the Work.
  12. Certificates of insurance and insurance policies.
  13. Performance and Payment bonds.
  14. Data needed to acquire the Owner's insurance.
  15. Initial settlement survey and damage report, if required.
- I. Application for Payment at Substantial Completion: Following issuance of the Certificate of Substantial Completion, submit an Application for Payment.
1. This application shall reflect any Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of the Work.
  2. Administrative actions and submittals that shall precede or coincide with this application include:
    - a. Occupancy permits and similar approvals or certifications by governing authorities, assuring Owners full access and use of the completed work.
    - b. Warranties (guarantees) and maintenance agreements.
    - c. Test / adjust / balance records.
    - d. Maintenance instructions.
    - e. Meter readings.
    - f. Start-up performance reports.
    - g. Change-over information related to Owner's occupancy, use, operation, and maintenance.
    - h. Final cleaning.
    - i. Application for reduction of retainage and consent of surety.
    - j. Advice on shifting insurance coverages, including proof of extended coverages as required.
    - k. Final progress photographs.
    - l. List of incomplete Work recognized to be completed by the Contractor, as exceptions to Architect's Certificate of Substantial Completion.
- J. Final Payment Application: Administrative actions and submittals that must precede or coincide with submittal of the final Application for Payment include the following:
1. Completion of Project closeout requirements.
  2. Completion of items specified for payment application at time of Substantial Completion (regardless of whether such application was made).
  3. Assurance, satisfactory to Owner, that unsettled claims will be settled and that work not actually completed or accepted will be completed without undue delay.
  4. Transmittal of required Project construction records to the Owner.
  5. Certified property survey.
  6. Proof, satisfactory to Owner, that taxes, fees, and similar obligations of the Contractor have been paid.
  7. Removal of temporary facilities and services.

8. Removal of surplus materials, rubbish, and similar elements.
9. Change of door locks and other Contractor access to Owner's property.
10. Consent of Surety for Final Payment.

1.5 RETAINAGE

A. The amount that will be retained will be as follows:

1. Refer to GP 90-06 Partial Payments specifications.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01 20 00

**CONTRACTOR / DESIGN BUILDER'S  
REPORT OF DBE ACTIVITY**  
(Required with each Pay Application)

**Duluth International Airport - New Parking Structure and Exterior Wayfinding Signage**

FAA AIP Project Number:

Mn/DOT SP Project Numbers:

KACC Project Number:

Reynolds, Smith & Hills Project Number: 213-1882-114

**Accompanies Application for Payment No.**

**Covering period ending** \_\_\_\_\_

**Contractor**

**Name:**

**Address:**

**Telephone No.**

**E-mail Address**

**The Original Contract Amount was** \_\_\_\_\_

**The net Amount of Change Orders to date is** \_\_\_\_\_

**The Current Contract Amount is** \_\_\_\_\_

**The DBE Goal has been established as** \_\_\_\_\_ **percent of original contract amount**

**The current DBE Goal is therefore calculated as (amount)** \_\_\_\_\_

**The DBE Subcontractors who worked on this project during this pay period and the value of the work performed by each is as listed below:**

<u>NAME</u>	<u>DESCRIPTION OF WORK</u>	<u>AMOUNT</u>
-------------	----------------------------	---------------

- |    |       |       |
|----|-------|-------|
| 1. | _____ | _____ |
| 2. | _____ | _____ |
| 3. | _____ | _____ |
| 4. | _____ | _____ |
| 5. | _____ | _____ |
| 6. | _____ | _____ |
| 7. | _____ | _____ |
| 8. | _____ | _____ |

**The total value of work performed by DBEs during this pay period is** \_\_\_\_\_

**The accumulative value of work performed by DBEs prior to this period is**

**\$** \_\_\_\_\_ **-**

**The current total value of work performed by DBEs, including this period, is**

**\$** \_\_\_\_\_ **-**

**(The current total value of work performed by DBEs) ÷ (The current Contract Amount) =** \_\_\_\_\_

**Contractor's strategy for meeting DBE Goal (when applicable)** \_\_\_\_\_

CONSTRUCTION DEPARTMENT  
(DBE/MWBE/LDB Disbursement)

## Duluth International Airport - New Parking Structure and Exterior Wayfinding Signage

**From (Prime Contractor):**

[illegible]

---

By: \_\_\_\_\_ Date: \_\_\_\_\_



**NEW PARKING STRUCTURE AND  
EXTERIOR WAYFINDING SIGNAGE  
DULUTH INTERNATIONAL AIRPORT  
DULUTH, MINNESOTA**

**SECTION 01 26 00 - MODIFICATION  
PROCEDURES**

**PART 1 - GENERAL**

**1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

**1.2 SUMMARY**

- A. This Section specifies administrative and procedural requirements for handling and processing contract supplements and modifications.
- B. Related Sections: The following Sections contain requirements that relate to this Section:
  - 1. Division 1, Section 01 02 00 "Applications For Payment" for administrative procedures governing Applications for Payment.
  - 2. Division 1, Section 01 33 00 "Submittals" for requirements for the Contractor's Construction Schedule.
  - 3. Division 1, Section 01 25 00 "Products and Substitutions" for administrative procedures for handling requests for substitutions made after award of the Contract.

**1.3 CONTRACT DOCUMENT SUPPLEMENTS**

- A. Clarification / Supplemental Instructions (C-): Shall provide further detail to requirements inferred in the Contract Documents or authorize minor changes in the work, not involving an adjustment to the Contract Sum or Contract Time, and will be issued by the Architect with supplemental or revised drawings and specifications, if necessary. Clarifications / Supplemental Instructions issued by the Architect-Engineer shall become binding and a part of the Contract as minor changes in the work unless the Contractor notifies the Architect-Engineer within 21 days that the instructions result in changes that affect the Contract Cost or Contract Time.
- B. Request for Information / Supplemental Instructions (RFI-): Shall be initiated by the Contractor when necessary for performance of the work. The Architect's reply will constitute further detail to requirements if inferred in the Contract Documents or interpretations of the requirements. Requests for information must describe all document references that pertain to the issue and any conflicts and must include the contractor's interpretation or proposed action that would be made if there was not a process to obtain the information from the Architect. Requests for information that do not include this, or that request information already included in the contract documents without conflict, will be returned without action (RWA). The Architect will record the time expended to process such requests and notify the Contractor of the charges. The owner shall deduct any such compensation due the Architect from the Contractor's monthly periodic pay requests in accordance with the compensation terms for cost, overhead and profit in the Owner / Architect agreement. Use forms

provided by the Architect. The Contractor shall maintain a sequentially numbered log of all such requests.

- C. Contractor Corrective Action Proposals (CCA-): Shall be initiated by the Contractor when deviation from the contract requirements has been constructed. The Contractor shall provide a fully detailed proposal for his corrective or remedial work. The Architect's reply will indicate approval of the proposed action as detailed, approval with certain modifications, or rejection of the proposal. Use forms provided by the Architect. The Contractor shall maintain a sequentially numbered log of all such proposals. Upon notification of a deviation and request for a CCA the Contractor shall submit one promptly. Should this not occur in a timely fashion which, in the judgment of the Architect, will allow time for processing and correction ahead of other advancing elements of work, the Architect will initiate a CCA giving direction for correction. If the Architect initiates the CCA or must provide significant direction to a Contractor initiated CCA, due to a lack of a fully detailed proposal, the Architect will record the time expended and notify the Contractor of the charges. The owner shall deduct any such compensation due the Architect from the Contractor's monthly periodic pay requests in accordance with the compensation terms for cost, overhead and profit in the Owner / Architect agreement.

#### 1.4 PROPOSAL / CHANGE ORDER REQUESTS

- A. Request for Proposal (RFP-): The Architect will issue a detailed description of proposed changes in the Work that will require adjustment to the Contract Sum or Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.
1. Proposal requests issued by the Architect are for information only. Do not consider them as an instruction either to stop work in progress or to execute the proposed change.
  2. Unless otherwise indicated in the proposal request, within 20 days of receipt of a proposal request, submit an estimate of cost necessary to execute the change to the Architect for the Owner's review.
    - a. Include a list of quantities of products to be purchased and unit costs, along with the total amount of purchases to be made. Where requested, furnish survey data to substantiate quantities.
    - b. Itemize labor charges by time and category.
    - c. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
    - d. Indicate overhead and profit charges.
    - e. Include a statement indicating the effect the proposed change in the work will have on the Contract Time.
- B. Contractor-Initiated Change Order Requests (RCO-): When latent or unforeseen conditions require modifications to the Contract, the Contractor may propose changes by submitting a request for a change to the Architect.
1. Include a statement outlining the reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and Contract Time.
  2. Include a list of quantities of products to be purchased and unit costs along with the total amount of purchases to be made. Where requested, furnish survey data to substantiate quantities.
  3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.

4. Comply with requirements in Section 01 25 00 - PRODUCTS AND SUBSTITUTIONS if the proposed change requires substitution of one product or system for a product or system specified.
5. Change Order Request Form: Use forms provided by the Architect. The Contractor shall maintain a sequential log of all Requests for Change Orders.

## 1.5 ALLOWANCES

- A. Allowance Adjustment: For allowance-cost adjustment, base each Change Order Proposal on the difference between the actual purchase amount and the allowance, multiplied by the final measurement of work-in-place. Where applicable, include reasonable allowances for cutting losses, tolerances, mixing wastes, normal product imperfections, and similar margins.
  1. Include installation costs in the purchase amount only where indicated as part of the allowance.
  2. When requested, prepare explanations and documentation to substantiate the margins claimed.
  3. The Owner reserves the right to establish the actual quantity of work-in-place by independent quantity survey, measure, or count.
- B. Submit claims for increased costs because of a change in scope or nature of the allowance described in the Contract Documents, whether for the purchase order amount or the Contractor's handling, labor, installation, overhead, and profit. Submit claims within 20 days of receipt of the Change Order or Construction Change Directive authorizing work to proceed. The Owner will reject claims submitted later than 20 days.
  1. Do not include the Contractor's or subcontractor's indirect expense in the Change Order cost amount unless it is clearly shown that the nature or extent of work has changed from what could have been foreseen from information in Contract Documents.
  2. No change to the Contractor's indirect expense is permitted for selection of higher or lower-priced materials or systems of the same scope and nature as originally indicated.

## 1.6 CONSTRUCTION CHANGE DIRECTIVE

- A. Construction Change Directive: When the Owner and the Contractor are not in total agreement on the terms of a Change Order Proposal Request, the Architect may issue a Construction Change Directive on AIA Form G714. The Construction Change Directive instructs the Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.
  1. The Construction Change Directive will contain a complete description of the change in the work and designate the method to be followed to determine change in the Contract Sum or Contract Time.
- B. Documentation: Maintain detailed records on a time and material basis of work required by the Construction Change Directive.
  1. After completion of the change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

## 1.7 CHANGE ORDER PROCEDURES

- A. Upon the Owner's approval of a Change Order Proposal Request, the Architect will issue a Change Order for signatures of the Owner and the Contractor on AIA Form G701, as provided in the Conditions of the Contract.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01 26 00

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**SECTION 01 31 00 – COORDINATION**

**PART 1 - GENERAL**

**1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this section.

**1.2 SUMMARY**

- A. This section includes administrative and supervisory requirements necessary for coordinating construction operations including, but not necessarily limited to, the following:
  - 1. General project coordination procedures.
  - 2. Coordination Drawings.
  - 3. Administrative and supervisory personnel.
  - 4. Cleaning and protection.
- B. Related Sections: Refer to other Division 1 sections for coordination requirements regarding field engineering services, project meetings, Contractor's construction schedule, general installation and contract closeout.

**1.3 COORDINATION**

- A. Coordinate construction operations included in various sections of these Specifications to assure efficient and orderly installation of each part of the work. Coordinate construction operations included under different sections that are dependent upon each other for proper installation, connection, and operation.
  - 1. Schedule construction operations in the sequence required to obtain the best results where installation of one part of the work depends on installation of other components, before or after its own installation.
  - 2. Coordinate installation of different components to assure maximum accessibility for required maintenance, service, and repair.
  - 3. Make provisions to accommodate items scheduled for later installation.
- B. Where necessary, prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and attendance at meetings.
  - 1. Prepare similar memoranda for the Owner and separate contractors where coordination of their work is required.
- C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and assure orderly progress of the work. Such administrative activities include, but are not limited to, the following:
  - 1. Preparation of schedules.
  - 2. Installation and removal of temporary facilities.
  - 3. Delivery and processing of submittals.

4. Progress meetings.
5. Project closeout activities.

#### 1.4 SUBMITTALS

- A. Coordination Drawings: Prepare coordination drawings as careful coordination is needed for installation of products and materials fabricated by separate entities. Prepare coordination drawings where limited space availability necessitates maximum utilization of space for efficient installation of different components.
  1. Show the relationship of components shown on separate Shop Drawings.
  2. Indicate required installation sequences.
  3. Comply with requirements contained in Section 01300 - SUBMITTALS.
  4. Refer to Divisions 15 and 16 for additional requirements.
- B. Staff Names: Within fifteen (15) days of commencement of construction operations, submit a list of the Contractor's principal staff assignments, including the superintendent and other personnel in attendance at the Project Site. Identify individuals and their duties and responsibilities. List their addresses and telephone numbers.
  1. Post copies of the list in the Project meeting room, the temporary field office, and each temporary telephone.
- C. Subcontractor / Supplier Names: Within fifteen (15) days of commencement of construction operations, submit a listing of Contractor's principal subcontractors and suppliers, naming persons and listing their addresses and phone numbers.

#### 1.5 SITE USE PLAN

- A. Within ten (10) working days of Contract award, the Contractor shall develop and submit for Owner's approval a site use plan. This plan shall clearly describe the proposed temporary facilities, staging areas, ramps and major traffic ways, hazardous material storage, provisions for site services, safety and security. Changes to the site plan shall be submitted for review and approval five (5) working days prior to effecting the changes.

#### 1.6 TRADESPERSONS AND WORKMANSHIP STANDARDS

- A. General: Instigate and maintain procedures to ensure that persons performing work at site are skilled and knowledgeable in methods and craftsmanship needed to produce required quality levels for workmanship in completed work. Remove and replace work which does not comply with workmanship standards as specified and as recognized in the construction industry for applications indicated. Remove and replace other work damaged or deteriorated by faulty workmanship or its replacement.
- B. Availability of Tradespersons: At each progress or coordination meeting, review availability of tradespersons and projected needs to accomplish work as scheduled. Require each entity employing personnel to report on events which might affect progress of work. Where possible, consider alternatives and take actions to avoid disputes and delays.

#### PART 2 - PRODUCTS (Not Applicable)

## PART 3 - EXECUTION

### 3.1 GENERAL COORDINATION PROVISIONS

- A. Inspection of Conditions: Require the Installer of each major component to inspect both the substrate and conditions under which work is to be performed. Do not proceed until unsatisfactory conditions have been corrected in an acceptable manner.
- B. Coordinate temporary enclosures with required inspections and tests to minimize the necessity of uncovering completed construction for that purpose.
- C. Manufacturer's Instructions: Comply with manufacturer's installation instructions and recommendations, to the extent that those instructions and recommendations are more explicit or stringent than requirements contained in Contract Documents.
- D. Inspect materials or equipment immediately upon delivery and again prior to installation. Reject damaged and defective items.
- E. Provide attachment and connection devices and methods necessary for securing work. Secure work true to line and level. Allow for expansion and building movement.
- F. Visual Effects: Provide uniform joint widths in exposed work. Arrange joints in exposed work to obtain the best visual effect. Refer questionable choices to the Architect for final decision.
- G. Recheck measurements and dimensions, before starting each installation.
- H. Install each component during conditions of temperature, humidity, exposure, forecasted weather and status of project completion that will ensure the best possible results, in coordination with entire work. Isolate each part of the completed construction from incompatible material as necessary to prevent deterioration.
- I. Mounting Heights: Where mounting heights are not indicated, install individual components at standard mounting heights recognized within the industry for the particular application indicated. Refer questionable mounting height decisions to the Architect for final decision.

### 3.2 CLEANING AND PROTECTION

- A. Clean and protect construction in progress and adjoining materials in place, during handling and installation. Apply protective covering where required to assure protection from damage or deterioration at Substantial Completion.
- B. Clean and maintain completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to assure operability without damaging effects.
- C. Limiting Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period. Where applicable, such exposures include, but are not limited to, the following:

1. Excessive static or dynamic loading.
2. Excessive internal or external pressures.
3. Excessively high or low temperatures.
4. Thermal shock.
5. Excessively high or low humidity.
6. Air contamination or pollution.
7. Water or ice.
8. Solvents.
9. Chemicals.
10. Light.
11. Radiation.
12. Puncture.
13. Abrasion.
14. Heavy traffic.
15. Soiling, staining, and corrosion.
16. Bacteria.
17. Rodent and insect infestation.
18. Combustion.
19. Electrical current.
20. High-speed operation.
21. Improper lubrication.
22. Unusual wear or other misuse.
23. Contact between incompatible materials.
24. Destructive testing.
25. Misalignment.
26. Excessive weathering.
27. Unprotected storage.
28. Improper shipping or handling.
29. Theft.
30. Vandalism.

### 3.3 ENVIRONMENTAL PROTECTION

- A. Soil Disposal and / or Borrow: Conduct all soil disposal and / or borrow work in accordance with requirements of local regulatory authorities. Dispose of all excess soil in a legal manner off site.
- B. Solid, Liquid and Gaseous Contaminants: Contractor shall be responsible for the proper disposal of all solid, liquid and gaseous contaminants in accordance with all local codes and regulations, together with the following requirements.
  1. Discharge gaseous contaminants so that they will be sufficiently diluted with fresh air to reduce the toxicity to an acceptable level.
  2. Liquid contaminants may, subject to local utility standards, be diluted with water to a level of quality acceptable in the local sewer system or shall be contained in approved vessels for disposal at approved sites.
- C. Disposal of Refuse: Remove refuse resulting from construction operations from the site. Burning on the site is not permissible.
- D. Hazardous Waste: All hazardous waste generated by the Contractor and the Contractor's subcontractors during the course of construction shall be stored, transported and disposed of in accordance with 40 CFR 260. The Contractor and his subcontractors shall be responsible for all documentation related to hazardous



waste generated as a result of this Contract and that documentation shall be in accordance with 40 CFR 260.

- E. Construction Site Maintenance:
  - 1. Store all supplies and equipment on project site so as to preclude mechanical and climatic damage. Maintain site in a neat and orderly manner.
  - 2. Contractor shall be responsible for maintaining the temporary structures and construction enclosure (fence) in good repair and visually pleasant. Contractor shall further provide adequate security, supplementing the existing fencing as necessary, to prevent the presence of unauthorized persons on the site and to keep gates secured when not in actual use to ensure the integrity of the barrier as well as for property security.
- F. Noise Control: Comply with all applicable state and local laws, ordinances and regulations relative to noise control.

END OF SECTION 01 31 00

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**SECTION 01 32 13 - SCHEDULES**

**GENERAL**

**1. RELATED DOCUMENTS**

Drawings and general provisions of Contract, including General Conditions and Division 1 Specifications, apply to work of this Section.

**2. COORDINATION**

A. The Contractor shall coordinate scheduling with the Construction Manager. In particular, the Contractor shall provide close coordination of progress schedule, schedule of values, listing of subcontractors, schedule of submittals, progress reports and payment requests.

B. Close coordination will be required between all construction trades in order that individual areas of construction can be completed by their scheduled time. Consult the proposed construction sequence schedule for start and completion dates of individual work areas.

**3. PRELIMINARY SCHEDULE**

A. The Construction Manager has developed a Preliminary Schedule included at the end of this section, showing work areas of the project which directly impact the orderly use of the facility during construction. The timing of these activities has been approved by the Owner.

B. The Preliminary Schedule may not list the work completely and may vary from the drawings and specifications.

**4. CONSTRUCTION SCHEDULE**

A. The Construction Manager shall computerize a Precedence Diagram Method (PDM) Network using data supplied by the Contractor and all subcontractor(s). The Contractor will be responsible for his own methods and procedures and the performance of the work consistent with good practice.

B. Neither the Construction Manager nor the Owner warrants the information supplied by the Contractors is accurate or correct or that the project can be performed as scheduled based upon data supplied by the Contractors.

C. The Contractor shall be responsible for providing all data to develop and update the schedule. The Contractor shall supervise all work activities to maintain progress in accordance with the schedule.

D. The Contractor and Subcontractor shall provide their own data to the Construction Manager reflecting the actual plan of operation for the Project.

**SCHEDULES**  
Bid Package 2D  
Issue for Bid  
01 32 13 - 1

Schedule input data shall include a comprehensive list of all activities of the construction phase of the project, including submittals (shop drawings, samples, product data), procurement of material, and on-site activity (erection, installation, construction). Activities for procurement of materials shall be included to delineate between material purchasing and fabrication/delivery.

- E. The Contractor shall assign durations and sequencing to each activity. Submittal activities shall be listed with the anticipated date of submittal. Procurement activities shall be listed with the duration required for fabrication and delivery from date of purchase. The Construction Manager shall computerize a PDM network using input data supplied by the Contractor. The Construction Manager will meet with the Contractor to revise and expand the Schedule and resolve conflicts. The revised schedule shall conform to the specific plan of operation envisioned by the Contractor.

The Construction Manager will guide the Contractor in determining the level of detail to be included in the PDM Networks. The schedule shall be adequate enough to evaluate progress, cost of work in place and serve as a control technique for the Contractor's Field Superintendent.

- F. The Contractor and all subcontractors shall be obligated to perform in accordance with the Construction Schedule and to participate in updating the schedule. The Contractor shall include provisions in all subcontracts binding Subcontractors to participate in revisions of the schedule as are necessary, and to supply data throughout the project.
- G. Upon request, the Contractor shall submit to the Construction Manager purchase orders and subcontracts. Such information shall be submitted as soon as available so the Construction Manager will be aware of the progress being made by the Contractor in the placing of orders and the status of material. The Contractor shall be solely responsible for expediting the delivery of all material furnished by him and coordinating his subcontractors so construction progress shall be maintained according to Contract Schedule.

## 5. COMPLIANCE WITH THE CONSTRUCTION SCHEDULE

- A. If the Contractor shall fail to adhere to the Construction Schedule or to the said schedule as revised, he must promptly adopt such other or additional means and methods of construction as will make up for the time lost and will assure completion of the work in accordance with said Construction Schedule at no additional cost to the Owner, except in accordance with the provision of the contract governing such costs. If the Owner or the Construction Manager notifies the Contractor of any change in the contract or any extra work performed, or if any other conditions arise which are likely to cause delays, the Contractor shall notify the Construction Manager in writing within five (5) days of the receipt of such notice or occurrence of such condition. This notice shall document the effect, if any, of such change, or extra work, of suspension or other condition upon the Construction Schedule. No time extensions will be granted due to a delay in any activity unless the

Owner deems the length of the delay exceeds the float time associated with the activity at the time the delay occurs.

6. FLOAT TIME

- A. The Contractor, in directing the compliance with Construction Schedule shall cooperate with the Owner and the Construction Manager in utilizing float time. Full control over use of total float time in the Schedule rests with the Owner and will be utilized by him in any necessary rescheduling of the Construction Schedule occasioned by design changes, field conditions, strikes, Acts of God, or unavoidable equipment and material delays. If rescheduling of any activity adversely affects the Contractor's operation, he shall advise the Construction Manager in writing no later than five (5) days after the receipt of the revised schedule or Notice of Intent to revise the schedule.

7. PRELIMINARY SCHEDULE MILESTONE DATES

- A. Below is a list of preliminary milestone dates:

1. Site work starts July 15, 2013.
2. Concrete footings and foundations completed by September 30, 2013.
3. Precast construction completed by December 27, 2013.
4. Substantial completion is March 14, 2014.
5. Final completion is April 18, 2014.
6. Skywalk construction is June 2014 – August 2014.

END OF SECTION 01 32 13

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**SECTION 01 04 50 - CUTTING AND PATCHING**

**1. WORK INCLUDED**

- A. Refer to Section 01 10 00 and 01 50 00 for special requirements, protection, constraints, timing of work, scheduling of work, enclosures and similar requirements relating to this Section.
- B. This Section covers cutting, demolition, removal work, patching and restoration of work as necessary to accomplish and complete all work under the Contract, including any relocation or reuse of existing materials, equipment, systems, or other work, as well as the disposition of salvaged materials or debris. This Section applies to all work under the Contract, including general construction, mechanical and electrical work.
- C. Drawings generally indicate the extent of demolition, removals, relocations and cutting. The drawings shall not be construed as indicating all required work, nor indicating all conditions or details which might be encountered to accomplish the work of this Contract. The Contractor and his subcontractors shall examine the spaces themselves to determine the actual conditions and requirements. All removals, demolition, cutting, restoration, new installations and other work shall be accomplished to transform the existing spaces and conditions to the new conditions required under the Contract, as well as to accomplish all tie-in work of new to existing.
- D. It is the intent that unless specially shown on the general construction type drawings (i.e., architectural and structural) and schedules, or inherent in the work to be accomplished under the general construction work of the area, that the mechanical and electrical Contractors shall perform the demolition, cutting, removals, relocations, patching and restoration as will be required to accomplish the work under their contracts. All work shown or indicated on the general construction drawings and schedules shall be accomplished by the associated Contractor.
- E. Except for general demolition of entire areas, it is the intent that at each area, or space, the Contractor and each subcontractor shall make the removals, perform cutting or demolition and accomplish relocations of work normal to his trades (i.e., Mechanical Contractor removes or relocates piping, ductwork and similar; Electrical Contractor removes or relocates panelboards, conduit lighting and similar). At areas of general demolition of the entire spaces, the Mechanical and Electrical shall make removals of work normal to their trades or as may be called for, for reuse or relocation, make any relocations and cut-off, terminate, cap or otherwise discontinue services that will be abandoned or removed in the space.

2. GENERAL REQUIREMENTS

- A. Accomplish all work of cutting, removal, demolition, relocation, patching and other restoration by using only mechanics skilled in the trade. If necessary, sublet the work to skilled contractors or subcontractors.
- B. The Contractor shall coordinate all work of this Section with all subcontractors so the work will progress without interruption and minimum delays. The Contractor shall also coordinate and schedule the work with the Owner and Construction Manager where possible disturbance may occur and where relocations or other potential disruptions of the Owner's functions and services may occur. All work affecting the Owner's functions and services shall be performed at times acceptable to the Owner.

END OF SECTION 01 04 50

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**SECTION 01 31 19 - PROJECT MEETINGS**

**1. GENERAL**

A. This Section specifies administrative and procedural requirements for project meetings including but not limited to:

1. Pre-Construction Conference.
2. Pre-Installation Conference.
3. Progress Meetings.

**2. PRE-CONSTRUCTION CONFERENCE**

A. Pre-Construction Conference shall be scheduled as directed by Construction Manager. Conduct the meeting to review responsibilities and personnel assignments.

B. Attendees: Construction Manager, the Owner, Architect and their consultants, the Contractor and its superintendent, major subcontractors, manufacturers, suppliers and other concerned parties shall each be represented at the conference by persons familiar with and authorized to conclude matters relating to the Work.

C. Agenda: Discuss items of significance that could affect progress including such topics as:

1. Construction schedule.
2. Critical work sequencing.
3. Designation of responsible personnel.
4. Procedures for processing field decisions and change orders.
5. Procedures for processing Applications for Payment.
6. Distribution of contract documents.
7. Submittal of shop drawings, product data and samples.
8. Preparation of record documents.
9. Use of the premises.
10. Office, work and storage areas.
11. Equipment deliveries and priorities.
12. Safety procedures.
13. First aid.
14. Security.
15. Housekeeping.
16. Working hours.

**3. PRE-INSTALLATION CONFERENCES**

A. The Contractor shall conduct a pre-installation conference at the Project Site before each construction activity that requires coordination with other construction.

B. Attendees: The Installer and representatives of manufacturers and fabricators involved in or affected by the installation, and its coordination or integration with

other materials and installations that have preceded or will follow, shall attend the meeting. Advise the Architect at least ten (10) working days in advance of scheduled meeting dates.

- C. Do not schedule conferences until the submittals required by the Contract Documents for work associated with the construction activity requiring the conference have been approved and returned to the Contractor.
- D. Review the progress of other construction activities and preparations for the particular activity under consideration at each pre-installation conference, including requirements for the following:

1. Contract Documents.
2. Options.
3. Related Change Orders.
4. Purchases.
5. Deliveries.
6. Shop Drawings, Product Data, and quality-control samples.
7. Review of mock-ups.
8. Possible conflicts.
9. Compatibility problems.
10. Time schedules.
11. Weather limitations.
12. Manufacturer's recommendations.
13. Warranty requirements.
14. Compatibility of materials.
15. Acceptability of substrates.
16. Temporary facilities.
17. Space and access limitations.
18. Governing regulations.
19. Safety.
20. Inspecting and testing requirements.
21. Required performance results.
22. Recording requirements.
23. Protection.

- E. The Contractor shall record the results of the meeting and distribute copies to attendees and other interested parties.
- F. Do not proceed with the installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of work and reconvene the conference at the earliest feasible date.

#### 4. PROGRESS MEETINGS

- A. Construction Manager shall conduct regular progress meetings at the Project site. Time of meeting to be scheduled by Construction Manager.
- B. Attendees: In addition to representatives of the Owner, Construction Manager and Architect, each prime contractor, subcontractor, supplier or other entity concerned with current progress or involved in planning, coordination or performance of future



activities shall be represented at these meetings by persons familiar with the Project and authorized to conclude matters relating to progress.

- C. Agenda: Review and correct or approve minutes of the previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to the current status of the Project.
  - 1. Contractor's Construction Schedule: Review progress since the last meeting. Determine where each activity is in relation to the Contractor's Construction Schedule, whether on time or ahead or behind schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
  - 2. Review the present and future needs of each entity present, including such items as:
    - a. Interface requirements.
    - b. Time.
    - c. Sequences.
    - d. Deliveries.
    - e. Off-site fabrication problems.
    - f. Access.
    - g. Site utilization.
    - h. Temporary facilities and services.
    - i. Hours of work.
    - j. Hazards and risks.
    - k. Housekeeping.
    - l. Quality and work standards.
    - m. Change orders.
    - n. Documentation of information for payment requests.
- D. Reporting: No later than three (3) days after each progress meeting date, the Construction Manager shall distribute copies of minutes of the meeting to each party present and to other parties as applicable.
  - 1. Schedule Updating: The construction schedule shall be revised after each progress meeting where revisions to the schedule have been made or recognized. The revised schedule shall be issued to all applicable parties.

END OF SECTION 01 31 19

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**SECTION 01 22 00 – UNIT  
PRICES**

**PART 1 - GENERAL**

**1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

**1.2 SUMMARY**

- A. This Section includes administrative and procedural requirements for unit prices.
- B. Related Sections include the following:
  - 1. Division 1 Section 01 26 00 "Modification Procedures" for procedures for submitting and handling Change Orders.
  - 2. See Civil Drawing Sheet C002 for a Summary of Estimated Quantities for Civil Work.

**1.3 DEFINITIONS**

- A. Unit price is an amount proposed by bidders, stated on the Bid Form, as a price per unit of measurement for materials or services added to or deducted from the Contract Sum by appropriate modification, if estimated quantities of Work required by the Contract Documents are increased or decreased.

**1.4 PROCEDURES**

- A. Unit prices include all necessary material, plus cost for delivery, installation, insurance, applicable taxes, overhead, and profit.
- B. Measurement and Payment: Refer to individual Specification Sections for work that requires establishment of unit prices. Methods of measurement and payment for unit prices are specified in those Sections.
- C. Owner reserves the right to reject Contractor's measurement of work-in-place that involves use of established unit prices and to have this work measured, at Owner's expense, by an independent surveyor acceptable to Contractor.
- D. List of Unit Prices: Refer to Section 01014 "Work Scope Descriptions" and the Bid Form Package in Volume 1 of the Project Manual.

**PART 2 - PRODUCTS (Not Used)**

**EXECUTION (Not Used)**

**END OF SECTION 01 22 00**

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**SECTION 01 33 00 – SUBMITTALS**

1. GENERAL

- A. This Section defines procedures for the following submittals required by the Contract Documents.

2. SCHEDULE OF SUBMITTALS - REQUIRED

- A. The following documents are required to be submitted to the Construction Manager for review at the times indicated.

1. Prior to Bidding (ten days prior to bid opening):  
Request for approval of substitute material and equipment.
2. Within 10 days of Letter of Contract Award:  
Performance and Payment Bonds  
Insurance Certificate  
Schedule of Values (based on specification sections – no Pay Application will be processed without approval of Schedule of Values)  
List of materials and equipment  
List of subcontractors
3. During Progress of Project as specified:  
Samples  
Test results  
Application for Payment (see Specifications Section 01 20 00)
4. Upon receipt of Substantial Completion Certificate, submit the following documents within 30 days:  
Shop drawings and required submittals  
Equipment and material guarantees  
Operations manuals  
As-built drawing notes  
Completed punch lists  
Final payment request accompanied by:  

Affidavit of Payment of Claims	Affidavit of Release of Liens
Withholding Tax Affidavit	Consent of Surety to Final Payment

**Note: No final retainage payment will be released without the receipt and approval of the above referenced documents.**

3. SHOP DRAWINGS

- A. Shop drawings prepared specifically for this work shall be submitted to the Construction Manager electronically for submittal to the Architect. Contractors are to review and stamp shop drawings or they will be returned. At least 40 square inches of space in the lower right hand corner of each sheet shall be left blank for approval

- stamps and notes. After the Architect has checked and approved each drawing, he will so stamp it, make such copies as he requires and return it through the Construction Manager to the Contractor who shall make and distribute such copies as he requires. In instances where minor corrections are required, they will be so noted on the drawing and it will be stamped "Make Corrections Noted" and returned to the Contractor as above. Where major corrections are required, the shop drawings will be returned to the Contractor who shall make a new drawing incorporating the required corrections and resubmit the revised drawings for approval electronically to the Construction Manager.
- B. Shop drawings in the form of printed descriptive information shall be bound together with a title and index sheet listing each sheet in the binding. The title and index sheet shall have a blank rectangular space of at least 4" x 8" for notes and approval stamps. Shop drawings are to be submitted electronically to the Construction Manager.
  - C. Shop drawings and samples shall be dated and contain: Names of project, description or names of equipment, materials and items; and complete identification of locations at which materials or equipment are to be installed.
  - D. Submission of shop drawings shall be accompanied by transmittal letter and required Submittal Cover Sheet, containing project name, Contractor's name, number of drawings, titles and other pertinent data such as section and article numbers.

#### 4. SAMPLES

- A. Deliver samples of materials, equipment, assemblies and components as required by specifications to Construction Manager for submittal to the Architect (or other designated location) with delivery costs prepaid. At Construction Manager's direction, remove samples after approval. Samples shall be of like kind to the products to be provided for building and shall have finish and other characteristics required by work. Samples shall indicate type of construction and quality proposed for installation in the project.
- B. Where the Contractor requires approved samples to be returned, submit the number of samples required by the Contractor plus three (3) which shall be retained by the Architect and Construction Manager.
- C. Submission of samples shall be accompanied by transmittal letter and required Submittal Cover Sheet, containing project name, Contractor's name, number of samples, titles and other pertinent data such as section and article numbers.

#### 5. LIST OF MATERIALS

- A. Within ten (10) days after the award of the contract (notice to proceed or letter of intent), the Contractor shall submit three (3) copies of a complete list of all materials, products, and equipment proposed to be used in construction to the Construction Manager for acceptance. Materials shall not be ordered until the proposed listed materials, products and equipment proposed to be used in construction are reviewed by the Architect for acceptance and the listed materials are accepted.

- B. Where two or more makes or kinds of items are named in the specifications (or additional names are called for in addendum), the Contractor shall state which particular make or kind of each item he proposes to provide. If the Contractor fails to state a preference, the Owner shall have the right to select any of the makes of kinds named without change in price.
- C. This list shall be arranged in order of specification sections. The items listed shall fully conform to project requirements and specifications. All materials are subject to the Architect's acceptance. After acceptance, there shall be no changes or substitutions.
- D. The list shall clearly identify the material, product or equipment by manufacturer and brand by listing the names, for all items, including those where only one material or product is specified. Each and all material, products and equipment shall be specifically named, not listed "as specified".

## 6. LIST OF SUBCONTRACTORS

- A. Within ten (10) days after the award of the contract (notice to proceed) and prior to the execution of the Contract, the Contractor shall submit three (3) copies of a complete list of all work he proposes to subcontract and the subcontractors (and major material suppliers) he proposes to use in performance of the Contract to the Construction Manager for review by the Architect, Construction Manager and Owner. The list shall include Sub-subcontractors. No subcontracts shall be executed until the proposed list of subcontractors is accepted.
- B. Reasonable objection shall be deemed to have been exercised when, in the opinion of the Architect or Owner, objections have been made based on their reasonable belief that the proposed Subcontractor, Sub-subcontractor or material supplier: (1) cannot provide materials, equipment, facilities or other products as specified or required by the Contract Documents; (2) cannot provide labor and skill necessary to accomplish the part of Work for which he is proposed, including but not limited to quality of workmanship; (3) lacks adequate and appropriate experience for the part of the Work for which he is proposed, including materials or methods required; (4) has previously failed to perform timely or satisfactorily, including in cooperation and in necessary services after project completion; (5) proposed deviations in material or methods that are unacceptable to the Architect or Owner, such as proposing materials or methods that were not specified or not listed in addenda; (6) there is reasonable doubt he can satisfactorily perform the part of the Work for which he is proposed, within the time schedule, due to size of organization or existing work load; (7) cannot demonstrate his ability through quality or representative work to perform the part of the Work for which he is being considered; (8) of questionable integrity; (9) or other similar considerations bearing on the possibility of unsatisfactory performance. If the Owner, Construction Manager or the Architect has a reasonable objection to any person or entity proposed by a substitute to whom neither the Owner, Construction Manager, nor the Architect has any reasonable objection and no increase in the Contract Sum shall be allowed as a result of any such substitution.
- C. After review of the proposed list, no change of any Subcontractor, Sub-subcontractor or supplier not objected to by the Architect, Construction Manager or Owner, shall be made, except for cause acceptable to all parties. In the event of a proposed change, the Contractor shall submit the reasons for the change, in writing,

along with the alternate proposed Subcontractor, Sub-subcontractor or material supplier. The proposed change is subject to the conditions of this Article and the requirements of the General Conditions.

## 7. GUARANTEES AND WARRANTIES

- A. Refer to Section 01 78 36 - Warranties.
- B. Special Warranties: Contractor shall complete all manufacturer's warranty registrations and shall submit same to Construction Manager for transmittal to Owner.

## 8. INSTRUCTION MANUALS

- A. For all items of mechanical equipment and electrical apparatus, the Contractor shall obtain from the manufacturer and furnish to the Construction Manager three (3) copies of the following:
  - 1. Operating instructions.
  - 2. Parts lists (including name and address of nearest vendor or service agent).
  - 3. Maintenance instructions.
  - 4. Shop Drawings.
- B. These items are separate from and in addition to the operating placards required to be attached to or posted near the equipment.
- C. Contractor shall provide field instruction to Owner's personnel as required to fully instruct them in correct operating and maintenance procedure, for all equipment installed under this contract.
- D. Manual shall be submitted in 8-1/2" x 11" form in adequately sized three (3) ring loose leaf binders with entire contents indexed and thumb-tabbed.

## 9. RECORD SET OF DRAWINGS

- A. Contractor shall provide the record set of drawings to the Construction Manager at the completion of Contract.
- B. During construction, Contractor shall maintain a clean set of drawings for the sole purpose of recording changes and actual "as installed" information.
- C. As a general guide, the type of information to be recorded on the record set includes: (1) changes, deviations or revisions made, except minor or noncritical dimensions, including those made by Change Order or Supplementary Instructions; (2) omissions, including work omitted by accepted alternates; (3) dimensioned locations of major or main utility lines, such as main conduit runs, piping mains and similar work; (4) locations of control valves; (5) additions to the work; (6) changes in significant details; (7) changed footing or other elevations; (8) changes in locations of panelboards, outlets, drains, piping, opening, dampers and similar features; (9) other similar data. Refer to Section 01 77 00 – Project Record Documents.

END OF SECTION 01 33 00

SUBMITTALS  
 Bid Package 2D  
 Issue for Bid  
 01 33 00 - 4

**SECTION 01 81 13**

**SUSTAINABLE DESIGN REQUIREMENTS**

**PART 1 GENERAL**

**1.1 SUMMARY**

- A. Section Includes:
  - 1. Sustainable Project goals.
  - 2. Sustainable product requirements.

**1.2 REFERENCES**

- A. American Society of Heating, Refrigerating and Air-Conditioning Engineers:
  - 1. ASHRAE 52.2 - Method of Testing General Ventilation Air-Cleaning Devices for Removal Efficiency by Particle Size.
  - 2. ASHRAE 62 - Ventilation for Acceptable Indoor Air Quality.
  - 3. ASHRAE 90.1 - Energy Efficient Design of New Buildings Except Low-Rise Residential Buildings.
  - 4. ASHRAE 129 - Measuring Air-Change Effectiveness.
- B. ASTM International:
  - 1. ASTM E408 - Standard Test Methods for Total Normal Emittance of Surfaces Using Inspection-Meter Techniques.
  - 2. ASTM E903 - Standard Test Method for Solar Absorptance, Reflectance, and Transmittance of Materials Using Integrating Spheres.
- C. Bay Area Air Quality Management District:
  - 1. BAAQMD Regulation 8, Rule 51 - Adhesive and Sealant Products.
- D. Carpet and Rug Institute:
  - 1. CRI Green Label Testing Program.
- E. Forest Stewardship Council:
  - 1. FSC Guidelines- Forest Stewardship Council Guidelines.
- F. Green Seal:
  - 1. GS-11 - Product Specific Environmental Requirements.
- G. Sheet Metal and Air Conditioning Contractors:
  - 1. SMACNA IAQ - IAQ Guidelines for Occupied Buildings Under Construction.
- H. South Coast Air Quality Management District:
  - 1. SCAQMD Rule 1168 - Adhesive and Sealant Applications.

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- I. U.S. Environmental Protection Agency:
  - 1. EPA 832-R-92-005 - Storm Water Management for Construction Activities: Developing Pollution Prevention Plans and Best Management Practices.
  - 2. EPA Baseline IAQ - Testing for Indoor Air Quality, Baseline IAQ, and Materials Section 01445.
- J. State of Minnesota:
  - 1. Minnesota Sustainable Building 2030 (SB 2030) energy standards.
  - 2. Minnesota Sustainable Building Guidelines (B3).

**1.3 SUSTAINABLE PROJECT GOALS**

- A. Comply with the following general sustainable Project goals. Refer to specific specification sections for more detailed requirements.
  - 1. Notify Owner and Architect when conflicts arise between Work performance and sustainable Project goals.
- B. Sustainable Project Goals: Refer to Minnesota Sustainable Building Guidelines (B3) and Minnesota Sustainable Building 2030 (SB 2030) energy standards as noted on <http://www.mn2030.umn.edu/> for requirements.

**1.4 SUBMITTALS**

- A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.
- B. Product Data:
  - 1. Submit data for filter media and filter efficiency.
- C. Manufacturer's Certificate: Certify products meet or exceed specified requirements.
  - 1. Certify roof surface materials are Energy Star labeled.
  - 2. Certify salvaged or reused Products source and origin.
  - 3. Certify recycled material content for recycled content products.
    - a. Indicate post-consumer recycled content percent by weight.
    - b. Indicate post-industrial recycled content percent by weight.
  - 4. Certify source for local and regional materials.
    - a. Indicate manufacturing or fabrication location and distance to site in miles.
  - 5. Certify lumber is harvested from Forest Stewardship Council Certified well managed forest.
    - a. Indicate certifying agency and agency accreditation by Forest Stewardship Council.
    - b. Include chain-of-custody documentation tracking wood product from forest to installed Product.



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6. Certify volatile organic compound content for each interior adhesive and sealant and related primer.
    - a. Include data sheet indicating volatile organic compound content for each Product.
    - b. Include Material Safety Data Sheet for each Product.
  7. Certify volatile organic compound content for each interior paint and coating.
    - a. Include data sheet indicating volatile organic compound and chemical component content for each Product.
    - b. Include Material Safety Data Sheet for each Product.
  8. Certify volatile organic compound content for each carpet, carpet adhesive, and carpet cushion.
    - a. Include data sheet indicating volatile organic compound content for each Product.
  9. Certify each composite wood and agrifiber product contains no added urea-formaldehyde resins.
    - a. Include data sheet indicating urea-formaldehyde resin content for each Product.
- D. Construction Photographs: Submit photographs indicating measures protecting materials from moisture for the following:
1. Absorptive materials, including but not limited to masonry units, lumber, finished architectural woodwork, flush wood doors, gypsum board, acoustical ceiling tiles, and insulation.
  2. Ducts and other HVAC equipment.
- E. Cost Data:
1. Submit cost of Products, excluding cost of labor and equipment for installation, for the following Products installed as part of permanent construction:
    - a. Salvaged or reused.
    - b. Recycled material content.
    - c. Local or regional.
    - d. Certified wood.
- F. Construction Plans:
1. Construction Waste Management Plan: Indicate analysis of estimated job site waste to be generated, including types and quantities; and proposed alternatives to use of landfill.
    - a. Submit monthly reports of actual recycling rates, salvage rates, and landfill rates.
  2. Construction Indoor Air Quality (IAQ) Plan: Indicate absorptive material and HVAC system protection; source control; pathway interruption; housekeeping and construction sequencing.

**1.5 QUALITY ASSURANCE**

- A. Perform Work in accordance with LEED Reference Guide to permit application and certification to achieve [Certified] [Silver] [Gold] [Platinum] Rating under LEED Rating System.
- B. Perform storm water management and erosion control Work in accordance with EPA 832-R-92-005 or local erosion and sedimentation control standards whichever is more stringent.
- C. Perform commissioning Work as specified in Section 01 91 00 - Commissioning for the following:
  - 1. Fundamental building systems.
- D. Perform Work to meet or exceed minimum energy efficiency and performance in accordance with ASHRAE 90.1 or local energy code whichever is more stringent.
- E. Perform Work without use of CFC based refrigerants in HVAC building systems.
- F. Perform ventilation Work in accordance with ASHRAE 62.
- G. Perform testing of designated smoking rooms in accordance with ASHRAE 129 to verify maximum 1 percent of tracer gas is detectable in adjoining non-smoking rooms.
- H. Develop and implement construction indoor air quality management plan including the following:
  - 1. Comply with minimum requirements of SMACNA IAQ.
  - 2. Protect stored and installed absorptive materials from moisture damage.
    - a. Store materials on elevated platforms under cover, and in dry location.
    - b. When materials are not stored in enclosed location, cover tops and sides of material with secured waterproof sheeting.
  - 3. Protect HVAC equipment during construction.
    - a. Shut down return side of HVAC system whenever possible during heavy construction or demolition.
    - b. When HVAC systems are operated during heavy construction, furnish disposable temporary filters.
  - 4. Replace filtration media immediately before occupancy.
  - 5. Conduct minimum two-week building flush-out with new filtration media at 100 percent outside air after construction ends and before occupancy.

**1.6 QUALIFICATIONS**

- A. Monitor and manage compliance with this section under direct supervision of LEED Accredited Professional.

**1.7 PRE-INSTALLATION MEETINGS**

- A. Section 01 30 00 - Administrative Requirements: Pre-installation meeting.
- B. Convene minimum one week prior to commencing work of this section.
  - 1. Review submittal and documentation requirements for LEED certificate.
  - 2. Review construction procedures and temporary facilities required for LEED compliance.

**1.8 DELIVERY, STORAGE, AND HANDLING**

- A. Section 01 60 00 - Product Requirements: Requirements for transporting, handling, storing, and protecting products.
- B. Accept absorptive materials on site in manufacturer's sealed, protective packaging. Inspect for damage.
- C. Store absorptive materials in enclosed, environmentally conditioned space to prevent moisture absorption.
- D. Do not store or install absorptive materials within building until building is enclosed and materials are protected from exposure to elements.
- E. Protect installed absorptive materials from damage with temporary exterior enclosure to prevent moisture absorption.

**1.9 ENVIRONMENTAL REQUIREMENTS**

- A. Section 01 60 00 - Product Requirements: Environmental conditions affecting products on site.
- B. Limit site disturbance to areas indicated on Drawings.
- C. Recycle or salvage minimum of 50 percent by weight of construction, demolition, and land clearing waste.

**PART 2 PRODUCTS**

**2.1 PROHIBITED MATERIALS**

- A. Do not use materials containing asbestos, polychlorinated biphenyls (PCB) or other hazardous materials.

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- B. Do not use HCFC based refrigerants or Halon extinguishing agents.
- C. Do not use materials containing butyl for interior locations.

**2.2 HVAC FILTERS**

- A. Temporary Filters: ASHRAE 52.2 minimum efficiency reporting value of 13.

**2.3 ROOFING MATERIALS**

- A. Roof Surface: Energy Star compliant with the following performance:
  - 1. Reflectance: Minimum 0.65 initial and 0.5 three year aged in accordance with ASTM E903.
  - 2. Emissivity: Minimum 0.9 for 75 percent of roof area in accordance with ASTM E408.

**2.4 SALVAGED OR REUSED MATERIALS**

- A. Furnish the following materials salvaged or reused from on-site or other sources.
  - 1. Existing site sidewalks and drives to remain.

**2.5 RECYCLED CONTENT MATERIALS**

- A. Furnish the following materials with minimum recycled content:

	Post Consumer	Post Industrial
Concrete	20% (pre+post)	(up to 1/2 of all)

**2.6 LOCAL AND REGIONAL MATERIALS**

- A. Furnish the following materials manufactured and extracted, harvested, or recovered within 250 miles of Project site whenever possible.
  - 1. Concrete
  - 2. Precast Concrete
  - 3. Steel
- B. Furnish the following materials manufactured within 250 miles of Project site whenever possible.
  - 1. Concrete
  - 2. Precast Concrete
  - 3. Steel

**2.7 CERTIFIED WOOD**

- A. Wood Based Materials: Furnish the following materials certified in accordance with FSC Guidelines.

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1. Wood used for finishes, blocking.

**2.8 LOW EMITTING MATERIALS - INDOOR APPLICATIONS**

- A. Adhesives and Adhesive Primers: Maximum volatile organic compound content in accordance with SCAQMD Rule 1168.
- B. Sealants Used as Fillers and Sealant Primers: Maximum volatile organic compound content in accordance with BAAQMD Regulation 8, Rule 51.
- C. Paints: Maximum volatile organic compound content in accordance with GS-11.
- D. Carpets, Carpet Cushions, and Carpet Adhesives: Maximum volatile organic compound content in accordance with CRI Green Label Testing Program.
- E. Composite Wood and Agrifiber Products: Contain no added urea-formaldehyde resins.

**PART 3 EXECUTION**

NOT USED

**END OF SECTION**

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**SECTION 01 40 00 - QUALITY CONTROL -  
TESTING SERVICES**

**1. GENERAL**

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Sections apply to this Section.
- B. This section specifies the general requirements for testing and inspection services.
- C. Cooperate with Owner's testing laboratory and all others responsible for testing and inspecting the Work.
- D. Provide other testing and inspecting as specified to be furnished by the Contractor in this Section and/or elsewhere in these Specifications.
- E. Provide quality control by the observation and acceptance of work by others being built upon.
- F. Related work described elsewhere:
  - 1. Requirements for testing are described in Divisions 2, 3, 4 and 5 product sections of these Specifications.
  - 2. Where no testing requirements are described, but the Construction Manager decides that testing is required, he may direct that such testing be performed under current standards for testing and Section 7.7 of the General Conditions.
- G. Selection of testing laboratory: The Owner shall hire and pay for an independent testing laboratory.

**2. CODES AND STANDARDS**

- A. Testing, when required, will be in accordance with pertinent codes and regulations and with selected standards of the American Society for Testing and Materials.

**3. REVIEW OF THE CONTRACT DOCUMENTS**

- A. On all Project Drawings, figures take precedence over measurement by scale, and any scaling is done at the Contractor's own risk. Before ordering any materials or performing any Work, the Contractor shall verify all measurements at the project site and be responsible for the correctness of same.
- B. Promptly respond to test reports and related instructions to ensure necessary retesting and replacement of materials with the least possible delay in progress of the Work.

#### 4. FIELD CONDITIONS

- A. The Contractor shall take field measurements and verify field conditions and shall carefully compare such field measurements and conditions with the Contract Documents and any shop drawings and product data before commencing any related work. Errors, inconsistencies or omissions shall be reported to the Construction Manager and the Architect at once.

#### 5. PAYMENT FOR TESTING

- A. Initial Services: The Owner's Testing Laboratory shall be responsible for initial testing services as outlined in various sections and Section 7.7 of the General Conditions.
- B. Re-Testing Services: When initial tests indicate non-compliance with the Contract Documents, all subsequent retesting occasioned by the non-compliance shall be performed by the same testing agency and the costs thereof will be borne by the Contractor responsible for the work that is non-compliant.

#### 6. TESTING

- A. Code Compliance Testing: Inspections and tests required by codes or ordinances, or by a plan approval authority, and which are made by a legally constituted authority, shall be the responsibility of and shall be paid for by the Contractor, unless otherwise provided in the Contract Documents.
- B. Contractor's Convenience Testing: Inspecting and testing performed exclusively for the Contractor's convenience shall be the sole responsibility of the Contractor.

#### 7. INSPECTION

- A. Inspection by Owner's Personnel: From time to time, personnel in the employ of the Owner may inspect the Work where the Work is in progress, but shall have no authority to direct the Contractor or request changes in the Work except through the Construction Manager and the Architect.
- B. Inspection of Work by Others: Each Contractor shall inspect Work of others which will receive or is adjacent to his Work before commencing his Work. Do not proceed until conditions which would result in a less than first class installation are satisfactorily corrected. Commencing Work shall be construed as acceptance of the Work of others, by the Contractor, as satisfactory to receive his Work. The Contractor shall bear all costs to correct the unsatisfactory Work.

#### 8. COOPERATION WITH TESTING LABORATORY

- A. Representatives of the testing laboratory shall have access to the Work at all times. Provide facilities for such access in order that the laboratory may properly perform its function.

- B. Specimens and samples for testing, unless otherwise provided in the Contract Documents, will be taken by the testing personnel. Sampling equipment and personnel will be provided by the testing laboratory. Deliveries of specimens and samples to the testing laboratory will be performed by the testing laboratory.
- C. Test results and reports shall be furnished simultaneously to the Engineer (2 copies) and the Construction Manager (1 copy) within one week of testing.

9. TESTING SCHEDULE

- A. The Owner shall pre-qualify and identify qualified independent inspection agencies in a timely manner, allowing Engineer adequate time for review and approval.
- B. Special Structural Testing Schedule to be implemented per specifications.
- C. When changes of construction schedule are necessary during construction, the Construction Manager shall coordinate such changes of schedule with the testing laboratory as required.
- D. When the testing laboratory is ready to test according to the established schedule, but is prevented from testing or taking specimens due to incompleteness of the Work, all extra charges for testing attributable to the delay may be backcharged to the Contractor and shall not be borne by the Owner.

END OF SECTION 01 40 00



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**SECTION 01 42 16 – STANDARDS  
AND DEFINITIONS**

**PART 1 - GENERAL**

**1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this section.

**1.2 DEFINITIONS**

- A. General: Basic contract definitions are included in the Conditions of the Contract.
- B. "Indicated": The term "indicated" refers to graphic representations, notes, or schedules on the Drawings; or to other paragraphs or schedules in the Specifications and similar requirements in the Contract Documents. Terms such as "shown," "noted," "scheduled," and "specified" are used to help the user locate the reference. No limitation on location is intended.
- C. "Directed": Terms such as "directed," "requested," "authorized," "selected," "approved," "required," and "permitted" mean directed by the Architect, requested by the Architect, and similar phrases. However, no such implied meaning will be interpreted to extend the Architect's responsibility into Contractor's area of construction supervision.
- D. "Approved": The term "approved," when used in conjunction with the Architect's action on the Contractor's submittals, applications, and requests, is limited to the Architect's duties and responsibilities as stated in the Conditions of the Contract.
- E. "Regulations": The term "regulations" includes laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, as well as rules, conventions, and agreements within the construction industry that control performance of the Work.
- F. "Furnish": The term "furnish" means to supply and deliver to the Project site, ready for unloading, unpacking, assembly, installation, and similar operations.
- G. "Install": The term "install" describes operations at the Project site including the actual unloading, temporary storage, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.
- H. "Provide": The term "provide" means to furnish and install, complete and ready for the intended use.
- I. "Installer": An installer is the Contractor or another entity engaged by the Contractor, either as an employee, subcontractor, or contractor of lower tier, to perform a particular construction activity, including installation, erection, application, or similar operations. Installers are required to be experienced in the operations they are engaged to perform.

1. Trades: Using a term such as "carpentry" does not imply that certain construction activities must be performed by accredited or unionized individuals of a corresponding generic name, such as "carpenter." It also does not imply that requirements specified apply exclusively to tradespersons of the corresponding generic name.
- J. "Project Site" is the space available to the Contractor for performing construction activities, either exclusively or in conjunction with others performing other work as part of the Project. The extent of the Project site is shown on the Drawings and may or may not be identical with the description of the land on which the Project is to be built.
- K. "Testing Agencies, Laboratories or Service": All terms interchangeably refer to an independent entity engaged to perform specific inspections or tests, either at the Project site or elsewhere, and to report on and, if required, to interpret results of those inspections or tests.
- L. "Nationally Recognized Testing Laboratories": The term "nationally recognized testing laboratory (NRTL)" shall mean a firm or organization which is recognized by OSHA in accordance with 29 CFR Part 1910.7 to test and approve (i.e., certify, label or list) equipment or materials as being safe for the intended use. Labeling and / or listing of products by NRTL is acceptable wherever a reference to the UL or FMRC label is made in the specifications.
- M. "Label": The label must be provided by a nationally recognized testing laboratory. The Contractor shall provide a statement from the testing laboratory attesting that the laboratory has been approved by OSHA to certify the category of product(s) being submitted for approval.

### 1.3 SPECIFICATION FORMAT AND CONTENT EXPLANATION

- A. Specification Content: These Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
  1. Abbreviated Language: Language used in the Specifications and other Contract Documents is abbreviated. Words and meanings shall be interpreted as appropriate. Words implied, but not stated, shall be interpolated as the sense requires. Singular words shall be interpreted as plural and plural words interpreted as singular where applicable as the context of the Contract Documents indicates.
  2. Imperative mood and streamlined language are generally used in the Specifications. Requirements expressed in the imperative mood are to be performed by the Contractor. At certain locations in the Text, subjective language is used for clarity to describe responsibilities that must be fulfilled indirectly by the Contractor or by others when so noted.
    - a. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.

### 1.4 INDUSTRY STANDARDS

- A. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and

effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.

1. Reference standards (standards referenced directly in the contract documents) take precedence over standards that are not referenced but generally recognized in the industry for applicability to the work.
  2. Unreferenced Standards: Except as otherwise limited by the contract documents, standards not referenced but recognized in the construction industry as having direct applicability will be enforced for performance of the work. The decision as to whether an industry code or standard is applicable, or as to which of several standards are applicable, is the sole responsibility of the Architect.
- B. Publication Dates: Comply with the standards in effect as of the date of the Contract Documents.
1. Updated Standards: Submit a change order proposal where an applicable industry code or standard has been revised and reissued after the date of the Contract Documents and before the performance of the work affected. The Architect will decide whether to issue a change order to proceed with the updated standard.
- C. Conflicting Requirements: Where compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer uncertainties and requirements that are different but apparently equal to the Architect for a decision before proceeding.
1. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of the requirements. Refer uncertainties to the Architect for a decision before proceeding.
  2. The Architect is the sole interpreter of what constitutes "minimum requirements" in any given situation. Exceeding minimum requirements in one or more aspects of any given specification does not cancel or replace the need to meet minimum requirements of any other aspect of that specification.
- D. Copies of Standards: Each entity engaged in construction on the Project must be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.
1. Where copies of standards are needed to perform a required construction activity, the Contractor shall obtain copies directly from the publication source and make them available on request.
- E. Abbreviations and Names: Trade association names and titles of general standards are frequently abbreviated. Where abbreviations and acronyms are used in the Specifications or other Contract Documents, they mean the recognized name of the trade association, standards-generating organization, authorities having jurisdiction, or other entity applicable to the context of the text provision. Refer to Gale Research's "Encyclopedia of Associations" or Columbia Books' "National Trade & Professional Associations of the U.S.," which are available in most libraries.

1.5 GOVERNING REGULATIONS AND AUTHORITIES

- A. The Architect has contacted authorities having jurisdiction where necessary to obtain information necessary for preparation of Contract Documents. Contact authorities having jurisdiction directly for information and decision having a bearing on the work.

1.6 SUBMITTALS

- A. Permits, Licenses, and Certificates: For the Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of the Work.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01 42 16

**SECTION 01 45 33  
STRUCTURAL TESTS AND SPECIAL INSPECTIONS**

**PART 1 - GENERAL**

**1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

**1.2 INTENT AND CONDITIONS**

- A. Intent:
  - 1. For compliance with the Minnesota State Building Code, the Owner shall employ and pay for a special inspector (or inspectors) as required by Chapter 17 of the International Building Code.
  - 2. Duties and responsibilities of the special inspector(s) shall be as outlined in Chapter 17 of the International Building Code and as herein specified.
  - 3. Define and coordinate structural tests and special inspection services.
  - 4. Define and coordinate conventional testing and inspection services.
  - 5. Testing and Inspection services are intended to assist in determining probable compliance of the work with requirements specified. These services do not relieve the Contractor of responsibility for compliance with the requirements of the Contract Documents.
- B. Conditions:
  - 1. If inspection of fabricator's work is required, the Owner's representative may require testing and inspection of the work at the plant, before shipment. Owner, Architect and Structural Engineer of Record (SER) reserve the right to reject material not complying with Contract Documents.
  - 2. Perform testing and inspection in accordance with industry standard used as reference for specific material or procedure unless other criteria are specified. In the absence of a referenced standard, accomplish tests in accordance with generally accepted industry standards.
  - 3. Failure to detect defective work or materials shall in no way prevent later rejection if defective work or materials are discovered.

**1.3 RELATED REQUIREMENTS**

- A. Refer to individual technical specification sections for additional qualifications, inspections, tests, frequency and standards required.

**1.4 DEFINITIONS**

- A. Testing: Evaluation of systems, primarily requiring physical manipulation and analysis of materials, in accordance with approved standards.
- B. Inspection: Evaluation of systems, primarily requiring observation and judgment.
- C. Structural Tests and Special Inspections: Structural Tests and Special Inspection Services herein include items required by Chapter 17 of the International Building Code as adopted by

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**SECTION 01 45 33 – STRUCTURAL TESTS  
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the Minnesota State Building Code, and other items which in the professional judgement of the Structural Engineer of Record, are critical to the integrity of the building structure.

- D. Conventional Testing and Inspections: Conventional Testing and Inspection Services herein describe those items not specially required by Code but may be considered essential to the proper performance of the building systems.
- E. Architect of Record: The prime consultant in charge of overall design and coordination of the Project.
- F. Structural Engineer of Record (SER): The Licensed Engineer in responsible charge of the structural design for the Project.
- G. Licensed Structural Engineer: A professional engineer with education and experience in the design of structures similar to this Project and licensed in Minnesota.
- H. Testing Agency (TA):
  - a. Testing Agency: Approved independent testing agency acceptable to the Owner, Architect, SER and as noted below:
  - b. Authorized to operate in the State in which the project is located and experienced with the requirements and testing methods specified in the Contract Documents.
  - c. Meeting applicable requirements of references stated in paragraph 1.4.
  - d. Calibrate testing equipment at reasonable intervals by devices of accuracy traceable to either the National Bureau of Standards, or to accepted values of natural physical constants.
- I. Special Inspector (SI): A properly qualified individual or firm performing special inspections.
- J. The categories of special inspector are:
  - 1. Special Inspector - Technical I, II and III: Usually an employee of a testing agency:
    - a. Technical I (Division 31) - Technician shall be under the direct supervision of a licensed civil/geotechnical engineer regularly engaged in this type of work. Work shall be performed in a qualified geotechnical/testing laboratory.
    - b. Technical I (Division 03)
      - 1) ACI Certified Concrete Field Testing Technician – Grade I.
      - 2) ACI Certified Concrete Strength Testing Technician.
      - 3) ACI Certified Concrete Laboratory Testing Technician – Grade 1.
      - 4) ACI Certified Concrete Construction Inspector-In-Training.
      - 5) Inspector shall be employed by a testing laboratory, experienced in the type of work being performed, and under the direct supervision of a licensed civil/structural engineer.
    - c. Technical I (Division 04) - Technician shall be under the direct supervision of a licensed civil/structural engineer regularly engaged in testing and inspection of this type of work. The licensed engineer shall review and approve all inspection reports.
    - d. Technical I (Division 05) - Non-destructive Testing Technician SNT-TC-1A Level I, and/or AWS Certified Associate Weld Inspector (CAWI).
    - e. Technical I (Division 07) - Shall be familiar with the interpretation and use of ASTM E 605, and have prior field experience in testing and inspection of spray-applied fireproofing. Shall be supervised by an engineer licensed to practice in Minnesota.
    - f. Technical II (Division 31) - Technician with a minimum of 2 years' experience, or a graduate engineer, and is an employee of a qualified and approved

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- geotechnical/technical laboratory, under the direct supervision of a licensed civil/geotechnical engineer regularly engaged in this type of work.
- g. Technical II (Division 03)
    - 1) ACI Certified Concrete Laboratory Testing Technician - Grade II.
    - 2) ACI Certified Laboratory Aggregate Testing Technician.
    - 3) ACI Certified Concrete Construction Inspector.
    - 4) Inspector shall be employed by a testing laboratory, experienced in the type of work being performed, and under the direct supervision of a licensed civil/structural engineer.
  - h. Technical II (Division 04) - Graduate civil/structural engineer, with experience in this type of work. Supervised by a licensed civil/structural engineer. The licensed engineer shall review and approve all inspection reports.
  - i. Technical II (Division 05) - Non-destructive Testing Technician ASNT TC-1A Level II, (NDE Technician II), AWS/CAWI, with minimum 3 years' experience, or an AWS/CWI.
  - j. Technical III (Division 31) - A civil/geotechnical engineer regularly engaged in this type of work with a minimum of 4 years' experience, licensed in Minnesota, and is an employee of a qualified and approved geotechnical/testing laboratory. This licensed engineer shall review and approve all final field reports.
  - k. Technical III (Division 03) - A civil/structural engineer regularly engaged in this type of work, with a minimum of 4 years' experience and licensed in Minnesota and is an employee of a qualified and approved testing laboratory. The licensed engineer shall review and approve all reports.
  - l. Technical III (Division 05) - ASNT Level III with a minimum of 10 years' experience or an AWS/CWI with a minimum of 10 years' experience.
2. Special Inspector - Structural I and II: Usually an employee of the Structural Engineer of Record.
- a. Structural I (Division 03, 04, 05 and 31) - Graduate civil/structural engineer, or other personnel acceptable to the SER, with experience in the design of structural systems of this type. Inspections shall be performed under the direct supervision of a licensed civil/structural engineer.
  - b. Structural II (Division 03, 04, 05 and 31) - Civil/structural engineer regularly engaged in the design of structural systems of this type, licensed in Minnesota. The licensed engineer shall review and approve all inspection reports.
- K. Building Official: The Officer or duly authorized representative charged with the administration and enforcement of the State Building Code.

**1.5 REFERENCES**

- A. See technical specification sections for specific references.
- 1. ANSI/ASTM E329 – Standard Specification for Agencies Engaged in the Testing and/or Inspection of Materials Used in Construction.
  - 2. ASTM E543 – Standard Practice for Agencies Performing Non-destructive Testing.
  - 3. ASTM E548 – Standard Guide for General Criteria Used for Evaluating Laboratory Competence.
  - 4. ASTM C1077 – Standard Practice for Laboratories Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Laboratory Evaluation.
  - 5. ASTM C1093 – Standard Practice for the Accreditation of Testing Agencies for Unit Masonry.

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6. ANSI/ASTM D3740 - Standard Practice for Minimum Requirements for Agencies Engaged in the Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction.
- B. Minnesota State Building Code.
- C. International Building Code.

**1.6 RESPONSIBILITIES/AUTHORITY**

- A. Structural Tests and Special Inspections:
  1. Special Inspector:
    - a. Attend all pre-installation meetings to review scope of structural tests and special inspections.
    - b. Test and/or inspect the work assigned for conformance with the building department approved plans, specifications, and applicable material and workmanship provisions of the code. Perform testing and inspection in a timely manner to avoid delay of work.
    - c. Bring nonconforming items to the immediate attention of the Contractor for correction, then, if uncorrected after a reasonable period of time, to the attention of the Structural Engineer of Record, the Building Official, and to the Architect.
    - d. Submit test and/or inspection reports to the Building Official, Contractor, the Structural Engineer of Record, and other designated persons in accordance with the Structural Testing and Special Inspection Schedule.
    - e. Submit a final signed report stating whether the work requiring special inspection was, to the best of the inspector's knowledge, in conformance with the approved plans, specifications and the applicable workmanship provisions of the code.
    - f. Sign the Structural Testing and Special Inspection Schedule in conjunction with other responsible parties prior to commencing construction.
  2. Architect:
    - a. Coordinate the flow of reports and related information to expedite resolution of construction issues.
    - b. Attend pertinent pre-installation meetings to review scope of structural testing and special inspection.
    - c. Complete and sign the Structural Testing and Special Inspection Schedule in conjunction with other responsible parties prior to commencing construction. Provide a completed copy of the schedule to all signed parties including Building Official.
  3. Structural Engineer of Record:
    - a. Identify items requiring structural testing and special inspection including special cases.
    - b. Define "type" of special inspector required for "description" of work indicated on the Structural Testing and Special Inspection Schedule.
    - c. Attend pertinent pre-installation meetings to review scope of structural testing and special inspection.
    - d. Complete and sign the Structural Testing and Special Inspection Schedule in conjunction with other responsible parties prior to commencing construction.
    - e. Review reports issued by all special inspectors.
    - f. If engaged as a special inspector, provide structural testing and special inspection services as noted in Article 1.6.A.1.
  4. Testing Agency:



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- a. When engaged as a special inspector, provide structural testing and special inspection services as noted in Item 1.6.A.1.
  - b. Sign the Structural Testing and Special Inspection Schedule in conjunction with other responsible parties prior to commencing construction.
  - c. Attend pertinent pre-installation meetings to review scope of structural testing and special inspection.
5. Contractor:
  - a. Arrange and attend all pre-installation meetings to review scope of structural testing and special inspection. Include the Building Official, Owner, Architect, SER, Testing Agency and other parties concerned.
  - b. Post or make available the Structural Testing and Special Inspection Schedule within project site office. Provide timely notification to those parties designated on the schedule so they may properly prepare for and schedule their work.
  - c. Provide special inspector access to the approved plans and specifications at the project site.
  - d. Review all reports issued by special inspectors.
  - e. Retain at the project site all reports submitted by the special inspectors for review by the building official upon request.
  - f. Correct in a timely manner, deficiencies identified in inspection and/or testing reports.
  - g. Provide safe access to the work requiring inspection and/or testing.
  - h. Provide labor and facilities to provide access to the work and to obtain, handle and deliver samples, to facilitate testing and inspection and for storage and curing of test samples.
  - i. Sign the Structural Testing and Special Inspection Schedule in conjunction with other responsible parties prior to commencing construction.
  - j. Verification of conformance of work within specified tolerances is solely the responsibility of the Contractor.
6. Fabricator:
  - a. Submit a Certificate of Compliance to the Building Official, Special Inspector, and Structural Engineer of Record stating the work was performed in accordance with the Contract Documents.
  - b. Sign the Structural Testing and Special Inspection Schedule in conjunction with other responsible parties prior to commencing construction.
7. Building Official:
  - a. Review all special inspector qualifications.
  - b. Review all fabricators who perform work in their shop, which requires special inspection.
  - c. Accept and sign completed Structural Testing and Special Inspection Schedule.
  - d. Review reports and recommendations submitted by special inspector.
  - e. Review the "final signed reports" submitted by special inspector. These documents must be accepted and approved by the building department prior to issuance of a Certificate of Occupancy.
  - f. Determine work, which, in the Building Officials opinion, involves unusual hazards or conditions.
8. Owner:
  - a. Provide and pay cost of structural testing and special inspection services.
  - b. Provide special inspector with Contract Documents and accepted shop drawings.
  - c. Provide special inspectors and testing agencies with full access to the site at all times.
  - d. Sign the Structural Testing and Special Inspection Schedule in conjunction with other responsible parties prior to commencing construction.

- B. Inspections by Building Official: provide timely notice for inspections performed by the building official, as required by IBC Chapter 17, the State Building Code, and local ordinance.

#### **1.7 INSPECTION NOTICES**

- A. Contractor: Provide minimum of 24 hours notice for all items requiring testing or inspection. Do not place items requiring testing and inspection services prior to or during placement until testing and inspection services are available. Do not enclose or obscure items requiring testing and inspection services after placement until testing and inspection services are performed.

#### **1.8 REPORTS**

- A. Testing agency and/or special inspectors shall submit a report in accordance with the Structural Testing and Special Inspection Schedule and shall conduct and interpret tests and inspections and state in each report whether; (1) test specimens and observations comply with Contract Documents, and specifically state any deviations, (2) record types and locations of defects found in work, (3) record work required and performed, to correct deficiencies.
- B. Submit reports for structural testing and special inspection, in timely manner to the Contractor, Building Official, SER, and Architect.
  - 1. Submit reports for ongoing work, to provide the information noted below:
    - a. Date issued.
    - b. Project title and number.
    - c. Firm name and address.
    - d. Name and signature of tester or inspector.
    - e. Date and time of sampling.
    - f. Date of test or inspection.
    - g. Identification of product and specification section.
    - h. Location in project, including elevations, grid location and detail.
    - i. Type of test or inspections.
    - j. Results of tests or inspections and interpretation of same.
    - k. Observations regarding compliance with Contract Documents or deviations there from.
  - 2. Submit final signed report stating that, to the best of the special inspector's knowledge, the work requiring testing and/or inspection conformed to the Contract Documents.

#### **1.9 FREQUENCY OF TESTING AND INSPECTION**

- A. For detailed requirements see individual technical specification sections, and Part 3 of this section.

#### **1.10 PROTECTION AND REPAIR**

- A. Upon completion of testing, sample-taking, or inspection, repair damaged work and restore substrates and finishes to eliminate deficiencies, including deficiencies in the visual qualities of exposed surfaces, as judged solely by the Architect/Engineer of Record. Protect work exposed by or for testing and/or inspection and protect repaired work. Repair and protection is the Contractor's responsibility, regardless of the assignment of responsibility for testing and/or inspection.

**1.11 TESTS TO DEMONSTRATE QUALIFICATION**

- A. If the Contractor proposes a product material, method, or other system that has not been pre-qualified, the Architect or SER may require applicable tests, to establish a basis for acceptance or rejection. These tests will be paid for by the Contractor.
- B. The Architect or SER reserves the right to require certification or other proof that the system proposed, is in compliance with any tests, criteria or standards called for. The certificate shall be signed by a representative of an independent testing agency.

**PART 2 - PRODUCTS (NOT USED)**

**PART 3 - EXECUTION**

**3.1 SCOPE OF STRUCTURAL TESTS AND SPECIAL INSPECTIONS**

- A. Refer to individual specification section articles for Quality Control testing and inspection items.

**3.2 STRUCTURAL TESTS AND SPECIAL INSPECTIONS PROGRAM SUMMARY**

- A. The parties involved shall complete and sign the Structural Testing and Special Inspection Schedule. The completed schedule is an element of the Contract Documents and after permit issuance, becomes part of the building department approved plans and specifications. The completed schedule shall include the following:
  - 1. Specific listing of items requiring inspection and testing.
  - 2. Associated specification section which defines applicable standards by which to judge conformance with approved plans and specifications in accordance with IBC Chapter 17 as adopted by the State Building Code. The specification section should also include the degree or basis of inspection and testing; i.e., intermittent/will-call or full-time/continuous.
  - 3. Frequency of reporting, i.e., intermittent, weekly, monthly, per floor, etc.
  - 4. Parties responsible for performing inspection and testing work.
  - 5. Required acknowledgments by each designated party.
- B. See attached "Structural Testing and Special Inspection Schedule".

**END OF SECTION 01 45 33**

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**STRUCTURAL TESTS AND SPECIAL INSPECTIONS SCHEDULE**

Project Name:

Location:

Permit No.: \_\_\_\_\_(1)

<b>STRUCTURAL TESTS AND SPECIAL INSPECTIONS</b>				
<b>Specification Reference (2)</b>	<b>Description (3)</b>	<b>Type of Inspector (4)</b>	<b>Report Frequency (5)</b>	<b>Assigned Firm (6)</b>
03 10 00	Concrete Formwork	Tech II	Periodic	
03 20 00	Concrete Reinforcement Footings, Foundation Walls, and Columns	Tech II	Periodic	
03 30 00	Cast-In-Place Concrete Material Sampling & Testing	Tech I	Daily	
03 30 00	Cast-In-Place Concrete Concrete Mix Verification	Tech I	Daily	
03 30 00	Cast-In-Place Concrete Concrete Placement	Tech I	Daily	
03 30 00	Cast-In-Place Concrete Protection & Curing	Tech II	Daily	
03 30 00	Cast-In-Place Concrete Embedded Items	Tech II	Periodic	
04 20 00	Unit Masonry Material Testing	Tech II	Periodic	
04 20 00	Unit Masonry Preparation & Placement	Tech II	Periodic	
04 20 00	Unit Masonry Reinforcement	Struc I	Periodic	
04 20 00	Unit Masonry Grouting	Tech II	Daily	
05 12 00	Structural Steel High Strength Bolting	Tech II	Periodic	
05 12 00	Structural Steel Welding	Tech I / Tech II	Periodic	
05 12 00	Structural Steel Headed Shear Studs	Tech I	Periodic	
05 12 00	Structural Steel General Configuration	Struc I	Periodic	
05 31 23	Steel Roof Deck Welding	Tech II	Periodic	
31 20 00	Earthwork	Tech II	Daily	

Notes: This schedule to be filled out and included in the project specification. Information unavailable at that time shall be filled out when applying for a building permit.

(1) Permit No. to be provided by the Building Official.

(2) Reference to specific technical scope section in program.

(3) Use descriptions per IBC Chapter 17, as adopted by State Building Code.

(4) Special Inspector – Technical, Special Inspector – Structural.

(5) Weekly, monthly, per test/inspection, per floor, etc.

(6) Firm contracted to perform services.

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**ACKNOWLEDGEMENTS**

Each appropriate representative shall sign below:

Owner:	Firm:	Date:
Contractor:	Firm:	Date:
Architect:	Firm:	Date:
SER:	Firm: Meyer Borgman Johnson	Date:
SI-S:	Firm:	Date:
TA:	Firm:	Date:
SI-T:	Firm:	Date:
TA:	Firm:	Date:
SI-T:	Firm:	Date:
F:	Firm:	Date:
F:	Firm:	Date:

\* The individual names of all prospective special inspectors and the work they intend to observe shall be identified. (Use reverse side of form, if more room is needed.).

**LEGEND:**

SER = Structural Engineer of Record

SI-S = Special Inspector – Structural

TA = Testing Agency

SI-T = Special Inspector – Technical

F = Fabricator.

Accepted for the Building Department By \_\_\_\_\_

Date. \_\_\_\_\_

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**SECTION 01 50 00 - CONSTRUCTION  
FACILITIES AND TEMPORARY  
CONTROLS**

**PART 1 - GENERAL**

**1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this section.
- B. Temporary heaters and fuel for heating the enclosed building will be provided by the CM. Any other misc. temp. heat equipment, fuel and associated costs are by the corresponding Work Scope.
- C. Temporary electric service: The CM will contract the work to bring in one - 100 amp temporary power panel per level centrally located.

**1.2 SUMMARY**

- A. This section includes requirements for temporary services and facilities, including temporary utilities, support facilities, security and protection.
- B. Temporary utilities include, but are not limited to, the following:
  - 1. Water service and distribution.
  - 2. Temporary electric power and light.
  - 3. Temporary heat.
  - 4. Ventilation.
  - 5. Telephone service.
  - 6. Sanitary facilities, including drinking water.
  - 7. Storm and sanitary sewer.
- C. Temporary construction and support facilities include, but are not limited to, the following:
  - 1. Field offices and storage sheds.
  - 2. Temporary roads and paving.
  - 3. Dewatering facilities and drains.
  - 4. Temporary enclosures.
  - 5. Temporary project identification signs and bulletin boards.
  - 6. Waste disposal services.
  - 7. Rodent and pest control.
  - 8. Construction aids and miscellaneous services and facilities.
- D. Security and protection facilities include, but are not limited to, the following:
  - 1. Temporary fire protection.
  - 2. Barricades, warning signs, and lights.
  - 3. Sidewalk bridge or enclosure fence for the site.
  - 4. Environmental protection.

### 1.3 QUALITY ASSURANCE

- A. Regulations: Comply with industry standards and applicable laws and regulations of authorities having jurisdiction including, but not limited to, the following:
  - 1. Building Code requirements.
  - 2. Health and safety regulations.
  - 3. Utility company regulations.
  - 4. Police, Fire Department, and Rescue Squad rules.
  - 5. Environmental protection regulations.
- B. Inspections: Arrange for authorities having jurisdiction to inspect and test each temporary utility before use. Obtain required certifications and permits.

### 1.4 PROJECT CONDITIONS

- A. Conditions of Use: Keep temporary services and facilities clean and neat in appearance. Operate in a safe and efficient manner. Relocate temporary services and facilities as the work progresses. Do not overload facilities or permit them to interfere with progress. Take necessary fire-prevention measures. Do not allow hazardous, dangerous, or unsanitary conditions, or public nuisances to develop or persist on-site.

## PART 2 - PRODUCTS (Not Applicable)

## PART 3 - EXECUTION

### 3.1 INSTALLATION

- A. Use qualified personnel for installation of temporary facilities. Locate facilities where they will serve the Project adequately and result in minimum interference with performance of the work. Relocate and modify facilities as required.
- B. Provide each facility ready for use when needed to avoid delay. Maintain and modify as required. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

### 3.2 TEMPORARY CONSTRUCTION AND SUPPORT FACILITIES INSTALLATION

- A. Locate field offices, storage sheds, and other temporary construction and support facilities for easy access.
  - 1. Maintain support facilities until near Substantial Completion. Remove prior to Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to the Owner.
- B. Contractor's Facilities: Provide a field office building and sheds adequate in size and accommodation for all Contractor's offices, supply and storage.
  - 1. Within the Contractor's facilities, provide enclosed space adequate for holding project meetings. Furnish with all required tables, chairs and utilities.
  - 2. The entire facilities, including furniture, will remain the property of the Contractor and shall be removed from the site after completion of the work.

## CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

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- C. Temporary Enclosures: Provide temporary enclosures for protection of construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities.
  - 1. Where heat is needed and the permanent building enclosure is not complete, provide temporary enclosures where there is no other provision for containment of heat or as required by conditions to allow continuation of scheduled construction activities. Coordinate enclosure with ventilating and material drying or curing requirements to avoid dangerous conditions and effects.
  - 2. Protection and temporary closures shall be provided at all exterior openings in the building including doors, walls and roof to maintain the building weather and dust tight. All protection shall be substantial so that it will not be disturbed by wind and weather normal to the area and season.
  - 3. Openings in floors shall be protected and closures provided to prevent floor to floor transfer of dust, debris and conditioned air. Conform to fire and safety regulations of the authorities having jurisdiction.
- D. Project Identification and Temporary Signs: Furnish and install and maintain one project identification sign of the size, graphic design, style of lettering and construction as shown on the drawings or included at the end of this section.
  - 1. Finishes and painting materials shall be adequate to resist weathering and fading for the scheduled construction period.
  - 2. Location: Unless noted otherwise, erect on the site at a lighted location of high public visibility, adjacent to the main entrance to the site, as approved by the Architect.
  - 3. Informational Signs: Provide informational signs with painted lettering, or standard products. Size of signs and lettering shall be as required by regulatory agencies, or as appropriate to the usage. Colors as required by regulatory agencies, otherwise of uniform colors throughout the project. Erect at appropriate locations to provide the required information and at a height for optimum visibility.
  - 4. Materials: Structure and framing may be preservative-treated wood or steel, in sound condition and structurally adequate to the work and suitable specified finish. Paint is specified in Division 9.
  - 5. Maintenance: Maintain signs and supports in a neat, clean condition, and repair damages to structure, framing or sign as required.
  - 6. Relocate informational signs as required by progress of the work.
  - 7. Remove signs, framing, supports and foundations at project completion.
- E. No other signs or advertising of any kind shall be allowed on the job site, except as specifically approved by the Architect.

### 3.3 SECURITY AND PROTECTION FACILITIES INSTALLATION

- A. Except for use of permanent fire protection as soon as available, do not change over from use of temporary security and protection facilities to permanent facilities until Substantial Completion, or longer, as requested by the Architect.
- B. Temporary Fire Protection: Until fire-protection needs are supplied by permanent facilities, install and maintain temporary fire-protection facilities of the types needed



to protect against reasonably predictable and controllable fire losses. Comply with NFPA 10 "Standard for Portable Fire Extinguishers" and NFPA 241 "Standard for Safeguarding Construction, Alterations, and Demolition Operations."

1. Locate fire extinguishers where convenient and effective for their intended purpose, but not less than one extinguisher on each floor at or near each usable stairwell.
  2. Store combustible materials in containers in fire-safe locations.
  3. Maintain unobstructed access to fire extinguishers, fire hydrants, temporary fire-protection facilities, stairways, and other access routes for fighting fires. Prohibit smoking in hazardous fire-exposure areas.
  4. Provide supervision of welding operations, combustion-type temporary heating units, and similar sources of fire ignition.
- C. Barricades, Warning Signs, and Lights: Comply with standards and code requirements for erection of structurally adequate barricades. Paint with appropriate colors, graphics, and warning signs to inform personnel and the public of the hazard being protected against. Where appropriate and needed, provide lighting, including flashing red or amber lights.
- D. Covered Walkway: Comply with regulations of authorities having jurisdiction as necessary if determined required by applicable codes erect a structurally adequate, protective covered walkway for passage of persons along the adjacent public street. Coordinate with entrance gates, other facilities, and obstructions.
1. Construct covered walkways using scaffold or shoring framing. Provide wood plank overhead decking, protective plywood enclosure walls, handrails, barricades, warning signs, lights, safe and well-drained walkways, and similar provisions for protection and safe passage. Extend the back wall beyond the structure to complete the enclosure fence. Paint and maintain in a manner acceptable to the Owner and the Architect.
- E. Security Enclosure and Lockup: Install substantial temporary enclosure of partially completed areas of construction. Provide locking entrances to prevent unauthorized entrance, vandalism, theft, and similar violations of security.
- F. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction in ways and by methods that comply with environmental regulations, and minimize the possibility that air, waterways, and subsoil might be contaminated or polluted or that other undesirable effects might result. Avoid use of tools and equipment that produce harmful noise. Restrict use of noise-making tools and equipment to hours that will minimize complaints from persons or firms near the site.

### 3.4 OPERATION, TERMINATION, AND REMOVAL

- A. Supervision: Enforce strict discipline in use of temporary facilities. Limit availability of temporary facilities to essential and intended uses to minimize waste and abuse.
- B. Maintenance: Maintain facilities in good operating condition until removal. Protect from damage by freezing temperatures and similar elements.
1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.

## CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

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2. Protection: Prevent water-filled piping from freezing. Maintain markers for underground lines. Protect from damage during excavation operations.
- C. Termination and Removal: Unless the Architect requests that it be maintained longer, remove each temporary facility when the need has ended, when replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with the temporary facility. Repair damaged work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.
1. Materials and facilities that constitute temporary facilities are the Contractor's property. The Owner reserves the right to take possession of project identification signs.
  2. Remove temporary paving not intended for or acceptable for integration into permanent paving. Where the area is intended for landscape development, remove soil and aggregate fill that do not comply with requirements for fill or subsoil in the area. Remove materials contaminated with road oil, asphalt and other petrochemical compounds, and other substances that might impair growth of plant materials or lawns. Repair or replace street paving, curbs, and sidewalks at the temporary entrances, as required by the governing authority.
  3. At Substantial Completion, clean and renovate permanent facilities used during the construction period including, but not limited to, the following:
    - a. Replace air filters and clean inside of ductwork and housings.
    - b. Replace significantly worn parts and parts subject to unusual operating conditions.
    - c. Replace lamps burned out or noticeably dimmed by hours of use.

END OF SECTION 01 50 00

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**SECTION 01 25 00 – PRODUCTS  
AND SUBSTITUTIONS**

**PART 1 - GENERAL**

**1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this section.

**1.2 SUMMARY**

- A. This section includes administrative and procedural requirements for handling requests for substitutions made after award of the Contract.
- B. Related Sections: The following sections contain requirements that relate to this section:
  - 1. Division 1, Section 01 42 16 "Standards and Definitions" specifies the applicability of industry standards to products specified.
  - 2. Division 1, Section 01 33 00 "Submittals" specifies requirements for submitting the Contractor's Construction Schedule and the Submittal Schedule.

**1.3 DEFINITIONS**

- A. Definitions in this Article do not change or modify the meaning of other terms used in the Contract Documents.
  - 1. "Products" are items purchased for incorporation in the work, whether purchased for the Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
    - a. "Named Products" are items identified by the manufacturer's product name, including make or model number or other designation, shown or listed in the manufacturer's published product literature that is current as of the date of the Contract Documents.
  - 2. "Materials" are products substantially shaped, cut, worked, mixed, finished, refined or otherwise fabricated, processed, or installed to form a part of the work.
  - 3. "Equipment" is a product with operational parts, whether motorized or manually operated, that requires service connections, such as wiring or piping.
- B. Substitutions: Changes in products, materials, equipment, and methods of construction required by the Contract Documents proposed by the Contractor after award of the Contract are considered to be requests for substitutions. The following are not considered to be requests for substitutions:
  - 1. Substitutions requested by bidders during the bidding period, and accepted prior to award of Contract, are considered as included in the Contract Documents and are not subject to requirements specified in this section for substitutions.

2. Revisions to the Contract Documents requested by the Owner or Architect.
3. Specified options of products and construction methods included in the Contract Documents.
4. The Contractor's determination of and compliance with governing regulations and orders issued by governing authorities.

#### 1.4 SUBMITTALS

- A. Materials, products, equipment and systems are specified in the Contract Documents by manufacturer, trade name or distributor to establish a standard of the required criteria, including function, performance, dimension, appearance and quality to be met by any proposed substitution. Unless otherwise specified, application for substitutions will be considered by the Owner and the Architect after execution of the agreement. The burden of proof of merit of proposed substitute is upon the proposer. Substitute items shall not be incorporated in the work without prior written approval of the item by the Architect.
- B. Where an item is specified by one or more manufacturer's model number or specific item identification and "or approved equal" is included, only the item(s) that is specified by manufacturer's model number or specific identification is approved and any other item must be submitted for approval as a substitution.
- C. Where an item is specified by a referenced standard, the item must be submitted for approval same as a substitute.
- D. Submit three (3) copies of each request for substitution for consideration. Submit requests in the form and according to procedures required for change-order proposals.
- E. Identify the product or the fabrication or installation method to be replaced in each request. Include related Specification Section and drawing numbers.
- F. Provide complete documentation showing compliance with the requirements for substitutions, and the following information, as appropriate:
  1. Coordination information, including a list of changes or modifications needed to other parts of the work and to construction performed by the Owner and separate contractors that will be necessary to accommodate the proposed substitution.
  2. A detailed comparison of significant qualities of the proposed substitution with those of the work specified. Significant qualities may include elements such as performance, weight, size, durability, and visual effect.
  3. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
  4. Samples, where applicable or requested.
  5. A statement indicating the substitution's effect on the Contractor's Construction Schedule compared to the schedule without approval of the substitution. Indicate the effect of the proposed substitution on overall Contract Time.
  6. Cost information, including a proposal of the net change, if any in the Contract Sum.
  7. The Contractor's certification that the proposed substitution conforms to or exceeds requirements in the Contract Documents in every respect and is appropriate for the applications indicated. Include the Contractor's waiver of

rights to additional payment or time that may subsequently become necessary because of the failure of the substitution to perform adequately.

- G. Architect's Action: If necessary, the Architect will request additional information or documentation for evaluation within one week of receipt of a request for substitution. The Architect will notify the Contractor of acceptance or rejection of the substitution within two (2) weeks of receipt of the request, or one week of receipt of additional information or documentation, whichever is later. Acceptance will be in the form of a change order. If a decision on use of a proposed substitute cannot be made or obtained within the time allocated, use the product specified.

## PART 2 - PRODUCTS

### 2.1 PRODUCT SELECTION

- A. General Product Requirements: Provide products that comply with the Contract Documents, that are undamaged and, unless otherwise indicated, new at the time of installation.
1. Provide products complete with accessories, trim, finish, safety guards, and other devices and details needed for a complete installation and the intended use and effect.
  2. Standard Products: Where available, provide standard products of types that have been produced and used successfully in similar situations on other projects.
  3. Compliance with Standards, Codes, and Regulations: Where Specifications only require compliance with an imposed code, standard, or regulation, select a product that complies with the standards, codes, or regulations specified.
  4. Visual Matching: Where Specifications require matching an established Sample, the Architect's decision will be final on whether a proposed product matches satisfactorily.
    - a. Where no product available within the specified category matches satisfactorily and complies with other specified requirements, comply with provisions of the Contract Documents concerning "substitutions" for selection of a matching product in another product category.
  5. Visual Selection: Where specified product requirements include the phrase "... as selected from manufacturer's standard colors, patterns, textures ..." or a similar phrase, select a product and manufacturer that complies with other specified requirements. The Architect will select the color, pattern, and texture from the product line selected.
- B. Nameplates: Except for required labels and operating data, do not attach or imprint manufacturers or producer's nameplates or trademarks on exposed surfaces of products that will be exposed to view in occupied spaces or on the exterior.
1. Labels: Locate required product labels and stamps on concealed surfaces or, where required for observation after installation, on accessible surfaces that are not conspicuous.
  2. Equipment Nameplates: Provide a permanent nameplate on each item of service-connected or power-operated equipment. Locate on an easily accessible surface that is inconspicuous in occupied spaces. The nameplate shall contain the following information and other essential operating data:
    - a. Name of product and manufacturer.

- b. Model and serial number.
- c. Capacity.
- d. Speed.
- e. Ratings.

## 2.2 SUBSTITUTIONS

- A. Conditions: The Architect will receive and consider the Contractor's request for substitution when one or more of the following conditions are satisfied, as determined by the Architect. If the following conditions are not satisfied, the Architect will return the requests without action except to record noncompliance with these requirements.
1. The specified product or method of construction cannot be provided within the Contract Time. The Architect will not consider the request if the product or method cannot be provided as a result of failure to pursue the work promptly or coordinate activities properly.
  2. The request is directly related to an "or-equal" clause or similar language in the Contract Documents.
  3. The requested substitution offers the Owner a substantial advantage, in cost, time, energy conservation, or other considerations, after deducting offsetting responsibilities the Owner may be required to bear. The Owner's additional responsibilities may include additional compensation to the Architect for redesign and evaluation services, increased cost of other construction by the Owner or separate Contractors, and similar considerations.
  4. The specified product or method of construction cannot receive necessary approval by a governing authority, and the requested substitution can be approved.
  5. The specified product or method of construction cannot be provided in a manner that is compatible with other materials and where the Contractor certifies that the substitution will overcome the incompatibility.
  6. The specified product or method of construction cannot be coordinated with other materials and where the Contractor certifies that the proposed substitution can be coordinated.
  7. The specified product or method of construction cannot provide a warranty required by the Contract Documents and where the Contractor certifies that the proposed substitution provides the required warranty.
- B. The Contractor's submittal and the Architect's acceptance of shop drawings, product data, or samples for construction activities not complying with the Contract Documents do not constitute an acceptable or valid request for substitution, nor do they constitute approval.
- C. Whether or not the Architect and Owner accept a proposed substitution, the Contractor shall reimburse the Owner for the Architect's cost for the Architect and the Architect's consultants for evaluating any proposed substitute including changes required in the Contract Documents for the substitute.
- D. The Architect's decision of approval or disapproval of a proposed substitution shall be final.
- E. All costs that may be incurred associated with a substitution proposed by the Contractor shall be borne by the Contractor. This shall apply to all interfacing components recognized prior to or after approval of the substitution by the Architect.

## PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01 25 00

**NEW PARKING STRUCTURE AND  
EXTERIOR WAYFINDING SIGNAGE  
DULUTH INTERNATIONAL AIRPORT  
DULUTH, MINNESOTA**

**SECTION 01 70 00 - CONTRACT  
CLOSEOUT**

**PART 1 - GENERAL**

**1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

**1.1 SUMMARY**

- A. This section includes administrative and procedural requirements for contract closeout including, but not limited to, the following:
  - 1. Inspection procedures.
  - 2. Project record document submittal.
  - 3. Operation and maintenance manual submittal.
  - 4. Submittal of warranties.
  - 5. Final cleaning.
- B. Closeout requirements for specific construction activities are included in the appropriate sections in Divisions 2 through 34.
- C. Definitions: Closeout is hereby defined to include general requirements near the end of Contract time, in preparation for final acceptance, final payment, normal termination of contract, occupancy by Owner and similar actions evidencing completion of the work. Specific requirements for individual units of work are specified in sections of Division 2 through 34. Special requirements for mechanical and electrical work are specified in Divisions 15 and 16 sections, respectively. Time of closeout is directly related to "Substantial Completion" and, therefore, may be either a single time period for entire work or a series of time periods for individual parts of the work which have been certified as substantially complete at different dates. That time variation (if any) shall be applicable to other provisions of this section, regardless of whether resulting from "phased completion" originally specified by the Contract Documents or subsequently agreed upon by Owner and Contractor.

**1.2 SUBSTANTIAL COMPLETION**

- A. Certificates of Substantial Completion: Certificates of Substantial Completion will be filled out with punch lists attached and shall define the areas of the work which are being accepted. Procedures required to call for inspections and to request certificates shall be as required in this section.
- B. Preliminary Procedures: Before requesting inspection for certification of Substantial Completion, for either the entire work or portions thereof, complete the following. List exceptions in the request.
  - 1. In the Application for Payment that coincides with, or first follows, the date Substantial Completion is claimed, show 100 percent completion for the portion of the work claimed as substantially complete.



- a. Include supporting documentation for completion as indicated in these Contract Documents and a statement showing an accounting of changes to the Contract Sum.
    - b. If 100 percent completion cannot be shown, include a list of incomplete items, the value of incomplete construction, and reasons the work is not complete.
  2. Advise the Owner of pending insurance changeover requirements.
  3. Submit specific warranties, workmanship bonds, maintenance agreements, final certifications, and similar documents.
  4. Obtain and submit releases enabling the Owner unrestricted use of the work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
  5. Deliver tools, spare parts, extra stock, and similar items.
  6. Make final changeover of permanent locks and transmit keys to the Owner. Advise the Owner's personnel of changeover in security provisions.
  7. Complete startup testing of systems and instruction of the Owner's operation and maintenance personnel. Discontinue or change over and remove temporary facilities and services from the site, along with mockups, construction tools, and similar elements.
  8. Complete final cleanup requirements, including touchup painting. Touch up and otherwise repair and restore marred, exposed finishes.
- C. Inspection Procedures: On receipt of a request for inspection, the Architect will either proceed with inspection or advise the Contractor of unfilled requirements. The Architect will prepare the Certificate of Substantial Completion following inspection or advise the Contractor of construction that must be completed or corrected before the certificate will be issued.
1. The Architect will repeat inspection when requested and assured that the work is substantially complete.
  2. Results of the completed inspection will form the basis of requirements for final acceptance.

### 1.3 FINAL ACCEPTANCE

- A. Preliminary Procedures: Before requesting final inspection for certification of final acceptance and final payment, complete the following. List exceptions in the request.
1. Submit the final payment request with releases and supporting documentation not previously submitted and accepted. Include certificates of insurance for products and completed operations where required.
  2. Submit an updated final statement, accounting for final additional changes to the Contract Sum.
  3. Submit a certified copy of the Architect's final inspection list of items to be completed or corrected, stating that each item has been completed or otherwise resolved for acceptance, endorsed and dated by the Architect.
  4. Submit final meter readings for utilities, a measured record of stored fuel, and similar data as of the date of Substantial Completion or when the Owner took possession of and assumed responsibility for corresponding elements of the work.
  5. Submit consent of surety to final payment.
  6. Submit a final liquidated damages settlement statement.
  7. Submit evidence of final, continuing insurance coverage complying with insurance requirements.

8. Submit record documents, final project photographs, property survey and similar final record information.
- B. Reinspection Procedure: The Architect will reinspect the work upon receipt of notice that the work, including inspection list items from earlier inspections, has been completed, except for items whose completion is delayed under circumstances acceptable to the Architect.
1. Upon completion of reinspection, the Architect will prepare a certificate of final acceptance. If the work is incomplete, the Architect will advise the Contractor of work that is incomplete or of obligations that have not been fulfilled but are required for final acceptance.
  2. If necessary, reinspection will be repeated. Contractor will promptly reimburse the Architect for all incurred costs.

#### 1.4 RECORD DOCUMENT SUBMITTALS

- A. General: Do not use record documents for construction purposes. Protect record documents from deterioration and loss in a secure, fire-resistant location. Provide access to record documents for the Architect's reference during normal working hours.
- B. Record Drawings: Maintain a clean, undamaged set of blue or black line white-prints of Contract Drawings and Shop Drawings. Mark the set to show the actual installation where the installation varies substantially from the work as originally shown. Mark which drawing is most capable of showing conditions fully and accurately. Where Shop Drawings are used, record a cross-reference at the corresponding location on the Contract Drawings. Give particular attention to concealed elements that would be difficult to measure and record at a later date.
1. Mark record sets with red erasable pencil. Use other colors to distinguish between variations in separate categories of the work.
  2. Mark new information that is important to the Owner but was not shown on Contract Drawings or Shop Drawings.
  3. Note related change-order numbers where applicable.
  4. Organize record drawing sheets into manageable sets. Bind sets with durable-paper cover sheets; print suitable titles, dates, and other identification on the cover of each set.
  5. Preparation of Transparencies: In preparation for certification of Substantial Completion on the last major portion of the work, review completed markup of record drawings with Architect. When authorized, proceed with preparation of a full set of corrected transparencies for Contract Drawings and shop drawings. Incorporate changes and additional information previously marked-up on print sets, by erasing and redrawing where applicable, and by adding details and notations where applicable; refer instances of uncertainty to Architect for determination. Identify and date each updated drawing.
  6. One set of transparencies of original Contract Drawings will be furnished by Architect to Contractor for use in recording changes and additional information. Other printing as required herein is Contractor's responsibility.
  7. Review of Transparencies: Prior to forwarding to Architect, submit corrected transparencies to Architect for review and acceptance. Architect will review each transparency for general scope of changes and information recorded thereon, and of the general quality of draftsmanship thereon (erasures and drafting). Transparencies will be returned to Contractor for organizing into a set and for final submittal.

8. Copies, Distribution: At the completion of the Work the Contractor shall forward one set of original marked-up transparencies to Architect for distribution to Owner. Organize transparencies into a set matching print sets, place set in a durable tube-type drawing container (with end caps), and mark end cap with suitable identification.
- C. Record Specifications: Maintain one complete copy of the Project Manual, including addenda. Include with the Project Manual one copy of other written construction documents, such as Change Orders and modifications issued in printed form during construction.
1. Mark these documents to show substantial variations in actual work performed in comparison with the text of the Specifications and modifications.
  2. Give particular attention to substitutions and selection of options and information on concealed construction that cannot otherwise be readily discerned later by direct observation.
  3. Note related record drawing information and Product Data.
  4. Upon completion of the work, submit record Specifications to the Architect for the Owner's records.
- D. Record Sample Submitted: Immediately prior to the date or dates of Substantial Completion, the Contractor shall meet with the Architect and the Owner's personnel at the site to determine which of the submitted samples that have been maintained during progress of the work are to be transmitted to the Owner for record purposes. Comply with the Owner's instructions regarding packaging, identification marking and delivery to the Owner's designated storage area. Dispose of other samples in a manner specified for disposal of surplus and waste materials, unless otherwise indicated by the Architect.
- E. Miscellaneous Record Submittals: Refer to other Specification Sections for requirements of miscellaneous record keeping and submittals in connection with actual performance of the work. Immediately prior to the date or dates of Substantial Completion, complete miscellaneous records and place in good order. Identify miscellaneous records properly and bind or file, ready for continued use and reference. Submit to the Architect for the Owner's records.
- F. Maintenance Manuals: Organize operation and maintenance data into suitable sets of manageable size. Bind properly indexed data in individual, heavy-duty, 2-inch, 3-ring, vinyl-covered binders, with pocket folders for folded sheet information. Mark appropriate identification on front and spine of each binder. Provide the Architect with two (2) copies of each manual. Include the following types of information:
1. Emergency instructions.
  2. Spare parts list.
  3. Copies of warranties.
  4. Wiring diagrams.
  5. Recommended "turn-around" cycles.
  6. Inspection procedures.
  7. Shop Drawings and Product Data.
  8. Fixture lamping schedule.

## PART 2 - PRODUCTS (Not Applicable)

## PART 3 - EXECUTION

### 3.1 CLOSEOUT PROCEDURES

- A. Operation and Maintenance Instructions: Arrange for each Installer of equipment that requires regular maintenance to meet with the Owner's personnel to provide instruction in proper operation and maintenance. Provide instruction by manufacturer's representatives if installers are not experienced in operation and maintenance procedures. Include a detailed review of the following items:
  - 1. Maintenance manuals.
  - 2. Record documents.
  - 3. Spare parts and materials.
  - 4. Tools.
  - 5. Lubricants.
  - 6. Fuels.
  - 7. Identification systems.
  - 8. Control sequences.
  - 9. Hazards.
  - 10. Cleaning.
  - 11. Warranties and bonds.
  - 12. Maintenance agreements and similar continuing commitments.
- B. As part of instruction for operating equipment, demonstrate the following procedures:
  - 1. Startup.
  - 2. Shutdown.
  - 3. Emergency operations.
  - 4. Noise and vibration adjustments.
  - 5. Safety procedures.
  - 6. Economy and efficiency adjustments.
  - 7. Effective energy utilization.

### 3.2 FINAL CLEANING

- A. General: The General Conditions require general cleaning during construction. Regular site cleaning is included in Division 1, Section 01500 - CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS.
- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to the condition expected in a normal, commercial building cleaning and maintenance program. Comply with manufacturers' instructions.
  - 1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion.
    - a. Remove labels that are not permanent labels.
    - b. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other substances that are noticeable vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials.
    - c. Clean exposed exterior and interior hard-surfaced finishes to a dust-free condition, free of stains, films, and similar foreign substances. Restore reflective surfaces to their original condition. Except as otherwise indicated, avoid disturbance of natural

- weathering of exterior surfaces. Leave concrete floors broom clean. Vacuum carpeted surfaces.
  - d. Wipe surfaces of mechanical and electrical equipment. Remove excess lubrication and other substances. Clean plumbing fixtures to a sanitary condition. Clean light fixtures and lamps.
  - e. Clean the site, including landscape development areas, of rubbish, litter, and other foreign substances. Sweep paved areas broom clean; remove stains, spills, and other foreign deposits. Rake grounds that are neither paved nor planted to a smooth, even-textured surface.
  - f. Remove debris and surface dust from limited access spaces including roofs, plenums, shafts, trenches, equipment vaults, man-holes, attics and similar spaces.
- C. Pest Control: Engage an experienced, licensed exterminator to make a final inspection and rid the Project of rodents, insects, and other pests. Submit report (letter) of compliance from exterminator.
- D. Removal of Protection: Remove temporary protection and facilities installed for protection of the work during construction, where applicable.
- E. Compliance: Comply with regulations of authorities having jurisdiction and safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on the Owner's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from the site and dispose of in a lawful manner.
- 1. Where extra materials of value remain after completion of associated work, they become the Owner's property. Dispose of these materials as directed by the Owner.

END OF SECTION 01 70 00

**NEW PARKING STRUCTURE AND  
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DULUTH INTERNATIONAL AIRPORT  
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**SECTION 01 74 13 - CLEANING UP**

**1. GENERAL**

- A. The Contractors shall furnish all labor, materials, tools, equipment, and perform all work and services necessary for cleaning up required in conjunction with work performed, as shown on drawings and as specified, in accordance with provisions of the Contract Documents and completely coordinated with work of all other trades.
- B. Although such work is not specifically indicated, furnish and install all supplementary or miscellaneous items, appurtenances and devices incidental to or necessary for a sound, secure and complete installation.
- C. This Section specifies administrative and procedural requirements for final cleaning at Substantial Completion.
  - 1) Special cleaning requirements for specific elements of the Work are included in appropriate Sections of Divisions 2 through 33.
  - 2) Multiple Prime Contracts: Except as otherwise indicated, each Prime Contractor is responsible for coordination of final cleaning where more than one Prime Contractor is involved in final cleaning a single area or piece of equipment.
  - 3) Environmental Requirements: Conduct cleaning and waste disposal operations in compliance with local laws and ordinances. Comply fully with federal and local environmental and anti-pollution regulations.
    - a. Do not dispose of volatile wastes such as mineral spirits, oil or paint thinner in storm or sanitary drains.
    - b. Burning or burying of debris, rubbish or other waste material on the premises will not be permitted.
  - 4) Related work specified elsewhere:
    - a. Section 01 70 00 - Contract Closeout, include general project closeout requirements.
    - b. Section 01 50 00 – Construction Facilities and Temporary Controls, include general cleanup and waste removal requirements.

**2. MATERIALS**

- A. Cleaning Agents: Use cleaning materials and agents recommended by the manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property, or that might damage finished surfaces.

3. DURING CONSTRUCTION

- A. Oversee cleaning and ensure that building and grounds are maintained free from accumulation of waste and rubbish.
  - 1) Special attention shall be given to cleaning up the site of debris, waste and rubbish. The Owner is extremely concerned over items left in the open that can be thrown through windows.
- B. Sprinkle dusty debris with water.
- C. At reasonable intervals, minimum once a week, clean up site and access and dispose of debris.
- D. Provide metal containers for collection of debris.
- E. Remove debris from site. Legally dispose of off Owner's site.
- F. Vacuum interior areas when ready for painting.
- G. Handle waste materials in a controlled manner. Do not drop or throw materials from heights.
- H. Schedule cleaning operations so that contaminants resulting from cleaning do not fall on wet painted surfaces.

END OF SECTION 01 74 13

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**SECTION 01 77 00 - PROJECT RECORD  
DOCUMENTS**

**1. GENERAL**

- A. This section covers the furnishing of all labor, materials, tools, equipment, and performing all work and services to provide record documents as specified, in accordance with the provisions of the Contract Documents, and completely coordinated with work of all other trades.
- B. This Section specifies administrative and procedural requirements for Project Record Documents.
  - 1) Project Record Documents required include:
    - a. Marked-up copies of Contract Drawings.
    - b. Marked-up copies of Shop Drawings.
    - c. Newly prepared Drawings.
    - d. Marked-up copies of Specifications, addenda and Change Orders.
    - e. Marked-up Product Data submittals.
    - f. Record Samples.
    - g. Field records for variable and concealed conditions.
    - h. Record information on Work that is recorded only schematically.
  - 2) Maintenance of Documents and Samples: Store record documents and Samples in the field office apart from Contract Documents used for construction. Do not permit Project Record Documents to be used for construction purposes. Maintain record documents in good order, and in a clean, dry, legible condition. Make documents and Samples available at all times for inspection by the Architect.
- C. Related work specified elsewhere:
  - 1) Section 01 70 00 - Contract Closeout, includes general project closeout requirements.
  - 2) Section 01 33 00 - Submittals, includes general requirements for submittal of Project Record Documents.

**2. RECORD DRAWINGS**

- A. Mark-Up Procedure: During the construction period, maintain a set of blue- or black-line white-prints of Contract Drawings and Shop Drawings for Project Record Document purposes. Include the printed designation "PROJECT RECORD DRAWINGS" in a prominent location on each Drawing.
  - 1) Mark these Drawings to indicate the actual installation where the installation varies appreciably from the installation shown originally. Give particular attention to information on concealed elements which would be difficult to identify or

PROJECT RECORD DOCUMENTS  
Bid Package 2D  
Issue for Bid  
01 77 00 - 1



measure and record later. Items required to be marked include but are not limited to:

- a. Dimensional changes to the Drawings.
  - b. Revisions to details shown on the Drawings.
  - c. Changes made by Change Order.
  - d. Details not on original Contract Drawings.
  - e. RFPs, SIs, PCOs.
- 2) Mark completely and accurately record prints of Contract Drawings or Shop Drawings, whichever is most capable of showing actual physical conditions. Where Shop Drawings are marked, show cross-reference on Contract Drawings location.
  - 3) Mark record sets with red erasable colored pencil; use other colors to distinguish between changes for different categories of the Work at the same location.
  - 4) Mark important additional information which was either shown schematically or omitted from original Drawings.
  - 5) Note construction change directive numbers, alternate numbers, Change Order numbers and similar identification.
  - 6) Responsibility for Mark-Up: Where feasible, the individual or entity who obtained record data, whether the individual or entity is the installer, subcontractor, or similar entity, is required to prepare the mark-up on record Drawings.
    - a. Accurately record information in an understandable Drawing technique.
    - b. Record data as soon as possible after it has been obtained. In the case of concealed installations, record and check the mark-up prior to concealment.
    - c. At time of Substantial Completion, submit three (3) copies of the record Drawings to Construction Manager for the Architect's approval. Upon Architect's approval, the Drawings will then become the Owner's records. Organize into sets, bind and label sets for Owner's continued use.

### 3. RECORD SPECIFICATIONS

- A. During the construction period, maintain one copy of the Project Specifications, including addenda and modifications issued, for Project Record Document purposes.
  - 1) Mark the Specifications to indicate the actual installation where the installation varies substantially from that indicated in Specifications and modifications issued. Note related Project Record Drawing information, where applicable. Give particular attention to substitutions, selection of product options, and information on concealed installations that would be difficult to identify or measure and record later.
    - a. In each Specification Section where products, materials or units of equipment are specified or scheduled, mark the copy with the proprietary name and model number of the product furnished.

- 2) Upon completion of mark-up, submit record Specifications to the Construction Manager for Owner's records.

#### 4. RECORD PRODUCT DATA

- A. During the construction period, maintain one copy of each Product Data submittal for Project Record Document purposes.
  - 1) Mark Product Data to indicate the actual product installation where the installation varies substantially from that indicated in Product Data submitted. Include significant changes in the product delivered to the site, and changes in manufacturer's instructions and recommendations for installation.
  - 2) Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
  - 3) Note related Change Orders and mark-up of record Drawings, where applicable.
  - 4) Upon completion of mark-up, submit a complete set of record Product Data to the Construction Manager for the Owner's records.
  - 5) Where record Product Data is required as part of maintenance manuals, submit marked-up Product Data as an insert in the manual, instead of submittal as record Product Data.
  - 6) Each prime Contractor is responsible for mark-up and submittal of record Product Data for its own Work.

#### 5. MISCELLANEOUS RECORD SUBMITTALS

- A. Refer to other Specification Sections for miscellaneous record-keeping requirements and submittals in connection with various construction activities. Immediately prior to Substantial Completion, complete miscellaneous records and place in good order, properly identified and bound or filed, ready for use and reference. Submit to the Construction Manager for the Owner's records.
  - 1) Categories of requirements resulting in miscellaneous records include, but are not limited to the following:
    - a. Field records on excavations and foundations.
    - b. Field records on underground construction and similar Work.
    - c. Survey showing locations and elevations of underground lines.
    - d. Invert elevations of drainage piping.
    - e. Surveys establishing building lines and levels.
    - f. Authorized measurements utilizing unit prices or allowances.
    - g. Records of plant treatment.
    - h. Ambient and substrate condition tests.
    - i. Certifications received in lieu of labels on bulk products.
    - j. Batch mixing and bulk delivery records.
    - k. Testing and qualification of tradesmen.
    - l. Documented qualification of installation firms.

- m. Load and performance testing.
- n. Inspections and certifications by governing authorities.
- o. Leakage and water-penetration tests.
- p. Fire resistance and flame spread test results.
- q. Final inspection and correction procedures.

6. RECORDING

- A. Post changes and modifications to the Documents as they occur. Do not wait until the end of the Project.

END OF SECTION 01 77 00

**NEW PARKING STRUCTURE AND  
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DULUTH INTERNATIONAL AIRPORT  
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**SECTION 01 78 36 – WARRANTIES**

**PART 1 - GENERAL**

**1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this section.

**1.2 SUMMARY**

- A. This section specifies general administrative and procedural requirements for warranties required by the Contract Documents, including manufacturer's standard warranties on products and special warranties.
  - 1. Refer to the General Conditions for terms of the Contractor's period for correction of the work and special warranty of workmanship and materials.
- B. The Contractor will provide a warranty on all project work (including that added by subsequent change order after execution of the construction contract) for a period of one (1) year following the formal declaration of Substantial Completion. This one (1) year warranty will be separate from and in no way affect other standard product / manufacturer or workmanship warranties that extend beyond this one (1) year period for goods and services provided to this project.
- C. Related Sections: The following sections contain requirements that relate to this section:
  - 1. Division 1, Section 01 33 00 - SUBMITTALS specifies procedures for submitting warranties.
  - 2. Division 1, Section 01 70 00 - CONTRACT CLOSEOUT specifies contract closeout procedures.
  - 3. Divisions 2 through 16 sections for specific requirements for warranties on products and installations specified to be warranted.
  - 4. Certifications and other commitments and agreements for continuing services to Owner are specified elsewhere in the Contract Documents.
- D. Disclaimers and Limitations: Manufacturer's disclaimers and limitations on product warranties do not relieve the Contractor of the warranty on the work that incorporates the products. Manufacturer's disclaimers and limitations on product warranties do not relieve suppliers, manufacturers, and subcontractors required to countersign special warranties with the Contractor.

**1.3 WARRANTY REQUIREMENTS**

- A. Related Damages and Losses: When correcting failed or damaged warranted construction, remove and replace other work that has been damaged as a result of such failure or must be removed and replaced to provide access for correction of warranted construction.

- B. Reinstatement of Warranty: When work covered by a warranty has failed and been corrected by replacement or rebuilding, reinstate the warranty by written endorsement. The reinstated warranty shall be equal to the original warranty with an equitable adjustment for depreciation.
- C. Replacement Cost: Upon determination that work covered by a warranty has failed, replace or rebuild the work to an acceptable condition complying with requirements of the Contract Documents. The Contractor is responsible for the cost of replacing or rebuilding defective work regardless of whether the Owner has benefited from use of the work through a portion of its anticipated useful service life.
- D. Owner's Recourse: Expressed warranties made to the Owner are in addition to implied warranties and shall not limit the duties, obligations, rights, and remedies otherwise available under the law. Expressed warranty periods shall not be interpreted as limitations on the time in which the Owner can enforce such other duties, obligations, rights, or remedies.
  - 1. Rejection of Warranties: The Owner reserves the right to reject warranties and to limit selection to products with warranties not in conflict with requirements of the Contract Documents.
- E. Where the Contract Documents require a special warranty, or similar commitment on the work or part of the work, the Owner reserves the right to refuse to accept the work, until the Contractor presents evidence that entities required to countersign such commitments are willing to do so.

#### 1.4 SUBMITTALS

- A. Submit written warranties to the Architect prior to the date certified for Substantial Completion. If the Architect's Certificate of Substantial Completion designates a commencement date for warranties other than the date of Substantial Completion for the work, or a designated portion of the work, submit written warranties upon request of the Architect.
  - 1. When a designated portion of the work is completed and occupied or used by the Owner, by separate agreement with the Contractor during the construction period, submit properly executed warranties to the Architect within fifteen (15) days of completion of that designated portion of the work.
- B. When the Contract Documents require the Contractor, or the Contractor and a subcontractor, supplier or manufacturer to execute a special warranty, prepare a written document that contains appropriate terms and identification, ready for execution by the required parties. Submit a draft to the Owner, through the Architect, for approval prior to final execution.
  - 1. Refer to Divisions 2 through 16 sections for specific content requirements and particular requirements for submitting special warranties.
- C. Form of Submittal: At Final Completion compile two (2) copies of each required warranty properly executed by the Contractor, or by the Contractor, subcontractor, supplier, or manufacturer. Organize the warranty documents into an orderly sequence based on the table of contents of the Project Manual.
- D. Bind warranties and bonds in heavy-duty, commercial-quality, durable 3-ring, vinyl-covered loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch paper.

1. Provide heavy paper dividers with celluloid covered tabs for each separate warranty. Mark the tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product, and the name, address, and telephone number of the Installer.
2. Identify each binder on the front and spine with the typed or printed title "WARRANTIES AND BONDS," Project title or name, and name of the Contractor.
3. When warranted construction requires operation and maintenance manuals, provide additional copies of each required warranty, as necessary, for inclusion in each required manual.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01 78 36

**NEW PARKING STRUCTURE AND  
EXTERIOR WAYFINDING SIGNAGE  
DULUTH INTERNATIONAL AIRPORT  
DULUTH, MINNESOTA**

**SECTION 01 74 00 - CONSTRUCTION  
WASTE MANAGEMENT**

**PART 1 - GENERAL**

**1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General Conditions and Division 1 Specification Sections, apply to this Section.

**1.2 SUMMARY**

- A. This Section includes administrative and procedural requirements for the following:
  - 1. Salvaging non-hazardous demolition and construction waste
  - 2. Recycling non-hazardous demolition and construction waste
  - 3. Disposing of non-hazardous demolition and construction waste
- B. Related Sections include the following:
  - 1. Division 1 Section 01 31 00 "Coordination" for coordination of responsibilities for waste management
  - 2. Division 1 Section 01 81 13 "Sustainable Design Requirements"
  - 3. Division 1 Section 01 50 00 "Temporary Facilities and Controls" for environmental-protection measures during construction

**1.3 DEFINITIONS**

- A. Clean: Untreated and unpainted; not contaminated with oils, solvents, caulk, paint, or the like
- B. Construction Waste: Building and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.
- C. Demolition Waste: Building and site improvement materials resulting from demolition or selective demolition operations
- D. Disposal: Removal off-site of demolition and construction waste and subsequent sale, recycling, reuse, or deposit in landfill or incinerator acceptable to authorities having jurisdiction
- E. Diversion: Avoidance of demolition and construction waste sent to landfill or incineration. Diversion does not include using materials for landfill, alternate daily cover on landfills, or materials used as fuel in waste-to-energy processes
- F. Hazardous: Exhibiting the characteristics of hazardous substances, i.e., ignitability, corrosiveness, toxicity or reactivity

- F. Hazardous: Exhibiting the characteristics of hazardous substances, i.e., ignitability, corrosiveness, toxicity or reactivity
- G. Recycle: Recovery of demolition or construction waste for subsequent processing in preparation for reuse
- H. Recycling: The process of sorting, cleansing, treating, and reconstituting solid waste and other discarded materials for the purpose of using the altered form. Recycling does not include burning, incinerating, or thermally destroying waste.
- I. Salvage: Recovery of demolition or construction waste and subsequent reuse or sale in another facility
- J. Reuse: Recovery of demolition or construction waste and subsequent incorporation into the Work
- K. Source Separation: The act of keeping different types of waste materials separate beginning from the first time they become waste
- L. Toxic: Poisonous to humans either immediately or after a long period of exposure
- M. Trash: Any product or material unable to be reused, returned, recycled, or salvaged
- N. Waste: Extra material or material that has reached the end of its useful life in its intended use. Waste includes salvageable, returnable, recyclable, and reusable material.

#### 1.4 PERFORMANCE REQUIREMENTS

- A. The Owner has established that this Project shall generate the least amount of waste possible and that processes that ensure the generation of as little waste as possible due to error, poor planning, breakage, mishandling, contamination, or other factors shall be employed.
- B. Of the waste that is generated, as many of the waste materials as economically feasible shall be reused, salvaged, or recycled. Waste disposal in landfills or incinerators shall be minimized, thereby reducing disposal costs.
- C. Develop a construction waste management plan that results in end-of-Project rates for salvage / recycling of 95% (by weight) of construction and demolition waste.
- D. Salvage / Recycle Requirements: Salvage and recycle as much non-hazardous demolition and construction waste as possible, including the following materials:
  - 1. Demolition Waste:
    - a. Asphaltic concrete paving
    - b. Concrete
    - c. Concrete reinforcing steel
    - d. Brick
    - e. Concrete masonry units
    - f. Wood studs



- g. Wood joists
- h. Plywood and oriented strand board
- i. Wood paneling
- j. Wood trim
- k. Structural and miscellaneous steel
- l. Rough hardware
- m. Roofing
- n. Insulation
- o. Doors and frames
- p. Door hardware
- q. Windows
- r. Glazing
- s. Metal studs
- t. Gypsum board
- u. Acoustical tile and panels
- v. Carpet
- w. Carpet pad
- x. Demountable partitions
- y. Equipment
- z. Cabinets
- aa. Plumbing fixtures
- bb. Piping
- cc. Supports and hangers
- dd. Valves
- ee. Sprinklers
- ff. Mechanical equipment
- gg. Refrigerants
- hh. Electrical conduit
- ii. Copper wiring
- jj. Lighting fixtures
- kk. Lamps
- ll. Ballasts
- mm. Electrical devices
- nn. Switchgear and panelboards
- oo. Transformers
- 2. Construction Waste:
  - a. Masonry and CMU
  - b. All untreated wood, including lumber and finish materials
  - c. Wood sheet materials
  - d. Wood trim
  - e. Metals
  - f. Roofing
  - g. Insulation
  - h. Carpet and pad
  - i. Gypsum board
  - j. Unused (leftover) paint
  - k. Piping
  - l. Electrical conduit
  - m. Packaging: Regardless of salvage / recycle goal indicated above, salvage or recycle 100 percent of the following uncontaminated packaging materials:

- 1) Paper
- 2) Cardboard
- 3) Boxes
- 4) Plastic sheet and film
- 5) Polystyrene packaging
- 6) Wood crates
- 7) Plastic pails
- n. Beverage and packaged food containers

## 1.5 SUBMITTALS

- A. Construction Waste Management Plan (CWMP): It is the intent of this specification to maximize the diversion of demolition and construction waste from landfill disposal. Accordingly, not more than 30 days after receipt of Notice to Proceed and prior to the generation of any waste, prepare and submit a draft Construction Waste Management Plan in accordance with Section 01 74 00 including, but not limited to, the following:
  1. Procedures for Recycling / Reuse Program to divert a minimum of 95% (by weight) of construction and demolition waste from landfill disposal, including waste resulting from demolition of any existing building and site paving scheduled for demolition; any site paving is required to be ground on site and reused as granulated fill on site.
  2. Approval of the Contractor's CWMP shall not relieve the Contractor of responsibility for adequate and continuing control of pollutants and other environmental protection measures.
- B. Submit a 3-ring binder with calculations on end-of-project recycling rates, salvage rates, and landfill rates itemized by waste material, demonstrating that a minimum of 75% of construction wastes were recycled or salvaged and diverted from landfill. Include documentation of recovery rate (if commingled); waste hauling certificates or receipts, and a brief narrative explaining how and to where each waste type has been diverted.
- C. Construction Waste Management Plan: Submit four copies of plan within forty-five (45) days of date established for the Notice to Proceed.
- D. Waste Reduction Progress Reports: Concurrent with each Application for Payment, submit four (4) copies of report. Include separate reports for demolition and construction waste. Include the following information:
  1. Material category
  2. Generation point of waste
  3. Total quantity of waste in tons
  4. Quantity of waste salvaged, both estimated and actual in tons
  5. Quantity of waste recycled, both estimated and actual in tons
  6. Total quantity of waste recovered (salvaged plus recycled) in tons
  7. Total quantity of waste recovered (salvaged plus recycled) as a percentage of total waste
  8. Include up-to-date records of donations, sales, recycling and landfill / incinerator manifests, weight tickets, hauling receipts, and invoices.
- E. Waste Reduction Calculations: Before request for Substantial Completion, submit four copies of calculated end-of-project rates for salvage, recycling, and disposal

as a percentage of total waste generated by the Work. Complete a table similar to the example below.

Recycled / Salvaged / Diverted Materials	Hauler or Location	Quantity of Material (tons)
Total Construction Waste Diverted		
Landfilled Materials		
Total Construction Waste Landfilled		

Total Construction Waste		Total Construction Waste Diverted + Total Construction Waste Landfilled
Percentage of Construction Waste Diverted from Landfill		(Total Construction Waste Diverted / Total Construction Waste)*100

- F. Records of Donations: Indicate receipt and acceptance of salvageable waste donated to individuals and organizations. Indicate whether organization is tax-exempt.
- G. Records of Sales: Indicate receipt and acceptance of salvageable waste sold to individuals and organizations. Indicate whether organization is tax-exempt.
- H. Recycling and Processing Facility Records: Indicate receipt and acceptance of recyclable waste by recycling and processing facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.
- I. Landfill and Incinerator Disposal Records: Indicate receipt and acceptance of waste by landfills (or transfer stations) and incinerator facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.

#### 1.6 QUALITY ASSURANCE

- A. Regulatory Requirements: Comply with all applicable local ordinances and regulations.

- B. Waste Management Meetings: Conduct an initial conference at Project Site to comply with requirements in Division 1 Section "Project Management and Coordination." Contractor shall include discussions on construction waste management requirements in the preconstruction meeting. Contractor shall include discussions on construction waste management requirements in the regular job meetings conducted during the course of the Project; at these meetings, review methods and procedures related to waste management including, but not limited to, the following:
1. Review and discuss waste management plan including responsibilities of the Waste Management Coordinator.
  2. Review requirements for documenting quantities of each type of waste and its disposition.
  3. Review and finalize procedures for materials separation and verify availability of containers and bins needed to avoid delays.
  4. Review procedures for periodic waste collection and transportation to recycling and disposal facilities.
  5. Review waste management requirements for each trade.

## 1.7 CONSTRUCTION WASTE MANAGEMENT PLAN

- A. General: Develop and implement a CWMP consisting of waste identification, waste reduction work plan, and cost/revenue analysis. Include separate sections in plan for demolition and construction waste. Indicate quantities by weight or volume, but use the same units of measure throughout the CWMP.
- B. Draft Construction Waste Management Plan: Within 30 days after receipt of Notice to Proceed, or prior to any waste removal, whichever occurs sooner, the Contractor shall submit to the Owner and Architect a Draft Waste Management Plan.
- C. Final Construction Waste Management Plan: Once the Owner has determined which of the recycling options addressed in the draft Waste Management Plan are acceptable, the Contractor shall submit, within 10 calendar days, a Final Waste Management Plan.
- D. Waste Identification: Indicate anticipated types and quantities of demolition, site-clearing, and construction waste generated by the Work. Include estimated quantities and assumptions for estimates.
- E. Landfill Options: Indicate the name of the landfill(s) and / or transfer station(s) and / or incinerator(s) where trash will be disposed of, the applicable landfill tipping fee(s), and the projected cost of disposing of all Project waste in the landfill(s).
- F. Waste Reduction Work Plan: List each type of waste and whether it will be salvaged, reused, recycled, or disposed of in landfill or incinerator. Include points of waste generation, total quantity of each type of waste, quantity for each means of recovery, and handling and transportation procedures.
  1. Salvaged Materials for Reuse: For materials that will be salvaged and reused in this Project, describe methods for preparing salvaged materials before incorporation into the Work.
  2. Salvaged Materials for Sale: For materials that will be sold to individuals and organizations, include list of their names, addresses, and telephone numbers.
  3. Salvaged Materials for Donation: For materials that will be donated to individuals and organizations, include list of their names, addresses, and telephone numbers.

4. Recycled Materials: Include list of local receivers and processors and type of recycled materials each will accept. Include names, addresses, and telephone numbers.
  5. Disposed Materials: Indicate how and where materials will be disposed of. Include name, address, and telephone number of each landfill and incinerator facility.
  6. Handling and Transportation Procedures: Describe method that will be used for separating recyclable waste, including sizes of containers, container labeling, and designated location on Project Site where materials separation will be located.
- G. Materials: The following list of required materials, at a minimum, must be included for salvaging / recycling:
1. Cardboard
  2. Clean dimensional wood
  3. Beverage and food containers
  4. Paper
  5. Concrete
  6. Concrete Masonry Units (CMUs)
  7. Asphalt: Include the approximate weight of the asphalt paving to be crushed and utilized as granulated fill from the existing paving as a component of waste material diverted from the landfill.
  8. Ferrous and non-ferrous metals (banding, stud trim, ductwork, piping, rebar, roofing, other trim, steel, iron, galvanized sheet steel, stainless steel, aluminum, copper, zinc, lead, brass, and bronze)
  9. Stretch and shrink wrap
  10. Gypsum wallboard
  11. Paint containers and other clean, empty plastic containers
- H. Meetings: Provide a description of the regular meetings to be held to address waste management.
- I. Materials Handling Procedures: Provide a description of the means by which any waste materials identified will be protected from contamination, and a description of the means to be employed in recycling the above materials consistent with requirements for acceptance by designated facilities.
- J. Transportation: Provide a description of the means of transportation of the recyclable materials (whether materials will be site-separated and self-hauled to designated centers, or whether mixed materials will be collected by a waste hauler and removed from the site) and destination of materials.

## 1.8 CONSTRUCTION WASTE MANAGEMENT RESOURCES

- A. General information contacts regarding construction and demolition waste:
1. EPA Construction and demolition (C&D) debris website:  
<http://www.epa.gov/epaoswer/non-hw/debris-new/bytype.htm>
  2. Directory of Wood-Framed Building Deconstruction and Reused Building Materials Companies:  
[http://www.fpl.fs.fed.us/documnts/fplgtr/fpl\\_gtr150.pdf](http://www.fpl.fs.fed.us/documnts/fplgtr/fpl_gtr150.pdf)

3. Additional resources to be developed by Contractor with assistance from Owner and Architect, as requested.

## PART 2 - PRODUCTS (Not Used)

## PART 3 - EXECUTION

### 3.1 PLAN IMPLEMENTATION

- A. General: Implement waste management plan as approved by Architect and Owner. Provide handling, containers, storage, signage, transportation, and other items as required to implement waste management plan during the entire duration of the Contract.
  1. Comply with Division 1 Section "Temporary Facilities and Controls" for operation, termination, and removal requirements.
- B. Waste Management Coordinator: Engage a waste management coordinator to be responsible for implementing, monitoring, and reporting status of waste management work plan. Coordinator shall be present at the Project Site full-time for duration of Project.
- C. Training: Train workers, subcontractors, and suppliers on proper waste management procedures, as appropriate for the Work occurring at Project Site.
  1. Distribute waste management plan to everyone concerned within three days of submittal return.
  2. Distribute waste management plan to entities when they first begin work on-site. Review plan procedures and locations established for salvage, recycling, and disposal.
- D. Site Access and Temporary Controls: Conduct waste management operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
  1. Designate and label specific areas on Project Site necessary for separating materials that are to be salvaged, recycled, reused, donated, and sold.
  2. Recycling and waste bin areas are to be kept neat, and clean, and clearly marked in order to avoid contamination of materials.
  3. Comply with Division 1 Section "Temporary Facilities and Controls" for controlling dust and dirt, environmental protection, and noise control.
- E. Hazardous Wastes: Hazardous wastes shall be separated, stored, and disposed of according to local regulations and should not be included in Construction Waste Management Plan's calculations of waste.

### 3.2 SALVAGING DEMOLITION WASTE

- A. Salvaged Items for Reuse in the Work:
  1. Clean salvaged items.
  2. Pack or crate items after cleaning. Identify contents of containers.

3. Store items in a secure area until installation.
4. Protect items from damage during transport and storage.
5. Install salvaged items to comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make items functional for use indicated.

B. Salvaged Items for Owner's Use:

1. Clean salvaged items.
2. Pack or crate items after cleaning. Identify contents of containers.
3. Store items in a secure area until delivery to Owner.
4. Transport items to Owner's storage area designated by Owner.
5. Protect items from damage during transport and storage.
6. Doors and Hardware: Brace open end of door frames. Except for removing door closers, leave door hardware attached to doors.

### 3.3 RECYCLING DEMOLITION AND CONSTRUCTION WASTE, GENERAL

- A. General: Recycle paper and beverage containers used by on-site workers.
- B. Recycling Receivers and Processors: List below is provided for information only; available recycling receivers and processors include, but are not limited to, the following:
  1. List to be developed by Contractor.
- C. Recycling Incentives: Revenues, savings, rebates, tax credits, and other incentives received for recycling waste materials shall accrue to Contractor.
- D. Procedures: Separate recyclable waste from other waste materials, trash, and debris. Separate recyclable waste by type at Project Site to the maximum extent practical.
  1. Provide appropriately marked containers or bins for controlling recyclable waste until they are removed from Project Site. Include list of acceptable and unacceptable materials at each container and bin.
    - a. Inspect containers and bins for contamination and remove contaminated materials if found.
  2. Stockpile processed materials on-site without intermixing with other materials. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
  3. Stockpile materials away from construction area. Do not store within drip line of remaining trees.
  4. Store components off the ground and protect from the weather.
  5. Remove recyclable waste off Owner's property and transport to recycling receiver or processor.

### 3.4 RECYCLING DEMOLITION WASTE

- A. Asphaltic Concrete Paving: Break up and transport paving to asphalt-recycling facility or recycle on-site into new paving.

- B. Concrete: Remove reinforcement and other metals from concrete and sort with other metals.
  - 1. Pulverize concrete to maximum 4-inch (100-mm) size.
  - 2. Crush concrete and screen to comply with requirements in Division 2 Section "Earthwork" for use as satisfactory soil for fill or subbase.
- C. Masonry: Remove metal reinforcement, anchors, and ties from masonry and sort with other metals.
  - 1. Pulverize masonry to maximum 1-1/2-inch (38-mm) size.
    - a. Crush masonry and screen to comply with requirements in Division 2 Section "Earthwork" for use as general fill or subbase.
    - b. Crush masonry and screen to comply with requirements in Division 2 Section "Exterior Plants" for use as mineral mulch.
  - 2. Clean and stack undamaged, whole masonry units on wood pallets.
- D. Wood Materials: Sort and stack members according to size, type, and length. Separate lumber, engineered wood products, and panel products for reuse and / or recycling. Separate wood material treated with heavy metal preservatives for reuse or landfill disposal.
- E. Metals: Separate metals by type.
  - 1. Structural Steel: Stack members according to size, type of member, and length.
  - 2. Remove and dispose of bolts, nuts, washers, and other rough hardware.
- F. Asphalt Shingle Roofing: Separate organic and glass-fiber asphalt shingles and felts for recycling into asphalt paving or by other recycling entities.
- G. Gypsum Board: Stack large, clean pieces on wood pallets and store in a dry location for recycling off-site. Remove edge trim and sort with other metals. Remove and dispose of fasteners.
  - 1. Moisture-damaged gypsum board with evidence of significant mold growth shall be disposed of in accordance with New York City's "Guidelines on Assessment and Remediation of Fungi in Indoor Environments": <http://www.nyc.gov/html/doh/html/epi/moldrpt1.shtml>
- H. Acoustical Ceiling Panels and Tile: Stack large, clean pieces on wood pallets and store in a dry location.
  - 1. Separate suspension system, trim, and other metals from panels and tile and sort with other metals.
- I. Carpet and Pad: Roll large pieces tightly after removing debris, trash, adhesive, and tack strips.
  - 1. Store clean, dry carpet and pad in a closed container or trailer provided by a carpet recycler or manufacturer-related carpet reclamation agency.
- J. Equipment: Drain tanks, piping, and fixtures. Seal openings with caps or plugs. Protect equipment from exposure to weather.
- K. Plumbing Fixtures: Separate by type and size.



- L. Piping: Reduce piping to straight lengths and store by type and size. Separate supports, hangers, valves, sprinklers, and other components by type and size.
- M. Lighting Fixtures: Separate lamps by type and protect from breakage.
- N. Electrical Devices: Separate switches, receptacles, switchgear, transformers, meters, panelboards, circuit breakers, and other devices by type.
- O. Conduit: Reduce conduit to straight lengths and store by type and size.

### 3.5 RECYCLING CONSTRUCTION WASTE

- A. Packaging:
  - 1. Cardboard and Boxes: Break down packaging into flat sheets. Bundle and store in a dry location.
  - 2. Polystyrene Packaging: Separate and bag materials.
  - 3. Pallets: As much as possible, require deliveries using pallets to remove pallets from Project Site. For pallets that remain on-site, break down pallets into component wood pieces and comply with requirements for recycling wood.
  - 4. Crates: Break down crates into component wood pieces and comply with requirements for recycling wood.
- B. Site-Clearing Wastes: Chip brush, branches, and trees on-site.
  - 1. Comply with requirements in Division 2 Section "Exterior Plants" for use of chipped organic waste as organic mulch.
- C. Wood Materials:
  - 1. Clean Cut-Offs of Lumber: Grind or chip into material appropriate for mulch or erosion control.
  - 2. Lumber Treated with Heavy-Metal Preservatives: Do not grind, chip, or incinerate; must be reused or landfilled.
- D. Gypsum Board: Stack large, clean pieces on wood pallets and store in a dry location for recycling and / or reuse on-site or off-site.
  - 1. Moisture-damaged gypsum board with evidence of significant mold growth shall be disposed of in accordance with New York City's "Guidelines on Assessment and Remediation of Fungi in Indoor Environments": <http://www.nyc.gov/html/doh/html/epi/moldrpt1.shtml>
  - 2. Clean Gypsum Board: Grind scraps of clean gypsum board using small mobile chipper or hammer mill. Screen out paper after grinding.
    - a. Comply with requirements in Division 2 Section "Exterior Plants" for use of clean ground gypsum board as inorganic soil amendment.
- E. Miscellaneous: Anything called out to be ground and used on site should utilize an on-site grinder.
  - 1. Grinder should be able to accommodate a variety of materials including masonry, asphalt shingles, wood, and drywall.

### 3.6 DISPOSAL OF WASTE

- A. General: Except for items or materials to be salvaged, recycled, or otherwise reused, remove waste materials from Project Site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.
  - 1. Except as otherwise specified, do not allow waste materials that are to be disposed of to accumulate on site.
  - 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
  - 3. Do not burn or bury waste materials on or off site. Appropriate on-site topical application of ground gypsum or wood, or use of site paving as granulated fill is considered reuse, not waste.

END OF SECTION 01 74 00

