DOCUMENT 00 00 13

ADDENDUM NO. 3
June 9, 2025

Taxiway A Reconstruction – Phase 6 and Midfield Ramp Repair – Phase 3

Duluth International Airport
Duluth Airport Authority
AIP No. 3-27-0024-080-2024
SP No. A6901-220, A6901-222
City of Duluth No. 25-4406
SEH No. DULAI 179719 & 180793

From: Short Elliott Hendrickson Inc.
3535 Vadnais Center Drive
St. Paul, MN 55110-3507
651.490.2000

To: Document Holders

DOCUMENT HOLDERS on the above-named project are hereby notified that this document shall be appended to, take precedence over and become part of the original bidding documents dated May 13, 2025, Addendum No. 1 dated June 2, 2025, and Addendum No. 2 dated June 3, 2025 for this work. Bids submitted for the construction of this work shall conform to this document.

This addendum consists of the revised bid form reflected in BidExpress, revisions to the specifications, and revisions to drawings.

Changes to Bidding Requirements:

1. Document 00 11 13 – Advertisement for Bids: The document is updated to reflect a revised bid opening time as follows:

   "Notice is hereby given that Online Bids will be received by the City of Duluth, on behalf of the Duluth Airport Authority, until **2:00pm, Wednesday, June 11, 2025**."

2. Document 00 41 00 – Bid Form: The document is updated reflect a revised bid opening time as follows:

   "BIDS TO BE OPENED: **2:00PM, Wednesday, June 11, 2025**."

3. Document 00 41 00 – Bid Form: The bid form has been revised to reflect updated project quantities and revised bid item descriptions. The Bid Form is updated in BidExpress.

Changes to Specifications:

4. Specification L-125 Installation of Airport Lighting Systems is updated to reflect the addition of a bid item for the installation of a 10kW constant current regulator. Language regarding constant current regulator requirements is updated in sections 125-2.14 and 125-3.5. DELETE in its entirety and REPLACE with the attached revised specification section.

5. Specification D-705 Pipe Underdrain for Airports is updated to reflect a revised bid item as follows for the first item listed under Section 705-5.2:

   Item D-705 Drain Tile (6" Perforated SDR35 PVC Pipe, including trench, backfill, fabric) – per linear foot

Changes to Drawings:

6. Plan Set A – Drawing G1.01 Construction Safety Plan Notes: The following text shall be added to the end of Note 26: “The contractor will be required to move all equipment out of the construction site to one of the designated contractor storage areas for the duration of the Duluth Air Show.”

7. Plan Set A – Drawing G2.01 Phasing Conditions Phase 6A and 6A-1: Updated to reflect temporary airfield signage adjustments and requirements during construction. DELETE in its entirety and REPLACE with the attached revised drawing.

8. Plan Set A – Drawing G2.03 Phasing Conditions Phase 6B: Updated to reflect temporary airfield signage adjustments and requirements during construction. DELETE in its entirety and REPLACE with the attached revised drawing.

9. Plan Set A – Drawing G5.03 Statement of Estimated Quantities: Updated to reflect the addition of an L-125 bid item for the installation of a 10kW constant regulator, revised quantities for L-125 constant current regulator bid items, and select electrical bid item quantity revisions. Plan sheet is also updated to reflect revised bid item descriptions for D-705 drain tile bid items and a revised quantity for D-751 Adjust Manhole/Catch Basin Casting bid item. DELETE in its entirety and REPLACE with the attached revised drawing.

10. Plan Set A – Drawing G5.04 Statement of Estimated Quantities: Updated to reflect an additional SEQ note that addresses requirements for P-154 Geogrid bid item. Plan sheet is also updated to reflect revised bid item descriptions for D-705 drain tile bid items DELETE in its entirety and REPLACE with the attached revised drawing.

11. Plan Set A – Drawing E-401 Electrical Vault Plan: Updated to reflect the installation of an additional two constant current regulators. DELETE in its entirety and REPLACE with the attached revised drawing.

Attachments:
Updated Bid Form reflected in BidExpress
Updated Specifications
Updated Drawings

Note: Receipt of this Addendum No.3, dated June 9, 2025 shall be acknowledged on BidExpress. Failure to do so will not allow Bidder to submit Bid.

END OF ADDENDUM

Item L-125 Installation of Airport Lighting Systems

DESCRIPTION

125-1.1 This item shall consist of airport lighting systems furnished and installed in accordance with this specification, the referenced specifications, and the applicable advisory circulars (ACs). The systems shall be installed at the locations and in accordance with the dimensions, design, and details shown in the plans. This item shall include the furnishing of all equipment, materials, services, and incidentals necessary to place the systems in operation as completed units to the satisfaction of the RPR.

125-1.2 The contractor shall ascertain that all lighting system components furnished (including FAA approved equipment) are compatible in all respects with each other and the remainder of the new/existing system. Any non-compatible components furnished by the contractor shall be replaced at no additional cost to the airport sponsor with a similar unit, approved by the engineer (different model or different manufacturer) that is compatible with the remainder of the airport lighting system.

125-1.3 Additional details pertaining to a specific system covered in this item are contained in the FAA Advisory Circulars listed below:

AC 150/5340-30 Design and Installation Details for Airport Visual Aids

The Contractor is responsible for using the latest editions of the referenced FAA Advisory Circulars, including any changes, in effect at the time of bidding. The advisory circulars may be obtained free of charge on the internet at the following address:

http://www.faa.gov/airports_airtraffic/airports/resources/advisory_circulars/

EQUIPMENT AND MATERIALS

125-2.1 General.

a. Airport lighting equipment and materials covered by Federal Aviation Administration (FAA) specifications shall be certified under the Airport Lighting Equipment Certification Program in accordance with AC 150/5345-53, current version. FAA certified airfield lighting shall be compatible with each other to perform in compliance with FAA criteria and the intended operation. If the Contractor provides equipment that does not performs as intended because of incompatibility with the system, the Contractor assumes all costs to correct the system for to operate properly.

b. Manufacturer's certifications shall not relieve the Contractor of their responsibility to provide materials in accordance with these specifications and acceptable to the RPR. Materials supplied and/or installed that do not comply with these specifications shall be removed, when directed by the RPR and replaced with materials, which do comply with these specifications, at the sole cost of the Contractor.

c. All materials and equipment used shall be submitted to the RPR for approval prior to ordering the equipment. Submittals consisting of marked catalog sheets or shop drawings shall be provided. Clearly mark each copy to identify pertinent products or models applicable to this project. Indicate all optional

equipment and delete non-pertinent data. Submittals for components of electrical equipment and systems shall identify the equipment for which they apply on each submittal sheet. Markings shall be clearly made with arrows or circles (highlighting is not acceptable). The Contractor shall be responsible for delays in the project accruing directly or indirectly from late submissions or resubmissions of submittals.

d. The data submitted shall be sufficient, in the opinion of the RPR, to determine compliance with the plans and specifications. The Contractor's submittals shall be submitted in electronic PDF format, tabbed by specification section. The RPR reserves the right to reject any or all equipment, materials or procedures, which, in the RPR's opinion, does not meet the system design and the standards and codes, specified herein.

e. All equipment and materials furnished and installed under this section shall be guaranteed against defects in materials and workmanship for a period of at least twelve (12) months from final acceptance by the Owner. The defective materials and/or equipment shall be repaired or replaced, at the Owner's discretion, with no additional cost to the Owner.

125-2.2 Conduit/Duct. Conduit shall conform to Specification Item L-110 Airport Underground Electrical Duct Banks and Conduits.

125-2.3 Cable and Counterpoise. Cable and Counterpoise shall conform to Item L-108 Underground Power Cable for Airports.

125-2.4 Tape. Rubber and plastic electrical tapes shall be Scotch Electrical Tape Numbers 23 and 88 respectively, as manufactured by 3M Company or an approved equal.

125-2.5 Cable Connections. Cable Connections shall conform to Item L-108 Installation of Underground Cable for Airports.

125-2.6 Retroreflective Markers. Not Used.

125-2.7 Runway and Taxiway Lights. Runway and taxiway lights shall conform to the requirements of AC 150/5345-46. Lamps shall be of size and type indicated, or as required by fixture manufacturer for each lighting fixture required under this contract. Filters shall be of colors conforming to the specification for the light concerned or to the standard referenced.

Lights							
Type	**Class**	**Mode**	**Option**	**Base**	**Filter**	**Transformer**	**Notes**
L-861T(L)	2	2	4	L-867B or Stake	Blue	L-830	Taxiway Alpha/Bravo Edge Lights
L-861(L)	2	2	4	L-868B	White White/Amber	L-830	Runway 9-27 Edge Lights

125-2.8 Runway and Taxiway Signs. Runway and Taxiway Guidance Signs should conform to the requirements of AC 150/5345-44.

Signs					
Type	Size	Style	Class	Mode	Notes
L-858R(L)	2	2	2	2	Hold Sign
L-858L(L)	2	2	2	2	Location Sign
L-858Y(L)	2	2	2	2	Directional Sign

125-2.9 Runway End Identifier Light (REIL). Not required.

125-2.10 Precision Approach Path Indicator (PAPI). Not required.

125-2.11 Circuit Selector Cabinet. Not used.

125-2.12 Light Base and Transformer Housings. Light Base and Transformer Housings should conform to the requirements of AC 150/5345-42. Light bases shall be provided as indicated on drawings or as required to accommodate the fixture or device installed thereon. Base plates, cover plates, and adapter plates shall be provided to accommodate various sizes of fixtures.

125-2.13 Isolation Transformers. Isolation Transformers shall be Type L-830 size as required for each installation. Transformer shall conform to AC 150/5345-47.

125-2.14 Constant Current Regulator (CCR). The constant current regulator shall be a Type L-829 conforming to the requirements of AC 150/5345-10. The regulator(s) shall be of the size and steps indicated on drawings, CCR(s) shall be floor mounted but capable of stacking vertically with other CCR's. CCR(s) shall include meggering option and shall be compatible with existing DLH ALCMS. Contractor shall coordinate existing system prior to procurement of CCR. Input shall be single phase with output of 6.6A maximum current at 60 Hz. Lightning protection shall be provided on the input and output of the regulator. The regulator shall have an integrated digital ammeter indicating the output current. Control voltage shall be coordinated with existing ALCMS currently installed. The contractor shall not be responsible for the reprogramming or any modifications to the existing ALCMS.

INSTALLATION

125-3.1 Installation. The Contractor shall furnish, install, connect and test all equipment, accessories, conduit, cables, wires, buses, grounds and support items necessary to ensure a complete and operable airport lighting system as specified here and shown in the plans.

The equipment installation and mounting shall comply with the requirements of the National Electrical Code and state and local code agencies having jurisdiction.

The Contractor shall install the specified equipment in accordance with the applicable advisory circulars and the details shown on the plans.

The Contractor shall provide core-drilling as required to install the new in-pavement runway lighting fixture and shall be incidental to the installation. Contractor shall coordinate locations with RPR prior to work and provide all necessary labor and equipment for a fully functioning system. Should in-pavement fixtures fall within a close enough proximity to pavement jointing, lighting fixture block outs shall be provided as shown on drawings.

125-3.2 Testing. All lights shall be fully tested by continuous operation for not less than 24 hours as a completed system prior to acceptance. The test shall include operating the constant current regulator in

each step not less than 10 times at the beginning and end of the 24-hour test. The fixtures shall illuminate properly during each portion of the test.

125-3.3 Shipping and Storage. Equipment shall be shipped in suitable packing material to prevent damage during shipping. Store and maintain equipment and materials in areas protected from weather and physical damage. Any equipment and materials, in the opinion of the RPR, damaged during construction or storage shall be replaced by the Contractor at no additional cost to the owner. Painted or galvanized surfaces that are damaged shall be repaired in accordance with the manufacturer's recommendations.

125-3.4 Elevated and In-pavement Lights. Water, debris, and other foreign substances shall be removed prior to installing fixture base and light.

A jig or holding device shall be used when installing each light fixture to ensure positioning to the proper elevation, alignment, level control, and azimuth control. Light fixtures shall be oriented with the light beams parallel to the runway or taxiway centerline and facing in the required direction. The outermost edge of fixture shall be level with the surrounding pavement. Surplus sealant or flexible embedding material shall be removed. The holding device shall remain in place until sealant has reached its initial set.

125-3.5 Constant Current Regulator (CCR). The Constant Current Regulator shall comply with FAA AC 150/5345-10 current edition. The CCR shall be type L-829, 3-Step, 480V input voltage and sized as identified in the contract documents.

METHOD OF MEASUREMENT

125-4.1 Removal of the existing airfield electrical shall be measured by lump sum including removal of any airfield lighting fixtures, signage, associated electrical wiring, all existing electrical vault items to be removed, furnishing all materials and for all preparation, assembly, and demolition of these materials, and for all labor, equipment, tools and incidentals necessary to complete this item.

125-4.2 Taxiway edge lights will be measured by the number of each type installed as completed units in place, including base cans, isolation transformers, splice kits, wire slack as indicated in Specification L-110, lights tags, and foundations, ready for operation, and accepted by the RPR.

125-4.3 Temporary taxiway edge lights will be measured by the number of each type installed as completed units in place, including isolation transformers, mounting material, splice kits, straps as required, and lights tags, ready for operation, and accepted by the RPR.

125-4.4 The accepted quantity of L-867 base cans with blank covers will be paid for at the Contract unit price per each, complete and in place. This price shall be full compensation for furnishing all materials and for all preparation, assembly, and installation of these materials, and for all labor, equipment, tools, and incidentals necessary, including but not limited to, spacers, concrete, rebar, dewatering, excavating, and pavement restoration, where required, to complete this item as shown in the plans and to the satisfaction of the RPR.

125-4.5 The accepted quantity of L-868 base cans with blank covers will be paid for at the Contract unit price per each, complete and in place. This price shall be full compensation for furnishing all materials and for all preparation, assembly, and installation of these materials, and for all labor, equipment, tools, and incidentals necessary, including but not limited to, spacers, concrete, rebar, dewatering, excavating, and pavement restoration, where required, to complete this item as shown in the plans and to the satisfaction of the RPR.

125-4.6 Guidance signs will be measured by the number of each type and size installed as completed units, in place, ready for operation, and accepted by the RPR.

125-4.7 Constant Current Regulators (CCRs) shall be measured by each system installed as a completed unit, in place, ready for operation, and accepted by the RPR.

125-4.8 Removal and replacement of runway edge lights will be measured by the number of each type installed as completed units in place, including isolation transformers, splice kits, wire slack as indicated in Specification L-110, ready for operation, and accepted by the RPR.

125-4.9 Precast Handhole shall be measured by each system installed as a completed unit, in place, ready for operation, and accepted by the RPR.

BASIS OF PAYMENT

Payment will be made under:

Item L-125-5.1	Removal of Existing Airfield Electrical – Lump Sum
Item L-125-5.2	L-861T(L) Medium Intensity Taxiway Edge Light (Without Arctic Kit), Blue Lens Installed on New L-867-B Galvanized Base Can (Includes Fixture, Transformer, and Base Can) – Per Each
Item L-125-5.3	L-861T(L) Medium Intensity Taxiway Edge Light (Without Arctic Kit), Blue Lens Installed on Existing L-867-B Galvanized Base Can (Includes Fixture and Transformer) – Per Each
Item L-125-5.4	Existing L-861T(L) Medium Intensity Taxiway Edge Light Removed and Relocated to Existing Base Can (Includes Transformer) – Per Each
Item L-125-5.5	L-858(L) Guidance Sign, Size 2, Including Foundation, Isolation Transformer, Wire, Base Can, and Conduit – Per Each
Item L-125-5.6	L-829 4kW Constant Current Regulator – Per Each
Item L-125-5.7	Temporarily Remove Existing Runway Light Fixture, Base Can, Cable, Conduit, and Isolation Transformer, and Replace Light Fixture on New L-868-B Base Can with New Isolation Transformer in Later Phase – Per Each
Item L-125-5.8	Precast Aircraft-Rated Electrical Handhole - Per Each
Item L-125-5.9	Remove Existing Runway Light Fixture, Base Can, Cable, Conduit, and Isolation Transformer, and Return Light Fixture to Owner – Per Each
Item L-125-5.10	L-852D Runway Light Fixture (Without Arctic Kit), White/White Lens Installed on New L-867-B Galvanized Base Can (Includes Transformer and Base Can) – Per Each
Item L-125-5.11	L-862 Semiflush Runway Edge Light(Without Arctic Kit), White/White Lebs Installed on New L-868B Base Can (Includes Fixture, Transformer, and Base Can) – Per Each
Item L-125-5.12	New L-852T(L) Semiflush Taxiway Edge Light (Without Arctic Kit), Blue Lens Installed on New L-868B Base Can (Includes Fixture, Transformer, and Base Can

Item L-125-5.13 L-829 10kW Constant Current Regulator – Per Each

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

Advisory Circulars (AC)

AC 150/5340-18	Standards for Airport Sign Systems
AC 150/5340-26	Maintenance of Airport Visual Aid Facilities
AC 150/5340-30	Design and Installation Details for Airport Visual Aids
AC 150/5345-5	Circuit Selector Switch
AC 150/5345-7	Specification for L-824 Underground Electrical Cable for Airport Lighting Circuits
AC 150/5345-26	Specification for L-823 Plug and Receptacle, Cable Connectors
AC 150/5345-28	Precision Approach Path Indicator (PAPI) Systems
AC 150/5345-39	Specification for L-853, Runway and Taxiway Retroreflective Markers
AC 150/5345-42	Specification for Airport Light Bases, Transformer Housings, Junction Boxes, and Accessories
AC 150/5345-44	Specification for Runway and Taxiway Signs
AC 150/5345-46	Specification for Runway and Taxiway Light Fixtures
AC 150/5345-47	Specification for Series to Series Isolation Transformers for Airport Lighting Systems
AC 150/5345-51	Specification for Discharge-Type Flashing Light Equipment
AC 150/5345-53	Airport Lighting Equipment Certification Program

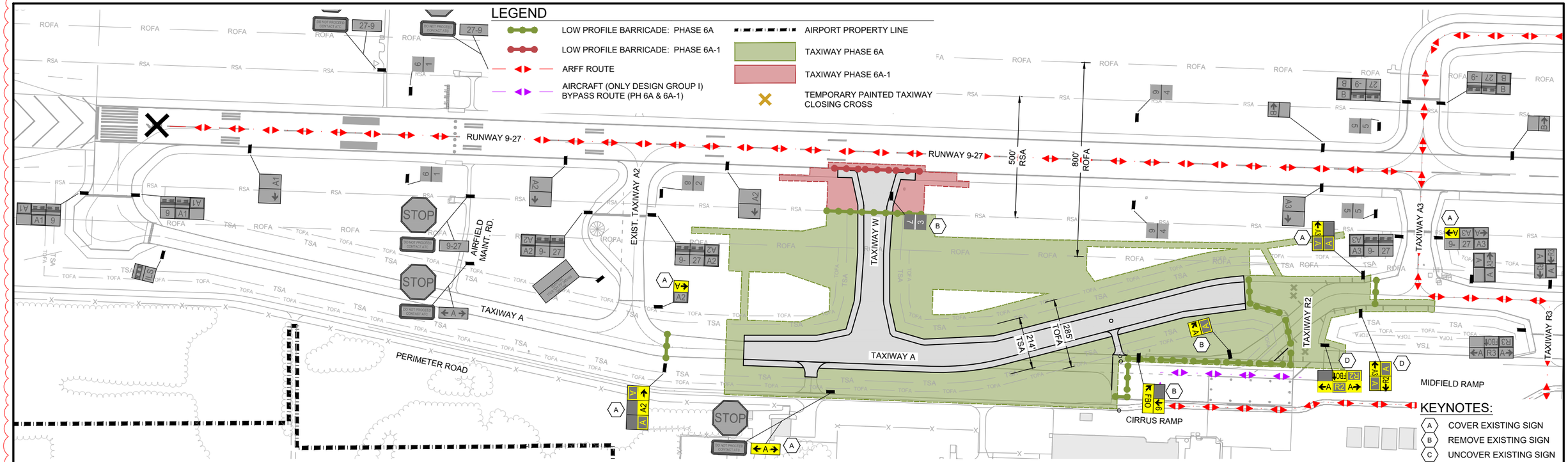
Engineering Brief (EB)

EB No. 67	Light Sources Other than Incandescent and Xenon for Airport and Obstruction Lighting Fixtures

END OF ITEM L-125

LEGEND

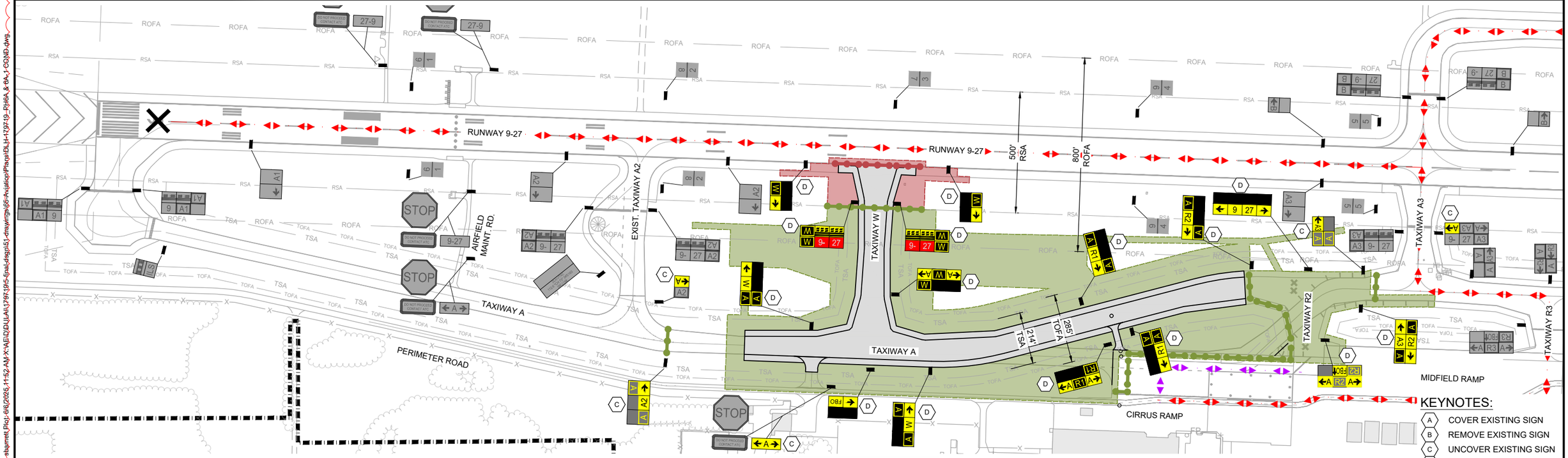
- LOW PROFILE BARRICADE: PHASE 6A
- LOW PROFILE BARRICADE: PHASE 6A-1
- ARFF ROUTE
- AIRCRAFT (ONLY DESIGN GROUP I) BYPASS ROUTE (PH 6A & 6A-1)
- AIRPORT PROPERTY LINE
- TAXIWAY PHASE 6A
- TAXIWAY PHASE 6A-1
- TEMPORARY PAINTED TAXIWAY CLOSING CROSS



PHASE 6A AND 6A-1 - CONSTRUCTION CONDITIONS

KEYNOTES:

- A — COVER EXISTING SIGN
- B — REMOVE EXISTING SIGN
- C — UNCOVER EXISTING SIGN
- D — NEW SIGN INSTALLATION



PHASE 6A AND 6A-1 - COMPLETED CONDITIONS

KEYNOTES:

- A — COVER EXISTING SIGN
- B — REMOVE EXISTING SIGN
- C — UNCOVER EXISTING SIGN
- D — NEW SIGN INSTALLATION

SEH Project	DLH 179719
Drawn By	AA
Designed By	JN
Checked By	AVE

Rev.#	Plan Revision Issue Description	Date
1	ADDENDUM 3	06-06-2025
#	#	#
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#	#	#

Rev.#	Sheet Revision Issue Description	Date
#	#	#
#	#	#
#	#	#
#	#	#

SEH

I HEREBY CERTIFY THAT THIS PLAN 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 MN.

Jarrod R Nelson

JARROD R NELSON,PE
DATE 05-13-25 LICENSE NO. 26794

TAXIWAY A RECONSTRUCTION - PHASE 6

DULUTH, MINNESOTA

PHASING CONDITIONS PH6A AND 6A-1

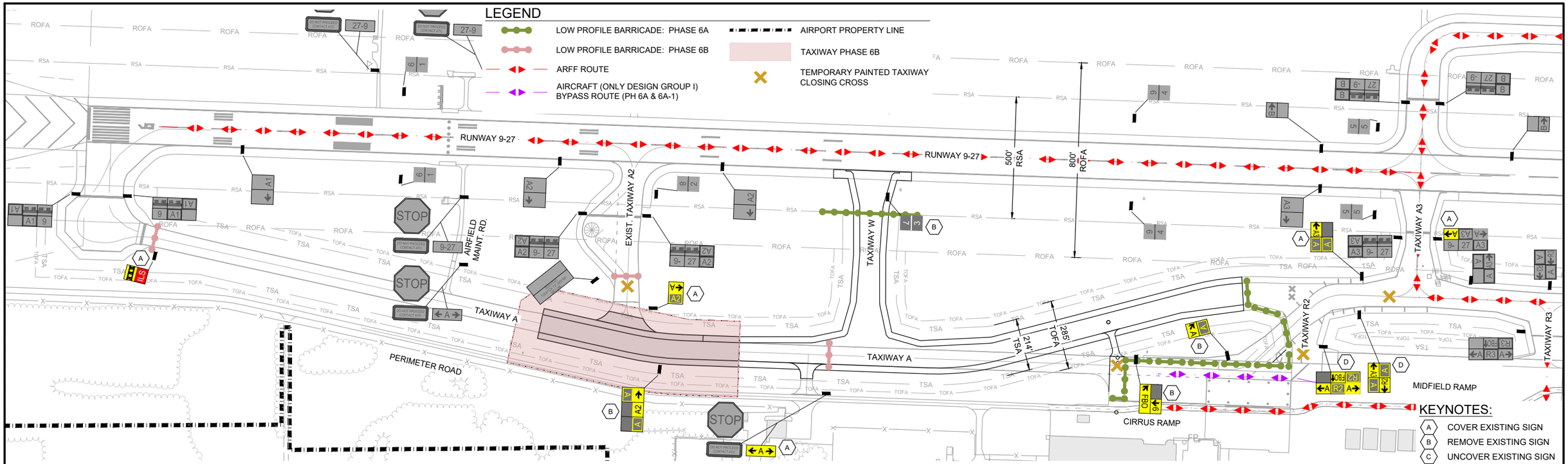
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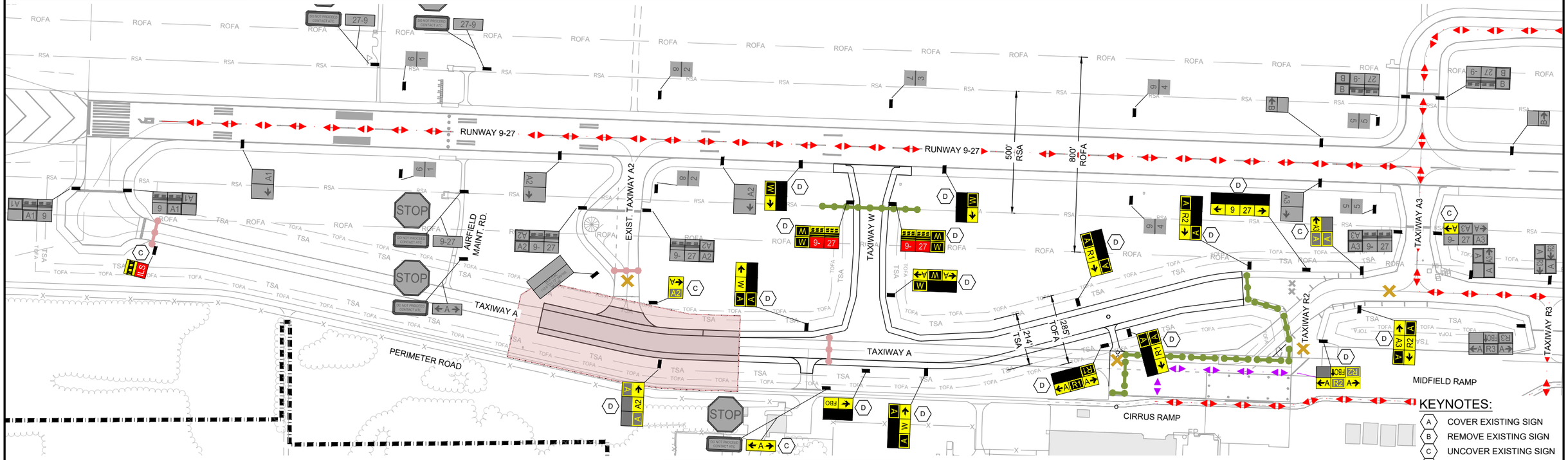
- LOW PROFILE BARRICADE: PHASE 6A
- LOW PROFILE BARRICADE: PHASE 6B
- ARFF ROUTE
- AIRCRAFT (ONLY DESIGN GROUP I) BYPASS ROUTE (PH 6A & 6A-1)
- AIRPORT PROPERTY LINE
- TAXIWAY PHASE 6B
- TEMPORARY PAINTED TAXIWAY CLOSING CROSS



PHASE 6B - CONSTRUCTION CONDITIONS

KEYNOTES:

- A — COVER EXISTING SIGN
- B — REMOVE EXISTING SIGN
- C — UNCOVER EXISTING SIGN
- D — NEW SIGN INSTALLATION



PHASE 6B - COMPLETED CONDITIONS

KEYNOTES:

- A — COVER EXISTING SIGN
- B — REMOVE EXISTING SIGN
- C — UNCOVER EXISTING SIGN
- D — NEW SIGN INSTALLATION

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SEH Project	DLH 179719
Drawn By	AA
Designed By	JN
Checked By	AVE

Rev.#	Plan Revision Issue Description	Date
1	ADDENDUM 3	06-06-2025
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Rev.#	Sheet Revision Issue Description	Date
#	#	#
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SEH

I HEREBY CERTIFY THAT THIS PLAN 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 MN.

Jarrod R Nelson

JARROD R NELSON,PE
DATE 05-13-25 LICENSE NO. 26794

TAXIWAY A RECONSTRUCTION - PHASE 6

DULUTH, MINNESOTA

PHASING CONDITIONS PHASE 6B

1

G2.03

STATEMENT OF ESTIMATED QUANTITIES

LINE NO.	ITEM NO.	ITEM DESCRIPTION	UNIT	ESTIMATED QUANTITIY AIP ELIGIBLE FUNDING	ESTIMATED QUANTITIY AIP INELIGIBLE FUNDING	ESTIMATED QUANTITIY TOTAL	FINAL QUANITTY AIP ELIGIBLE FUNDING	FINAL QUANITTY AIP INELIGIBLE FUNDING	FINAL QUANITTY TOTAL
SCHEDULE A - TAXIWAY A RECONSTRUCTION, PHASE 6 (BASE BID)									
1	40-05	MAINTENANCE & RESTORATION OF HAUL ROADS	LS	1	0	1			
2	40-08	RESTORATION OF BATCH PLANT AND CONTRACTOR STORAGE AREAS	LS	1	0	1			
3	50-07	CONSTRUCTION LAYOUT & STAKING	LS	1	0	1			
4	60-05	FIELD OFFICE	LS	1	0	1			
5	70-08	TRAFFIC PROVISIONS/AIRPORT SECURITY & DEVICES/PHASING	LS	1	0	1			
6	70-10	ORANGE CONSTRUCTION FENCE	LF	3,300	0	3,300			
7	02 41 35	REMOVE PAVEMENT MARKING BY WATER BLASTING	SF	6,140	0	6,140			
8	32 12 16	PLANT-MIXED ASPHALT PAVEMENT	TON	5,390	3,290	8,680			
9	C-100	CONTRACTOR QUALITY CONTROL PROGRAM (CQCP)	LS	1	0	1			
10	C-102	ROCK CONSTRUCTION ENTRANCE (INCLUDES MAINTENANCE AND REMOVAL)	EA	2	2	4			
11	C-102	SILT FENCE, TYPE PREASSEMBLED (INCLUDES MAINTENANCE AND REMOVAL)	LF	20,000	0	20,000			
12	C-102	FILTER LOG, TYPE WOOD FIBER BIOROLL (INCLUDES MAINTENANCE AND REMOVAL)	LF	1,640	0	1,640			
13	C-102	INLET PROTECTION, TYPE B (INCLUDES MAINTENANCE AND REMOVAL)	EA	20	0	20			
14	C-105	MOBILIZATION	LS	1	0	1			
15	D-701	REINFORCED CONCRETE PIPE (RCP), 24" CLASS III	LF	75	0	75			
16	D-701	REINFORCED CONCRETE PIPE (RCP), 30" CLASS III	LF	338	0	338			
17	D-701	REINFORCED CONCRETE PIPE (RCP), 36" CLASS III	LF	453	0	453			
18	D-701	REINFORCED CONCRETE PIPE (RCP), 48" CLASS III	LF	975	0	975			
19	D-701	SUPPORT NATURAL GAS LINE OVER STORM SEWER PIPE	LS	1	0	1			
20	D-705	DRAIN TILE (6" PERFORATED SDR35 PVC PIPE, INCLUDING TRENCH, BACKFILL, FABRIC)	LF	6,040	0	6,040			
21	D-705	DRAIN TILE (6" SOLID SDR35 PVC PIPE, INCLUDING TRENCH,	LF	1,080	0	1,080			
22	D-751	DRAIN TILE ACCESS/INSPECTION PIT	EA	30	0	30			
23	D-751	MANHOLE / CATCH BASIN 5' DIA.	EA	1	0	1			
24	D-751	MANHOLE / CATCH BASIN 6' DIA.	EA	1	0	1			
25	D-751	MANHOLE / CATCH BASIN 7' DIA.	EA	1	0	1			
26	D-751	MANHOLE / CATCH BASIN 8' DIA.	EA	3	0	3			
27	D-751	ADJUST MANHOLE / CATCH BASIN CASTING	EA	2	0	2			
28	L-108	NO. 8 AWG, 5 KV, L-824, TYPE C CABLE, INSTALLED IN DUCT BANK OR CONDUIT	LF	45,000	0	45,000			
29	L-108	NO. 6 AWG, SOLID, BARE COUNTERPOISE WIRE, INSTALLED IN TRENCH, ABOVE THE DUCT BANK OR CONDUIT, INCLUDING CONNECTIONS/TERMINATIONS, GROUND RODS AND GROUND CONNECTORS	LF	12,100	0	12,100			
30	L-108	2-#8 AWG AND 1-#8 GND, XHHW, INSTALLED IN TRENCH OR CONDUIT	LF	3,300	0	3,300			
31	L-108	1/C #4 5KV UNSHIELDED XLP MV-90 CABLE, INSTALLED IN DUCT BANK OR CONDUIT	LF	0	9,900	9,900			
32	L-108	NO. 8 AWG, 5 KV, L-824, TYPE C CABLE, USED FOR TEMPORARY JUMPERS	LS	1	0	1			
33	L-110	NON-ENCASED ELECTRICAL CONDUIT, 1-WAY 2-INCH, PVC SCHEDULE 40	LF	8,100	0	8,100			
34	L-110	CONCRETE ENCASED ELECTRICAL CONDUIT, 2-WAY 2-INCH, PVC SCHEDULE 40	LF	1,000	0	1,000			
35	L-110	CONCRETE ENCASED ELECTRICAL CONDUIT, 4-WAY 4-INCH, PVC SCHEDULE 40	LF	3,000	0	3,000			
36	L-110	DRAIN LINE CONNECTION TO STORM STRUCTURE	EA	10	7	17			
37	L-125	REMOVAL OF EXISTING AIRFIELD ELECTRICAL	LS	1	0	1			
38	L-125	L-861T(L) MEDIUM INTENSITY TAXIWAY EDGE LIGHT (WITHOUT ARCTIC KIT), BLUE LENS INSTALLED ON NEW L-867-B GALVANIZED BASE CAN (INCLUDES FIXTURE, TRANSFORMER, AND BASE CAN)	EA	70	0	70			
39	L-125	L-861T(L) MEDIUM INTENSITY TAXIWAY EDGE LIGHT (WITHOUT ARCTIC KIT), BLUE LENS INSTALLED ON EXISTING L-867-B GALVANIZED BASE CAN (INCLUDES FIXTURE AND TRANSFORMER,)	EA	8	0	8			
40	L-125	EXISTING L-861T(L) MEDIUM INTENSITY TAXIWAY EDGE LIGHT REMOVED AND RELOCATED TO EXISTING BASE CAN (INCLUDES TRANSFORMER) – PER EACH	EA	15	0	15			
41	L-125	L-858(L) GUIDANCE SIGN, SIZE 2, INCLUDING FOUNDATION, ISOLATION TRANSFORMER, WIRE, BASE CAN, AND CONDUIT	EA	13	0	13			
42	L-125	L-829 4KW CONSTANT CURRENT REGULATOR	EA	1	1	2			
42-1	L-125	L-829 10KW CONSTANT CURRENT REGULATOR	EA	0	1	1			
43	L-125	PRECAST AIRCRAFT-RATED ELECTRICAL HANDHOLE	EA	10	7	17			
44	L-125	REMOVE EXISTING RUNWAY LIGHT FIXTURE, BASE CAN, CABLE, CONDUIT AND ISOLATION TRANSFORMER, AND RETURN LIGHT FIXTURE TO OWNER	EA	1	0	1			
45	L-125	EXISTING L-852D RUNWAY LIGHT FIXTURE (WITHOUT ARCTIC KIT), WHITE/WHITE LENS INSTALLED ON NEW L-867-B GALVANIZED BASE CAN (INCLUDES TRANSFORMER AND BASE CAN)	EA	1	0	1			
46	L-125	L-862 RUNWAY LIGHT FIXTURE (WITHOUT ARCTIC KIT), WHITE/WHITE LENS INSTALLED ON NEW L-868-B GALVANIZED BASE CAN (INCLUDES FIXTURE, TRANSFORMER, AND BASE CAN)	EA	1	0	1			
47	L-125	NEW L-852T(L) SEMIFLUSH TAXIWAY EDGE LIGHT (WITHOUT ARCTIC KIT), BLUE LENS INSTALLED ON NEW L-868B BASE CAN (INCLUDES FIXTURE, TRANSFORMER, AND BASE CAN)	EA	1	0	1			
48	P-101	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	LF	1,060	0	1,060			
49	P-101	REMOVE BITUMINOUS PAVEMENT (FULL DEPTH)	SY	17,660	0	17,660			
50	P-101	MILL BITUMINOUS PAVEMENT (VARIABLE DEPTH)	SY	690	0	690			
51	P-101	SAWING CONCRETE PAVEMENT (FULL DEPTH)	LF	390	0	390			
52	P-101	REMOVE CONCRETE PAVEMENT (FULL DEPTH)	SY	40	0	40			
53	P-101	REMOVE STORM PIPE	LF	1,810	0	1,810			
54	P-101	REMOVE STORM STRUCTURE	EA	4	0	4			
55	P-101	REMOVE DRAIN TILE CLEANOUT	EA	10	0	10			
56	P-101	REMOVE DRAIN TILE	LF	4,000	0	4,000			
57	P-151	CLEARING AND GRUBBING (AT EXPANDED CONTRACTOR STORAGE AREA)	ACRE	0.72	0.00	0.72			
58	P-152	COMMON EXCAVATION (EV)	CY	46,400	7,400	53,800			
59	P-152	UNCLASSIFIED OVER-EXCAVATION (EV) (INCLUDES REMOVAL AND REPLACEMENT OF UNSUITABLE MATERIAL WITH SUITABLE MATERIAL (P-154) AS DIRECTED BY ENGINEER, AND INCLUDES SUBGRADE PROOF ROLLING)	CY	1,000	0	1,000			
60	P-152	MUCK EXCAVATION (EV) (INCLUDES REMOVAL AND REPLACEMENT OF UNSUITABLE MATERIAL WITH SUITABLE MATERIAL [ON-SITE BORROW] AS DIRECTED BY ENGIINER, AND INCLUDES SUBGRADE PROOF ROLLING)	CY	3,850	0	3,850			
61	P-152	SUBGRADE PREPARATION (INCLUDES SUBGRADE PROOF ROLLING)	SY	34,500	14,300	48,800			
62	P-152	ROCK EXCAVATION	CY	50	0	50			
63	P-154	SELECT GRANULAR BORROW / SUBBASE COURSE (CV)	CY	16,900	6,400	23,300			
64	P-154	GEOTEXTILE FABRIC, TYPE 7	SY	34,500	14,300	48,800			
65	P-209	CRUSHED AGGREGATE BASE COURSE (CV)	CY	6,200	2,510	8,710			
66	P-401	ASPHALT SURFACE COURSE	TON	80	150	230			
67	P-403	ASPHALT MIXTURE SURFACE COURSE	TON	1,480	340	1,820			
68	P-403	ASPHALT MIXTURE BASE COURSE	TON	1,480	340	1,820			
69	P-501	CEMENT CONCRETE PAVEMENT, 13"	SY	18,100	7,550	25,650			
70	P-501	CEMENT CONCRETE PAVEMENT, REINFORCED 13"	SY	3,910	0	3,910			
71	P-603	EMULSIFIED ASPHALT TACK COAT	GAL	1,680	720	2,400			
72	P-604	COMPRESSION JOINT SEALS FOR CONCRETE PAVEMENTS	LF	21,590	13,870	35,460			
73	P-605	JOINT SEALING FILLER	LF	6,440	0	6,440			
74	P-620	REMOVE RUNWAY & TAXIWAY PAVEMENT MARKING USING BLACK PAINT	SF	7,230	0	7,230			
75	P-620	RUNWAY & TAXIWAY PAVEMENT MARKING (PERMANENT RATE)	SF	40,740	0	40,740			
76	P-620	RUNWAY & TAXIWAY PAVEMENT MARKING (TEMPORARY RATE)	SF	42,180	0	42,180			
77	P-620	REFLECTIVE MEDIA	LB	1,810	0	1,810			
78	T-901	SEEDING (INCLUDING FERTILIZER)	ACRE	14.50	0.00	14.50			
79	T-905	SELECT TOPSOIL BORROW (IMPORT) (CV)	CY	300	0	300			
80	T-908	HYDROMULCHING	ACRE	14.50	0.00	14.50			

SEQ NOTES

GENERAL: TEMPORARY SANITARY FACILITIES, WATER FOR DUST CONTROL, AND TEMPORARY WATER SUPPLY FOR CONSTRUCTION OPERATIONS ARE CONSIDERED INCIDENTAL TO OTHER ITEMS OF PROJECT WORK.

40-05: PAID FOR BASED ON PERCENT COMPLETE.

40-08: RESTORATION INCLUDES GRADING, TURF ESTABLISHMENT, SOIL RIPPING/SCARIFICATION TO A DEPTH OF 6-INCHES, AND ANY OTHER MEASURES REQUIRED TO RETURN THE AREA TO PRE-CONSTRUCTION CONDITIONS OR BETTER, AS APPROVED BY ENGINEER. PAID FOR BASED ON PERCENT COMPLETE.

50-07: PAID FOR BASED ON PERCENT COMPLETE.

60-05: PAID ON A MONTHLY BASIS (LS*MONTHS WORKED/TOTAL ANTICIPATED MONTHS OF WORK).

70-08: INCLUDES ALL TRAFFIC CONTROL SIGNAGE, BARRICADES, TEMPORARY FENCING, TRAFFIC CONTROL DEVICES, AND ALL ITEMS PERTAINING TO SECURITY, AND PHASING. PAID FOR BASED ON PERCENT COMPLETE.

C-100: PAID FOR BASED ON PERCENT COMPLETE.

C-105: MOBILIZATION SHALL BE LIMITED TO 10-PERCENT OF THE TOTAL PROJECT COST. FURNISHING, INSTALLING, AND REMOVAL OF ELECTRICAL JUMPERS REQUIRED FOR TEMPORARY ELECTRICAL CONSTRUCTION IS CONSIDERED INCIDENTAL TO THE WORK OF MOBILIZATION.

D-701: CONNECTIONS TO EXISTING STORM DRAIN PIPE, STRUCTURE, DRAIN TILE, INSPECTION PIT, AND CLEANOUT ARE ALL INCIDENTAL TO THESE PAY ITEMS.

D-705: CONNECTIONS TO EXISTING STORM DRAIN PIPE, STRUCTURE, DRAIN TILE, INSPECTION PIT, AND CLEANOUT ARE ALL INCIDENTAL TO THESE PAY ITEMS. ALL ITEMS REQUIRED FOR DRAIN TILE (TRENCHING, FILTER MATERIAL, FABRIC, CONNECTIONS, BACKFILLING, AND ASSOCIATED COMPACTION) ARE INCIDENTAL TO ITEM.

D-751: CONNECTIONS TO EXISTING STORM DRAIN PIPE, STRUCTURE, DRAIN TILE, INSPECTION PIT, AND CLEANOUT ARE ALL INCIDENTAL TO THESE PAY ITEMS.

D-751: WORK INCLUDES ADJUSTMENT OF EXISTING STRUCTURE CASTING TO FINISHED GRADE, INCLUDING ANY REQUIRED MODIFICATIONS TO EXISTING STRUCTURE AND INSTALLATION OF NEW CASTING.

L-108, L-110, L-125: NO PRICE ADJUSTMENT WILL BE MADE BASED ON PERCENTAGE OF QUANTITY USED. THE ENGINEER WILL PROVIDE A NOTICE TO PROCEED SPECIFICALLY FOR WIRE & CABLE ITEMS PRIOR TO ORDERING TO ENSURE THE CORRECT AMOUNT IS OBTAINED..

P-101 REMOVE BITUMINOUS PAVEMENT ITEM: WORK INCLUDES REMOVAL OF BITUMINOUS PAVEMENT AND ANY UNDERLYING CONCRETE PAVEMENT LAYERS, REGARDLESS OF ACTUAL PAVEMENT THICKNESS ENCOUNTERED. PER APPENDIX A - GEOTECHNICAL REPORTS OF THE PROJECT MANUAL, THERE IS NO INDICATION OF UNDERLYING CONCRETE PAVEMENT LAYERS UNDER EXISTING BITUMINOUS PAVEMENT SURFACES AT THE LOCATIONS OF THE PROJECT PAVEMENT CORES.

P-101 REMOVE CONCRETE PAVEMENT ITEM: WORK INCLUDES REMOVAL OF CONCRETE PAVEMENT AND ANY UNDERLYING BITUMINOUS PAVEMENT LAYERS, REGARDLESS OF ACTUAL PAVEMENT THICKNESS ENCOUNTERED.

P-101 PIPE REMOVAL (ALL): REQUIRED PIPE/STRUCTURE BULKHEADS ARE INCIDENTAL TO PIPE REMOVAL.

P-152: SEE EARTHWORK SUMMARY ON SHEET G5.05.

P-152: SEE EARTHWORK SUMMARY ON SHEET G5.05. ITEM INCLUDES MATERIAL EXCAVATED BELOW THE TYPICAL SECTION, AS DIRECTED BY ENGINEER. EXCAVATED MATERIAL TO BECOME PROPERTY OF CONTRACTOR, REPLACEMENT OF EXCAVATED MATERIAL WITH SUITABLE GRANULAR MATERIAL WILL BE INCIDENTAL TO THE UNCLASSIFIED OVER EXCAVATION.

P-152: SEE EARTHWORK SUMMARY ON SHEET G5.05.

P-152: ALL ON-SITE STRIPPING, SALVAGING, STOCKPILING, REPLACING AND SPREADING QUANTITY WILL BE PAID FOR UNDER COMMON EXCAVATION PRIOR TO THE PLACEMENT OF TOPSOIL BORROW (OBTAINED OFF-SITE) BY CONTRACTOR.

P-209: CONTRACTOR MAY SUBSTITUTE P-219 FOR P-209 WITH NO ADJUSTMENT TO UNIT PRICE.

SEH Project	DLH 179719
Drawn By	SWB
Designed By	JN
Checked By	AVE

Rev.#	Plan Revision Issue Description	Date
1	ADDENDUM 1	06-02-25
2	ADDENDUM 3	06-06-25

Rev.#	Sheet Revision Issue Description	Date

I HEREBY CERTIFY THAT THIS PLAN 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 MN.

JARROD R NELSON,PE
DATE 06-06-25 LICENSE NO. 26794

TAXIWAY A RECONSTRUCTION - PHASE 6

DULUTH, MINNESOTA

STATEMENT OF ESTIMATED QUANTITIES

G5.03

Save: 6/9/2025 9:10 AM sandrashko Plot: 6/9/2025 9:10 AM X:\AE\D\DULAI\179719\5-final-dsgn\51-drawings\65-Aviation\Plans\DLH-179719_QN.dwg

STATEMENT OF ESTIMATED QUANTITIES

LINE NO.	ITEM NO.	ITEM DESCRIPTION	UNIT	ESTIMATED QUANTITY			FINAL QUANITTY		
				AIP ELIGIBLE FUNDING	AIP INELIGIBLE FUNDING	TOTAL	AIP ELIGIBLE FUNDING	AIP INELIGIBLE FUNDING	TOTAL
SCHEDULE B - TAXIWAY A RECONSTRUCTION, PHASE 6 (ALTERNATE BID)									
81	50-07	CONSTRUCTION LAYOUT & STAKING	LS	1	0	1			
82	60-05	FIELD OFFICE	LS	1	0	1			
83	70-08	TRAFFIC PROVISIONS/AIRPORT SECURITY & DEVICES/PHASING	LS	1	0	1			
84	70-10	ORANGE CONSTRUCTION FENCE	LF	1,940	0	1,940			
85	32 12 16	PLANT-MIXED ASPHALT PAVEMENT	TON	1,440	700	2,140			
86	C-102	SILT FENCE, TYPE PREASSEMBLED (INCLUDES MAINTENANCE AND REMOVAL)	LF	970	0	970			
87	C-102	INLET PROTECTION, TYPE B (INCLUDES MAINTENANCE AND REMOVAL)	EA	4	0	4			
88	C-105	MOBILIZATION	LS	1	0	1			
89	D-705	DRAIN TILE (6" PERFORATED SDR35 PVC PIPE, INCLUDING TRENCH, BACKFILL, FABRIC)	LF	1,820	0	1,820			
90	D-705	DRAIN TILE (6" SOLID SDR35 PVC PIPE, INCLUDING TRENCH, BACKFILL)	LF	110	0	110			
91	D-751	DRAIN TILE ACCESS/INSPECTION PIT	EA	6	0	6			
92	L-108	NO. 8 AWG, 5 KV, L-824, TYPE C CABLE, INSTALLED IN DUCT BANK OR CONDUIT	LF	3,800	0	3,800			
93	L-108	NO. 6 AWG, SOLID, BARE COUNTERPOISE WIRE, INSTALLED IN TRENCH, ABOVE THE DUCT BANK OR CONDUIT, INCLUDING CONNECTIONS/TERMINATIONS, GROUND RODS AND GROUND CONNECTORS	LF	3,360	0	3,360			
94	L-110	NON-ENCASED ELECTRICAL CONDUIT, 1-WAY 2-INCH, PVC SCHEDULE 40	LF	2,900	0	2,900			
95	L-110	CONCRETE ENCASED ELECTRICAL CONDUIT, 2-WAY 2-INCH, PVC SCHEDULE 40	LF	460	0	460			
96	L-125	L-861T(L) MEDIUM INTENSITY TAXIWAY EDGE LIGHT (WITHOUT ARCTIC KIT), BLUE LENS INSTALLED ON NEW L-867-B GALVANIZED BASE CAN (INCLUDES FIXTURE, TRANSFORMER, AND BASE CAN)	EA	17	0	17			
97	L-125	L-858(L) GUIDANCE SIGN, SIZE 2, INCLUDING FOUNDATION, ISOLATION TRANSFORMER, WIRE, BASE CAN, AND CONDUIT	EA	1	0	1			
98	P-101	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	LF	240	0	240			
99	P-101	REMOVE BITUMINOUS PAVEMENT (FULL DEPTH)	SY	9,700	0	9,700			
100	P-101	REMOVE STORM PIPE	LF	100	0	100			
101	P-101	REMOVE STORM STRUCTURE	EA	3	0	3			
102	P-101	REMOVE DRAIN TILE CLEANOUT	EA	5	0	5			
103	P-101	REMOVE DRAIN TILE	LF	1,820	0	1,820			
104	P-152	COMMON EXCAVATION (EV)	CY	8,200	3,400	11,600			
105	P-152	UNCLASSIFIED OVER EXCAVATION (EV) (INCLUDES REMOVAL AND REPLACEMENT OF UNSUITABLE MATERIAL WITH SUITABLE MATERIAL (P-154) AS DIRECTED BY ENGINEER, AND ALSO INCLUDES SUBGRADE PROOF ROLLING)	CY	250	0	250			
106	P-152	MUCK EXCAVATION (EV)	CY	100	0	100			
107	P-152	SUBGRADE PREPARATION (INCLUDES SUBGRADE PROOF ROLLING)	SY	11,220	2,630	13,850			
108	P-152	ROCK EXCAVATION	CY	50	0	50			
109	P-154	SELECT GRANULAR BORROW / SUBBASE COURSE (CV)	CY	5,550	1,140	6,690			
110	P-154	GEOTEXTILE FABRIC, TYPE 7	SY	11,220	2,630	13,850			
111	P-154	GEOGRID	SY	3,310	0	3,310			
112	P-209	CRUSHED AGGREGATE BASE COURSE (CV)	CY	2,320	430	2,750			
113	P-401	ASPHALT SURFACE COURSE	TON	660	90	750			
114	P-401	ASPHALT BASE COURSE	TON	960	0	960			
115	P-403	ASPHALT MIXTURE SURFACE COURSE	TON	270	70	340			
116	P-403	ASPHALT MIXTURE BASE COURSE	TON	270	70	340			
117	P-501	CEMENT CONCRETE PAVEMENT, 13"	SY	4,820	2,410	7,230			
118	P-603	EMULSIFIED ASPHALT TACK COAT	GAL	930	100	1,030			
119	P-604	COMPRESSION JOINT SEALS FOR CONCRETE PAVEMENTS	LF	5,490	3,180	8,670			
120	P-605	JOINT SEALING FILLER	LF	1,880	0	1,880			
121	P-620	RUNWAY & TAXIWAY PAVEMENT MARKING (PERMANENT RATE)	SF	7,050	0	7,050			
122	P-620	RUNWAY & TAXIWAY PAVEMENT MARKING (TEMPORARY RATE)	SF	7,050	0	7,050			
123	P-620	REFLECTIVE MEDIA	LB	300	0	300			
124	T-901	SEEDING (INCLUDING FERTILIZER)	ACRE	2.40	0.00	2.40			
125	T-905	SELECT TOPSOIL BORROW (IMPORT) (CV)	CY	100	0	100			
126	T-908	HYDROMULCHING	ACRE	2.40	0.00	2.40			

SEQ NOTES

GENERAL: TEMPORARY SANITARY FACILITIES, WATER FOR DUST CONTROL, AND TEMPORARY WATER SUPPLY FOR CONSTRUCTION OPERATIONS ARE CONSIDERED INCIDENTAL TO OTHER ITEMS OF PROJECT WORK.

50-07: PAID FOR BASED ON PERCENT COMPLETE.

60-05: PAID ON A MONTHLY BASIS (LS*MONTHS WORKED/TOTAL ANTICIPATED MONTHS OF WORK).

70-08: INCLUDES ALL TRAFFIC CONTROL SIGNAGE, BARRICADES, TEMPORARY FENCING, TRAFFIC CONTROL DEVICES, AND ALL ITEMS PERTAINING TO SECURITY, AND PHASING. PAID FOR BASED ON PERCENT COMPLETE.

C-105: MOBILIZATION SHALL BE LIMITED TO 10-PERCENT OF THE TOTAL PROJECT COST. FURNISHING, INSTALLING, AND REMOVAL OF ELECTRICAL JUMPERS REQUIRED FOR TEMPORARY ELECTRICAL CONSTRUCTION IS CONSIDERED INCIDENTAL TO THE WORK OF MOBILIZATION.

D-705: CONNECTIONS TO EXISTING STORM DRAIN PIPE, STRUCTURE, DRAIN TILE, INSPECTION PIT, AND CLEANOUT ARE ALL INCIDENTAL TO THESE PAY ITEMS. ALL ITEMS REQUIRED FOR DRAIN TILE (TRENCHING, FILTER MATERIAL, FABRIC, CONNECTIONS, BACKFILLING, AND ASSOCIATED COMPACTION) ARE INCIDENTAL TO ITEM.

D-751: CONNECTIONS TO EXISTING STORM DRAIN PIPE, STRUCTURE, DRAIN TILE, INSPECTION PIT, AND CLEANOUT ARE ALL INCIDENTAL TO THESE PAY ITEMS.

D-751: WORK INCLUDES ADJUSTMENT OF EXISTING STRUCTURE CASTING TO FINISHED GRADE, INCLUDING ANY REQUIRED MODIFICATIONS TO EXISTING STRUCTURE AND INSTALLATION OF NEW CASTING.

L-108, L-110, L-125: NO PRICE ADJUSTMENT WILL BE MADE BASED ON PERCENTAGE OF QUANTITY USED. THE ENGINEER WILL PROVIDE A NOTICE TO PROCEED SPECIFICALLY FOR WIRE & CABLE ITEMS PRIOR TO ORDERING TO ENSURE THE CORRECT AMOUNT IS OBTAINED..

P-101 REMOVE BITUMINOUS PAVEMENT ITEM: WORK INCLUDES REMOVAL OF BITUMINOUS PAVEMENT AND ANY UNDERLYING CONCRETE PAVEMENT LAYERS, REGARDLESS OF ACTUAL PAVEMENT THICKNESS ENCOUNTERED. PER APPENDIX A - GEOTECHNICAL REPORTS OF THE PROJECT MANUAL, THERE IS NO INDICATION OF UNDERLYING CONCRETE PAVEMENT LAYERS UNDER EXISTING BITUMINOUS PAVEMENT SURFACES AT THE LOCATIONS OF PROJECT PAVEMENT CORES. (1)

P-101 PIPE REMOVAL (ALL): REQUIRED PIPE/STRUCTURE BULKHEADS ARE INCIDENTAL TO PIPE REMOVAL.

P-152: SEE EARTHWORK SUMMARY ON SHEET G5.05.

P-152: SEE EARTHWORK SUMMARY ON SHEET G5.05. ITEM INCLUDES MATERIAL EXCAVATED BELOW THE TYPICAL SECTION, AS DIRECTED BY ENGINEER. EXCAVATED MATERIAL TO BECOME PROPERTY OF CONTRACTOR, REPLACEMENT OF EXCAVATED MATERIAL WITH SUITABLE GRANULAR MATERIAL WILL BE INCIDENTAL TO THE UNCLASSIFIED OVER EXCAVATION.

P-152: SEE EARTHWORK SUMMARY ON SHEET G5.05.

P-152: ALL ON-SITE STRIPPING, SALVAGING, STOCKPILING, REPLACING AND SPREADING QUANTITY WILL BE PAID FOR UNDER COMMON EXCAVATION PRIOR TO THE PLACEMENT OF TOPSOIL BORROW (OBTAINED OFF-SITE) BY CONTRACTOR.

P-154: GEOGRID MATERIAL SHALL BE TENSAR INTERAX NX650 GEOGRID, OR APPROVED EQUAL. (2)

P-209: CONTRACTOR MAY SUBSTITUTE P-219 FOR P-209 WITH NO ADJUSTMENT TO UNIT PRICE.

Save: 6/9/2025 9:10 AM aandrashko Plot: 6/9/2025 9:11 AM X:\AE\D\DULA\179719\5-final-dsgn\51-drawings\65-Aviation\Plans\DLH-179719_QN.dwg

SEH Project	DLH 179719
Drawn By	SWB
Designed By	JN
Checked By	AVE

Plan Revision Issue

Rev.#	Description	Date
1	ADDENDUM 1	06-02-25
2	ADDENDUM 3	06-06-25

Sheet Revision Issue

Rev.#	Description	Date

I HEREBY CERTIFY THAT THIS PLAN 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 MN.

JARROD R NELSON,PE

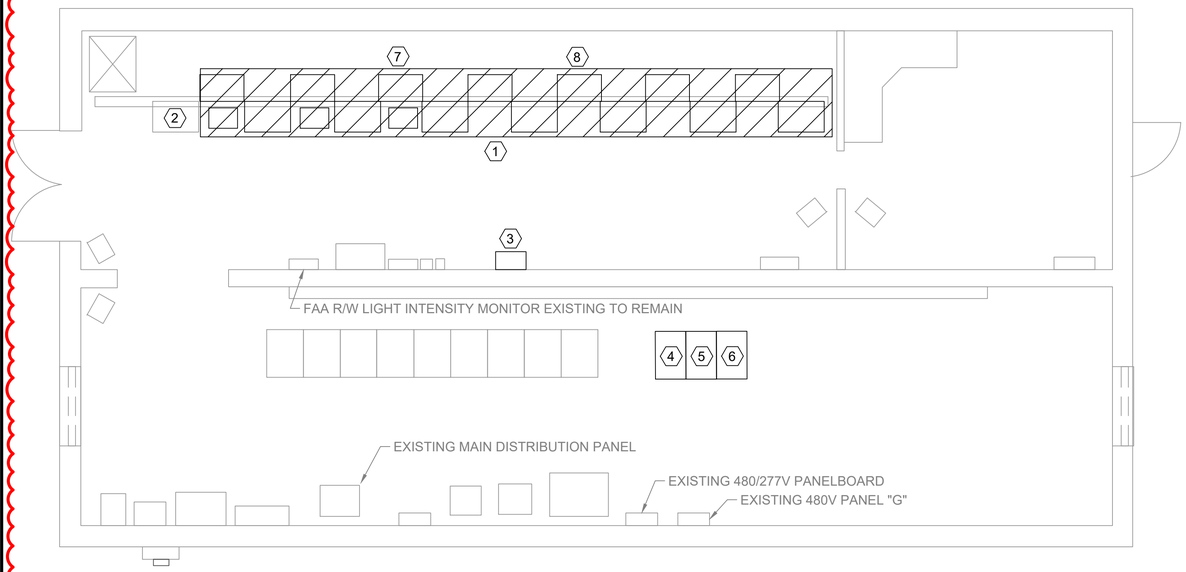
DATE 06-06-25 LICENSE NO. 26794

TAXIWAY A RECONSTRUCTION - PHASE 6

DULUTH, MINNESOTA

STATEMENT OF ESTIMATED QUANTITIES

G5.04



ELECTRICAL VAULT PLAN

GENERAL NOTES:

1. SEE SHEET E-001 & E-002 FOR LEGEND, ABBREVIATION, INFORMATION ON CIRCUITS, AND NOTES.

KEYED NOTES:

1. DEMOLISH ALL ABANDONED REGULATORS, CONDUITS, ASSOCIATED RACKING AND CABLE TRAY IN HATCHED AREA BACK TO NEAREST PANEL.
2. ALCMS CONTROLS BOX TO BE DISCONNECTED AND MOVED TO NEW LOCATION, REFER TO KEYNOTE 3 FOR PROPOSED LOCATION.
3. PROPOSED LOCATION FOR RELOCATED ALCMS CONTROLS BOX. SEE "ELECTRICAL VAULT PROPOSED ALCMS CONTROLS BOX LOCATION" IMAGE BELOW.
4. PROPOSED LOCATION FOR NEW 4kW CCR TO SERVE NEW CIRCUIT WHISKEY. COODRINATE FINAL LOCATION WITH DAA. PROVIDE NEW 20A, 3-POLE BREAKER WITHIN EXISTING 480V PANELBOARD. PROVIDE 4-#12, 1-#12ND IN 3/4"C FROM PANELBOARD TO CCR.
5. PROPOSED LOCATION FOR NEW 4kW CCR TO SERVE EXISTING ANG CIRCUIT FOXTROT. COODRINATE FINAL LOCATION WITH DAA. PROVIDE NEW 20A, 3-POLE BREAKER WITHIN EXISTING 480V PANELBOARD. PROVIDE 4-#12 1-#12GND IN 3/4"C FROM PANELBOARD TO CCR.
6. PROPOSED LOCATION FOR NEW 10kW CCR TO SERVE EXISTING ANG CIRCUIT ECHO/HOTEL. COODRINATE FINAL LOCATION WITH DAA. PROVIDE NEW 20A, 3-POLE BREAKER WITHIN EXISTING 480V PANELBOARD. PROVIDE 4-#12 1-#12 GND IN 3/4"C FROM PANELBOARD TO CCR.
7. EXISTING ANG CCR SERVING CIRCUIT FOXTROT. SEE KEYNOTE 5 FOR PROPOSED LOCATION OF NEW CCR TO SERVE THIS EXISTING CIRCUIT.
8. EXISTING ANG CCR SERVING CIRCUIT ECHO/HOTEL. SEE KEYNOTE 6 FOR PROPOSED LOCATION OF NEW CCR TO SERVE THIS EXISTING CIRCUIT.



ELECTRICAL VAULT DEMO SCOPE



POTENTIAL LOCATION FOR RELOCATED ALCMS CONTROLS BOX. COORDINATE FINAL LOCATION WITH DAA.

ELECTRICAL VAULT PROPOSED ALCMS CONTROLS BOX LOCATION

2

SEH Project	DLH 179719
Drawn By	APT
Designed By	SAY
Checked By	SMW

Rev.#	Plan Revision Issue Description	Date
0	ISSUED FOR BID	05/13/2025
2	ADDENDUM NO. 3	06/06/2025

Rev.#	Plan Revision Issue Description	Date

I HEREBY CERTIFY THAT THIS PLAN 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 MN.

SHAWN M. WHALEN, PE
DATE 06-03-25 LICENSE NO. 23994

TAXIWAY A RECONSTRUCTION - PHASE 6
DULUTH, MINNESOTA

ELECTRICAL VAULT PLAN

E-401