

DULUTH INTERNATIONAL AIRPORT

DULUTH, MINNESOTA

DULUTH AIRPORT AUTHORITY in conjunction with MINNESOTA D.O.T.-OFFICE OF AERONAUTICS and the FEDERAL AVIATION ADMINISTRATION

PASSENGER BOARDING BRIDGE (PBB) GATES 1 & 4 REPLACEMENT

MnDOT STATE PROJECT NUMBER: 6901-163

AIP PROJECT NUMBER: 3-27-0024-47-09

CITY OF DULUTH BID NUMBER: 09-4403

CONSTRUCTION DRAWINGS PREPARED FOR:



DULUTH AIRPORT AUTHORITY

4701 GRINDEN DRIVE - DULUTH INTERNATIONAL AIRPORT -
DULUTH, MINNESOTA 55811 - TELEPHONE 218/727-2968

DRAWINGS PREPARED BY:

RS&H

IMPROVING YOUR WORLD

Reynolds, Smith and Hills, Inc.

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BID DOCUMENTS

DATE: 07-22-2009

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- WARNING -

BEFORE DIGGING CALL 1-800-252-1166

TO NOTIFY LOCAL UTILITIES

- REQUIRED BY LAW -

Location of work to be done:

S 1/2, Section 1, T50H, R15W
S 1/2, Section 2, T50N, R15W

I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: _____

TYPED/PRINTED NAMES: _____

DATE: _____ REG. NO.: _____

RS&H
IMPROVING YOUR WORLD
Reynolds, Smith and Hills, Inc.

Submitted By: *Darwin Christoff*

Date: *July 22*, 2009

RS&H PROJECT NUMBER: 214-1882-098

DULUTH AIRPORT AUTHORITY

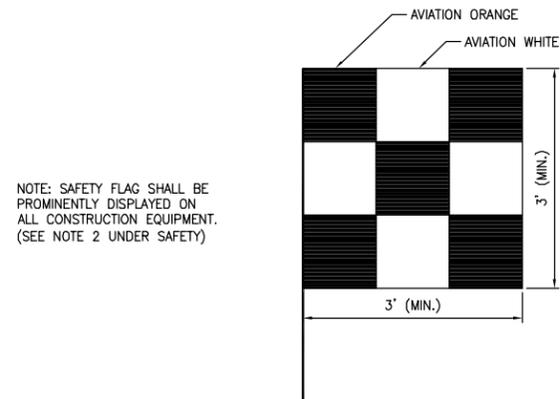
Recommended for Approval

By: *[Signature]*

Title: *DIRECTOR OF OPERATIONS*

Date: *JULY 22*, 2009

CONTRACTOR'S SAFETY AND SECURITY REQUIREMENTS



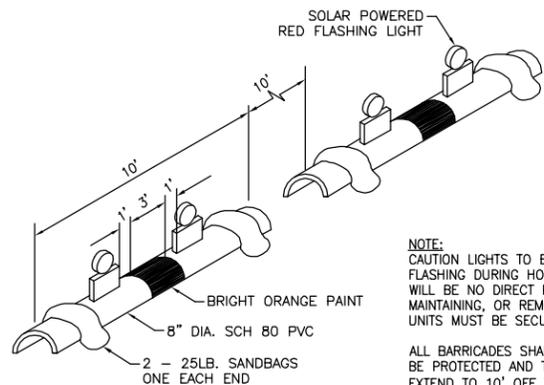
NOTE: SAFETY FLAG SHALL BE PROMINENTLY DISPLAYED ON ALL CONSTRUCTION EQUIPMENT. (SEE NOTE 2 UNDER SAFETY)

CONSTRUCTION SAFETY FLAG

N.T.S.

LOW LEVEL LIGHTED BARRICADES

1. LOW LEVEL LIGHTED BARRICADES SHALL BE PLACED AROUND ALL OPEN EXCAVATIONS, HOLES, TRENCHES, PAVEMENT DROP-OFFS, AND AREAS IDENTIFIED ON THE PHASING PLAN.
2. CONTRACTOR SHALL FURNISH, PLACE, MAINTAIN, CLEAN AND TURN OVER 20 BARRICADES TO AIRPORT AUTHORITY PRIOR TO FINAL RELEASE OF PAYMENT.
3. THE CONTRACTOR SHALL PROVIDE 10 ORANGE AND 10 WHITE NEUBERT AERO CORPORATION 8" LOW PROFILE BARRICADES WITH 2-SOLAR POWERED RED FLASHING LIGHTS OR APPROVED EQUAL TO BE USED FOR THE DURATION OF THE PROJECT. UPON COMPLETION OF THE PROJECT THE BARRICADES ALL BECOME PROPERTY OF THE DULUTH AIRPORT AUTHORITY. THE LOW LEVEL LIGHTED BARRICADES DETAIL SHALL BE DELETED, BUT THE LOW LEVEL BARRICADES NOTES STILL APPLY. THE BARRICADES ARE INCIDENTAL TO PAY ITEM P102 SAFETY AND SECURITY.
4. PLACE BARRICADES @ 20 FT. O.C. UNLESS OTHERWISE NOTED.
5. THE CONTRACTOR IS RESPONSIBLE TO MAINTAIN AND ENSURE CONTINUOUS OPERATION OF THE BARRICADES FOR THE DURATION OF THE PROJECT. THE CONTRACTOR SHALL FURNISH NEW AND RETURN THE LOW LIGHTED BARRICADES TO THE DAA MAINTENANCE FACILITY. PRIOR TO RETURNING THE BARRICADES TO THE OWNER, THE CONTRACTOR SHALL INSPECT/REPAIR TO ENSURE ALL BARRICADES ARE OPERATING PROPERLY.



NOTE: CAUTION LIGHTS TO BE RED IN COLOR AND FLASHING DURING HOURS OF DARKNESS. THERE WILL BE NO DIRECT PAYMENT FOR FURNISHING, MAINTAINING, OR REMOVAL OF THIS BARRIER. UNITS MUST BE SECURED TO PVC.

ALL BARRICADES SHALL DELINEATE THE AREA TO BE PROTECTED AND THE BARRICADE LINE SHALL EXTEND TO 10' OFF THE EDGE OF EITHER SIDE OF ANY PAVEMENT.

LOW LEVEL LIGHTED BARRICADES DETAIL

NTS

SAFETY REQUIREMENTS

1. THE CONTRACTOR SHALL ACQUAINT HIS SUPERVISORS AND EMPLOYEES OF THE AIRPORT ACTIVITY AND OPERATIONS THAT ARE INHERENT TO THIS ACTIVE AIR CARRIER AIRPORT AND SHALL CONDUCT THE CONSTRUCTION ACTIVITIES TO CONFORM TO ALL ROUTINE AND EMERGENCY AIR TRAFFIC REQUIREMENTS AND GUIDELINES ON SAFETY AS SPECIFIED IN PARAGRAPH NO. 11 BELOW.
2. ALL CONTRACTOR VEHICLES THAT ARE AUTHORIZED TO OPERATE ON THE AIRPORT IN THE ACTIVE AIRCRAFT OPERATIONS AREA (AOA) SHALL DISPLAY IN FULL VIEW A FLASHING AMBER (YELLOW) DOME-TYPE LIGHT OR ABOVE THE VEHICLE A 3' X 3' OR LARGER, ORANGE AND WHITE CHECKERBOARD FLAG, EACH CHECKERBOARD COLOR BEING 1-FOOT SQUARE, (SEE CONSTRUCTION SAFETY FLAG DETAIL, THIS SHEET) AND ESCORTED UNDER THE CONTROL OF ONE CONTRACTOR MOBILE (TWO-WAY) RADIO OPERATOR ON THE JOB AT ALL TIMES. ANY VEHICLE OPERATING IN THE ACTIVE AOA DURING THE HOURS OF DARKNESS SHALL BE EQUIPPED WITH A FLASHING AMBER (YELLOW) DOME LIGHT, MOUNTED ON TOP OF THE VEHICLE AND OF SUCH INTENSITY TO CONFORM TO LOCAL CODES FOR MAINTENANCE AND EMERGENCY VEHICLES.

3. ALL NON-RADIO EQUIPPED CONTRACTOR VEHICLES THAT ARE REQUIRED TO OPERATE ON OR ACROSS ACTIVE RUNWAYS, TAXIWAYS, APRONS AND RUNWAY APPROACH AND PROTECTION ZONES SHALL DO SO UNDER THE DIRECT CONTROL OF A RADIO EQUIPPED ESCORT VEHICLE. ESCORT VEHICLES, OPERATORS, AND RADIO EQUIPMENT SHALL BE APPROVED BY THE DULUTH INTERNATIONAL AIRPORT. ESCORT VEHICLES SHALL BE MARKED AND LIGHTED AS DESCRIBED IN PARAGRAPH NO. 2 ABOVE AND SHALL BE EQUIPPED WITH AN APPROVED AVIATION BAND. RADIO EQUIPPED VEHICLES SHALL CONTINUOUSLY MONITOR GROUND CONTROL FREQUENCY 121.9 MHZ. ALL AIRCRAFT TRAFFIC ON RUNWAYS, TAXIWAYS AND APRONS SHALL HAVE PRIORITY OVER CONTRACTOR'S TRAFFIC.
4. NO RUNWAY, TAXIWAY, APRON OR AIRPORT ROADWAY SHALL BE CLOSED WITHOUT WRITTEN APPROVAL OF AIRPORT OPERATIONS. TO ENABLE NECESSARY "NOTICES TO AIRMEN" (NOTAM) OR ADVISORIES TO AIRPORT SERVICES OR TENANTS, A MINIMUM OF 48 HOURS WRITTEN NOTICE REQUESTING CLOSING SHALL BE DIRECTED TO THE RESIDENT PROJECT REPRESENTATIVE (RPR) AND/OR ENGINEER WHO WILL COORDINATE THE REQUEST WITH AIRPORT OPERATIONS.
5. ANY CONSTRUCTION ACTIVITY WITHIN 200 FEET OF AN ACTIVE RUNWAY EDGE OR 75 FEET FROM AN ACTIVE TAXIWAY EDGE OR OPEN EXCAVATIONS IN EXCESS OF THREE INCHES DEEP WITHIN THE ABOVE AREAS, WILL REQUIRE CLOSURE OF THE AFFECTED RUNWAY OR TAXIWAY, UNLESS OTHERWISE APPROVED BY AIRPORT OPERATIONS. CLOSURE REQUIRES THE SAME PROVISIONS AS PARAGRAPH NO. 4 ABOVE.
6. OPEN FLAME WELDING OR TORCH CUTTING OPERATIONS ARE PROHIBITED UNLESS ADEQUATE FIRE AND SAFETY PRECAUTIONS HAVE BEEN TAKEN AND THE PROCEDURE APPROVED BY THE RPR AND/OR AIRPORT OPERATIONS.
7. STOCKPILED MATERIAL SHALL BE CONSTRAINED IN A MANNER TO PREVENT MOVEMENT RESULTING FROM AIRCRAFT JET BLAST OR WIND CONDITIONS IN EXCESS OF TEN KNOTS. STOCKPILE HEIGHT SHALL BE LESS THAN 15 FEET, AND OUTSIDE THE RUNWAY AND TAXIWAY OBJECT FREE AREAS. IN ADDITION, STOCKPILED MATERIAL SHALL HAVE SILT FENCE LOCATED AROUND THE MATERIAL TO PREVENT FOD FROM MOVING ONTO THE AIRFIELD PAVEMENTS.
8. OPEN TRENCHES, EXCAVATIONS AND STOCKPILED MATERIAL LOCATED IN THE AOA SHALL BE PROMINENTLY MARKED WITH FLAGS AND LIGHTED BY APPROVED LIGHT UNITS DURING HOURS OF RESTRICTED VISIBILITY AND DARKNESS.
9. DEBRIS, WASTE AND LOOSE MATERIAL CAPABLE OF CAUSING DAMAGE TO AIRCRAFT LANDING GEARS, PROPELLERS OR BEING INGESTED IN JET ENGINES SHALL NOT BE ALLOWED ON ACTIVE AIRCRAFT MOVEMENT AREAS. IF THESE MATERIALS ARE OBSERVED TO BE ON ACTIVE AIRCRAFT MOVEMENT AREAS, THEY WILL BE REMOVED IMMEDIATELY AND/OR CONTINUOUSLY DURING CONSTRUCTION.
10. THE ENGINEER WILL ARRANGE WITH AIRPORT OPERATIONS FOR INSPECTION PRIOR TO OPENING FOR AIRCRAFT USE ANY RUNWAY OR TAXIWAY THAT HAS BEEN CLOSED FOR WORK, ON OR ADJACENT THERETO, OR THAT HAS BEEN USED FOR A CROSSING POINT OR HAUL ROUTE BY THE CONTRACTOR.
11. THE CONTRACTOR IS DIRECTED TO COMPLY WITH AND ACQUAINT HIS/HER EMPLOYEES WITH THE FOLLOWING SAFETY GUIDELINES, RELATED MATERIALS AND FAA ADVISORY CIRCULARS:

| | |
|--------------|--|
| FAA ORDER | "SAFETY REQUIREMENT ON AIRPORTS DURING AGENCY FUNDED CONSTRUCTION AND MAINTENANCE ACTIVITIES" |
| 150/5200-18C | "AIRPORT SAFETY-SELF INSPECTION" |
| 150/5210-5B | "PAINTING, MARKING & LIGHTING OF VEHICLES USED ON AIRPORTS" |
| 150/5370-2E | "OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION" |
| 150/5370-4 | "APPENDIX 3. SUGGESTED SPECIAL PROVISIONS FOR PROTECTION OF CABLES, CONTROLS, NAVAIDS AND WEATHER BUREAU FACILITIES" |
| 150/5370-7 | "AIRPORT CONSTRUCTION CONTROLS TO PREVENT AIR AND WATER POLLUTION" "AC DATE 4-26-71" |

COPIES OF THESE DOCUMENTS ARE PROVIDED IN THE CONTRACT SPECIFICATIONS.

12. CONSTRUCTION DURING THE PROJECT MAY BE HALTED AT ANY TIME BY RPR, ENGINEER, AND/OR AIRPORT OPERATIONS IF IT IS DETERMINED TO BE IN THE BEST INTEREST OF AIRPORT OPERATIONS OR SAFETY. THE CONTRACTOR MAY BE DIRECTED TO REMOVE EQUIPMENT AND/OR EVACUATE THE SITE IN ORDER TO ENABLE AIRCRAFT OPERATIONS. NECESSARY EXTENSIONS IN CONTRACT TIME WILL BE GRANTED OR A STOP WORK ORDER WILL BE ISSUED DUE TO THESE DELAYS, HOWEVER, THERE WILL BE NO ADJUSTMENTS IN CONTRACT PRICE DUE TO THESE DELAYS.
- IN ADDITION TO THE ABOVE, THE FOLLOWING SPECIAL REQUIREMENTS WILL APPLY FOR NIGHT CONSTRUCTION:
 - A. A DAILY SAFETY AND PROGRESS MEETING SHALL BE HELD BETWEEN THE ENGINEER AND THE CONTRACTOR'S SUPERINTENDENT TO DISCUSS REQUIREMENTS FOR THE NEXT NIGHTTIME WORK PERIOD.
 - B. THE CONTRACTOR SHALL PREPARE A SAFETY PLAN SPECIFIC TO NIGHTTIME CONSTRUCTION OPERATIONS, AS WELL AS A CONTINGENCY PLAN TO ADDRESS CASES OF ABNORMAL FAILURES OR UNEXPECTED DISASTERS USING APPENDIX 3 OF AC 150/5370-2E AS A GUIDE.
 - C. TRUCK HAUL ROUTES ON THE AIRFIELD SHALL BE DELINEATED WITH LIGHTED BARRICADES. OTHER MEANS TO CLEARLY MARK THE ROUTES TO THE WORK SITE MAY BE APPROVED BY THE RPR, ENGINEER, AND/OR AIRPORT OPERATIONS.
13. ALL COMMUNICATION WITH THE AIR TRAFFIC CONTROL TOWER OR OTHER ELEMENTS OF THE AIRPORT SHALL BE THROUGH THE RPR, ENGINEER AND/OR AIRPORT OPERATIONS.
14. THE CONTRACTOR SHALL INSTALL ALL REQUIRED BARRICADES AT DESIGNATED PLAN LOCATIONS, HAVE ALL ACCESS GATES GUARDED AND LOCKABLE, HAVE ALL EQUIPMENT EITHER FLAGGED OR FITTED WITH FLASHING YELLOW DOME-TYPE LIGHTS ON TOP OF THE VEHICLES. ALL THESE ITEMS SHALL CONSIST OF THE SAFETY AND SECURITY SYSTEM. THE CONTRACTOR SHALL INSTALL THE COMPONENTS OF THE SYSTEM AT THE APPROPRIATE TIMES AS SPECIFIED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL INSPECT EVERY ASPECT OF THE SAFETY AND SECURITY SYSTEM ON A DAILY BASIS AND ENSURE ALL COMPONENTS ARE FUNCTIONING PROPERLY. THE RESIDENT PROJECT REPRESENTATIVE (RPR) SHALL ALSO DAILY INSPECT THE SYSTEM AND IF ANY DEFICIENCIES ARE NOTED, THE CONTRACTOR SHALL HAVE THAT DAY'S PRORATED SAFETY AND SECURITY COST DEDUCTED FROM THE CONTRACTOR'S EARNINGS. THE SYSTEM ELEMENTS TO BE INSPECTED AND DEFICIENCIES NOTED ARE AS FOLLOWS:

- *BARRICADES SET PROPERLY AND ALL FLASHING WARNING LIGHTS OPERATING PROPERLY.
- *ALL CONTRACTOR PERSONNEL AND EQUIPMENT ACCESS GATES MANNED AND SECURITY PROCEDURES IN PLACE.
- *ALL EQUIPMENT FLAGGED OR OUTFITTED WITH FLASHING YELLOW DOME-TYPE LIGHTS.
- *CONTRACTOR USE OF UNAUTHORIZED AIRPORT ACCESS GATES CHECKED.

ANY OF THE ABOVE SAFETY AND SECURITY ITEMS FOUND TO BE DEFICIENT AT THE BEGINNING OF THE DAY BY THE RPR AND/OR AIRPORT OPERATIONS STAFF WILL RESULT IN THAT DAY'S PRORATED SAFETY AND SECURITY BID ITEM LOST AND BEING DEDUCTED PERMANENTLY FROM THE CONTRACTOR'S EARNINGS. THE CONTRACTOR SHALL MAKE A CONCERTED EFFORT TO ENSURE ALL SAFETY AND SECURITY ITEMS ARE IN PROPER WORKING ORDER EACH DAY DUE TO THE HEIGHTENED SECURITY STATUS OF THE AIRPORT AND THE CONSIDERABLE LIABILITY ASSOCIATED WITH THE SAFETY AND SECURITY WORK.

15. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO ENSURE THE SAFETY OF OPERATING AIRCRAFT AS WELL AS HIS OWN EQUIPMENT AND PERSONNEL. SPECIAL CONSIDERATIONS SHOULD BE GIVEN TO FLIGHT SCHEDULES AND MISCELLANEOUS AIRCRAFT OPERATIONS. THE CONTRACTOR SHALL OBEY ALL INSTRUCTIONS AS TO ROUTES TO BE TAKEN BY EQUIPMENT TRAVELING WITHIN THE AIRPORT AREA AND KEEP SUCH VEHICLES AND EQUIPMENT MARKED WITH THE SPECIFIED AIRPORT SAFETY FLAGS. THE CONTRACTOR SHALL MAKE HIS OWN ESTIMATE OF ALL DIFFICULTIES TO BE ENCOUNTERED. EQUIPMENT NOT ACTUALLY IN OPERATION SHALL BE KEPT CLEAR OF LANDING AREAS. PERSONNEL SHALL NOT ENTER AREAS OF THE AIRPORT WHERE AIRCRAFT ARE OPERATING WITHOUT SPECIFIC PERMISSION.
16. THE CONTRACTOR SHALL TAKE ALL STEPS TO PROTECT THE EXISTING RUNWAY AND TAXIWAY LIGHTS, UNDERGROUND CABLES AND UTILITIES DURING CONSTRUCTION TO ASSURE CONTINUOUS OPERATION OF LIGHTS AND NAVIGATIONAL AIDS WHEN NEEDED.
17. MATERIALS STORED OR STOCKPILED ON THE AIRPORT SHALL BE SO PLACED AND THE WORK SHALL, AT ALL TIMES, BE SO CONDUCTED AS TO CAUSE NO GREATER OBSTRUCTION TO THE AIR AND GROUND TRAFFIC THAN IS CONSIDERED NECESSARY BY THE ENGINEER.
18. THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN ALL NECESSARY BARRICADES, SIGNS, DANGER SIGNALS AND LIGHTS FOR THE PROTECTION OF THE WORK AND THE SAFETY OF THE PUBLIC FOR BOTH LAND AND AIR TRAFFIC IN ACCORDANCE WITH THE SPECIFICATIONS (AC 150/5370-2E).
19. CLOSED RUNWAYS OR TAXIWAYS SHALL BE BARRICADED OFF AT ALL INTERSECTIONS WITH ACTIVE RUNWAYS OF TAXIWAYS. THE CONTRACTOR SHALL HAVE PERSONNEL ON CALL 24 HOURS PER DAY FOR EMERGENCY MAINTENANCE OF AIRPORT HAZARD LIGHTING AND BARRICADES.
20. THE AIRPORT DIRECTOR, WORKING THROUGH THE ENGINEER, SHALL, AT ALL TIMES, HAVE COMPLETE JURISDICTION OVER THE SAFETY OF ALL AIRCRAFT OPERATIONS DURING THE WORK. WHEREVER THE SAFETY OF AIR TRAFFIC IS CONCERNED, THE DECISIONS OF THE AIRPORT DIRECTOR OR HIS DESIGNATED REPRESENTATIVE, SHALL BE FINAL AS TO METHODS, PROCEDURES AND MEASURES USED.
21. FOR ANY RESTRICTIONS TO AIRCRAFT OPERATIONS, THE AIRPORT OPERATORS SHALL GIVE PROPER NOTICE TO THE NEAREST FAA FLIGHT SERVICE STATION PRIOR TO THE START OF WORK, AND FOR ANY SUBSEQUENT CHANGES NEEDED IN THE NOTAM WHICH MAY BE ISSUED DURING THE PERIOD OF WORK.
22. THE CONTRACTOR SHALL CONTACT THE MINNESOTA AIRWAY FACILITIES SECTOR (ANDY GOMEZ 218-722-2826) TO PROVIDE LOCATIONS OF EXISTING FACILITY CABLES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR HAND DIGGING TO LOCATE FACILITY CABLING, AND PROTECTION OF THOSE CABLES THROUGHOUT THE PROJECT.
23. ANY MOVEMENT OF THE CONTRACTOR'S VEHICLES AND EQUIPMENT ON OR ACROSS LANDING AREAS SHALL ONLY BE AT CROSSING POINTS APPROVED BY THE ENGINEER, AND AT TIMES THE ENGINEER DIRECTS. THE ACTUAL CROSSINGS SHALL ONLY BE MADE AFTER THE CONTRACTOR'S REPRESENTATIVE GETS APPROVAL FOR EACH CROSSING BY USE OF RADIO CONTACT WITH THE AIR TRAFFIC CONTROL TOWER TO GET PERMISSION FOR MOVEMENT.
24. THE CONTRACTOR SHALL CONFINE HIS PERSONNEL, EQUIPMENT, OPERATIONS AND TRAVEL TO THE AREA WITHIN THE DEFINED WORK LIMITS SHOWN ON THE PLANS.
25. THE CONTRACTOR SHALL INFORM ALL CONSTRUCTION PERSONNEL AS TO THE PROPER ROUTES, SPEEDS AND PROCEDURES FOR TRANSPORTING EQUIPMENT AND MATERIALS TO THE CONSTRUCTION SITE, AND ALL RESTRICTIONS TO MOVEMENT OF EQUIPMENT OR PERSONNEL WITHIN THE AIR OPERATIONS AREA. ON A DAILY BASIS AND MORE OFTEN IF NECESSARY ALL PERSONNEL SHALL BE ADVISED OF ANY CHANGES IN AIRPORT OPERATIONS THAT MAY FURTHER RESTRICT HIS MOVEMENT.
26. ACCESS OR HAUL ROUTES SHALL BE EXISTING ROADWAYS TO THE EXTENT THAT THEY ARE AVAILABLE. THE CONTRACTOR SHALL CORRECT ANY DAMAGE TO THE ROADS USED AND SHALL RESTORE THOSE ROADS TO THE SAME OR BETTER CONDITION AS THEY EXISTED PRIOR TO THE START OF WORK. THE CONTRACTOR MAY ESTABLISH ADDITIONAL HAUL OR ACCESS ROUTES AT HIS OWN EXPENSE AND RESPONSIBILITY IF APPROVED BY THE SPONSOR. UPON COMPLETION OF THE WORK, ANY ADDITIONAL ROADS SHALL EITHER BE LEFT OR GRADED AS DIRECTED SO THAT THEY DO NOT IMPEDE THE EXISTING DRAINAGE OR ACCESS ROUTES.
27. MEASURES SHALL BE ADOPTED TO PREVENT POTENTIAL POLLUTANTS FROM ENTERING ANY DRAINAGE SYSTEM OR WATERWAY. MATERIALS AND DEBRIS SHALL NOT BE STORED IN THE WORK AREA IN A MANNER THAT WOULD ALLOW THEM TO ENTER THE DRAINAGE SYSTEM AS A RESULT OF SPILLAGE, NATURAL RUNOFF OR FLOODING. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO IMMEDIATELY NOTIFY THE SPONSOR SHOULD THERE BE A SPILLAGE OF MATERIAL WHICH MIGHT CONTAMINATE THE DRAINAGE SYSTEM. IT SHALL ALSO BE THE CONTRACTOR'S RESPONSIBILITY TO REMOVE AND CLEAR UP SUCH SPILLAGE IN A MANNER ACCEPTABLE TO THE SPONSOR. MATERIAL SHALL BE SECURED SO THAT IT WILL NOT BE BLOWN BY THE WIND ONTO THE AIRFIELD SURFACES.
28. SPECIAL ATTENTION TO DUST CONTROL WILL BE REQUIRED WHEN EARTHWORK OR HAULING OPERATIONS ARE IN PROGRESS OR WHEN WIND AND WEATHER CONDITIONS CAUSE EXCESSIVE BLOWING OF DUST. IN THIS REGARD THE CONTRACTOR SHALL APPLY WATER OR CALCIUM CHLORIDE SOLUTION TO THE AFFECTED SITES AS DIRECTED.
29. AT THE END OF EACH DAY, ANY RUNWAY, TAXIWAY OR APRON WHICH IS NOT CLOSED TO AIRCRAFT AND WHICH HAS BEEN USED BY THE CONTRACTOR, SHALL BE CLEANED BY BROOMING OR OTHER ACCEPTABLE METHODS APPROVED BY THE CONTRACTING OFFICER. ALL EQUIPMENT SHALL BE STORED OR MOVED SO THAT IT IS NO CLOSER THAN 500 FEET FROM THE EDGE OF AN ACTIVE RUNWAY OR 100 FEET FROM THE EDGE OF AN ACTIVE TAXIWAY OR APRON.
30. VEHICLES WITHIN THE SECURITY FENCE SHALL BE VISIBLY IDENTIFIABLE AS CONTRACTOR VEHICLES WHICH HAVE BEEN PROPERLY CLEARED FOR ENTRY (LOGO AND FLAGS ON AUTHORIZED EQUIPMENT AND VEHICLES WOULD BE ACCEPTABLE.)
31. CONSTRUCTION EQUIPMENT SHALL HAVE A MAXIMUM HEIGHT OF FORTY (40) FEET. ANY TEMPORARY CRANE OPERATIONS SHALL BE RESTRICTED TO A MAXIMUM HEIGHT OF 100' AGL.
32. WHEN CONSTRUCTION MEN OR EQUIPMENT ARE WITHIN 200' OF AN OPEN RUNWAY CENTERLINE, THAT RUNWAY SHALL BE CLOSED TO ALL AIRCRAFT TAKEOFFS AND LANDINGS, OR THE THRESHOLD SHALL BE RELOCATED TO PROVIDE A CLEAR APPROACH SURFACE AS SPECIFIED.



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DULUTH AIRPORT AUTHORITY

DULUTH INTERNATIONAL AIRPORT
DULUTH, MN

PBB
GATES 1 & 4
REPLACEMENT

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Signature _____

Typed Name _____

Date 07-22-2009 Reg. No. _____

REVISIONS

| NO. | DESCRIPTION | DATE |
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DATE ISSUED: 07/17/2009

REVIEWED BY: PCB

DRAWN BY: M.J.L.

DESIGNED BY: PCB

AEP PROJECT NUMBER

214-1882-098

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SHEET TITLE

SAFETY AND SECURITY NOTES AND DETAILS

SHEET NUMBER

C001

BID DOCUMENT

SECURITY REQUIREMENTS

1. **GENERAL INTENT:** IT IS INTENDED THAT THE CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS OF THE AIRPORT SECURITY PLAN AND WITH THE SECURITY REQUIREMENTS SPECIFIED HEREIN BY AIRPORT OPERATIONS. THE CONTRACTOR SHALL DESIGNATE TO THE ENGINEER AND AIRPORT OPERATIONS, IN WRITING, THE NAME OF HIS "CONTRACTOR SECURITY AND SAFETY OFFICER (CSSO)." THE CSSO SHALL REPRESENT THE CONTRACTOR ON THE SECURITY REQUIREMENTS FOR THE CONTRACT.
2. **CONTRACTOR PERSONNEL SECURITY ORIENTATION:** THE CSSO SHALL BE RESPONSIBLE FOR BRIEFING ALL CONTRACTOR PERSONNEL ON SECURITY REQUIREMENTS. ALL NEW CONTRACTOR EMPLOYEES SHALL BE BRIEFED ON SECURITY REQUIREMENTS PRIOR TO WORKING IN THE CONSTRUCTION AREA. THE AIRPORT SHALL BRIEF AND/OR TRAIN CONSTRUCTION RELATED VEHICLE EQUIPMENT DRIVERS ON OPERATIONS WITHIN AN AIRPORT/AIRCRAFT ENVIRONMENT. AIRPORT MANAGEMENT SHOULD PROVIDE PRINTED MATERIAL TO EACH VEHICLE OPERATOR THAT DEPICTS HAUL ROUTES, PROHIBITED MOVEMENT AREAS, AND DESCRIBES THE CONSEQUENCES FOR NON-COMPLIANCE WITH ESTABLISHED PROCEDURES. THE AIRPORT HAS IMPLEMENTED A ZERO TOLERANCE APPROACH TO DRIVING VIOLATIONS.
3. **ACCESS TO THE SITE:** CONTRACTOR'S ACCESS TO THE SITE SHALL BE AS SHOWN ON THE PLANS. DELIVERY OF THE PROPOSED PBB'S AND THE REMOVAL OF THE EXISTING PBB'S WILL BE THROUGH THE GATE SOUTHWEST OF THE TERMINAL. NO OTHER ACCESS THROUGH THIS GATE SHALL BE ALLOWED. NO OTHER ACCESS POINTS SHALL BE ALLOWED UNLESS APPROVED BY AIRPORT OPERATIONS. ALL CONTRACTOR TRAFFIC AUTHORIZED TO ENTER THE SITE SHALL BE EXPERIENCED IN THE ROUTE OR GUIDED BY CONTRACTOR PERSONNEL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TRAFFIC CONTROL TO AND FROM THE VARIOUS CONSTRUCTION AREAS ON THE SITE, AND FOR THE OPERATION AND SECURITY OF THE ACCESS GATE TO THE SITE. A CONTRACTOR'S FLAGMAN OR TRAFFIC CONTROL PERSON SHALL MONITOR AND COORDINATE ALL CONTRACTOR TRAFFIC AT THE ACCESS GATE WITH SECURITY. THE CONTRACTOR SHALL NOT PERMIT ANY UNAUTHORIZED CONSTRUCTION PERSONNEL OR TRAFFIC ON THE SITE. ACCESS GATES TO THE SITE SHALL BE LOCKED AND SECURED AT ALL TIMES WHEN NOT ATTENDED BY THE CONTRACTOR. IF THE CONTRACTOR CHOOSES TO LEAVE ANY ACCESS GATE OPEN, IT SHALL BE ATTENDED BY CONTRACTOR PERSONNEL WHO ARE FAMILIAR WITH THE REQUIREMENTS OF THE AIRPORT OPERATIONS SECURITY PROGRAM. THE CONTRACTOR IS RESPONSIBLE FOR THE IMMEDIATE CLEANUP OF ANY DEBRIS DEPOSITED ALONG THE ACCESS ROUTE AS A RESULT OF HIS CONSTRUCTION TRAFFIC. DIRECTIONAL SIGNING FROM THE ACCESS GATE ALONG THE DELIVERY ROUTE TO THE STORAGE AREA, PLANT SITE OR WORK SITE SHALL BE AS DIRECTED BY AIRPORT OPERATIONS.
4. **MATERIALS DELIVERY TO THE SITE:** ALL CONTRACTOR'S MATERIAL ORDERS FOR DELIVERY TO THE WORK SITE WILL USE AS A DELIVERY ADDRESS, THE STREET NAME ASSIGNED TO THE ACCESS POINT AT THE CONTRACTOR'S STAGING SITE AT THE AIRPORT. THE NAME "DULUTH INTERNATIONAL AIRPORT" SHALL NOT BE USED IN THE DELIVERY ADDRESS AT ANY TIME. THIS WILL PRECLUDE DELIVERY TRUCKS FROM ENTERING INTO THE TERMINAL COMPLEX, OR TAKING SHORT CUTS THROUGH THE PERIMETER GATES AND ENTERING INTO AIRCRAFT OPERATIONS AREAS INAPPROPRIATELY.
5. **CONSTRUCTION AREA LIMITS:** THE LIMITS OF CONSTRUCTION, MATERIAL STORAGE AREAS, PLANT SITE, EQUIPMENT STORAGE AREA, PARKING AREA AND OTHER AREAS DEFINED AS REQUIRED FOR THE CONTRACTOR'S EXCLUSIVE USE DURING CONSTRUCTION SHALL BE MARKED BY THE CONTRACTOR. THE CONTRACTOR SHALL ERECT AND MAINTAIN AROUND THE PERIMETER OF THESE AREAS SUITABLE FENCING, MARKING AND/OR WARNING DEVICES VISIBLE FOR DAY/NIGHT USE. TEMPORARY BARRICADES, FLAGGING AND FLASHING WARNING LIGHTS WILL BE REQUIRED AT CRITICAL ACCESS POINTS. TYPE OF MARKING AND WARNING DEVICES SHALL BE APPROVED BY AIRPORT OPERATIONS.
6. **IDENTIFICATION--PERSONNEL:** ALL EMPLOYEES, AGENTS, VENDORS, INVITEES, ETC. OF THE CONTRACTOR OR SUBCONTRACTORS REQUIRING ACCESS TO THE CONSTRUCTION SITE SHALL, IN ACCORDANCE WITH THE AIRPORT OPERATIONS SECURITY PROGRAM, BE REQUIRED TO DISPLAY AIRPORT ISSUED IDENTIFICATION OR BE UNDER ESCORT BY PROPERLY BADGED PERSONNEL. THESE BADGES WILL BE IDENTIFIED NUMERICALLY AND ISSUED TO INDIVIDUAL EMPLOYEES WITH A PERMANENT RECORD MAINTAINED ON EACH INDIVIDUAL TO WHOM A BADGE IS ISSUED. AT THE COMPLETION OF THE CONTRACT ALL BADGES WILL BE RETURNED TO THE AIRPORT AND A CHARGE OF \$50 PER BADGE WILL BE ASSESSED FOR ALL BADGES NOT RETURNED. IN ADDITION, A \$10.00 NON-REFUNDABLE PROCESSING FEE WILL BE REQUIRED FOR EACH BADGE. THIS FEE WILL BE PAID BEFORE BADGE IS ISSUED. NO BADGE WILL BE ISSUED TO ANY PERSON UNTIL A REVIEW OF REQUIRED PAPERWORK BY AIRPORT SECURITY AND ALL REQUIREMENTS ARE MET. PAPERWORK SHALL BE SUBMITTED A MINIMUM OF 24 HOURS BEFORE ISSUANCE OF BADGE. IDENTIFIABLE HARD HATS OR OTHER IDENTIFICATION SHALL ALSO BE WORN AT ALL TIMES IF REQUIRED BY AIRPORT OPERATIONS. THE CONTRACTOR AND ITS STAFF IS RESPONSIBLE FOR ATTENDING TRAINING AND COMPLETING SECURITY BADGE APPLICATIONS, WHICH WILL INCLUDE AIR/GROUND RADIO, TAXIWAY AND AIRPORT FAMILIARIZATION. ESTIMATED TIME FOR COMPLETION IS 2 HOURS.
7. **IDENTIFICATION--VEHICLES:** THE CONTRACTOR, THROUGH THE CSSO, SHALL ESTABLISH AND MAINTAIN A LIST OF CONTRACTOR AND SUBCONTRACTOR VEHICLES AUTHORIZED TO OPERATE ON THE SITE AND SHALL ISSUE A PERMIT TO EACH VEHICLE TO BE MADE AVAILABLE UPON DEMAND BY AIRPORT OPERATIONS THE RPR OR ANY AIRPORT REPRESENTATIVES. A BLOCK OF VEHICLE PERMITS SHALL BE ISSUED BY AIRPORT OPERATIONS TO THE CONTRACTOR AND AT THE COMPLETION OF THE CONTRACT ALL PERMITS WILL BE RETURNED TO THE AIRPORT AND A CHARGE OF \$25 PER PERMIT WILL BE ASSESSED FOR ALL PERMITS NOT RETURNED. CONTRACTOR EMPLOYEE VEHICLES SHALL BE RESTRICTED TO THE CONTRACTOR'S EMPLOYEE PARKING AREA AND ARE NOT ALLOWED ON THE AOA AT ANY TIME.
8. **FINES:** PAYMENT OF ALL FINES ASSESSED TO DULUTH INTERNATIONAL AIRPORT DUE TO VIOLATIONS BY THE CONTRACTOR OF FAA/TSA SECURITY OR SAFETY REQUIREMENTS SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
 - A. IF THE RESTRICTED AREA GATES ARE FOUND TO BE OPEN OR UNLOCKED AND UNATTENDED, AIRPORT SECURITY POLICE AND/OR TSA MAY ISSUE THE CONTRACTOR A CITATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COURT COSTS IMPOSED FINES. IN ADDITION, A UP TO \$10,000.00 CHARGE MAY BE LEVIED BY THE DULUTH AIRPORT AUTHORITY AND/OR TSA FOR EACH VIOLATION SO DOCUMENTED AND UPON FINAL PAYMENT THE TOTAL OF ANY SUCH CHARGES WILL BE DEDUCTED FROM MONEYS DUE THE CONTRACTOR.
 - B. THE EVENT THE CONTRACTOR DEVIATES FROM THE IDENTIFIED CONSTRUCTION LIMITS AND/OR DESIGNATED HAUL ROUTES ONTO AN ACTIVE RUNWAY OR TAXIWAY THE CONTRACTOR WILL BE FINED \$1,000 PER OCCURANCE WHICH WILL BE DEDUCTED FROM THE FINAL CONTRACT AMOUNT DUE THE CONTRACTOR.
9. A MINIMUM OF 48 HOURS IN ADVANCE OF ANY EXCAVATION OR BORINGS, THE CONTRACTOR SHALL CONTACT THE FOLLOWING LOCAL CABLE OWNERS TO VERIFY ALL UNDERGROUND CABLE LOCATIONS IN THE VICINITY OF THE PROPOSED WORK:

| CABLE OWNER | CONTACT PERSON | PHONE NUMBER |
|---------------------------------|-----------------------|--------------|
| FEDERAL AVIATION ADMINISTRATION | ANDY GOMEZ | 218-722-2826 |
| Mn AIR NATIONAL GUARD | WORK CONTROL | 218-788-7292 |
| DULUTH AIRPORT AUTHORITY | TOM WERNER | 218-727-6522 |
| OTHERS | GOPHER STATE ONE-CALL | 800-252-1166 |

FAA COORDINATION NOTES:

1. THE ATCT MANAGER OR HER REPRESENTATIVE SHALL BE COORDINATED WITH, INVITED TO ALL MEETINGS, AND ANY/ALL CONCERNS ADDRESSED/RESOLVED, PERTAINING TO THE PROPOSED CONSTRUCTION.
2. THE AIRWAYS FACILITIES POINT OF CONTACT (POC) FOR THE NORTHERN MINNESOTA SSC, DULUTH INTERNATIONAL AIRPORT, IS MR. ANDY GOMEZ WHO CAN BE REACHED AT (218) 722-4861. THE SPONSOR/CONTRACTOR SHALL MEET WITH THE AF POC PRIOR TO PROJECT STARTUP.
3. THE SPONSOR SHALL NOTIFY THE MINNESOTA AIRWAY FACILITY (AF) SYSTEM MANAGEMENT OFFICE (SMO), MANGER FOR TECHNICAL SUPPORT (MTS) AT (952)-997-9261, AT LEAST 72 HOURS PRIOR TO A PRECONSTRUCTION MEETING AND/OR CONSTRUCTION START. THE SPONSOR SHALL REQUEST TO HAVE AN AF REPRESENTATIVE ATTEND THIS MEETING FOR THE PURPOSE OF IDENTIFYING ALL FAA FACILITIES, THEIR ASSOCIATED CRITICAL AREAS, THEIR ASSOCIATED CABLES (POWER AND CONTROL) AND SCHEDULE SHUTDOWN OF THESE FACILITIES, IF RUNWAYS ARE TO BE SHUT DOWN AS A RESULT OF THE PROPOSED WORK.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING UTILITY LINES AND HAND DIGGING TO LOCATE FAA CABLING AND SHALL PROVIDE ADEQUATE PROVISIONS TO PROTECT ALL FAA CABLES EXPOSED DURING THE PROPOSED WORK. THE SPONSOR/CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE AIRWAY FACILITY SMO AT THE PROJECT PRECONSTRUCTION MEETING SHOULD CABLE RELOCATION BE NECESSARY.
5. ANY DAMAGE TO FAA CABLES, ACCESS ROADS, OR TO FAA FACILITIES DURING THE CONSTRUCTION WILL REQUIRE THE CONTRACTOR TO REPLACE THE DAMAGED CABLES, ACCESS ROAD, OR FAA FACILITIES TO THE AF SMO'S REQUIREMENTS, AND AT THE CONTRACTORS' EXPENSE.
6. IF ANY FAA POWER, CONTROL, OR SIGNAL CABLES ARE DAMAGED, THE SPONSOR/CONTRACTOR SHALL REPLACE THE CABLE IN ITS ENTIRETY. THE SPLICING OF CABLES IS NOT AN ACCEPTABLE FORM OF REPAIR.



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 218-722-1203 FAX 218-722-1052
 www.rsandrh.com



**DULUTH INTERNATIONAL AIRPORT
 DULUTH, MN**

**PBB
 GATES 1 & 4
 REPLACEMENT**

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Signature _____

Typed Name _____

Date 07-22-2009 Reg. No. _____

REVISIONS

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DATE ISSUED: 07/17/2009

REVIEWED BY: PCB

DRAWN BY: M.J.L.

DESIGNED BY: PCB

AEP PROJECT NUMBER
214-1882-098

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SHEET TITLE

SAFETY AND SECURITY NOTES AND DETAILS

SHEET NUMBER
C002

BID DOCUMENT

GENERAL PHASING NOTES:

1. THE CONSTRUCTION PHASING OUTLINED IN THE ATTACHED PLANS. THE LIMITS ARE ESTABLISHED, AS SUCH, TO MINIMIZE THE DISRUPTION OF AIRFIELD OPERATIONS DURING CONSTRUCTION. ALL WORK IS WITHIN THE AIRCRAFT OPERATIONS AREA (AOA). DUE TO THE IMPORTANCE OF MAINTAINING AIRFIELD OPERATIONS AND SAFETY AND SECURITY DURING CONSTRUCTION, THE CONTRACTOR IS REMINDED THAT WHILE WORKING WITHIN THIS AREA, IT IS THE CONTRACTOR'S RESPONSIBILITY TO BE APPRAISED OF, AND TO IMPLEMENT, THE GUIDELINES ESTABLISHED IN THE SPECIAL PROVISIONS UNDER SAFETY AND SECURITY.
2. THE CONTRACTOR SHALL BE GIVEN A SPECIFIC NUMBER OF CALENDAR DAYS TO PERFORM THE WORK AND IF THE CONTRACTOR DOES NOT COMPLETE THE CONSTRUCTION WITHIN THAT TIME FRAME, LIQUIDATED DAMAGES WILL BE ASSESSED UNLESS THE CONTRACTOR CAN SHOW JUST CAUSE FOR ANY DELAYS. IF THE ENGINEER, OR AIRPORT MANAGEMENT FEELS THAT CONSTRUCTION IS PROCEEDING AT TOO SLOW A PACE, THE ENGINEER SHALL NOTIFY THE CONTRACTOR IN WRITING AND THE CONTRACTOR SHALL BE REQUIRED TO RESPOND IN WRITING JUSTIFYING THE IDENTIFIED DELAYS AND/OR LACK OF ADEQUATE EQUIPMENT. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE JUSTIFICATION FOR WAIVING OF ANY LIQUIDATED DAMAGES CHARGED TO THE CONTRACTOR.
3. THE CONTRACTOR SHALL, AT ALL TIMES, COORDINATE HIS EFFORTS WITH THE ENGINEER. IF ANY PROBLEMS ARISE DURING THE CONSTRUCTION SEQUENCING, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER TO HELP RESOLVE SAID PROBLEMS PRIOR TO CONTINUING THE WORK.
4. THE CONTRACTOR SHALL PERFORM ALL FINAL CLEANUP WORK PRIOR TO A FINAL INSPECTION. THE CONTRACTOR SHALL ALSO CONTINUOUSLY CLEAN UP DURING EACH PHASE OF THE PROJECT.
5. THE CONTRACTOR SHALL PROVIDE FLAGMEN DESIGNATED TO OBSERVE ALL AIRCRAFT ACTIVITIES AROUND THE CONSTRUCTION AREAS FOR AIRCRAFT ARRIVING OR PREPARING TO DEPART FROM SAID AREAS NEAR THE CONSTRUCTION. THE FLAGMEN WILL STOP ANY CONSTRUCTION TRAFFIC WHERE THE AIRCRAFT CROSSES NEAR THE CONSTRUCTION, AND IF NECESSARY, REQUIRE THE CONSTRUCTION EQUIPMENT TO MOVE TO ALLOW SAFE PASSAGE OF THE AIRCRAFT. IF IT IS DETERMINED THAT A CONSIDERABLE AMOUNT OF AIRCRAFT ACTIVITY IS OCCURRING AND THE TRAFFIC WILL CAUSE CONSIDERABLE DELAYS FOR THE CONTRACTOR, THE CONTRACTOR SHALL REQUEST A MEETING WITH THE AIRPORT MANAGEMENT AND ENGINEER TO COORDINATE AND ALLEVIATE THE DELAYS.
6. THE CONTRACTOR SHALL SWEEP ON A DAILY BASIS, AS NECESSARY OR AS DIRECTED BY THE ENGINEER, THE ACTIVE AIRPORT AREAS NEAR CONSTRUCTION ACTIVITIES WHICH HAS HAD ANY FOREIGN OBJECT DEBRIS (FOD) DEPOSITED BY AUTOMOBILE OR CONSTRUCTION EQUIPMENT OR BY WIND BLOWING DEBRIS OR MATERIALS ONTO THOSE ACTIVE AREAS. IT IS IMPERATIVE THAT NO DAMAGE BE DONE TO ANY AIRCRAFT DUE TO FOD. ANY DAMAGE DONE TO AIRCRAFT WHICH IS ATTRIBUTABLE TO FOD FROM THE CONSTRUCTION AREAS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE WITH NO REIMBURSEMENT BY THE AIRPORT, ENGINEER OR THEIR AUTHORIZED REPRESENTATIVES.
7. THE CONTRACTOR SHALL BE REQUIRED TO SUBMIT HIS RECOMMENDED FIELD OPERATIONS AREAS FOR STORAGE OF EQUIPMENT, SUPPLIES AND FIELD OFFICES TO THE ENGINEER AND AIRPORT MANAGER AT THE PRECONSTRUCTION CONFERENCE FOR REVIEW, COMMENTS AND/OR APPROVAL. ANY AREAS RECOMMENDED FOR STORAGE OF EQUIPMENT OVERNIGHT, FOR STORAGE OF FUELING FACILITIES, MATERIALS AND OFFICES SHALL BE APPROVED BY THE AIRPORT MANAGEMENT AND ENGINEER PRIOR TO MOBILIZATION OF ANY EQUIPMENT OR FIELD OFFICES AND CERTIFIED BY THE CONTRACTOR THAT THE FACILITIES MEET ALL APPLICABLE LOCAL, STATE, AND FEDERAL REQUIREMENTS.
8. ANY AREAS UTILIZED AS FIELD OPERATIONS AREAS SHALL BE MAINTAINED AT ALL TIMES IN A CLEAN AND ENVIRONMENTALLY SAFE CONDITION. IF THE CONTRACTOR MUST UTILIZE AGGREGATE BASE MATERIALS TO PROVIDE A STABLE SURFACE FOR EQUIPMENT STORAGE, THEN ANY MATERIALS UTILIZED WILL BE REMOVED AT THE END OF THE PROJECT AND DISPOSED OF AT A LOCATION ACCEPTABLE TO THE OWNER. A STABLE BASE EXTENDING FROM EXISTING PAVEMENT, NOT SCHEDULED FOR RECONSTRUCTION, TO THE FIELD OFFICES SHALL BE PROVIDED FOR CLEAN ACCESS.
9. ANY DAMAGE TO EXISTING AIRFIELD SECURITY FENCING OR GATES CAUSED BY THE CONTRACTOR OR HIS REPRESENTATIVES SHALL BE REPAIRED BY THE CONTRACTOR IMMEDIATELY AT NO EXPENSE TO THE AIRPORT AUTHORITY.

BARRICADE PLACEMENT NOTES:

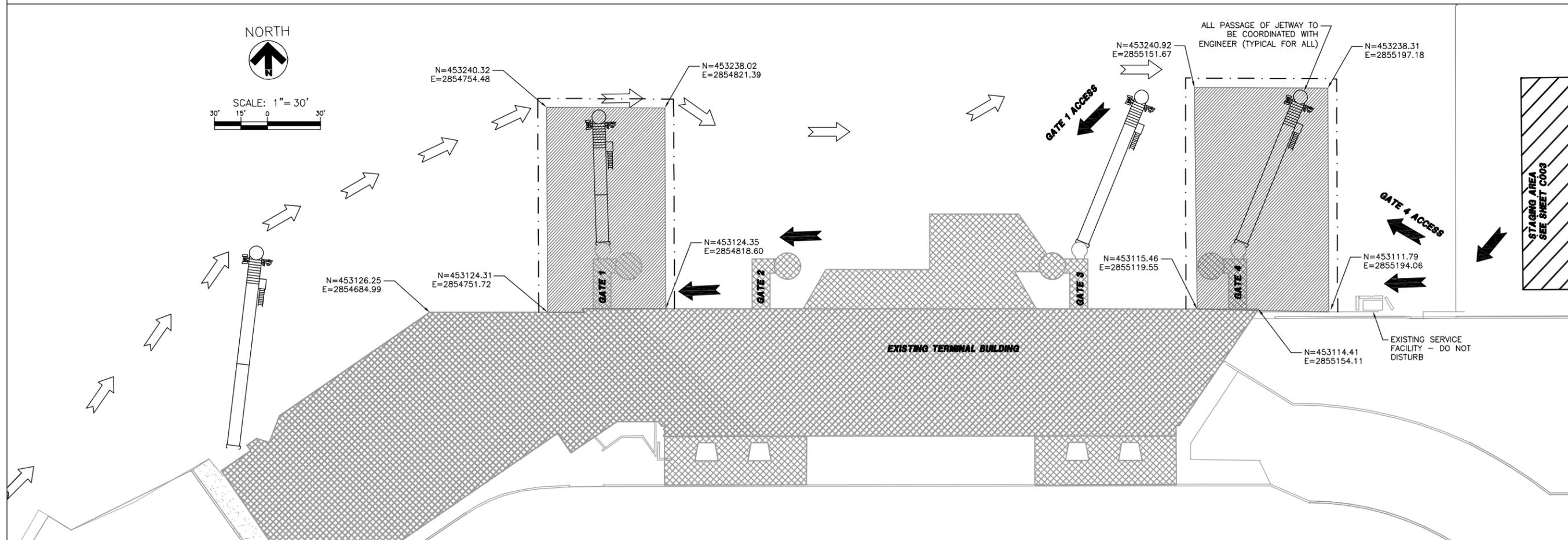
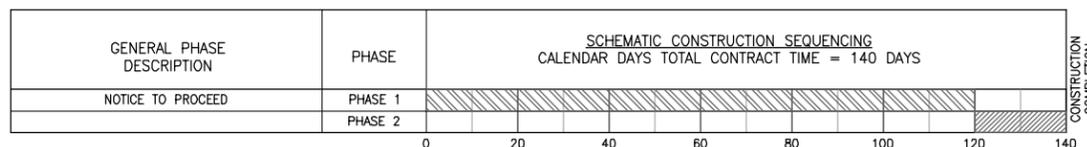
1. BARRICADES SHALL BE INSTALLED AND MAINTAINED AT THE LOCATIONS SHOWN ON SHEET C003. BARRICADES SHALL BE INSTALLED AT THE BEGINNING OF EACH PHASE AND SHALL REMAIN IN PLACE THROUGHOUT THE PHASE. IF THE CONTRACTOR MUST TEMPORARILY REMOVE ANY OF THE BARRICADES (TO ALLOW CONSTRUCTION TRAFFIC TO TRAVEL INTO OR OUT OF THE CONSTRUCTION AREA, OR TO COMPLETE CONSTRUCTION AT THE PHASE BOUNDARY), THE CONTRACTOR SHALL PROVIDE A FLAGMAN TO PREVENT AIRCRAFT FROM INADVERTENTLY TRAVELING INTO THE CONSTRUCTION AREA UNTIL THE BARRICADE IS REPLACED TO ITS ORIGINAL POSITION.
2. BARRICADES SHALL CONFORM TO THE LOW LEVEL BARRICADE DETAIL SHOWN ON THE PLANS. THE BARRICADES SHALL BE SPACED AT TWENTY FOOT CENTERS WITH FLASHING RED LIGHTS AND WEIGHTED TO PREVENT MOVEMENT FROM JET OR PROP BLAST.
3. BARRICADES SHALL BE PROVIDED BY THE DULUTH AIRPORT AUTHORITY. HOWEVER IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO TRANSPORT, SETUP AND MAINTAIN THE BARRICADES DURING EACH PHASE OF THE PROJECT.

NOTES:

1. PROPOSED PAVEMENT MARKING SHALL BE PLACED AFTER ALL PAVEMENT REPAIRS HAVE BEEN COMPLETED.
2. CALENDAR DAYS: IT IS ANTICIPATED THAT THE CONTRACTOR WILL COMPLETE THE WORK SHOWN WITHIN THE CALENDAR DAYS NOTED FOR EACH PHASE.
3. LIQUIDATED DAMAGES: BECAUSE OF THE CRITICAL LIMITATIONS IMPOSED ON THE AIRLINES DUE TO PARTIAL CLOSURE OF THE APRON, LIQUIDATED DAMAGES IN THE AMOUNT OF \$500 PER CALENDAR DAY WILL BE DEDUCTED FROM THE MONIES OWED THE CONTRACTOR FOR EACH CALENDAR DAY THAT THE APRON IS CLOSED AFTER THE CLOSURE TIME LIMITS HAVE EXPIRED.
4. THE CONTRACTOR SHALL COORDINATE CLOSELY WITH THE AIRPORT DIRECTOR TO SCHEDULE THE APRON CLOSURES. ITEMS SUCH AS THE EXTENDED WEATHER FORECAST, MATERIAL AVAILABILITY, EQUIPMENT DEPENDABILITY AND MANPOWER AVAILABILITY SHALL BE DISCUSSED PRIOR TO SCHEDULING THE APRON CLOSURES. THE AIRPORT DIRECTOR AND THE CONTRACTOR SHALL MUTUALLY AGREE ON THE EXACT DATE OF THE CLOSURES.
5. ONCE THE CLOSURE DATES HAVE BEEN SCHEDULED, A WRITTEN AGREEMENT SPECIFYING THE TERMS OF THE CONTRACT AND THE DATES OF CLOSURE WILL BE EXECUTED BY THE CONTRACTOR AND THE ENGINEER.
6. CONTRACT SHALL HAVE ONE PHASE, AND ALL BARRICADES SHALL BE IN PLACE PRIOR TO ANY DEMOLITION OR REMOVAL WORK IS BEGUN.

LEGEND

-  PHASE 1 (MOBILIZATION)
-  PHASE 2 (CONSTRUCTION)
-  LOW LEVEL LIGHTED BARRICADE LINE
-  CONTRACTOR HAUL ROUTE FOR PBB DELIVERY
-  CONTRACTOR ACCESS



Reynolds, Smith and Hills, Inc.
 4525 Airport Approach Road, Ste A
 Duluth, Minnesota 55811
 218-722-1203 FAX 218-722-1052
 www.rsandh.com



**DULUTH INTERNATIONAL AIRPORT
 DULUTH, MN**

**PBB
 GATES 1 & 4
 REPLACEMENT**

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DRAWN BY: M.J.L.
DESIGNED BY: PCB
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SHEET TITLE
**PROJECT PHASING
 PLAN AND NOTES**

SHEET NUMBER
C004

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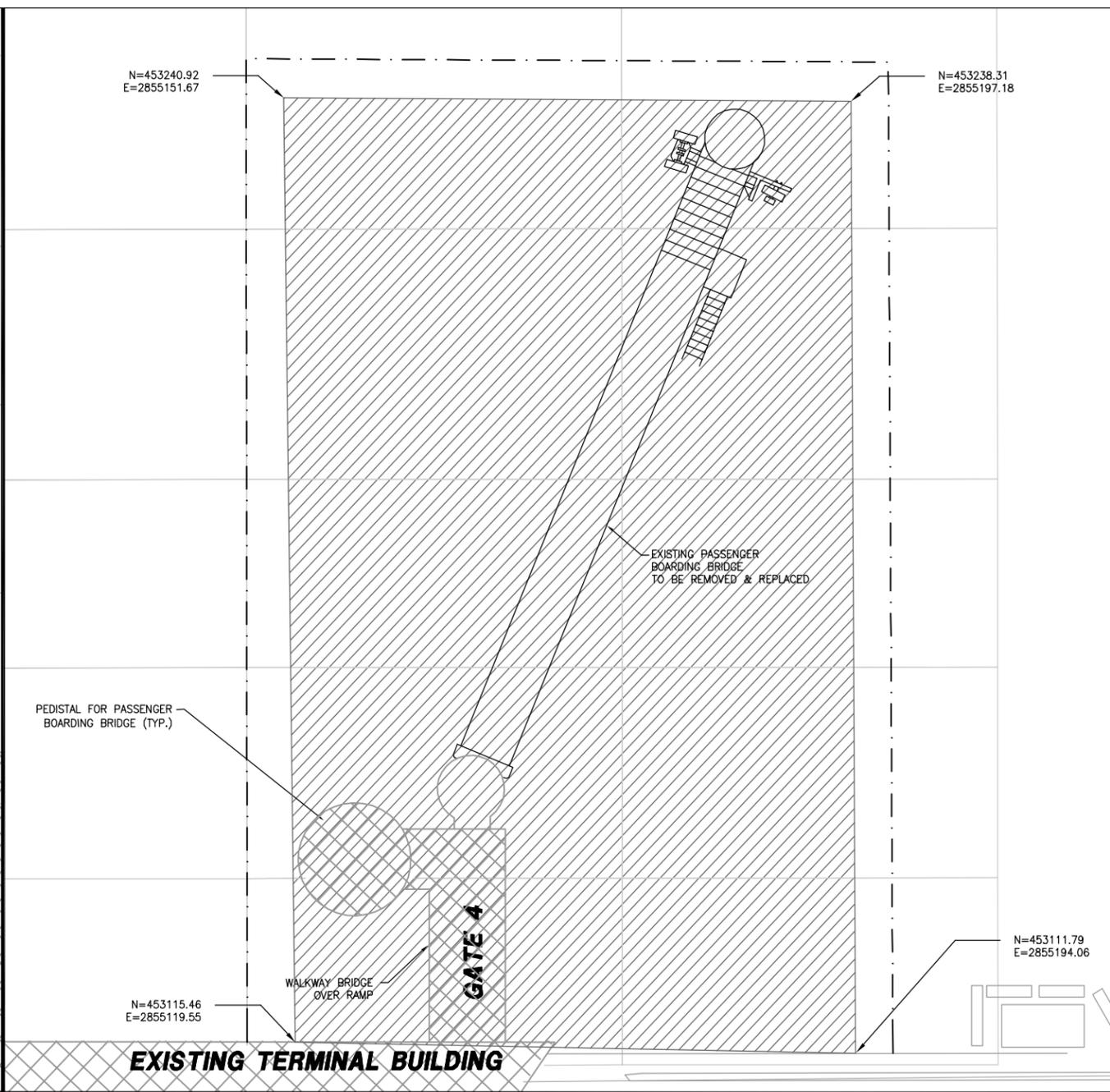
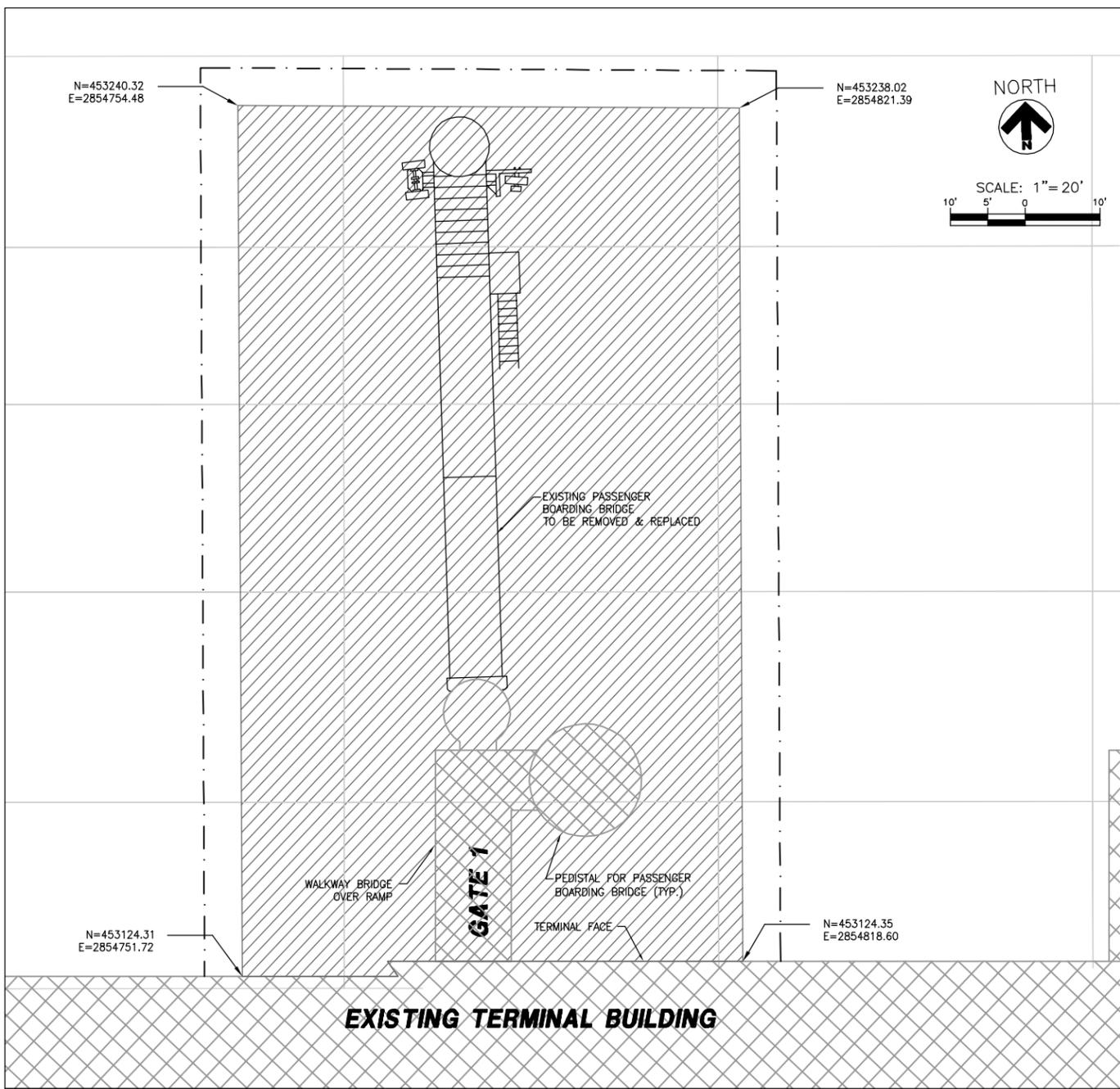
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DESIGNED BY: PCB

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SHEET TITLE
**EXISTING
CONDITIONS**

SHEET NUMBER
C101

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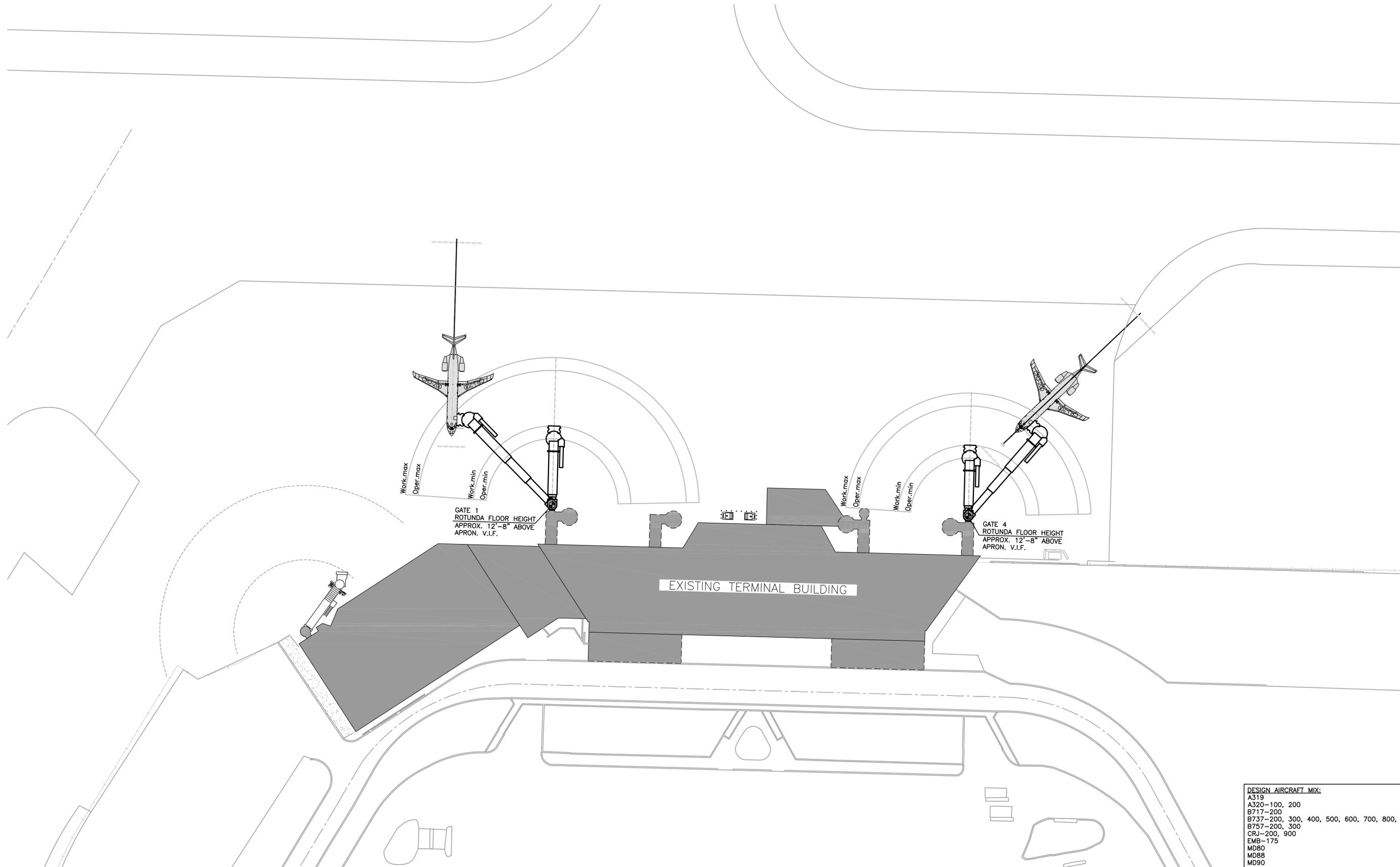


LEGEND

- PHASE 2 (CONSTRUCTION)
- LOW LEVEL LIGHTED BARRICADE LINE

GATE 1 - PLAN VIEW

GATE 4 - PLAN VIEW



GATE 1
ROTUNDA FLOOR HEIGHT
APPROX. 12'-8" ABOVE
APRON, V.I.F.

GATE 4
ROTUNDA FLOOR HEIGHT
APPROX. 12'-8" ABOVE
APRON, V.I.F.

EXISTING TERMINAL BUILDING

DESIGN AIRCRAFT MIX:
A319
A320-100, 200
B717-200
B737-200, 300, 400, 500, 600, 700, 800, 900
B757-200, 300
CRJ-200, 900
EMB-175
MD80
MD88
MD90

AIRCRAFT PARKING PLAN - EXISTING TERMINAL



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DRAWN BY: MKG

DESIGNED BY:
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SHEET TITLE
**EXISTING
TERMINAL
AIRCRAFT
PARKING PLAN**

SHEET NUMBER
AP-01

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SHEET TITLE

NEW

TERMINAL

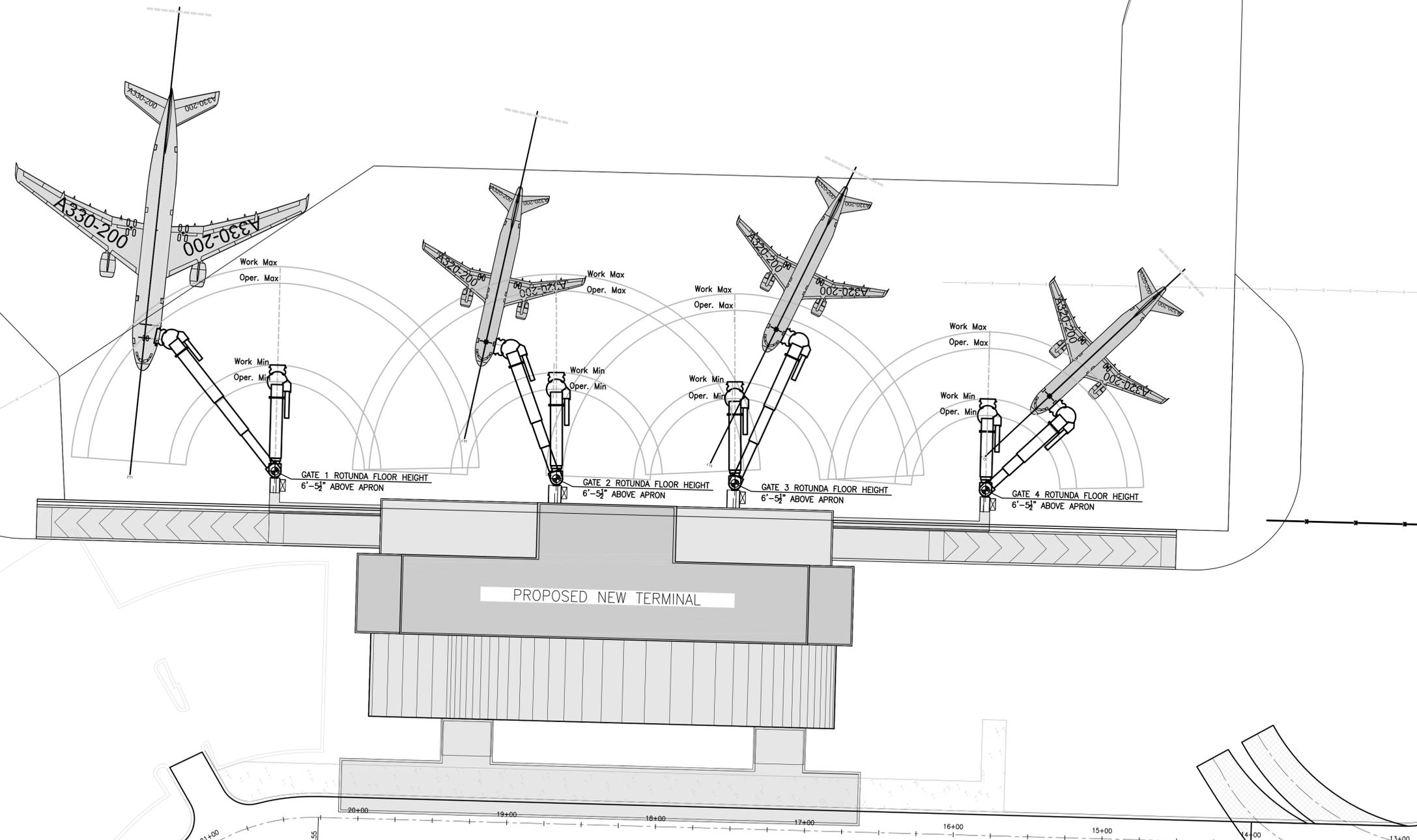
AIRCRAFT

PARKING PLAN

SHEET NUMBER

AP-02

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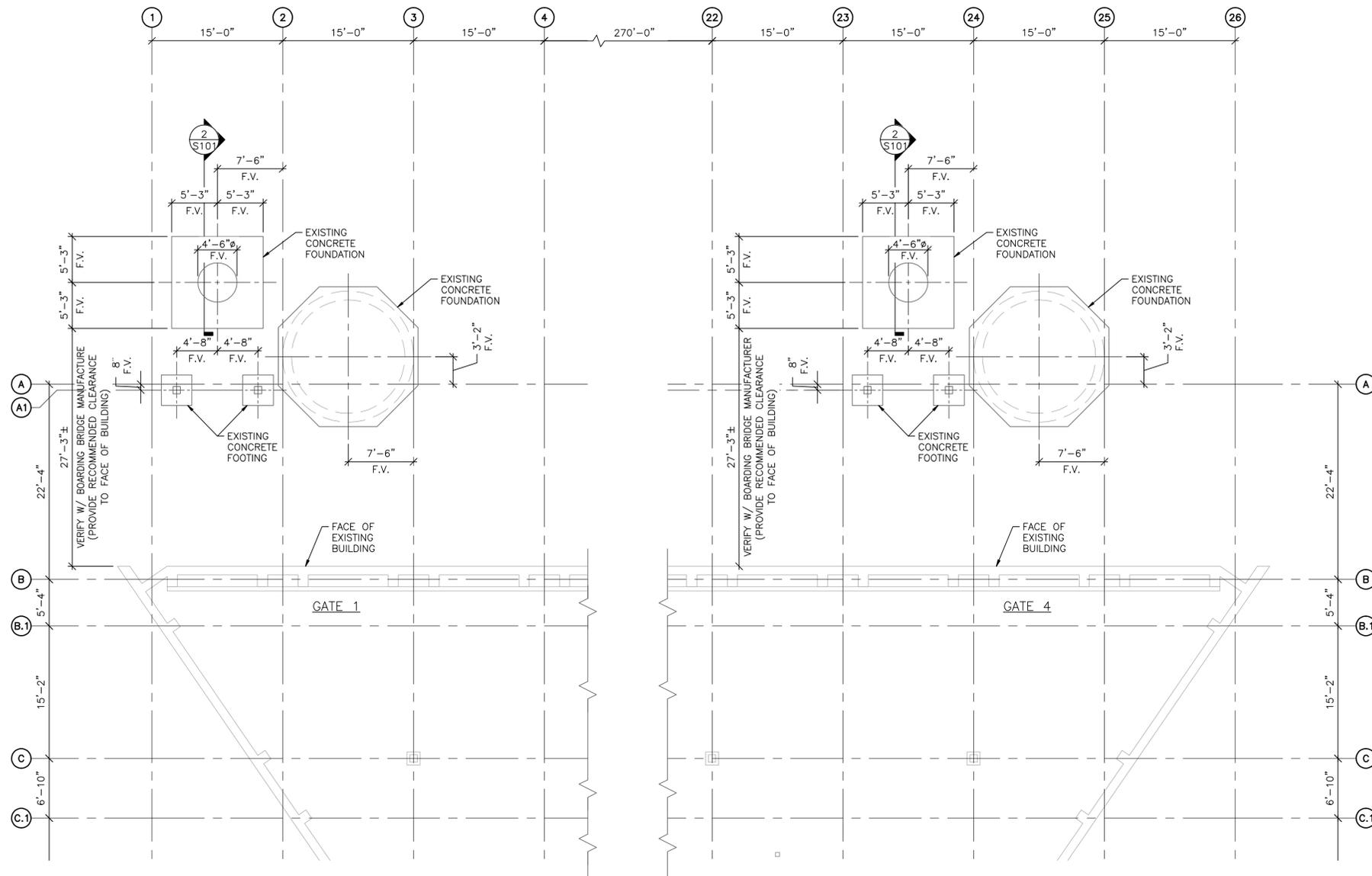


DESIGN AIRCRAFT MIX GATES 2-4

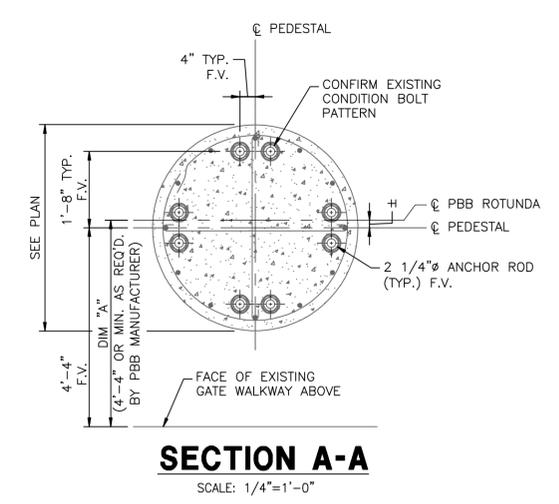
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|---|--|
| A319 | |
| A320-100, 200 | |
| B717-200 | |
| B737-200, 300, 400, 500, 600, 700, 800, 900 | |
| B757-200, 300 | |
| CRJ-200, 900 | |
| EMB-175 | |
| MD80 | |
| MD88 | |
| MD90 | |

AIRCRAFT PARKING PLAN - NEW TERMINAL

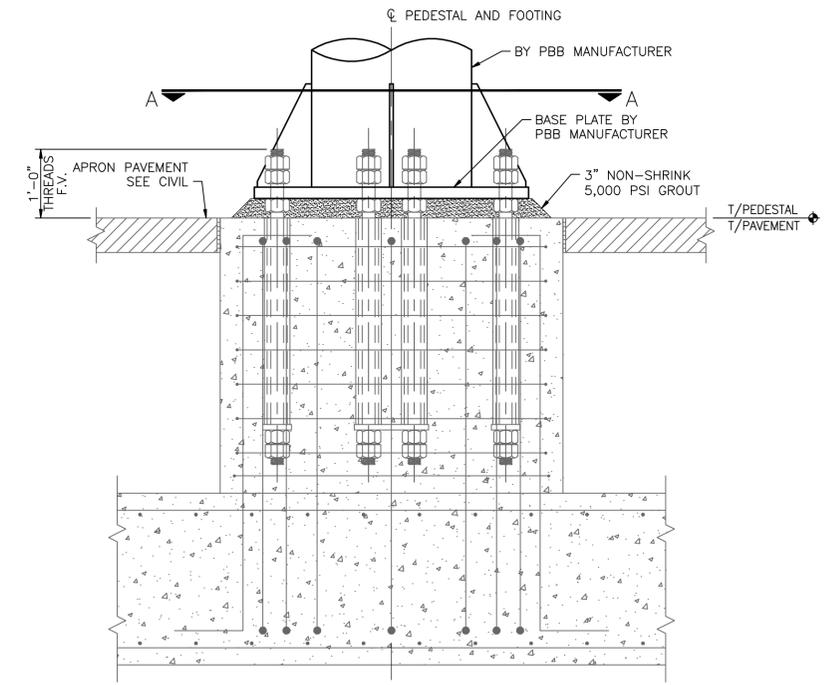




1 PARTIAL FOUNDATION PLAN
 SCALE: 1/8"=1'-0"



SECTION A-A
 SCALE: 1/4"=1'-0"



2 SECTION
 SCALE: 3/8"=1'-0"

NOTES:

- "F.V." DENOTES FIELD VERIFY.
- PBB MANUFACTURER TO PROVIDE PBB BASE PLATE TO FIT EXISTING CONDITIONS. MANUFACTURER TO SUPPLY TO ENGINEER FROM SECTION A-A, DIM. "A" PRIOR TO CONSTRUCTION FOR VERIFICATION THAT EXIST. PEDESTAL COMPLIES WITH ALL APPLICABLE CODES.
- THIS FOUNDATION DESIGN IS PRELIMINARY. FOUNDATION DESIGN IS NOT FOR CONSTRUCTION. PRIOR TO FABRICATION AND CONSTRUCTION, PBB MANUFACTURER SHALL SUBMIT REACTIONS TO ENGINEER FOR VERIFICATION THAT EXISTING FOUNDATIONS COMPLIES WITH ALL APPLICABLE CODES.

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DATE ISSUED: 7/24/09
 REVIEWED BY: RLM
 DRAWN BY: WAJ
 DESIGNED BY: ARJ

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SHEET TITLE
PARTIAL FOUNDATION PLAN

SHEET NUMBER
S101

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SHEET TITLE

**GENERAL NOTES
AND TYPICAL
DETAILS**

SHEET NUMBER

S102

BID DOCUMENT

DESIGN CRITERIA

DESIGN PER 2007 EDITION OF THE MINNESOTA STATE BUILDING CODE, UNLESS OTHERWISE NOTED.

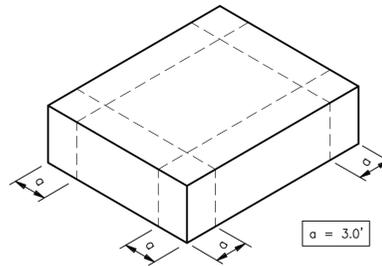
- LIVE LOADS**
 - ROOFS _____ 100 PSF
 - FLOORS (U.O.N.) _____ 100 PSF
 - STAIRS & CORRIDORS _____ 100 PSF
 - MECHANICAL ROOFS _____ 150 PSF
 - GROUND SNOW LOAD _____ 80 PSF
 - STORAGE AREAS _____ 125 PSF
- WIND LOADS**
 - BASIC WIND SPEED _____ 90 MPH
 - IMPORTANCE FACTOR _____ 1.15
 - EXPOSURE CATEGORY _____ 'C'
 - INTERNAL PRESSURE COEFFICIENT _____ ±0.18
 - COMPONENTS AND CLADDING WIND PRESSURES _____ SEE 1/S102
- CONCRETE (DESIGN PER CURRENT EDITION A.C.I. 318)**
 - SLAB ON GRADE _____ f'c= 4,000 PSI
 - FOOTINGS _____ f'c= 4,000 PSI
 - ALL OTHER CONCRETE _____ f'c= 4,000 PSI
- ALL REINFORCING STEEL ASTM A615 GRADE 60.
- WELDED WIRE FABRIC _____ ASTM A185
- ALL BOLTS SHALL BE 3/4"Ø, GALVANIZED, ASTM A325 (U.O.N.).
- WELDS SHALL BE E70XX ELECTRODE PER A.W.S. D1.1 CODE (CURRENT EDITION)
- SOIL BEARING (DESIGN MAXIMUM) _____ 4,500 PSF

GENERAL STRUCTURAL NOTES

- THE STRUCTURAL NOTES SHALL GOVERN IN MATTERS COVERED ON THE STRUCTURAL DRAWINGS. SEE PROJECT SPECIFICATION AND OTHER DRAWINGS FOR FURTHER REQUIREMENTS. TOTAL PROJECT DEFINITION WILL BE PROVIDED BY COMBINING PROJECT SPECIFICATIONS, ARCHITECTURAL, STRUCTURAL, MECHANICAL, PLUMBING, AND ELECTRICAL DRAWING PACKAGES.
- THE DRAWINGS REPRESENT THE FINISHED STRUCTURE, UNLESS OTHERWISE INDICATED. THEY DO NOT REPRESENT THE METHOD OF CONSTRUCTION. REFER TO DEMOLITION PLANS FOR EXTENT OF EXISTING STRUCTURE TO BE REMOVED. STRUCTURAL DRAWINGS AND DETAILS REFLECT CONDITION OF EXISTING STRUCTURE AFTER DEMOLITION WORK IS COMPLETED.
- THE CONTRACTOR SHALL TAKE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE AND ANY PERSONNEL DURING CONSTRUCTION. SUCH MEASURES SHOULD INCLUDE, BUT NOT BE LIMITED TO TEMPORARY BRACING AND SHORING OF DEAD LOADS, CONSTRUCTION LOADS, WIND LOADS, ETC.
- FOR EXCAVATION SLOPE STABILITY, COMPLY WITH LOCAL CODES AND ORDINANCES AND REQUIREMENTS OF AGENCIES HAVING JURISDICTION. SLOPE SIDES OF EXCAVATIONS AS NECESSARY FOR STABILITY AND COMPLIANCE. SHORE AND BRACE WHERE SLOPING IS NOT POSSIBLE EITHER BECAUSE OF SPACE RESTRICTIONS OR STABILITY OF MATERIAL EXCAVATED. REFER TO GEOTECHNICAL REPORT FOR FURTHER EXCAVATION STABILITY REQUIREMENTS.
- IF FOOTING ELEVATIONS SHOWN OCCUR IN A DISTURBED, UNSTABLE OR UNSUITABLE SOIL THE ENGINEER SHALL BE NOTIFIED.
- CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS OF EXISTING SITE AND STRUCTURE THAT ARE AFFECTED BY NEW WORK BEFORE PROCEEDING WITH FABRICATION AND CONSTRUCTION. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING FINISH FLOOR ELEVATIONS AND MATCH EXISTING ELEVATIONS WITH ADJACENT NEW FLOOR CONSTRUCTION. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS OF EXISTING STRUCTURE ADJACENT TO NEW WORK AND COORDINATE ALL DISCREPANCIES WITH CONTRACT DOCUMENTS PRIOR TO FABRICATION AND CONSTRUCTION.
- ALL STRUCTURAL OPENINGS AROUND OR AFFECTED BY ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND PLUMBING EQUIPMENT SHALL BE VERIFIED WITH EQUIPMENT PURCHASED BEFORE PROCEEDING WITH STRUCTURAL WORK AFFECTED. SEE ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS FOR OPENINGS, SLEEVES, ETC. NOT SHOWN ON THE STRUCTURAL DRAWINGS.
- FOUNDATION DESIGN IS BASED ON THE RECOMMENDATIONS CONTAINED IN GEOTECHNICAL REPORT NO. 07-02357 BY AMERICAN ENGINEERING TESTING, INC. DATED DECEMBER 22, 2005.

CONCRETE AND REINFORCING NOTES

- ALL CONCRETE WORK SHALL COMPLY WITH THE BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (CURRENT ADDITION ACI 318).
- UNLESS OTHERWISE SHOWN ON DRAWINGS, MINIMUM COVER FOR REINFORCING SHALL BE AS FOLLOWS:
 - FOOTINGS _____ 3"
 - COLUMNS AND PEDESTALS (OVER VERTICAL REINF.) _____ 2"
 - SLABS ON GRADE _____ 1 1/2" FROM T/SLAB
- ALL REINFORCING SHALL BE HELD SECURELY IN POSITION WITH STANDARD ACCESSORIES IN CONFORMANCE WITH THE CURRENT EDITIONS OF THE CRSI MANUAL OF STANDARD PRACTICE AND ACI 531 DURING THE PLACING OF THE CONCRETE.
- SEE ARCHITECTURAL, ELECTRICAL AND MECHANICAL PLANS FOR CAST IN PLACE BOLTS, INSERTS, ANCHORS, ETC. AND FOR ALL SLAB LEAVE-OUTS, SLOPES, DEPRESSIONS, SLEEVES, ETC.
- WELDED REINFORCEMENTS SHALL CONFORM TO AWS D1.4.
- ALL HOOKS IN REINFORCING BARS SHALL BE AN ACI STANDARD HOOK, UNLESS OTHERWISE NOTED.
- SPLICES IN REINFORCING, WHERE PERMITTED, SHALL BE AS FOLLOWS
 - WELDED WIRE FABRIC _____ WIRE SPACING PLUS 2"



- EDGE ZONE (α) IS DISTANCE FROM CORNERS OF BUILDINGS AND IS SHOWN ON DIAGRAM ABOVE.
- POSITIVE AND NEGATIVE SIGNS SIGNIFY PRESSURES ACTING TOWARDS AND AWAY FROM THE BUILDINGS SURFACES, RESPECTIVELY.
- FOR EFFECTIVE AREAS BETWEEN VALUES GIVEN, INTERPOLATION MAY BE USED OTHERWISE USE THE LOWER EFFECTIVE AREA.

| COMPONENT LOCATION | EFFECTIVE WIND AREA | | |
|------------------------------|---------------------|-----------|-----------|
| | 10 S.F. | 100 S.F. | 500 S.F. |
| WINDWARD WALL | 24.6 PSF | 20.8 PSF | 18.3 PSF |
| LEEWARD WALL - INTERIOR ZONE | -26.7 PSF | -22.9 PSF | -20.4 PSF |
| LEEWARD WALL - EDGE ZONE | -32.9 PSF | -25.8 PSF | -20.4 PSF |
| ROOF - WINDWARD ZONE | 10.0 PSF | 7.92 PSF | 7.92 PSF |
| ROOF - LEEWARD INTERIOR ZONE | -24.6 PSF | -22.5 PSF | -22.5 PSF |
| ROOF - LEEWARD EDGE ZONE | -41.3 PSF | -26.7 PSF | -26.7 PSF |
| ROOF - LEEWARD CORNER ZONE | -62.1 PSF | -26.7 PSF | -26.7 PSF |

**COMPONENT & CLADDING
WIND PRESSURE TABLE**

1
S102

SCALE: N.T.S.