

PROJECT SPECIFICATIONS

59th AVE W UTILITY IMPROVEMENT PROJECT

**City of Duluth, Minnesota
411 West 1st Street
Duluth, MN 55802**

City Project No.: 1487

Bid Number: 15-0658

Opening Date: 11/19/15

Time: 2:00 PM

Place: Room 100

CITY OF DULUTH INVITATION TO BID (ENG)

PROJECT NAME/DESCRIPTION: 59th Ave W Utility Improvements Project

PROJECT NUMBER: 1487

BID NUMBER: 2015-0658

Sealed bids will be received by the City Purchasing Agent in and for the Corporation of the City of Duluth, Minnesota, at his office, Room 100 City Hall, Duluth, Minnesota, 55802, (218) 730-5340 until 2 P.M. local time on 19, November (19/11), 2015 for the above named project. Immediately thereafter, bids will be publicly opened and read aloud.

NOTICE TO BIDDERS: 1) A Project Labor Agreement (PLA) will be required for any bid that is over or could virtually go over \$150,000; and 2) Unless a Certificate of Exemption is provided, any out-of-state bidder receiving a bid award will have 8% retained from invoice payments on any contracts over \$50,000. Submit a signed copy from the State of Minnesota when submitting Payment and Performance Bonds. This form may be found at the following web address: http://taxes.state.mn.us/Forms_and_Instructions/sde.pdf

[SCOPE OF WORK]

This project includes the complete reconstruction of 1,600 feet of 59th Avenue West from the north side of the BNSF railroad crossing near Waseca Street going south to the end of the project, as well as the reconstruction of 400 feet of Fremont Street going west from its intersection with 59th Avenue West. The major items of work include common excavation, sawing bituminous pavement, bituminous and concrete pavement removal, catch basin replacement, concrete curb and gutter, Class 5 aggregate base, 8-inch diameter HDPE directionally drilled water main, water services, sanitary sewer repairs, select granular borrow, concrete driveway pavement, storm sewer connections, manhole adjustments and castings, manhole chimney leveling and sealing, and turf establishment.

Questions pertaining to this project should be directed to: Tim Sanders, Project Engineer, 730-5066

Each bidder must review the 2015 Edition of the City of Duluth Public Works & Utilities Department/Engineering Division "Construction Standards" available on the city website (www.duluthmn.gov) as these Specifications are incorporated by reference and are deemed to be a part hereof this project as if fully incorporated and set forth herein.

Plans and specifications may be secured from the City Engineering office, Room 211 City Hall, 411 West 1st St., Duluth, MN 55802, Plans may also be obtained at the City of Duluth website, <http://www.duluthmn.gov/purchasing/bids-requestfor-proposals/> free of charge.

Plans and specifications are on file for inspection at the City Engineering office, Duluth Builders Exchange, F.W. Dodge Plan Room, and Minneapolis Builders Exchange.

A certified check or bank draft, payable to the order of the City of Duluth, negotiable U.S. Government Bonds (at par value), or a satisfactory bid bond executed by the bidder and acceptable surety, in an amount equal to five per cent (5%) of the total bid, shall be submitted with each bid.

Attention is called to the fact that not less than the minimum salaries and prevailing wages as set forth in the contract documents must be paid on this project. The contractor must take affirmative action to ensure that the employees and applicants for employment are not discriminated against because of their race, color, creed, sex or national origin, and must meet the affirmative action goals. Contractors are encouraged to subcontract with Disadvantaged Business Enterprises, when possible.

Contractor will comply with all applicable Equal Employment Opportunity laws and regulations.

The City of Duluth is an Equal Opportunity employer.

CITY OF DULUTH
Purchasing Division

Date posted to web: October 29, 2015



REQUEST FOR BID
 DATE 10/29/2105
 BID # 15-0658

RETURN BY BID OPENING TIME TO:

PURCHASING DIVISION
 100 CITY HALL
 Duluth, MN 55802

PHONE: 218-730-5340
 FAX: 218-730-5921

**59th Ave W Street & Utility Improvement Project
 1487**

BID OPENING DATE AT 2 P.M. ON November 19, 2015

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 is not to be included in the unit price. Bidder to state freight chargers if the proposal F.O.B. is shipping point, freight not allowed. Low bid will not be the only consideration for award of bid. All pages shall be signed or initialed by authorized bidder's representative as indicated at the bottom of the page(s) of the 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.

INSUREANCE CERTIFICATE required per attached requirements.

Designated F.O.B. Point:

Engineering Division	Tax:	Federal Excise Tax Exemption
Jobsite(s)		Account No. 41-74-0056 K

Vendor Email Address: _____ FREIGHT CHARGE \$ _____

NAME: _____ TOTAL BID PRICE # _____
 ADDR1: _____ TO INCLUDE ANY ADDITIONAL PAGES.
 ADDR2: _____
 ADDR3: _____

BY: _____ PAYMENT TERMS \$ _____
 (Print) (Title) F.O.B. POINT \$ _____
 (Signature) (Tele. #) DELIVERY DATE \$ _____

****NOTE: Please self-identify as an MBE ___ or WBE ___ by checking if applicable.**

The City of Duluth is an Equal Opportunity Employer.

C I T Y O F D U L U T H

DATE: 10/29/2015
BID #: 15-0658

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

59th Ave W Utility Improvement Plan

City Project No. 1487

Bid No.15-0658

Make all extensions and total the bid.

Item No.	Spec. #	Qty	U/OM	Item Description	Unit Price	Total Price
001		1	Each	Exhibit A (Must Be Returned With The Bid)	\$ _____	\$ _____
						TOTAL \$ _____

ADDENDUM RECEIPT ACKNOWLEDGEMENTS:

ADDENDUM NO. _____, DATED _____

ADDENDUM NO. _____, DATED _____

ADDENDUM NO. _____, DATED _____

TOTAL BID IN WORDS:

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))

(Initial)

C I T Y O F D U L U T H

DATE: 10/29/2015
BID #: 15-0658

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.

The bidder hereby certifies that he/she has received or viewed on-line the 2015 edition of the City of Duluth Public Works/Utilities Department Engineering Division Construction Standards including supplements and has incorporated the terms hereof in its bid.

SIGNED: _____ FOR

A PARTNERSHIP (OR)

A CORPORATION INCORPORATED UNDER THE LAWS OF THE STATE OF:

PRESIDENT _____
VICE-PRES. _____
SECRETARY _____
TREASURER _____

ADDRESS (ES) _____

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.

(see additional page(s))

(Initial)

C I T Y O F D U L U T H

DATE: 10/29/2015
BID #: 15-0658

SUBSCRIBED AND SWORN TO BEFORE ME THIS

DAY OF A.D.,

NOTARY PUBLIC

IMPORTANT NOTE BIDDERS:
PLEASE DISREGARD THE NOTE ON PAGE 1
REGARDING SALES TAX FOR THIS BID. ALL
APPLICABLE SALES AND/OR USE TAXES ARE
TO BE INCLUDED IN BID PRICING. ALSO,
ALL BIDS ARE TO BE F.O.B. JOBSITE.
THE BLANK ON PAGE ONE FOR FREIGHT IS TO
TO BE LEFT BLANK.

Delivery Contact: Tim Sanders
Engineering
218-730-5066

(Initial)

LINE NO.	SPEC. NUMBER	ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE	TOTAL PRICE
1	2021.501	MOBILIZATION	Lump Sum	1		
2	2104.501	REMOVE CURB AND GUTTER	Linear Foot	67		
3	2104.501	REMOVE WATER MAIN	Linear Foot	100		
4	2104.501	REMOVE RAILROAD TRACKS	Linear Foot	300		
5	2104.505	REMOVE CONCRETE PAVEMENT	Square Yard	279		
6	2104.505	REMOVE BITUMINOUS PAVEMENT	Square Yard	69		
7	2104.505	REMOVE BITUMINOUS DRIVEWAY PAVEMENT	Square Yard	305		
8	2104.507	REMOVE CONTAMINATED SOIL	Lump Sum	1	\$50,000.00	\$50,000.00
9	2104.509	REMOVE GATE VALVE AND BOX	Each	18		
10	2104.509	REMOVE BOLLARDS	Each	4		
11	2104.509	REMOVE CATCH BASIN	Each	2		
12	2104.511	SAWING CONCRETE PAVEMENT (FULL DEPTH)	Linear Foot	100		
13	2104.513	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	Linear Foot	360		
14	2104.523	SALVAGE SIGN AND SUPPORT	Each	4		
15	2104.523	SALVAGE CASTING	Each	2		
16	2104.523	SALVAGE HYDRANT	Each	4		
17	2104.523	SALVAGE MANHOLE	Each	1		
18	2104.603	ABANDON WATER MAIN	Linear Foot	1,811		
19	2105.501	COMMON EXCAVATION	Cubic Yard	4,976		
20	2105.522	SELECT GRANULAR BORROW MOD. 7% (CV)	Cubic Yard	2,067		
21	2105.604	GEOTEXTILE FABRIC TYPE V	Square Yard	5,893		
22	2211.503	AGGREGATE BASE (CV), CLASS 5	Cubic Yard	1,722		
23	2360.501	TYPE SP 9.5 WEARING COURSE MIX (4.C)	Ton	596		
24	2360.502	TYPE SP 12.5 NON WEAR COURSE MIX (4.C)	Ton	745		
25	2360.505	TYPE SP 9.5 BITUMINOUS MIXTURE FOR PATCHING	Ton	66		
26	2502.521	4" PERFORATED PVC PIPE DRAIN	Linear Foot	2,772		
27	2503.511	12" CP PIPE SEWER (SMOOTH)	Linear Foot	861		
28	2503.602	REPLACE SANITARY LATERAL CONNECTION	Each	16		
29	2503.602	CONNECT SEWER SERVICE	Each	16		
30	2503.602	SEWER TRACER BOX	Each	16		
31	2503.603	6" PVC SEWER SERVICE PIPE SDR 35	Linear Foot	647		
32	2503.603	16" STEEL CASING PIPE-JACK BORED	Linear Foot	160		
33	2504.601	TEMPORARY WATER SERVICE	Lump Sum	1		
34	2504.602	HYDRANT	Each	6		
35	2504.602	CONNECT TO EXISTING WATER MAIN	Each	3		
36	2504.602	RECONNECT WATER SERVICE	Each	13		

LINE NO.	SPEC. NUMBER	ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE	TOTAL PRICE
37	2504.602	1" CURB STOP AND BOX	Each	9		
38	2504.602	6" GATE VALVE AND BOX	Each	9		
39	2504.602	8" GATE VALVE AND BOX	Each	10		
40	2504.602	WATER TRACER BOX	Each	17		
41	2504.602	CONCRETE ENCASED VALVE BOX COLLAR	Each	13		
42	2504.603	1" HDPE SERVICE PIPE DR 11	Linear Foot	315		
43	2504.603	6" HDPE SERVICE PIPE DR 11	Linear Foot	222		
44	2504.603	8" DIPS HDPE WATERMAIN HDPE DR 11	Linear Foot	300		
45	2504.603	8" DIPS HDPE WATERMAIN DR 11- (HORIZONTAL DIRECTIONAL DRILL)	Linear Foot	1,595		
46	2504.604	3" POLYSTYRENE INSULATION	Square Yard	14		
47	2506.501	CONSTRUCT DRAINAGE STRUCTURE DESIGN F	Linear Foot	31		
48	2506.501	CONSTRUCT DRAINAGE STRUCTURE DESIGN G	Linear Foot	68		
49	2506.516	CASTING ASSEMBLY	Each	17		
50	2506.522	CONCRETE ENCASED CASTING COLLAR	Each	7		
51	2506.602	CONNECT INTO EXISTING MANHOLE OR CATCH BASIN	Each	4		
52	2506.602	INSTALL MANHOLE	Each	1		
53	2506.602	MANHOLE FRAME SEAL	Each	7		
54	2531.501	CONCRETE CURB AND GUTTER DESIGN B624	Linear Foot	2,772		
55	2563.601	TRAFFIC CONTROL	Lump Sum	1		
56	2564.537	INSTALL SIGN TYPE C	Each	4		
57	2573.530	STORM DRAIN INLET PROTECTION	Each	17		
58	2573.533	SEDIMENT CONTROL LOG TYPE COMPOST	Linear Foot	1,300		
59	2573.535	STABILIZED CONSTRUCTION EXIT	Lump Sum	1		
60	2574.508	FERTILIZER, TYPE 3, 22-5-10	Pound	179		
61	2574.525	COMMON TOPSOIL BORROW (LV)	Cubic Yard	137		
62	2575.501	SEEDING	Acre	1		
63	2575.502	SEED, MIXTURE NO. 25-151 (HIGH MAINTENANCE TURF)	Pound	61		
64	2575.562	HYDRAULIC MATRIX, TYPE FIBER REINFORCED	Pound	1,980		

(Total Bid in Words)

(Total Bid in Figures)

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)

**EQUAL EMPLOYMENT OPPORTUNITY (EEO) AFFIRMATIVE ACTION
POLICY STATEMENT & COMPLIANCE CERTIFICATE**

TO: City of Duluth, Minnesota 59th Ave W Utility Improvement Project (City Project Number 1487)

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.

ATTACHMENT A

RESPONSIBLE CONTRACTOR VERIFICATION AND CERTIFICATION OF COMPLIANCE

PROJECT TITLE: _____

<p>Minn. Stat. § 16C.285, Subd. 7. IMPLEMENTATION. ... any prime contractor or subcontractor that does not meet the minimum criteria in subdivision 3 or fails to verify that it meets those criteria is not a responsible contractor and is not eligible to be awarded a construction contract for the project or to perform work on the project...</p>	
<p>Minn. Stat. § 16C.285, Subd. 3. RESPONSIBLE CONTRACTOR, MINIMUM CRITERIA. "Responsible contractor" means a contractor that conforms to the responsibility requirements in the solicitation document for its portion of the work on the project and verifies that it meets the following minimum criteria:</p>	
(1)	<p>The Contractor:</p> <ul style="list-style-type: none">(i) is in compliance with workers' compensation and unemployment insurance requirements;(ii) is currently registered with the Department of Revenue and the Department of Employment and Economic Development if it has employees;(iii) has a valid federal tax identification number or a valid Social Security number if an individual; and(iv) has filed a certificate of authority to transact business in Minnesota with the Secretary of State if a foreign corporation or cooperative.
(2)	<p>The contractor or related entity is in compliance with and, during the three-year period before submitting the verification, has not violated section 177.24, 177.25, 177.41 to 177.44, 181.13, 181.14, or 181.722, and has not violated United States Code, title 29, sections 201 to 219, or United States Code, title 40, sections 3141 to 3148. For purposes of this clause, a violation occurs when a contractor or related entity:</p> <ul style="list-style-type: none">(i) repeatedly fails to pay statutorily required wages or penalties on one or more separate projects for a total underpayment of \$25,000 or more within the three-year period;(ii) has been issued an order to comply by the commissioner of Labor and Industry that has become final;(iii) has been issued at least two determination letters within the three-year period by the Department of Transportation finding an underpayment by the contractor or related entity to its own employees;(iv) has been found by the commissioner of Labor and Industry to have repeatedly or willfully violated any of the sections referenced in this clause pursuant to section 177.27;(v) has been issued a ruling or findings of underpayment by the administrator of the Wage and Hour Division of the United States Department of Labor that have become final or have been upheld by an administrative law judge or the Administrative Review Board; or(vi) has been found liable for underpayment of wages or penalties or misrepresenting a construction worker as an independent contractor in an action brought in a court having jurisdiction. Provided that, if the contractor or related entity contests a determination of underpayment by the Department of Transportation in a contested case proceeding, a violation does not occur until the contested case proceeding has concluded with a determination that the contractor or related entity underpaid wages or penalties;*

(3)	The contractor or related entity is in compliance with and, during the three-year period before submitting the verification, has not violated section 181.723 or chapter 326B. For purposes of this clause, a violation occurs when a contractor or related entity has been issued a final administrative or licensing order;*
(4)	The contractor or related entity has not, more than twice during the three-year period before submitting the verification, had a certificate of compliance under section 363A.36 revoked or suspended based on the provisions of section 363A.36, with the revocation or suspension becoming final because it was upheld by the Office of Administrative Hearings or was not appealed to the office;*
(5)	The contractor or related entity has not received a final determination assessing a monetary sanction from the Department of Administration or Transportation for failure to meet targeted group business, disadvantaged business enterprise, or veteran-owned business goals, due to a lack of good faith effort, more than once during the three-year period before submitting the verification;*
	* Any violations, suspensions, revocations, or sanctions, as defined in clauses (2) to (5), occurring prior to July 1, 2014, shall not be considered in determining whether a contractor or related entity meets the minimum criteria.
(6)	The contractor or related entity is not currently suspended or debarred by the federal government or the state of Minnesota or any of its departments, commissions, agencies, or political subdivisions; and
(7)	All subcontractors that the contractor intends to use to perform project work have verified to the contractor through a signed statement under oath by an owner or officer that they meet the minimum criteria listed in clauses (1) to (6).

<p>Minn. Stat. § 16C.285, Subd. 5. SUBCONTRACTOR VERIFICATION.</p>
<p>A prime contractor or subcontractor shall include in its verification of compliance under subdivision 4 a list of all of its first-tier subcontractors that it intends to retain for work on the project.</p> <p>If a prime contractor or any subcontractor retains additional subcontractors on the project after submitting its verification of compliance, the prime contractor or subcontractor shall obtain verifications of compliance from each additional subcontractor with which it has a direct contractual relationship and shall submit a supplemental verification confirming compliance with subdivision 3, clause (7), within 14 days of retaining the additional subcontractors.</p> <p>A prime contractor shall submit to the contracting authority upon request copies of the signed verifications of compliance from all subcontractors of any tier pursuant to subdivision 3, clause (7). A prime contractor and subcontractors shall not be responsible for the false statements of any subcontractor with which they do not have a direct contractual relationship. A prime contractor and subcontractors shall be responsible for false statements by their first-tier subcontractors with which they have a direct contractual relationship only if they accept the verification of compliance with actual knowledge that it contains a false statement.</p>

Minn. Stat. § 16C.285, Subd. 4. **VERIFICATION OF COMPLIANCE.**

A contractor responding to a solicitation document of a contracting authority shall submit to the contracting authority a signed statement under oath by an owner or officer verifying compliance with each of the minimum criteria in subdivision 3 at the time that it responds to the solicitation document.

A contracting authority may accept a sworn statement as sufficient to demonstrate that a contractor is a responsible contractor and shall not be held liable for awarding a contract in reasonable reliance on that statement. Failure to verify compliance with any one of the minimum criteria or a false statement under oath in a verification of compliance shall render the prime contractor or subcontractor that makes the false statement ineligible to be awarded a construction contract on the project for which the verification was submitted.

A false statement under oath verifying compliance with any of the minimum criteria may result in termination of a construction contract that has already been awarded to a prime contractor or subcontractor that submits a false statement. A contracting authority shall not be liable for declining to award a contract or terminating a contract based on a reasonable determination that the contractor failed to verify compliance with the minimum criteria or falsely stated that it meets the minimum criteria.

CERTIFICATION

By signing this document I certify that I am an owner or officer of the company, and I swear under oath that:

- 1) My company meets each of the Minimum Criteria to be a responsible contractor as defined herein and is in compliance with Minn. Stat. § 16C.285,**
- 2) I have included Attachment A-1 with my company's solicitation response, and**
- 3) if my company is awarded a contract, I will also submit Attachment A-2 as required.**

Authorized Signature of Owner or Officer:	Printed Name:
Title:	Date:
Company Name:	

NOTE: Minn. Stat. § 16C.285, Subd. 2, (c) If only one prime contractor responds to a solicitation document, a contracting authority may award a construction contract to the responding prime contractor even if the minimum criteria in subdivision 3 are not met.

ATTACHMENT A-2

ADDITIONAL SUBCONTRACTORS LIST

PRIME CONTRACTOR TO SUBMIT AS SUBCONTRACTORS ARE ADDED TO THE PROJECT

PROJECT TITLE: _____

This form must be submitted to the Project Manager or individual as identified in the solicitation document.

Minn. Stat. § 16C.285, Subd. 5. ... If a prime contractor or any subcontractor retains additional subcontractors on the project after submitting its verification of compliance, the prime contractor or subcontractor shall obtain verifications of compliance from each additional subcontractor with which it has a direct contractual relationship and shall submit a supplemental verification confirming compliance with subdivision 3, clause (7), within 14 days of retaining the additional subcontractors. ...

ADDITIONAL SUBCONTRACTOR NAMES (Legal name of company as registered with the Secretary of State)	Name of city where company home office is located

ADDITIONAL SUBCONTRACTOR NAMES (Legal name of company as registered with the Secretary of State)	Name of city where company home office is located

SUPPLEMENTAL CERTIFICATION FOR ATTACHMENT A-2	
By signing this document I certify that I am an owner or officer of the company, and I swear under oath that:	
All additional subcontractors listed on Attachment A-2 have verified through a signed statement under oath by an owner or officer that they meet the minimum criteria to be a responsible contractor as defined in Minn. Stat. § 16C.285.	
Authorized Signature of Owner or Officer:	Printed Name:
Title:	Date:
Company Name:	

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:

FORM 17:01/28/94
Revised: 08/28/02

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

IMPORTANT - NOTICE TO BIDDER

On the envelope submitting your bid, it is imperative

1. That your name and address appear in the UPPER left corner.
2. That the bottom portion of this label be filled in and pasted on the LOWER left corner.

S E A L E D	BID NO.	B I D D E R
	DATE OF OPENING	
	TIME OF OPENING A.M. P.M.	
	DESCRIPTION	

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Instructions to Bidders – Engineering 3-17-15
 HUD 4010
 Data for Labor Cost Bidding
 Prevailing Wage Rates USDOL HEAVY 8/28/15, USDOL HIGHWAY 7/31/15
 Truck Rental Rates 5/10/10
 CG 2010 pre-2004 and IL7002 liability insurance endorsements
 Request for Bids form

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.

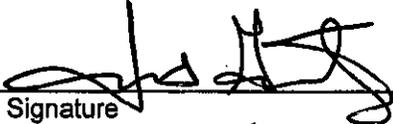
THE VERSIONS OF THE FORMS AND REGULATIONS/RULES/STATUTES and INTERPRETATION ATTACHED TO THE CONTRACT WILL BE CONTROLLING. HARD COPIES OF ALL FORMS ARE AVAILABLE AT THE ENGINEERING DIVISION, EXCEPT THE NON-COLLUSION AND AFFIRMATIVE ACTION POLICY STATEMENT, WHICH ARE AVAILABLE AT THE CITY OF DULUTH PURCHASING DEPARTMENT.

Item listing from web:

FORM	WEB SITE
Affidavit of Non-Collusion (required by awarded contractor only)	www.duluthmn.gov/engineering/construction_documents.cfm
Affirmative Action Policy Statement/Certificate - EEO (required by awarded contractor only)	www.duluthmn.gov/engineering/construction_documents.cfm
Certified Payroll Form WH347 (front side only)	www.dol.gov/whd/forms/WH347.pdf
Contractor's Haul Route	www.duluthmn.gov/engineering/construction_documents.cfm
Debarment Notice 07-6-2010	www.duluthmn.gov/engineering/construction_documents.cfm
IC-134 form	www.taxes.state.mn.us/forms/ic134.pdf
IC-134 on-line submittal (click: Submit Contractor Affidavit; r-side of screen)	www.mndor.state.mn.us/
MN Rules 5200.1105 & .1106	www.duluthmn.gov/engineering/construction_documents.cfm
MN Statutes 177.41 to 177.44	www.duluthmn.gov/engineering/construction_documents.cfm
MNOPS Intrastate Anti-Drug/Alcohol Misuse Prev Asmt (gas projects only)	www.duluthmn.gov/engineering/construction_documents.cfm
Notice to Bidders Prompt Payment to Subs (city funded projects only)	www.duluthmn.gov/engineering/construction_documents.cfm
Notice to Bidders Prompt Payment to Subs (state & federal funded projects only)	www.duluthmn.gov/engineering/construction_documents.cfm
Notice to Bidders Traffic Control 11/29/99 (federal funded projects only)	www.duluthmn.gov/engineering/construction_documents.cfm
One-Call Instructions	www.duluthmn.gov/engineering/construction_documents.cfm
Operator Qualification Contractor Covered Tasks (gas projects only)	www.duluthmn.gov/engineering/construction_documents.cfm
Prevailing Wage Statements 7-31-15	www.duluthmn.gov/engineering/construction_documents.cfm
Request to Sublet TP-21834 (5-12-09)	www.duluthmn.gov/engineering/construction_documents.cfm
Statement of Compliance Form 21658 (08-08) (city and state funding only)	www.duluthmn.gov/engineering/construction_documents.cfm
Supplemental General Conditions Part II 6/11/10	www.duluthmn.gov/engineering/construction_documents.cfm
Truck Rental Rates 5/10/10 (state funded projects only)	www.dot.state.mn.us/const/labor/contractdocuments.html
Mn/DOT forms:	
Month End Trucking Report TP90550 (7-05) (state funded projects only)	www.dot.state.mn.us/const/labor/lcuforms.html
Month-End Trucking Report Statement of Compliance TP90551 (7-05) (state funded projects only)	www.dot.state.mn.us/const/labor/lcuforms.html
HUD forms: (for HUD/CDBG and Federal funding)	
Certified Payroll Form WH347	www.dol.gov/whd/forms/WH347.pdf
U S DOL Statement of Compliance	www.dol.gov/whd/forms/WH347.pdf
Fringe Benefit Form required by City of Duluth – use second page	www.dot.state.mn.us/const/labor/lcuforms.html

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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

Jeffrey S. Goetzman
Typed or Printed Name

10/29/15
Date

26422
MN License

SPECIAL PROVISIONS
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NOTICE TO ALL BIDDERS:

The City of Duluth Public Works & Utilities Department – Engineering Division 2015 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 Specifications are available on the City website at:
www.duluthmn.gov/engineering/index.cfm.

SP-1 SCOPE OF WORK

This project includes the complete reconstruction of 1,600 feet of 59th Avenue West from the north side of the BNSF railroad crossing near Waseca Street going south to the end of the project, as well as the reconstruction of 400 feet of Fremont Street going west from its intersection with 59th Avenue West. The major items of work include common excavation, sawing bituminous pavement, bituminous and concrete pavement removal, catch basin replacement, concrete curb and gutter, Class 5 aggregate base, 8-inch diameter HDPE directionally drilled water main, water services, sanitary sewer repairs, select granular borrow, concrete driveway pavement, storm sewer connections, manhole adjustments and castings, manhole chimney leveling and sealing, and turf establishment.

SP-1.1 Contact Information

TKDA is the engineer of record. **Questions regarding this project shall be directed to Jeff Goetzman, Project Manager with TKDA, at 218.727.8796 or Eric Shaffer, Project Engineer with the City of Duluth, at 218.730.5072.**

SP-2 (1508) CONSTRUCTION STAKES, LINES AND GRADES

In addition to the provisions of MN/DOT 1508 the following construction staking will be provided by TKDA.

Centerline Alignment – painted centerline points every 50’.

Saw Cut Line – painted lines per plan.

Storm Sewer – Offset stakes will be provided for each catch basin structure.

Grade Stakes – Grade stakes will provided every 100’, 20’ offset from the centerline, each side of road.

Curb and Gutter – Offset stakes and grades every 50’ along with offset stakes at every angle point, PC, PT and grade change.

The contractor will be responsible for all other intermediate stakes and grades as he/she deems necessary. The contractor will be responsible for the preservation of the stakes set. Any negligence on the contractors part resulting in the disturbance of the stakes, that need to be reset will be deducted for monies due to the contractor on the pay estimates.

SP-3 (1701) LAWS TO BE OBSERVED (DATA PRACTICES)

The provisions of Mn/DOT 1701 are supplemented with the following:

Bidders are advised that all data created, collected, received, maintained, or disseminated by the Contractor and any subcontractors in performing the work contained in this Contract are subject to the requirements of MN Statute Chapter 13, the Minnesota Government Data Practices Act

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(MGDPA). The Contractor shall comply with the requirements of the MGDPA in the same manner as the Department. The Contractor does not have a duty to provide access to public data to the public if the public data are available from the Department, except as required by the terms of the Contract.

SP-4 (1717) CONTAMINATED SOILS

The proposed 59th Avenue West reconstruction project lies adjacent to Stryker Bay, a former superfund site. Considering the close proximity to known contamination, it is possible that contamination will be found within the 59th Avenue West project site. The soil borings performed for this project did not find any contamination. A copy of this soils report is attached in the Appendix. To ensure adequate funds are available for any contamination found, the bid form includes a bid item labeled "contaminated soil removal" with a cost of \$50,000 entered. This cost should be included in the total cost of the project entered on the bid form. If any contaminated soil is found, the City will pay the actual cost of the soil removal and adjust this bid item up or down by change order to match that cost.

SP-5 (1806) DETERMINATION AND EXTENSION OF CONTRACT TIME

The Contract Time will be determined in accordance with the provisions of Mn/DOT 1806 and the following:

SP-5.1 Construction operations shall be started on or before May 16, 2016 or within ten (10) calendar days after the date of award by City Council resolution, whichever is later; however, the Notice to Proceed letter will be the official authorization to commence construction operations. The Project shall be substantially complete by July 29, 2016. All work shall be at final completion prior to August 19, 2016.

SP-5.2 The provisions of Mn/DOT 1806.1C(3) are modified to the extent that the phrase "during the inclusive period from November 15 to April 15," is deleted. A similar phrase set forth in the second paragraph of Mn/DOT 1807.2 is also deleted.

SP-5.3 When all, or a portion, of the Contract Time is specified as a calendar completion date, as provided in Mn/DOT 1103, the time is presumed to have been determined by considering the Proposal quantities, normal weather for the locality and season of the year, and the necessity of having the work completed by the specified date. The time may be extended by the Engineer only in accordance with the following:

When the Contract Time is specified as a fixed calendar completion date, any time extensions granted must be justified on the basis of unavoidable delay in starting or completing the progress controlling operations, and then, only when and to the extent that it is shown that delay time could not be overcome and the work brought back on schedule through reasonable adjustments in the Progress Schedule. Provided the Contractor has made all reasonable efforts to maintain an adequate and acceptable Progress Schedule, the specified completion date may be extended as the Engineer determines to be justified, for any of the following reasons:

- 1) Delays caused by failure of the City Council to award the Contract at least 10 calendar days in advance of the latest date specified for beginning construction operations.
- 2) Delays caused by an earthquake, flood, cloudburst, cyclone, tornado, or other cataclysmic phenomenon of a nature beyond the power of the Contractor to foresee and make preparations in defense against.
- 3) Delays caused by acts of the Government or a political subdivision, or by acts of the public enemy, including fires, epidemics, and strikes not caused by improper acts or omissions of the Contractor.

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- 4) Delays caused by an action or non-action of the Department, such as suspension of work by order of the Engineer through no fault on the Contractor.
- 5) Delays caused in incompleteness of work being done by other Contractors or utility owners, or due to other unforeseeable interferences not the fault of the Contractor.
- 6) Delays direction attributable to the performances of Extra Work or increased quantities or work.
- 7) Extraordinary delays in delivery or materials, resulting from strikes, lockouts, freight embargoes, governmental acts, or sudden disaster, or a nature beyond the power of the Contractor or his/her supplier to foresee and forestall.

Delays caused by plant and equipment failure, and delays due to unsuitable weather or conditions resulting therefrom, will not be allowed as justification for time extension except when and only to the extent the Engineer considers justified in view of unavoidable circumstances or events. Normal weather delays and the usual plant and equipment failures must be allowed for establishing work schedules. An extension of time may be granted for such delays as are considered to be in excess of the normal, but only when it is shown that the lost time would not reasonably be made up through acceleration of the remaining work. Failure to prosecute the work continuously and effectively for the full time allowed, with adequate work force and schedule, will be cause for denial of any such time extension that may otherwise be allowed.

SP-6 (2104) SALVAGE HYDRANT

Existing hydrants shall be salvaged and delivered to the City Public Works building on Garfield Avenue in Duluth. New hydrants will be installed as shown on the construction plans for the project.

SP-7 (2104) REMOVE RAILROAD TRACK

The Contractor shall remove three (3) set of abandoned railroad tracks in the right of way of 59th Avenue West at approximately Stations 12+55, 13+20, and 13+60 and as shown in the Plans for the project. The Remove Railroad Track pay item shall constitute full payment for furnishing all labor, equipment, and materials needed to complete the work. The following items of work shall be considered incidental to the Remove Railroad Track pay item: removal of the existing blacktop road surfacing, removal and disposal of the abandoned rail road tracks and wood ties, supplementing the gravel base under the roadway, and patching the roadway to match the existing concrete driving surface. There are presently clean margins on the concrete roadway pavement which can be used as a match point for the removal and patching work. The finished road section shall match existing roadway section for 59th Avenue West.

SP-8 (2104) ABANDON WATERMAIN

Existing 6-inch CI water mains to be abandoned in-place on 59th Avenue West and on Fremont Street. Existing water mains shall be removed back a minimum distance of 5 feet from any new water mains or connections to new water mains, and plugged with concrete in-place. All labor, materials, and equipment to prepare and plug the ends of abandoned water mains shall be included in the unit price for this item of work.

SP-9 (2211) AGGREGATE BASE

Aggregate base courses shall be constructed in accordance with the provisions of Mn/DOT 2211 except as modified below:

- SP-9.1** Compaction shall be measured by the "Specified Density Compaction Method" described in Mn/DOT 2211.3C.

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SP-10 (2360) PLANT MIXED ASPHALT PAVEMENT

- A. Bituminous Wear Course shall be SPWEA440C, conforming to the requirements of Section 2360, Mn/DOT Specifications.
- B. Bituminous Base Course shall be SPNWB440C, conforming to the requirements of Section 2360, Mn/DOT Specifications.

SP-11 (2451) COARSE FILTER AGGREGATE (CV)

This work shall consist of excavating a further depth and/or width of a trench and refilling to the pipe foundation grade with Coarse Filter Aggregate thoroughly compacted to provide a firm foundation for the pipe. This work shall be performed when, in the opinion of the Engineer, the bottom of the trench is soft or yielding and cannot adequately support the pipe sewer or if excessive groundwater is encountered in the trench.

Coarse Filter Aggregate shall be in accordance with the requirement of 3149.2H.

Measurement will be by Compacted Volume to the dimensions ordered by the Engineer.

Payment for trench stabilization will be made under Item 2451.511 Coarse Filter Aggregate (CV) at the Contract price per cubic yard, which shall be compensation in full for all costs of furnishing and installing the material including excavation required.

SP-12 (2503) REPLACE SANTARY LATERAL CONNECTION

The contractor shall provide all labor, materials, and equipment necessary to construct a complete installation for each 6-inch sanitary sewer lateral connections according to the detail drawing. The materials included in the unit price for each installation are 4 feet of sewer main pipe, two (2) Fernco connections on the sewer main, a wye, and one (1) Fernco at the right of way line connection. 6-Inch PVC pipe shall be paid separately under the 6" PVC Pipe Sewer Schedule 40 bid item.

SP-12.1 Payment will be made as a lump sum under Item 2503.602.

SP-13 (2503) 16-INCH STEEL CASING PIPE-JACK BORED

It shall be the responsibility of the Contractor to obtain and provide any required permits, bonds, and insurance before beginning construction of the steel casing under the rail crossing. The Contractor shall contact the permitting agency prior to bidding to ascertain the amount required for the bond.

The Owner will make the application for the permit unless the issuing agency requires the application to be made by the Contractor.

The casing pipe shall be placed as shown on the Plan Sheets and as staked by the Engineer. The method of installation shall be approved by the Engineer and the agency issuing the permit. The contractor shall be responsible for all saw cutting, removals, and roadway restoration associated with installing the steel casing pipe. All labor, equipment, and materials to complete the work including gravel base material and concrete road patch shall be incidental to the bid item with no direct cost to the Owner. All restoration shall be done to match the existing conditions adjacent to the work area.

All crossings of roadbeds or railroads shall be made by boring inside a casing pipe or by jacking. The auger shall not lead the casing pipe by more than 1". Open trenching shall be restricted to the area outside of 30 feet from the centerline of the railroad tracks or otherwise required by BNSF.

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All voids caused by jacking or boring shall be filled by grouting. A simultaneous grouting and jacking or boring procedure shall be used.

It shall be the Contractor's responsibility to maintain the proper grade and elevation of the carrier pipe. All boring pits, additional excavation, and restoration of work areas, including concrete and bituminous, shall be incidental to the cost of installation.

Casing pipe shall be welded or seamless steel pipe. Steel pipe shall be minimum 35,000 psi yield strength and shall have a wall thickness as listed below:

Nominal Pipe Diameter	Minimum Wall Thickness
Inches	Inches
14 and under	0.188
16	0.281
18	0.312
20	0.344
22	0.375

SP-14 (2504) TEMPORARY WATER SERVICE

The contractor shall provide all labor, equipment and materials necessary to construct and maintain 3" and/or 2" PE temporary water mains (refer to plan for appropriate size) and 3/4" PE temporary water services. All temporary water main and service pipe will be disinfected and pass department bacteria turbidity test before being put into service. Temporary water service piping shall be protected from damage with special care taken at all street and driveway crossings. **All labor, equipment and materials necessary to protect and maintain any temporary water service piping needed for the project to Engineer's satisfaction shall be considered incidental to this pay item.** The contractor shall meet with the project engineer and City of Duluth staff two (2) weeks prior to starting the temporary water service work, to agree on the temporary water service plan. The temporary water service work will need to be done in segments based on the contractor's approach to the utility work.

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SP-15 (2506) INSTALL MANHOLE

The contractor shall provide all labor, materials, and equipment necessary to complete the installation of a sanitary sewer manhole located at Station 11+70 (RT) and shown as PR SAN-MH 1 in the Plans. The sanitary manhole shall be salvaged and moved 7 feet east to accommodate the construction of the concrete curb and gutter at the intersection of 59th Avenue West and Waseca Street. The Install Manhole pay item shall include installing the salvaged manhole at the proposed location and connection of the existing sanitary sewer line running from the east on Waseca Street, as well as connection of the new pipe running to the northwest across Waseca Street to existing manhole. The pipe between these two manholes and the connection to the existing manhole shall be paid separately.

SP-16 (2563)TRAFFIC CONTROL

In addition to the provisions of Mn/DOT 1404 Maintenance of Traffic and the City of Duluth's Standard Construction Specifications 2015 Edition, the Traffic Control item is for the closure and detour signing along the project. This includes all the necessary signage for each detour stage as shown in the traffic control plan. This work shall include the erection, maintenance, seasonal removal and reinstallation of each traffic control device. The applicable signing shall remain in place through the placement of the final wear course and pavement markings for each stage.

Though the road may be closed to through traffic per the traffic control plan, Contractor shall maintain local traffic for businesses and owners adjacent to the project. There are many trucks per day which need to access the docks or warehouses adjacent to the project. Contractor to provide construction measures which facilitate truck access through the project.

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, completed, 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 office of the city engineer 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; 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 or bid items 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 engineer 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; 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 the 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 manager, room 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 project is awarded, it will be awarded by the city of Duluth to the lowest responsible bidder assuming that the bids are within funds available based on the lowest base bid and or in combination with selected alternates (if any). The alternates will be accepted in descending order. By the award of the contract, it is assumed that the work will be completed within the time-frame as specified within the contract documents.
 - e) Each bidder shall include in his bid the following information:
 - Principals – names, home addresses including city, state, and zip code
 - Firm – name, federal i.d. number, address, city, state, and 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, fax, or in person, 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 on the MnDOT Request to Sublet Form TP-21834 (standard specification 1801).

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%) on major bid items, except for work not covered in the drawings and technical specifications.

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 fax 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 manager 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 faxed 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 faxed 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) Responsible Contractor Verification and Certification of Compliance The Department cannot award a construction contract in excess of \$50,000 unless the Bidder is a "responsible contractor" as defined in Minnesota Statutes §16C.285, subdivision 3. A Bidder submitting a Proposal for this Project must verify that it meets the minimum criteria specified in that statute by submitting the Responsible Contractor Verification and Certification of Compliance form. A company owner or officer must sign the Responsible Contractor Verification and Certification of Compliance form under oath verifying compliance with each of the minimum criteria. Bidders must obtain verifications of compliance from all subcontractors. A Bidder must submit signed copies of verifications and certifications of compliance from subcontractors upon the Department's request.

A Bidder or subcontractor who does not meet the minimum criteria established in Minnesota Statutes §16C.285, subdivision 3, or who fails to verify compliance with the criteria, will not be a "responsible contractor" and will be ineligible to be awarded the Contract for this Project or to work on this Project. Making a false statement verifying compliance with any of the minimum criteria will render the Bidder or subcontractor ineligible to be awarded a

construction contract for this Project and may result in the termination of a contract awarded to a Bidder or subcontractor that makes a false statement.

A Bidder must also identify each subcontractor it intends to use on the Project. A Bidder must complete Attachment A-1 and submit it with the Responsible Contractor Verification and Certification of Compliance form, identifying each subcontractor it intends to use as of the time of bid submission. Include the project number specific to the bid on each form. The completed Certification Forms must be submitted with the Bid Proposal.

If the Bidder retains additional subcontractors after submitting its Responsible Contractor Verification and Certification of Compliance form, then the Bidder must submit Attachment A-2 within 14 days of retaining the additional subcontractor. Documents must be submitted to the Project Engineer. Include the project number specific to the bid on the form.

14) 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. A project labor agreement will be included in all contracts exceeding \$150,000.

15) 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.

16) Wages and Salaries

- a) Attention of bidders is particularly called to the requirements concerning the payment of not less than the prevailing wage and fringe benefit 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 in prevailing wage schedule(s) are *potentially* the minimums to be paid during the life of the contract. Project funding sources, bid opening date, contract award date, and the contract start date may be factors resulting in a change of prevailing wage schedules. It is, therefore, the responsibility of bidders to inform themselves as to local labor conditions, such as the length of work day hours in conjunction with the

project's funding sources, overtime compensation, health and welfare contributions, labor supply, and prospective changes or adjustments of rates. A project labor agreement will be included in all contracts exceeding \$150,000.

- 17) 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 11).
- 18) 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, if any work is subcontracted, efforts should be made to award subcontracts to concerns located in or owned in substantial part by persons residing in the city of Duluth.
- 19) Sales and Use Taxes It is assumed that, in the preparation of his proposal, the bidder has taken into consideration his/her 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/her expense, for which no direct compensation will be made by the city to the contractor over and above the accepted bid.
- 20) Pre-Bid/Pre-Construction Meetings
 - a) Should a pre-bid meeting will be held, it will be conducted seven (7) days prior to the bid date (see **Invitation to Bid** for time and place). All potential bidders are encouraged to attend. All bidders will be allowed to make inquiries regarding the contract documents. All formal decisions will be documented by addendum.
 - 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/her construction schedule, cost breakdown, required submittals, etc.
- 21) Equal Employment Opportunity (EEO) Affirmative Action Police 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.

DATA FOR LABOR COST BIDDING

NOTE:

Wage Decisions are subject to change due to lock-in rules and revisions near the bid opening.

Project No.: 1487

Name: 59th Ave W Utility Improvement Project

City Project Manager: Tim Sanders

Bid Opening Date: 11/19/15

This project is funded by:

City of Duluth

The base workweek may be:

**Five 8-hour days OR four 10-hour days with OT after each
AND
OT after 40 hours per week**

The project DOES contain a project labor agreement (PLA).

Should a project contain a project labor agreement:

- 1) Union scale may **not** be reflected in the prevailing wage schedule(s)
- 2) Note Article II Section 10 for trucking labor costs

City of Duluth funding only:

Each certified payroll must indicate the base workweek on the accompanying MnDOT Statement of Compliance form and beside each employee's name when his/her hours differ from the normal base workweek, if applicable.

OVERTIME REQUIREMENTS:

For projects funded by the City of Duluth: 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.

The overtime rate must be paid at NO LESS than the rate of pay as established in the project's wage decision multiplied by one and one-half OR the base rate the employee is being paid if it is higher than the wage decision base rate.

Project Prevailing Wage Decision: U S DOL Federal Highway, MN150121 7-31-15 Heavy MN150105, 8-28-15

General Decision Number: MN150121 07/31/2015 MN121

Superseded General Decision Number: MN20140121

State: Minnesota

Construction Type: Highway

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

HIGHWAY CONSTRUCTION PROJECTS

Note: Executive Order (EO) 13658 establishes an hourly minimum wage of \$10.10 for 2015 that applies to all contracts subject to the Davis-Bacon Act for which the solicitation is issued on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.10 (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract. The EO minimum wage rate will be adjusted annually. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/02/2015
1	07/31/2015

* SUMN2014-001 05/01/2014

	Rates	Fringes
BRICKLAYER.....	\$ 30.20	22.63
CARPENTER.....	\$ 33.37	16.33
CEMENT MASON/CONCRETE FINISHER...	\$ 33.78	16.80
ELECTRICIAN		
Electrician.....	\$ 32.68	23.60
Ground Person.....	\$ 26.64	12.71
Lineman.....	\$ 39.76	16.38
Wiring System Installer.....	\$ 24.67	11.78
Wiring System Technician....	\$ 35.24	14.03
IRONWORKER.....	\$ 29.94	22.85
LABORER		
Blaster.....	\$ 28.89	15.33
Common or General.....	\$ 26.97	16.21
Flag Person.....	\$ 26.97	16.21
Landscape.....	\$ 18.75	13.24
Skilled.....	\$ 26.97	16.21
Underground & Open Ditch		

(8 ft below grade).....	\$ 27.67	16.21
MILLWRIGHT.....	\$ 35.33	14.78
PAINTER (Including Pavement Marking).....	\$ 28.81	15.37
PILEDRIVERMAN.....	\$ 33.37	16.33
POWER EQUIPMENT OPERATOR:		
GROUP 2.....	\$ 32.92	17.20
GROUP 3.....	\$ 32.37	17.20
GROUP 4.....	\$ 32.07	17.20
GROUP 5.....	\$ 29.03	17.20
GROUP 6.....	\$ 27.82	17.20
Special Equipment		
Articulated Hauler.....	\$ 32.07	17.20
Boom Truck.....	\$ 32.07	17.20
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.....		
	\$ 18.75	13.24
Off-Road Truck.....	\$ 31.37	16.70
Pavement Marking or Marking Removal Equipment Operator (one or two person operators), Self- Propelled Truck or Trailer Mounted Units.....		
	\$ 28.36	16.36

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

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 Mobil; Crushing 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; Fort Lift; Front End, Skid Steer 1 to 5 cu yd; GPS Remote Operating of equipment; Hoist Engineer (power); Hydraulic Tree Planter; Launcher Person; 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 Dismantling.

GROUP 5: Air Compressor 600 cfm or over; Bituminous Roller under 8 tons; Concrete Saw multiple blade; Form Tench Digger (power); Front End Skid Steer up to 1 cu yd; Gunite 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.....	\$ 26.85	14.40
GROUP 2.....	\$ 26.30	14.40
GROUP 3.....	\$ 26.10	14.80
GROUP 4.....	\$ 26.80	14.80

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.....\$ 27.67 16.21

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

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)).

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 a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 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. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the "SU" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

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: MN150105 08/28/2015 MN105

Superseded General Decision Number: MN20140105

State: Minnesota

Construction Type: Heavy

County: St Louis County in Minnesota.

HEAVY CONSTRUCTION PROJECTS

Note: Executive Order (EO) 13658 establishes an hourly minimum wage of \$10.10 for 2015 that applies to all contracts subject to the Davis-Bacon Act for which the solicitation is issued on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.10 (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract. The EO minimum wage rate will be adjusted annually. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/02/2015
1	05/22/2015
2	06/12/2015
3	08/28/2015

BOIL0647-004 01/01/2013

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

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

CARP0361-021 07/11/2011

ST LOUIS (Duluth)

Rates	Fringes
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CARPENTER (Including Form Work).....	\$ 31.47	15.80
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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 06/01/2014

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

	Rates	Fringes
ELECTRICIAN.....	\$ 32.54	24.07

* ELEC0294-006 05/31/2015

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

	Rates	Fringes
ELECTRICIAN.....	\$ 34.68	61.54%

ENGI0049-064 05/01/2015

	Rates	Fringes
OPERATOR: Power Equipment		
Group 2.....	\$ 33.78	17.90
Group 3.....	\$ 33.23	17.90
Group 4.....	\$ 32.93	17.90
Group 5.....	\$ 29.89	17.90
Group 6.....	\$ 28.68	17.90

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

IRON0512-028 05/01/2015

	Rates	Fringes
IRONWORKER, STRUCTURAL AND REINFORCING.....	\$ 31.04	23.45

LABO1091-006 05/01/2014

ST LOUIS (South of T. 55 N)

	Rates	Fringes
LABORERS		
(1) Common or General.....	\$ 26.97	16.21
(2) Mason Tender		
Cement/Concrete.....	\$ 27.17	16.21
(6) Pipe Layer.....	\$ 29.47	16.21

LABO1091-007 05/01/2014

SOUTHERN ST. LOUIS COUNTY

	Rates	Fringes
LABORER		
Common or General (Natural		

Gas Pipeline only).....	\$ 26.97	16.21

LABO1097-002 05/01/2014		
NORTHERN ST. LOUIS COUNTY		
	Rates	Fringes
LABORER		
Common or General (Natural Gas Pipeline only).....	\$ 25.02	18.16

LABO1097-005 05/01/2014		
ST LOUIS (North of T. 55 N)		
	Rates	Fringes
LABORERS		
(1) Common or General.....	\$ 25.02	18.16
(2) Mason Tender Cement/Concrete.....	\$ 25.22	18.16
(6) Pipe Layer.....	\$ 27.52	18.16

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

TEAM0160-018 05/01/2015		
	Rates	Fringes
TRUCK DRIVER (DUMP)		
(1) Articulated Dump Truck..	\$ 28.70	15.20
(2) 3 Axles/4 Axles; 5 Axles receive \$0.30 additional per hour.....	\$ 28.15	15.20
(3) Tandem Axles; & Single Axles.....	\$ 28.05	15.20

SUMN2009-072 09/28/2009		

	Rates	Fringes
LABORER: Landscape.....	\$ 12.88	4.61

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

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)).

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 a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 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. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the "SU" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average

rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

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

APPENDIX A

Geotechnical Evaluation Report

Proposed 59th Avenue West Reconstruction
South of Waseca Street
Duluth, Minnesota

Prepared for:

TKDA

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.



Michael A. Haapala, PE
September 25, 2015

TPT Project Number: 15M7110



September 25, 2015
TPT Project No. 15M7110

Jeff Goetzman, PE
TKDA
4560 Norway Pines Place
Duluth, Minnesota 55811

Re: Geotechnical Evaluation Report
Proposed 59th Avenue West Reconstruction
Duluth, Minnesota

Dear Mr. Goetzman:

Enclosed is our geotechnical evaluation report for the above referenced project. We have prepared this report and based our conclusions upon current applicable professional standards.

If you have any questions concerning the data, the recommendations presented, or if we may be of further service on this project, please contact us at (715) 392-7114. We appreciate the opportunity to be of service to you.

Sincerely,

Twin Ports Testing, Inc.



Brett Carlson, EIT
Project Engineer



Michael A. Haapala, PE
Principal Engineer

Attachment:
Geotechnical Evaluation Report

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Appendix: Boring Location Sketche (1 Page), Boring Logs B-1 through B-6 (6 Pages), Boring Fence (1 Page), Typical Section, Urban Street (1 Page), Boring Notes/Classification Data (2 Pages)

1 Introduction

This report presents the results of our geotechnical evaluation for the proposed reconstruction of 59th Avenue West south of Waseca Street in Duluth, Minnesota.

1.1 Scope of Services

The scope of this geotechnical evaluation outlined in our Proposal 15M7110, dated July 27, 2015, included:

- Performing a field exploration program consisting of six Standard Penetration Test (SPT) borings, each to nominal depths of 10 feet or refusal.
- Performing laboratory tests and observations of soil samples to evaluate pertinent engineering properties of materials encountered.
- Preparing a geotechnical evaluation report containing a description of the exploration program, a description of the geology and subsurface conditions encountered, groundwater conditions, boring logs with a boring location sketch, results of laboratory testing, and recommendations for sub grade preparation and pavement design.

TPT has prepared this report for design purposes only. It may not have sufficient subsurface information to prepare an accurate construction bid. TPT recommends that contractors preparing bids or proposals for this project be provided with a complete copy of this report as a supplement to the plans and specifications.

1.2 Proposed Project

We understand that TKDA is preparing a design for the City of Duluth for the reconstruction of around a 1/4 mile section of 59th Avenue West, located south of Waseca Street in Duluth, Minnesota. This section extends south for around 800 feet and then southeast for around 600 feet. The reconstruction is expected to follow the existing alignment with the new roadway section expected to consist of asphalt pavement.

We were not provided with traffic loads at the time of this report. The 2012 Publication Traffic Volumes – Duluth Sheet 1 located at the www.dot.state.mn.us/traffic website shows an AADT of 910 vehicles per day for the above referenced section of roadway. A traffic loading of 2,000,000 ESALS, calculated using MnDOT's "State Aid 10 Ton ESAL Traffic Forecast Calculator," and a 20 year design life was input into MnPAVE.

Twin Ports Testing, Inc. (TPT) was provided with a drawing, coordinates, and elevations of the boring locations by TKDA in an email from August 24, 2015 as part of this project.

The typical pavement section for urban streets by the City of Duluth is as follows:

- 3.5 inches of asphalt pavement (2 lifts, base and wear course)
- 8 inches of crushed aggregate base (MnDOT Class 5 or equivalent)
- 12 inches of MnDOT Select Granular Borrow sub-base

Attached in the Appendix is the “Typical Section, Urban Street with Sidewalks” dated 6/25/2014 which can also be seen at <http://www.duluthmn.gov/media/303626/engineering-guidelines-2015.pdf>.

Changes in the nature, design, and location of all or parts of this project could occur. The conclusions and recommendations contained in this report shall not be considered applicable to changes unless they are reviewed by the geotechnical engineer of record. TPT will then make necessary changes or modifications to this report in writing only.

1.2.1 Reference Information

We referenced the following documents as part of this project:

- Minnesota Geological Survey titled, “Geologic Map of Minnesota, Quaternary Geology”, dated 1982, prepared by Hobbes and Goebel.
- MnDOT Pavement Design Manual, - dated October 31, 2014

2 Site Conditions

2.1 Geologic Setting

Through an understanding of the geologic history and processes of an area, we are better able to define and understand the range of geotechnical properties observed in the geological materials encountered at the site. Knowledge of the anticipated subsurface profile at the site is important for interpreting and correlating the borings from the field exploration program.

Based upon information from geological survey reports and previous soil explorations in the area, the surficial geology local to the site mostly consists of deposits of glacial lake sediment associated with historic Glacial Lake Duluth. Glacial lake sediment is described as clay and clayey silt.

2.1.1 Geologic Hazards

The potential for most geologic hazards is generally low for this site. A hazard potential summary is shown in Table 1 below.

Table 1 - Geologic Hazard Summary

Geologic Hazard	Present?	Comments
Earthquake/Seismic Activity	No	The site is in an area of low seismic activity.
Flooding	Unlikely	This site is located above the nearby St. Louis River, outside of areas with historic flood activity
Slope Failure/Landslides	Unlikely	Existing slopes at this site are gradual with small potential for slope failures. A slope stability analysis was not included in the scope of this evaluation.
Made Ground	Yes	Fill soils were used in construction and grading of the existing roadway. Fill soils exist at this site.
Swelling/Shrinking Soil	Some	Clayey soils near the site have medium potential for swelling and shrinking if exposed to changes in water content or freezing temperatures.

2.2 Site Location and Existing Conditions

The proposed roadway reconstruction is located on 59th Avenue West starting at Waseca Street and extending south for around 1/4 mile along 59th Avenue West. The existing roadway surface consists of gravel surfacing. Areas to the north, south, east and west consist of buildings and parking areas associated with an industrial park.

2.3 Topography and Elevations

Boring elevations along the existing roadway and northing/easting coordinates provided by TKDA are outlined in Table 2 below and are also included on the boring logs in the Appendix. Elevations between boring locations varied by up to three feet.

Table 2 - Boring Elevations and Northing/Easting

Boring	Northing (ft)	Easting (ft)	Boring Elevation (feet)
B-1	3320940	4826688	624.7
B-2	3321337	4826944	627.4
B-3	3321171	4826946	627.6
B-4	3320964	4826947	627.01
B-5	3320713	4826950	626.6
B-6	3320510	4826991	627.2

3 Field Procedures

Field procedures for this project included performing Standard Penetration Test (SPT) borings at six locations along the existing roadway. Borings B-1 through B-6 were advanced to nominal depths of 10 feet.

SPT borings were performed with a CME 1050 flotation tired drill rig using hollow stem auger drilling methods. Drilling procedures were performed on August 31, 2015.

3.1 Boring Locations and Elevations

Boring locations were determined and staked in the field by TKDA personnel prior to our field crew's arrival on site. Approximate boring locations are shown on the Boring Location Sketch in the Appendix.

Coordinates and elevations were determined in the field by TKDA and reported to us after field procedures were completed. Boring elevations are shown on the boring logs in the Appendix and in Table 2.

3.2 Sampling

3.2.1 Standard Penetration Tests

At selected depth intervals in the borings, Standard Penetration Tests (SPT) were conducted in substantial compliance with ASTM Method D1586. The SPT "N" values shown on the boring logs are the number of blows required to drive a standard split barrel sampler 12 inches (two six-inch increments) into undisturbed soil using a 140 pound drive hammer dropped 30 inches per blow after an initial "set" of six inches. The "N" value is an index of the relative density of cohesion-less soils and consistency of cohesive soils. The values shown on the boring logs are field values and have not been corrected for hammer energy, surcharge, etc. Partially disturbed samples obtained from the SPT were sealed in glass jars and returned to our laboratory for testing.

Based upon the most recent calibration per ASTM D1586 on August 15, 2014, our SPT drive hammer has an average energy transfer efficiency of 80.9 percent.

3.3 Boring Logs

A field boring log was prepared for each boring by our field supervisor. These logs contain factual information and field interpretations of the soil conditions observed, as described in substantial compliance with ASTM D420 and D2488.

Final boring logs are included in the Appendix. The final logs represent our interpretation of the contents of the field logs after laboratory observations by a geotechnical engineer and laboratory tests of the field samples were complete. Soils are described in this report according to the Unified Soil Classification System (USCS), as outlined in the Boring Log Notes and Soil Classification Data in the Appendix.

3.4 Water Level Readings

Water level readings were observed in the borings at the times and under the conditions stated on the boring logs. We have reviewed the data and have reported interpretations in the text of this report. However, it must be noted that fluctuations in the level of the groundwater may occur because of variations in rainfall, temperature, subsurface materials and other conditions or factors different from those observed at the time of our measurements. It should be noted that such conditions are subject to change.

4 Subsurface Conditions

4.1 Soil

The subsurface conditions encountered at this site generally consist of three stratigraphic units: (1) Fill, (2) Fat Clay, and (3) Silty Sand.

4.1.1 Fill

Fill soils were encountered at the surface to depths between two and six feet at all boring locations. Fill soils generally consisted of silty sand with gravel, were brown to dark brown, and were moist. Boring B-2 encountered fill soils consisting of clay with roots and fibers and pieces of wood to depths of up to six feet and possible fill clay soils to the boring termination depth. Borings B-1 and B-5 encountered buried brick fragments and concrete. Borings B-2 through B-4 encountered apparent buried asphalt pavement.

4.1.2 Fat Clay

Fat clay soils were encountered beneath the fill soils in all boring locations with the exception of Boring B-2. Fat clay soils were generally reddish brown in color, were moist to wet, and were medium to stiff in consistency. Multiple boring locations encountered silt or sand lensing in fat clay soils.

SPT N-values and results of pocket penetrometer tests suggest that fat clay soils range from medium to very stiff in consistency.

4.1.3 Silty Sand

Silty sand soils were encountered beneath the fill and fat clay soils to the termination depths in Borings B-3 through B-6. Silty sand soils were generally fine grained, were brown in color, and were moist to wet.

SPT N-values suggest that silty sand soils are generally medium dense in relative density.

4.2 Groundwater

Groundwater was not observed in Borings B-1 through B-6 during field procedures but may be encountered during excavations at this site. A detailed evaluation of groundwater levels at the site would require long term monitoring of piezometers and was not included in the scope of this evaluation.

5 Laboratory Testing

Results of the field testing and observed subsurface conditions were evaluated to develop a laboratory testing program. Laboratory testing of collected samples included visual classification by a geotechnical engineer and water content testing. Results of laboratory tests are shown on the boring logs in the Appendix.

5.1 Water Content

Laboratory water content testing was performed in substantial compliance with ASTM Method D2216 on collected samples from the field exploration. Values of water content in fat clay soils ranged from 24 percent to 43 percent. Values of water content in silty sand soils ranged from four percent to 13 percent.

6 Analyses and Design Recommendations

We understand that reconstruction of 59th Avenue West will include a new asphalt pavement section along with appropriate base and subbase for support. We also understand that new sanitary sewer and water main utility trenches or bores are proposed as part of this project.

6.1 Subgrade Preparation

Fill soils were encountered to depths up to six feet within the proposed roadway reconstruction area. We recommend removing any organics or existing fill encountered that does not meet MnDOT specifications and replacing with compacted engineered fill to reach design elevations.

We anticipate that it will not be economically feasible to remove and replace all existing fill soils near Boring B-2. Some risk of performance issues (rutting/cracking/deflection) and increased future maintenance will be present in these areas (due to a weaker subgrade) if a soils correction is not performed.

Prior to placing materials, the site should be scarified, recompact, and any observed soft or organic soils should be fully removed until competent material is encountered. After grading procedures, subgrade soils should be proof rolled and observed by a geotechnical engineer to determine if soft areas are still present.

Estimated minimum excavation depths to remove fill and poor soils are shown in Table 3 below.

Table 3 - Estimated Minimum Excavation Depths – Stations 20+00 to 43+00

Boring Location	Estimated Fill Depth (ft)	Surface Elevation (ft)	Estimated Bottom of Fill Elevation (ft)
B-1	3.0	624.7	621.7
B-2	6.0*	627.4	621.4*
B-3	2.0	627.6	625.6
B-4	2.0	627.1	625.1
B-5	2.0	626.6	624.6
B-6	2.0	627.2	625.2

*Possible fill depths beyond this depth.

6.2 Drainage

We offer the following recommendations for drainage throughout the site:

- Slope the subgrade and final grade to naturally drain water away from the road cross-section.
- Limit the excavation depth (subcut) to the extent that water will not pond in/on the subgrade. Allow for drying after precipitation events.
- Emphasize proper surface drainage. Avoid standing or ponded water conditions.

6.3 Backfill and Fill

A wide variety of materials can be considered as suitable for engineered backfill and fill. The choice of materials is a function of structural requirements, water table conditions, seasonal construction constraints, placement and compaction methods, and other site or project specific needs. Soils for embankment construction should meet the requirements provided in MnDOT specification 2105.

6.3.1 Gradation

Gradations for subbase and base should meet MnDOT specification 3138. The upper 12 inches of base material should contain no material larger than one and one-quarter inches. Alternate gradations should be evaluated for acceptability if these guidelines cannot be satisfied by locally available materials within an economical distance of this project.

6.3.2 Compaction Standards

We recommend following MnDOT specification 2211 for this project.

6.3.3 Lift Thickness

Place engineered backfill and fill materials according to MnDOT specification 2105. At a minimum, lifts should not exceed eight inches in a loose condition, unless the contractor can demonstrate satisfactory results by placing thicker lifts (with a maximum compacted lift of 12 inches).

6.3.4 Moisture

In general, engineered fill materials should be placed and compacted within two percent of optimum moisture content, as determined by the above applicable compaction standard. When fill materials are not in this range of moisture content, compaction to the required density may be difficult or not possible. The excavating contractor should be responsible for controlling and adjusting moisture content.

6.4 Pavement Section

Paved drive areas are proposed to be constructed as part of this project. MnDOT recommends a minimum reliability of 90% for roadways with traffic loading between 1 million and 15 million ESALS. We recommend a minimum pavement section as follows:

- 4.5 inches of asphalt pavement (2 lifts, base and wear course)
- 10 inches of crushed aggregate base (MnDOT Class 5 or equivalent)
- 12 inches of MnDOT Select Granular Borrow (Modified to 7% max. passing #200) sub-base

We recommend that a geotextile fabric (MnDOT Type 5 or equivalent) be placed between the subgrade and the engineered pavement section to provide separation and promote drainage.

6.5 Utility Construction

6.5.1 Open Cut Construction

Soils encountered along the proposed alignment appear to be suitable for open cut-and-cover construction techniques using HDPE pipe. Groundwater levels appear to be below elevations affected by construction and should have minimal impact on trench excavations.

6.5.2 Subgrade Preparation

Prior to the placement of pipe bedding, exposed soils at the bottom of all excavations should be examined to determine if soft or organic areas exist. Pipes should not be supported by very soft or organic soils. If soft or organic soils are encountered, we recommend removing these soils until competent material is encountered and replacing with additional compacted pipe bedding to reach design elevations.

6.5.3 Minimum Soil Cover

In order to protect from damage caused by frost effects, it is recommended to provide a minimum of eight feet of cover over piping in areas which are plowed on a regular basis (such as roadways). If it is necessary to construct pipeline at shallower depths using frost protection, we recommend that a minimum of three feet of cover be provided to protect against incidental surface loads from heavy equipment traffic.

6.5.4 Pipe Bedding and Trench Backfill

Pipe bedding requirements for this project should be appropriate for the type of pipe being installed. Pipe bedding requirements may be specified by the manufacturer or owner. We recommend that clean granular soil (less than 5% passing the #200 sieve) be used as pipe bedding and cover immediately surrounding the pipe.

A wide variety of materials can be considered as suitable for backfill of the remaining trench. The choice of materials is a function of structural requirements, water table conditions, seasonal construction constraints, placement and compaction methods, and other site or project specific needs.

Existing soils do not appear to be suitable for re-use as structural or non-structural trench backfill.

6.5.5 Compaction Standard

We recommend using ASTM D1557 - Modified Proctor as the laboratory compaction standard.

6.5.6 Density

We recommend compacting each lift to a minimum of the following percentage of the above compaction standard for the respective types of trench backfill materials:

Table 4 – Trench Backfill Compaction Recommendation

Type of Engineered Fill	% Minimum Compaction
Structural Fill and Pipe Bedding	95%
Non-Structural Trench Backfill	90%

6.5.7 Horizontal Directional Drilling (HDD)

It is anticipated that Horizontal Directional Drilling (HDD) may be used to install flexible pipe beneath the roadway. HDD appears to be a feasible option.

HDD construction will require large drill pipe laydown areas at proposed locations. Surface soils appear to be competent for support of equipment and tooling throughout proposed HDD areas. Pressurized drilling fluids are often used during HDD construction. Soils encountered at the site do not appear to be prone to the surface escape of drilling fluids. However, extra care should be taken to prevent drilling fluid escape near water crossings or other environmentally sensitive areas. The HDD contractor should be consulted regarding the suitability of existing soils for use with the proposed method, as well as design of HDD operations at the site.

7 Recommendations for Construction

We offer the following recommendations for use in preparing specifications and planning construction of this project.

7.1 Excavation

7.1.1 Removals

Remove all objectionable soils that may be encountered at the subcut elevations. Separate “re-usable” soil and stockpile in a careful manner to the extent it is not mixed with other materials and will be available for re-use in slopes or landscaping.

7.1.2 Soft Areas

If soft areas are encountered they should be excavated and replaced with a suitable approved compacted backfill material. All subgrade soils should be sloped to drain naturally. Water must not pond on the subgrade during or after construction. Allow for drying after precipitation events.

7.1.3 Frozen Materials

If construction occurs during temperatures below freezing, the base of all excavations and backfill materials should be protected from freezing. Excavated surfaces which become frozen should be completely thawed before placing of backfill or pavement. If freezing has loosened and reduced the bearing capacity of the excavation surface, remove the frozen material to the undisturbed surface. Frozen material should not be used as backfill.

7.2 Observation

Subgrade excavation bottoms and engineered fill operations should be observed by a geotechnical engineer or a designated representative. In-place density testing should be performed to document that project specifications are met. The asphalt pavement section should also be tested.

7.3 Frequency of Testing

We recommend testing of soils, aggregates, and pavements per MnDOT schedule of testing. We also recommend a minimum density testing frequency of one test per 500 lineal feet of trench backfill (per lift). For isolated locations or questionable areas, we recommend a minimum of one test per occasion.

8 Limitations of Evaluation and Report

8.1 Site Variations

We have based the analyses and recommendations submitted in this report in part on the data obtained from six SPT borings. The nature and extent of variations at the site will not become evident until construction. Where major variations appear it will be necessary for us to re-evaluate the recommendations of this report.

8.2 Design Review

As the geotechnical engineer for this project, we recommend that we be provided an opportunity to perform a general review of final plans and specifications for this project to determine that recommendations provided have been properly interpreted and included. We assume no responsibility for misinterpretation or improper application of our recommendations and conclusions by others.

8.3 Continuity of Professional Responsibility

TPT recommends that we be retained to provide geotechnical engineering services during construction. This would allow us to observe compliance with the plans, specifications and our recommendations, provides continuity of professional responsibility, and allows design changes to be made in the event that subsurface conditions differ from those anticipated.

8.4 Safe Working Conditions

Responsibility to provide safe working conditions for earthwork and below grade aspects of this project is solely that of the contractors working on the project. It appears that the on site soils are generally OSHA Type B and C soils. However, our site exploration was limited to six boring locations and therefore excavations should be evaluated individually at the time of construction by the contractor. All local, state and federal requirements, statutes, ordinances, or building codes relating to slopes or temporary sheeting and bracing of trenches and excavations must be observed during construction.

8.5 Exclusive Use

TPT has prepared this report for the exclusive use of the TKDA for specific application to the design of the reconstruction of 59th Avenue West in Duluth, Minnesota. Professional services provided to this project by TPT were completed, findings obtained, and recommendations prepared using generally accepted engineering principles and practices. Conclusions and recommendations contained herein are based upon the applicable standards of our profession at the time this report was prepared. No warranty, express or implied, is made.

APPENDIX

Boring Location Sketch (1 page)
Boring Logs B-1 through B-6 (6 pages)
Fence Diagram B-2 through B-6 (1 page)
Typical Section, Urban Street with Sidewalks (1 page)
Boring Log Notes and Soil Classification Data (2 pages)



BORING LOCATION SKETCH
 59th Avenue West Road Reconstruction
 Duluth, Minnesota

DRAWN BY:	DCS	CHECKED BY:	BMC
DATE:	09/09/2015	SCALE:	N/A
DRAWING NO:	15M7110-01	DRAWING NO	1/1
TPT PROJECT NO:	15M7110	REV	A





BORING LOG

B-1

Page 1 of 1

PROJECT: 59th Avenue West Road Reconstruction	CLIENT: City of Duluth	TPT Project No.: 15M7110
---	----------------------------------	------------------------------------

ARCHITECT - ENGINEER: TKDA	SITE LOCATION: Duluth, Minnesota
--------------------------------------	--

BORING LOCATION: See Boring Location Sketch	REPORT DATE: 9/2/15
---	-------------------------------

DEPTH (ft) ELEVATION (ft)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DISTANCE	RECOVERY	WATER LEVEL	GRAPHIC LOG	STRATA CHANGE DEPTH	DESCRIPTION OF MATERIAL	TEST RESULTS											
									UNCONFINED COMPRESSIVE STRENGTH (TONS/FT ²)	PERCENT PASSING #200 SIEVE	PLASTIC LIMIT %	WATER CONTENT %	LIQUID LIMIT %	STANDARD PENETRATION TEST N-VALUE	1	2	3	4	5	
0.0 624.7								SURFACE ELEVATION: 624.74 ft												
	1	SS						(FILL) Silty Sand with gravel, yellow brick fragments, brown, moist												
	2	SS					3.0	(CH) FAT CLAY with Silt lensing, reddish brown, wet												
	3	SS																		
		HSA																		
	4	SS																		
		HSA																		
10.0 614.7	5	SS																		
							11.0	Boring then Backfilled with Drill Cuttings and Bentonite Chips End of Boring												

WATER LEVEL NE WD	THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU, THE TRANSITION MAY BE GRADUAL.		
WATER LEVEL	BORING STARTED 08/31/15	BORING COMPLETED 08/31/15	ABBREVIATIONS: ACR-After Casing Removal, BCR-Before Casing Removal, AB-After Boring, WD-White Drilling, WS-While Sampling, NE-None Encountered, DB-Diamond Bit, HSA-Hollow Stem Auger, RB-Rock Bit, SS-Split Spoon, ST-Shelby Tube, PA-Power Auger, MR-Mud Rotary, CS-Continuous, RP-Rock Probe, PH-Percussion Hammer, WL-Water Level, WOH-Weight of Hammer, EIL-Exceeds Instrument Level, TS-Topsoil, PP-Pocket Penetrometer
WATER LEVEL	CAVE IN LEVEL None Observed		
SPT HAMMER CME Autohammer	RIG CME 1050	CREW CHIEF Lou Dinnan	



BORING LOG

B-2

Page 1 of 1

PROJECT: 59th Avenue West Road Reconstruction		CLIENT: City of Duluth		TPT Project No.: 15M7110										
ARCHITECT - ENGINEER: TKDA			SITE LOCATION: Duluth, Minnesota											
BORING LOCATION: See Boring Location Sketch				REPORT DATE: 9/2/15										
DEPTH (ft) ELEVATION (ft)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DISTANCE	RECOVERY	WATER LEVEL	GRAPHIC LOG	STRATA CHANGE DEPTH	DESCRIPTION OF MATERIAL	○ UNCONFINED COMPRESSIVE STRENGTH (TONS/FT ²)					
									1	2	3	4	5	
									☆ PERCENT PASSING #200 SIEVE					
									10	20	30	40	50	
									× PLASTIC LIMIT %		● WATER CONTENT %		△ LIQUID LIMIT %	
									10	20	30	40	50	
									⊗ STANDARD PENETRATION TEST N-VALUE					
									10	20	30	40	50	
0.0 627.4								SURFACE ELEVATION: 627.36 ft						
	1	SS						(FILL) Silty Sand with gravel, dark brown to reddish brown, moist three inches buried asphalt pavement 6 inches below surface	● 8					50/12 ⊗
	2	SS							11 ⊗	● 19				
	3	SS					4.0	(FILL) Clay, trace roots and fibers, pieces of wood, reddish brown to dark brown, moist to wet	6 ⊗		● 25			
	4	SS					6.0	(POSSIBLE FILL) CLAY, pieces of wood, dark brown to brown, moist to wet	1,0 8 ⊗ PP				● 41	
	5	SS							6 ⊗		● 30			
10.0 617.4							11.0	Boring then Backfilled with Drill Cuttings and Bentonite Chips End of Boring						
WATER LEVEL NE WD		<i>THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU, THE TRANSITION MAY BE GRADUAL.</i>												
WATER LEVEL		BORING STARTED 08/31/15	BORING COMPLETED 08/31/15		ABBREVIATIONS: ACR-After Casing Removal, BCR-Before Casing Removal, AB-After Boring, WD-While Drilling, WS-While Sampling, NE-None Encountered, DB-Diamond Bit, HSA-Hollow Stem Auger, RB-Rock Bit, SS-Split Spoon, ST-Shelby Tube, PA-Power Auger, MR-Mud Rotary, CS-Continuous, RP-Rock Probe, PH-Percussion Hammer, WL-Water Level, WOH-Weight of Hammer, EIL-Exceeds Instrument Level, TS-Topsoil, PP-Pocket Penetrometer									
WATER LEVEL		CAVE IN LEVEL None Observed												
SPT HAMMER CME Autohammer		RIG CME 1050	CREW CHIEF Lou Dinnan											



BORING LOG

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ARCHITECT - ENGINEER: TKDA	SITE LOCATION: Duluth, Minnesota	
BORING LOCATION: See Boring Location Sketch		REPORT DATE: 9/2/15

DEPTH (ft)	ELEVATION (ft)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DISTANCE	RECOVERY	WATER LEVEL	GRAPHIC LOG	STRATA CHANGE DEPTH	DESCRIPTION OF MATERIAL	○ UNCONFINED COMPRESSIVE STRENGTH (TONS/FT ²) ☆ PERCENT PASSING #200 SIEVE × PLASTIC LIMIT % ● WATER CONTENT % △ LIQUID LIMIT % ⊗ STANDARD PENETRATION TEST N-VALUE								
										1	2	3	4	5				
	0.0								SURFACE ELEVATION: 627.58 ft									
	627.6	1	SS						(FILL) Silty Sand with gravel, brown, moist three inches of buried asphalt pavement 6 inches below surface	● ³								50/6 ⊗
		2	SS					2.0	(CH) FAT CLAY, silt lensing throughout, sand lensing at 8 feet, reddish brown, wet		11 ⊗	○ ^{2.0} PP	● ²⁶					
		3	SS								10 ⊗	○ ^{2.25} PP	● ³⁰					
		4	SS									○ ^{2.0} PP						● ⁴³
			HSA															
			HSA															
	10.0	5	SS					9.0	(SM) SILTY SAND, fine grained, brown, moist to wet				● ¹³					5 ⊗
	617.6								Boring then Backfilled with Drill Cuttings and Bentonite Chips End of Boring									

WATER LEVEL NE WD	<i>THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU, THE TRANSITION MAY BE GRADUAL.</i>		
WATER LEVEL	BORING STARTED 08/31/15	BORING COMPLETED 08/31/15	ABBREVIATIONS: ACR-After Casing Removal, BCR-Before Casing Removal, AB-After Boring, WD-While Drilling, WS-While Sampling, NE-None Encountered, DB-Diamond Bit, HSA-Hollow Stem Auger, RB-Rock Bit, SS-Split Spoon, ST-Shelby Tube, PA-Power Auger, MR-Mud Rotary, CS-Continuous, RP-Rock Probe, PH-Percussion Hammer, WL-Water Level, WOH-Weight of Hammer, EIL-Exceeds Instrument Level, TS-Topsoil, PP-Pocket Penetrometer
WATER LEVEL	CAVE IN LEVEL None Observed		
SPT HAMMER CME Autohammer	RIG CME 1050	CREW CHIEF Lou Dinnan	



BORING LOG

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PROJECT: 59th Avenue West Road Reconstruction	CLIENT: City of Duluth	TPT Project No.: 15M7110
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ARCHITECT - ENGINEER: TKDA	SITE LOCATION: Duluth, Minnesota
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BORING LOCATION: See Boring Location Sketch	REPORT DATE: 9/2/15
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DEPTH (ft) ELEVATION (ft)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DISTANCE	RECOVERY	WATER LEVEL	GRAPHIC LOG	STRATA CHANGE DEPTH	DESCRIPTION OF MATERIAL	UNCONFINED COMPRESSIVE STRENGTH (TONS/FT ²)									
									1	2	3	4	5					
									★ PERCENT PASSING #200 SIEVE									
									10	20	30	40	50					
									×	● WATER CONTENT %			△	LIQUID LIMIT %				
									10	20	30	40	50					
									⊗ STANDARD PENETRATION TEST N-VALUE									
									10	20	30	40	50					
0.0 627.1								SURFACE ELEVATION: 627.06 ft										
	1	SS						(FILL) Silty Sand with gravel, brown, moist three inches buried asphalt pavement 6 inches below surface	● 4								50/6	
	2	SS					2.0	(CH) FAT CLAY, trace gravel, silt lensing, reddish brown, wet		13 ⊗		2.5 ○ PP						
	3	SS								14 ⊗		● 24						
	4	HSA					6.0	(CH) FAT CLAY, trace sand, reddish brown, wet				● 31						
	4	SS								10 ⊗		2.5 ○ PP						
		HSA					8.0	(SM) SILTY SAND, fine grained, brown, wet				● 33						
10.0 617.1	5	SS								● 6								
										14 ⊗								
							11.0	Boring then Backfilled with Drill Cuttings and Bentonite Chips End of Boring										

WATER LEVEL NE WD	THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU, THE TRANSITION MAY BE GRADUAL.		
WATER LEVEL	BORING STARTED 08/31/15	BORING COMPLETED 08/31/15	ABBREVIATIONS: ACR-After Casing Removal, BCR-Before Casing Removal, AB-After Boring, WD-While Drilling, WS-While Sampling, NE-None Encountered, DB-Diamond Bit, HSA-Hollow Stem Auger, RB-Rock Bit, SS-Split Spoon, ST-Shelby Tube, PA-Power Auger, MR-Mud Rotary, CS-Continuous, RP-Rock Probe, PH-Percussion Hammer, WL-Water Level, WOH-Weight of Hammer, EIL-Exceeds Instrument Level, TS-Topsoil, PP-Pocket Penetrometer
WATER LEVEL	CAVE IN LEVEL None Observed		
SPT HAMMER CME Autohammer	RIG CME 1050	CREW CHIEF Lou Dinnan	

BORING LOG

PROJECT: 59th Avenue West Road Reconstruction	CLIENT: City of Duluth	TPT Project No.: 15M7110
ARCHITECT - ENGINEER: TKDA	SITE LOCATION: Duluth, Minnesota	
BORING LOCATION: See Boring Location Sketch		REPORT DATE: 9/2/15

DEPTH (ft) ELEVATION (ft)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DISTANCE	RECOVERY	WATER LEVEL	GRAPHIC LOG	STRATA CHANGE DEPTH	DESCRIPTION OF MATERIAL	TEST RESULTS									
									1	2	3	4	5					
0.0 626.6								SURFACE ELEVATION: 626.58 ft										
	1	SS						(FILL) Silty Sand with gravel, concrete fragments, brown to greysih brown, moist										50/6
	2	SS					2.0	(CH) FAT CLAY, reddish brown, wet										
	3	SS					4.0	(CH) FAT CLAY, silt lensing, reddish brown, wet										
	4	HSA					6.0	(CH) FAT CLAY, reddish brown, wet										
	5	SS																
10.0 616.6							10.5	(SM) SILTY SAND, fine grained, brown, wet										
							11.0	Boring then Backfilled with Drill Cuttings and Bentonite Chips End of Boring										

WATER LEVEL NE WD	<i>THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU, THE TRANSITION MAY BE GRADUAL.</i>		
WATER LEVEL	BORING STARTED 08/31/15	BORING COMPLETED 08/31/15	ABBREVIATIONS: ACR-After Casing Removal, BCR-Before Casing Removal, AB-After Boring, WD-While Drilling, WS-While Sampling, NE-None Encountered, DB-Diamond Bit, HSA-Hollow Stem Auger, RB-Rock Bit, SS-Split Spoon, ST-Shelby Tube, PA-Power Auger, MR-Mud Rotary, CS-Continuous, RP-Rock Probe, PH-Percussion Hammer, WL-Water Level, WOH-Weight of Hammer, EIL-Exceeds Instrument Level, TS-Topsoil, PP-Pocket Penetrometer
WATER LEVEL	CAVE IN LEVEL None Observed		
SPT HAMMER CME Autohammer	RIG CME 1050	CREW CHIEF Lou Dinnan	



BORING LOG

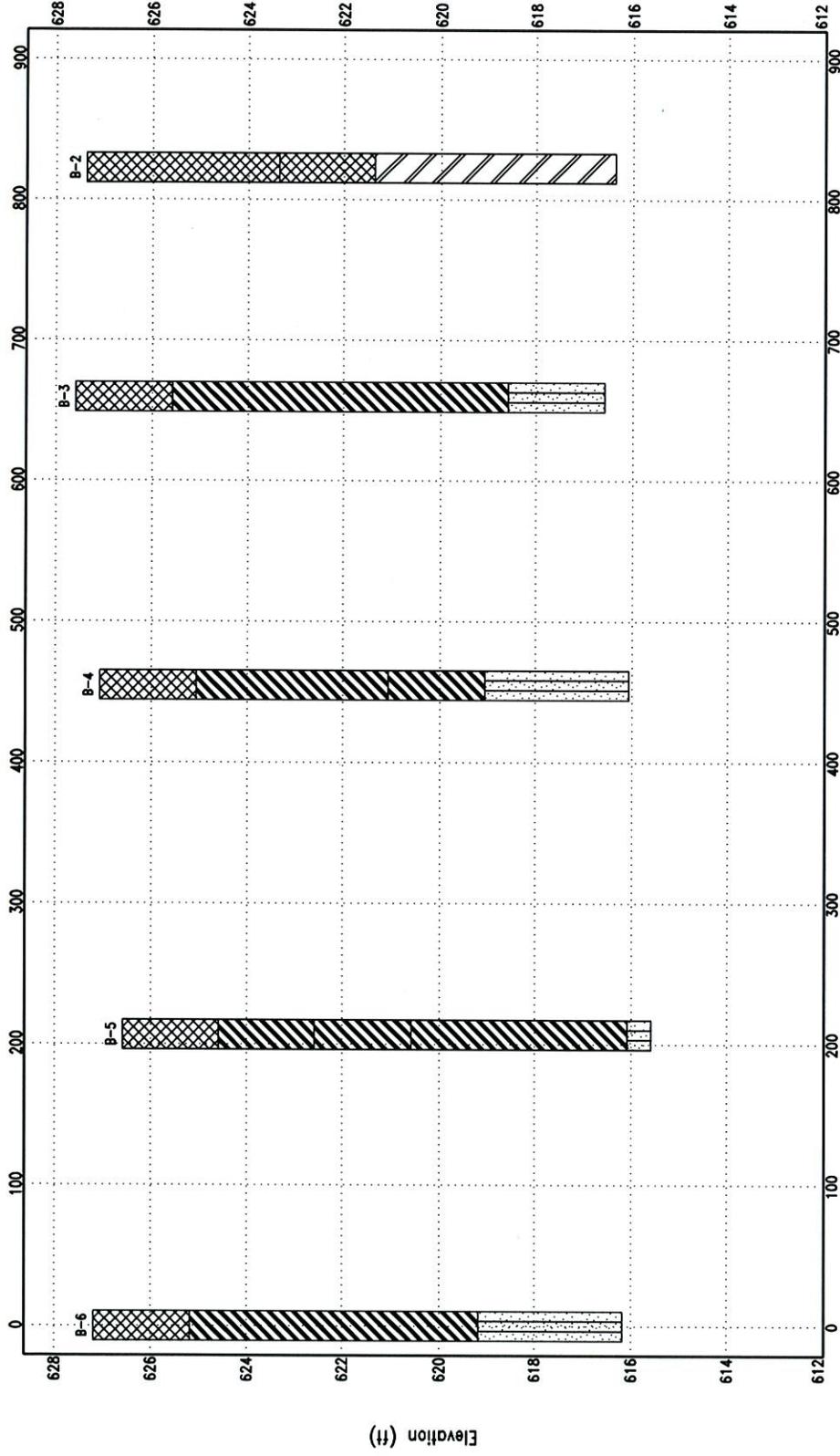
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PROJECT: 59th Avenue West Road Reconstruction	CLIENT: City of Duluth	TPT Project No.: 15M7110
ARCHITECT - ENGINEER: TKDA	SITE LOCATION: Duluth, Minnesota	
BORING LOCATION: See Boring Location Sketch		REPORT DATE: 9/2/15

DEPTH (ft) ELEVATION (ft)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DISTANCE	RECOVERY	WATER LEVEL	GRAPHIC LOG	STRATA CHANGE DEPTH	DESCRIPTION OF MATERIAL	UNCONFINED COMPRESSIVE STRENGTH (TONS/FT ²)							
									1	2	3	4	5			
									★ PERCENT PASSING #200 SIEVE							
									10	20	30	40	50			
									×	● WATER CONTENT %		△ LIQUID LIMIT %				
									10	20	30	40	50			
									⊗ STANDARD PENETRATION TEST N-VALUE							
									10	20	30	40	50			
0.0 627.2								SURFACE ELEVATION: 627.18 ft								
	1	SS						(FILL) Silty Sand with gravel, brown to dark brown, moist	● 4						50/6 ⊗	
	2	SS					2.0	(CH) FAT CLAY, silt lensing throughout, reddish brown, wet	12 ⊗		2.5 ○ PP					
	3	SS							12 ⊗		● 25					
		HSA									● 24					
	4	SS							● 4	17 ⊗	2.0 ○ PP					
		HSA					8.0	(SM) SILTY SAND, fine grained, brown, wet								
10.0 617.2	5	SS								● 12	20 ⊗					
							11.0	Boring then Backfilled with Drill Cuttings and Bentonite Chips End of Boring								

WATER LEVEL NE WD	<i>THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU, THE TRANSITION MAY BE GRADUAL.</i>		
WATER LEVEL	BORING STARTED 08/31/15	BORING COMPLETED 08/31/15	ABBREVIATIONS: ACR-After Casing Removal, BCR-Before Casing Removal, AB-After Boring, WD-While Drilling, WS-While Sampling, NE-None Encountered, DB-Diamond Bit, HSA-Hollow Stem Auger, RB-Rock Bit, SS-Split Spoon, ST-Shelby Tube, PA-Power Auger, MR-Mud Rotary, CS-Continuous, RP-Rock Probe, PH-Percussion Hammer, WL-Water Level, WOH-Weight of Hammer, EIL-Exceeds Instrument Level, TS-Topsoil, PP-Pocket Penetrometer
WATER LEVEL	CAVE IN LEVEL None Observed		
SPT HAMMER CME Autohammer	RIG CME 1050	CREW CHIEF Lou Dinnan	



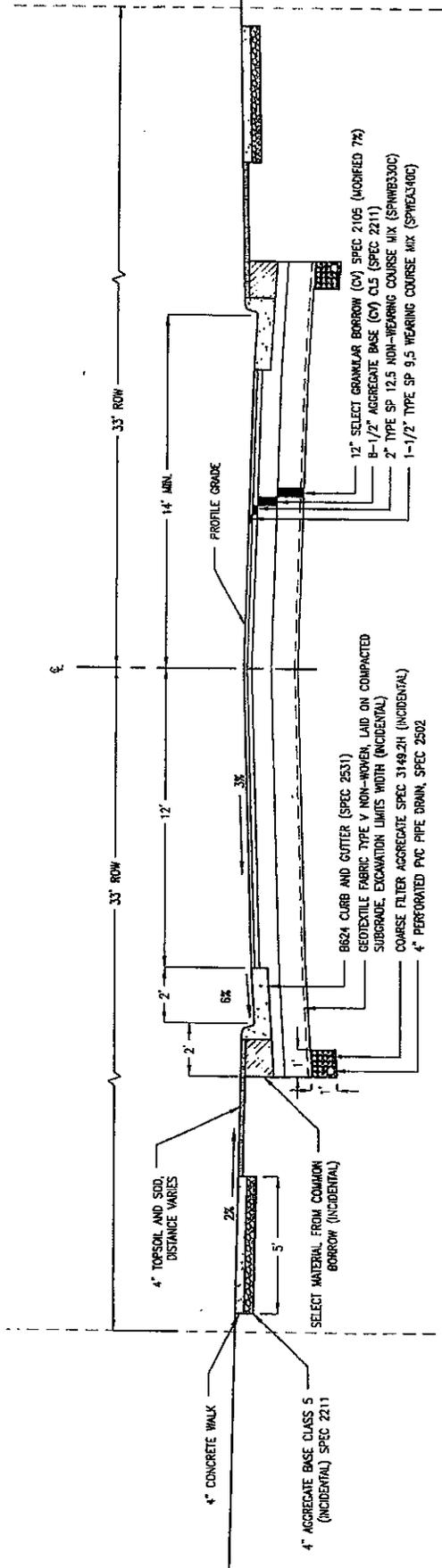
LEGEND

-  FILL
-  POSSIBLE FILL
-  FAT CLAY
-  SILTY SAND

DRAWN BY: DCS	CHECKED BY: BMC
DATE: 09/11/2015	SCALE: N/A
DRAWING NO: 15M7110-03	DRAWING NO: 1/1
TPT PROJECT NO: 15M7110	REV: A

Subsurface Fence Diagram
 59th Avenue West Road Reconstruction
 59th Avenue West
 Duluth, Minnesota





TYPICAL SECTION
URBAN STREET WITH SIDEWALKS

CERTIFIED BY:	REG. NO.:	T-8 URBAN STREET WITH SIDEWALKS	DRAWN BY: RLB
SIGNATURE:	DATE: 8-25-2012	CITY OF DULUTH	TYPICAL SECTION
		CITY PROJECT NO.: N/A	SHEET NO. OF
		STATE AID PROJECT NO.: N/A	

BORING LOG NOTES

Water Level

Water levels indicated on the boring logs are as measured at stated times. In clean sand soils, the elevations indicated are considered relatively reliable levels. However, in less permeable soils, even after several days of monitoring, accurate determinations may not be possible. Therefore, additional/alternative methods of groundwater elevation monitoring should be sought.

Commonly Used Moisture Conditions of Soils

<u>Term</u>	<u>Meaning</u>
Dry	Requires the addition of considerable moisture to attain optimum for compaction
Moist	Near optimum moisture for compaction
Wet	Requires drying to attain optimum moisture for compaction
Saturated (Waterbearing)	Very wet

Gradation Description and Terminology

<u>Soil Type</u>	<u>Particle Name</u>	<u>Size Range</u>
Coarse Grained Soils	Boulders	Over 12"
	Cobbles	3"-12"
	Gravels	#4-3"
	Gravels – Coarse	¾"-3"
	Gravels – Fine	#4-¾"
	Sands	#200-#4
	Sands – Coarse	#10-#4
	Sands – Medium	#40-#10
	Sands – Fine	#200-#40
	Fine Grained Soils	Silt
Clay		Less than 0.005 mm

Descriptive Terms of Components Present in Sample (other than ASTM D 2487)

<u>Term</u>	<u>Percent of Dry Weight</u>
Trace	1-5%
With	5-12%
Some	12-30%
And	30-50%

Relative Density of Granular Soils

<u>N-Value (SPT)</u>	<u>Relative Density</u>	<u>Standard "N" Penetration</u>
0-4	Very Loose	Blows per foot of a 140 pound hammer
5-10	Loose	falling 30" on a 2" outside diameter
11-30	Medium Dense	split barrel sampler
31-50	Dense	
Over 50	Very Dense	

Consistency of Cohesive Soils

<u>N-Value (SPT)</u>	<u>Consistency</u>	<u>(Q_u tsf or kg/cm²)</u>
0-2	Very Soft	Less than 0.25
3-4	Soft	0.25-0.50
5-8	Medium	0.50-1.00
9-15	Stiff	1.00-2.00
16-30	Very Stiff	2.00-4.00
Over 30	Hard	4.00-8.00

UNIFIED SOIL CLASSIFICATION SYSTEM – ASTM D 2487

UNIFIED SOIL CLASSIFICATION AND SYMBOL CHART

COARSE-GRAINED SOILS (more than 50% of material is larger than No. 200 sieve size.)		
Clean Gravels (Less than 5% fines)		
GRAVELS More than 50% of coarse fraction larger than No. 4 sieve size	 GW Well-graded gravels, gravel-sand mixtures, little or no fines	
	 GP Poorly-graded gravels, gravel-sand mixtures, little or no fines	
	Gravels with fines (More than 12% fines)	
	 GM Silty gravels, gravel-sand-silt mixtures	
 GC Clayey gravels, gravel-sand-clay mixtures		
Clean Sands (Less than 5% fines)		
SANDS 50% or more of coarse fraction smaller than No. 4 sieve size	 SW Well-graded sands, gravelly sands, little or no fines	
	 SP Poorly graded sands, gravelly sands, little or no fines	
	Sands with fines (More than 12% fines)	
	 SM Silty sands, sand-silt mixtures	
 SC Clayey sands, sand-clay mixtures		

FINE-GRAINED SOILS (50% or more of material is smaller than No. 200 sieve size.)	
SILTS AND CLAYS Liquid limit less than 50%	 ML Inorganic silts and very fine sands, rock flour, silty of clayey fine sands or clayey silts with slight plasticity
	 CL Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
	 OL Organic silts and organic silty clays of low plasticity
SILTS AND CLAYS Liquid limit 50% or greater	 MH Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts
	 CH Inorganic clays of high plasticity, fat clays
	 OH Organic clays of medium to high plasticity, organic silts
HIGHLY ORGANIC SOILS	 PT Peat and other highly organic soils

LABORATORY CLASSIFICATION CRITERIA

GW	$C_u = \frac{D_{60}}{D_{10}}$ greater than 4; $C_c = \frac{D_{30}}{D_{10} \times D_{60}}$ between 1 and 3
GP	Not meeting all gradation requirements for GW
GM	Atterberg limits below "A" line or P.I. less than 4
GC	Atterberg limits above "A" line with P.I. greater than 7
$C_u = \frac{D_{60}}{D_{10}}$ greater than 4; $C_c = \frac{D_{30}}{D_{10} \times D_{60}}$ between 1 and 3	
SW	Not meeting all gradation requirements for GW
SP	Not meeting all gradation requirements for GW
SM	Atterberg limits below "A" line or P.I. less than 4
SC	Atterberg limits above "A" line with P.I. greater than 7
Limits plotting in shaded zone with P.I. between 4 and 7 are borderline cases requiring use of dual symbols.	

Determine percentages of sand and gravel from grain-size curve. Depending on percentage of fines (fraction smaller than No. 200 sieve size), coarse-grained soils are classified as follows:

Less than 5 percent GW, GP, SW, SP
 More than 12 percent GM, GC, SM, SC
 5 to 12 percent Borderline cases requiring dual symbols

PLASTICITY CHART

