Illinois Department of Transportation
Office of Intermodal Project Implementation / Division of Aeronautics
1 Langhorne Bond Drive / Springfield, Illinois 62707-8415

June 6, 2025

SUBJECT: Morris Municipal Airport
Morris, Illinois
Grundy County
Illinois Project Number: CO9-5011
SBG Project Number: N/A
Contract No.: MR026
Item No. 01A, June 13, 2025 Letting
Addendum A

NOTICE TO PROSPECTIVE BIDDERS

Attached is an addendum to the plans or proposal. This addendum involves revised and/or added material.

Reason for Addendum:
To revise plans, special provisions, and schedule of prices.

To All Plan Holders:
See the following plan, special provisions, and schedule of prices changes.

Plan Changes:

1. Sheet 2 – Summary of Quantities
   a. Summary of Quantities table, Add Item AR151452 Clearing and Grub. 6"-More Than 2' – 2.0 Acres, Item AR156510 Silt Fence – 7155 Feet; Revise Item AR152410 Unclassified Excavation – XX Cu Yd., Item AR401614 Bituminous Surface Course – Method II, Superpave 12750 Ton, Item AR403614 Bituminous Base Course – Method II, Superpave – 16220 Ton, Item AR754610 Paved Ditch – 3000 Foot.
   b. Added Earthwork Table to sheet.

2. Sheet 3 – Typical Sections
   a. Revised Legend Item No. 1 to read "Prepared Subgrade"

3. Sheet 9 – Existing Conditions and Removals
   a. Revised tree removal area.

Special Provision Changes:

1. Replace All Special provisions with attached
2. General Revisions – All page numbers after special provision Item 151 Clearing and Grubbing have been revised to accommodate revisions as listed below.
3. Page 10 – 102-5.1 Added Item AR156510 – Silt Fence – per foot.
4. Page 13 – Added special provision for Item 151 Clearing and Grubbing.
5. Page 14 – Added articles 152-4.1 a, and 152-4.1 b.

6. Page 30 – Added special provision for Item 905 Topsoil
7. Added Appendix A – Geotechnical Report
8. Added Appendix B – Existing signage equipment manufacturer information.

Schedule of Prices Changes:

1. Add: Item AR151452 Clearing and Grub. 6”-More Than 2’ – 2.0 Acres
2. Add: Item AR156510 Silt Fence – 7155 Feet
3. Revise: Item AR152410 Unclassified Excavation – 485,000 Cu Yd.
4. Revise: Item AR401614 Bituminous Surface Course – Method II, Superpave – 12750 Ton
5. Revise: Item AR403614 Bituminous Base Course – Method II, Superpave – 16220 Ton

Prime contractors must utilize the enclosed material when preparing their bid and must include any changes to the Schedule of Prices in their bid.

Questions on this addendum may be directed to Casey McCollom of Chamlin & Associates at 815.942.1402.

SUMMARY OF QUANTITIES

ITEM	DESCRIPTION	UNIT	ESTIMATED QUANTITY	
AR108066	REIL CABLE	FOOT	7,400	
AR108158	1/C #8 5KV UG CABLE IN UD	FOOT	27,700	
AR109210	VAULT MODIFICATION	L SUM	1	
AR109321	10 KW REGULATOR, STYLE 1	EACH	2	
AR110101	CABLE MARKER	EACH	25	
AR110102	DUCT MARKER - IN PAVEMENT	EACH	14	
AR110502	2-WAY CONCRETE ENCASED DUCT	FOOT	400	
AR125410	MITL - STAKE MOUNTED	EACH	151	
AR125415	MITL - BASE MOUNTED	EACH	10	
AR125441	TAXI GUIDANCE SIGN, 1 CHARACTER	EACH	3	
AR125442	TAXI GUIDANCE SIGN, 2 CHARACTER	EACH	9	
AR125443	TAXI GUIDANCE SIGN, 3 CHARACTER	EACH	5	
AR125444	TAXI GUIDANCE SIGN, 4 CHARACTER	EACH	4	
AR125505	MIRL - STAKE MOUNTED	EACH	64	
AR125510	MIRL - BASE MOUNTED	EACH	4	
AR125610	REIL	PAIR	2	
AR125565	SPLICE CAN	EACH	25	
AR125901	REMOVE STAKE MOUNTED LIGHT	EACH	4	
AR125902	REMOVE BASE MOUNTED LIGHT	EACH	2	
AR125904	REMOVE TAXI GUIDANCE SIGN	EACH	2	
AR125906	REMOVE SPLICE CAN	EACH	2	
AR125932	REPLACE SIGN PANEL	EACH	15	
AR150520	MOBILIZATION	L SUM	1	
AR151452	CLEARING AND GRUB. 6" -MORE THAN 2'	ACRE	2	1
AR152410	UNCLASSIFIED EXCAVATION	CU YD	485,000	
AR152540	SOIL STABILIZATION FABRIC	SQ YD	60,000	1
AR156510	SILT FENCE	FOOT	7,155	
AR156511	DITCH CHECK	EACH	10	1
AR156530	TEMPORARY SEEDING	ACRE	25	
AR209606	CRUSHED AGGREGATE BASE COURSE - 6"	SQ YD	59,000	
AR401614	BITUMINOUS SURFACE COURSE - METHOD II, SUPERPAVE	TON	12,750	
AR401630	BITUMINOUS SURFACE COURSE TEST SECTION	EACH	1	1
AR401900	REMOVE BITUMINOUS PAVEMENT	SQ YD	2,002	
AR403614	BITUMINOUS BASE COURSE - METHOD II, SUPERPAVE	TON	16,220	
AR403630	BITUMINOUS BASE COURSE TEST SECTION	EACH	1	1
AR602510	BITUMINOUS PRIME COAT	GALLON	18,000	
AR603510	BITUMINOUS TACK COAT	GALLON	5,900	
AR620520	PAVEMENT MARKING - WATER BORNE	SQ FT	23,000	
AR620525	PAVEMENT MARKING - BLACK BORDER	SQ FT	600	
AR620900	PAVEMENT MARKING REMOVAL	SQ FT	675	
AR701512	12" RCP, CLASS IV	FOOT	800	
AR701515	15" RCP, CLASS IV	FOOT	848	
AR701518	18" RCP, CLASS IV	FOOT	424	
AR701524	24" RCP, CLASS IV	FOOT	246	
AR701536	36" RCP, CLASS IV	FOOT	830	
AR701548	48" RCP, CLASS IV	FOOT	455	
AR705526	6" PERFORATED UNDERDRAIN W/SOCK	FOOT	23,000	
AR705640	UNDERDRAIN CLEANOUT	EACH	35	
AR751540	MANHOLE 4'	EACH	3	
AR751570	MANHOLE - SPECIAL	EACH	1	
AR752412	PRECAST REINFORCED CONCRETE FLARED END SECTION, 12"	EACH	5	
AR752415	PRECAST REINFORCED CONCRETE FLARED END SECTION, 15"	EACH	8	
AR752418	PRECAST REINFORCED CONCRETE FLARED END SECTION, 18"	EACH	4	
AR752424	PRECAST REINFORCED CONCRETE FLARED END SECTION, 24"	EACH	2	
AR752436	PRECAST REINFORCED CONCRETE FLARED END SECTION, 36"	EACH	2	
AR752448	PRECAST REINFORCED CONCRETE FLARED END SECTION, 48"	EACH	2	
AR754610	PAVED DITCH	FOOT	3,000	1
AR901510	SEEDING	ACRE	110	
AR908510	MULCHING	ACRE	110	

Morris Runway 7/25 Earthwork

Paved Area	Topsoil Strip (CY) (Cut)	Cut (CY)	Fill (CY)	Balance (CY) Waste (+) or Shortage (-)
Runway 7/25	5833	504	16280	-9943
Taxiway B-C-Pad	23535	165827	2904	186459
Taxiway A3	381	379	101	659
Taxiway B1	356	380	742	-5
Taxiway B2	380	56	242	194
Paved Area Subtotals:	30486	167147	20269	177363

Turfed Area	Topsoil Strip (CY) (Cut)	Cut (CY)	Fill (CY)	Balance (CY) Waste (+) or Shortage (-)
Taxiway B-C-Pad	96793	189300	65617	220477
Taxiway A3	240	213	71	382
Taxiway B1	337	234	462	109
Taxiway B2	210	39	116	133
Turfed Area Subtotals:	97581	189787	66266	221101

Project Area Subtotals:	128067	356934	86536	398465

1. Shrinkage factor not included.
2. Pad area does not require pavement.
3. Topsoil stripping assumed at 9". The Topsoil stripping has been added to the Cut value for the balance calculation. Topsoil stripping is included in the cost of Unclassified Excavation
4. Topsoil placement 6" minimum. 96,753 CY placement is estimated. This quantity has not be included in the balance calculation

DRAWN BY: CJK
CHECKED BY: CJM
DATE: 6/13/2025

REVISIONS			
LEVEL	BY	DATE	DESCRIPTION
	CJK	6/6/25	ADDENDUM TO ADD PAY ITEMS AND ADJUST QUANTITY

Chamlin & Associates

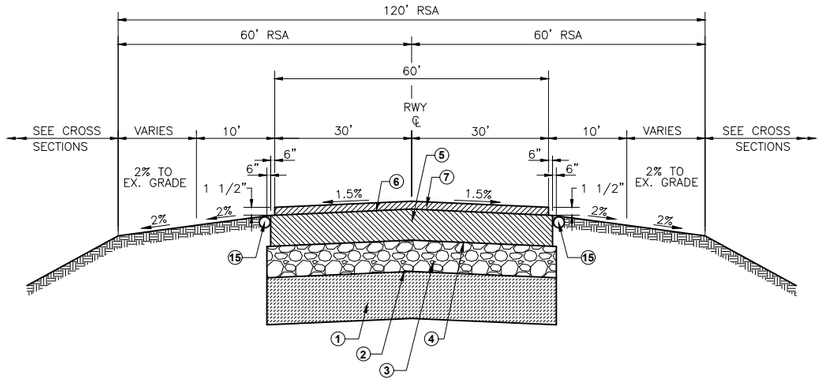
PERU MORRIS
OTTAWA MENDOTA
ILLINOIS

CONSTRUCT CROSSWIND RUNWAY 7/25 MORRIS, ILLINOIS

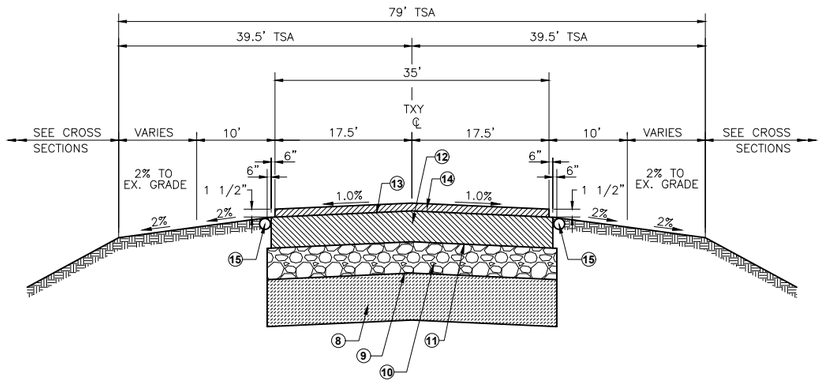
SUMMARY OF QUANTITIES

CONSTRUCTION PLANS

CURRENT AS OF: 4/23/2025
SCALE: AS NOTED
SHEET 2
FILE NO.: 1216.01 Y–
OF 144



TYPICAL CROSS SECTION
NEW RUNWAY 7/25
NOT TO SCALE

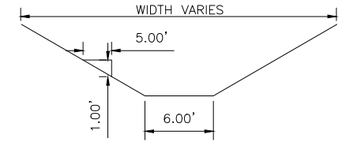


TYPICAL CROSS SECTION
NEW TAXIWAYS
NOT TO SCALE

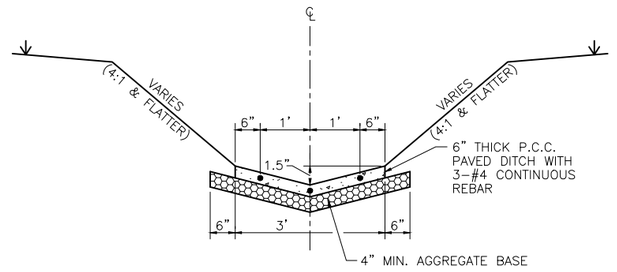
HMA MIXTURE TABLE					
ITEM	N_{des}	PG BINDER	AGG. QUALITY	MAX RAP	DENSITY ACCEPTANCE
401- HMA SURFACE METHOD II	N30 @ 3.0%	SBS PG 76-28	A	NONE ALLOWED	MAINLINE-CORE JOINTS-CORE
403- HMA BASE METHOD II	N30 @ 3.0%	PG 64-22	B	20%	MAINLINE-CORE JOINTS-CORE

LEGEND
(TYPICAL CROSS SECTIONS)

1. ① PREPARED SUBGRADE
2. ② FABRIC FOR GROUND STABILIZATION
3. ③ CRUSHED AGGREGATE BASE COURSE (209), 6" DEPTH
4. ④ BITUMINOUS PRIME COAT (602) (0.35 GAL. PER SQ. YD. – 50/50)
5. ⑤ BITUMINOUS BASE COURSE (403), 5" DEPTH (2 – 2.5" LIFTS)
6. ⑥ BITUMINOUS TACK COAT (603) (0.10 GAL. PER SQ. YD. – 50/50)
7. ⑦ BITUMINOUS SURFACE COURSE (401), 4" DEPTH (2 – 2" LIFTS)
8. ⑧ EXIST.12" HORIZON "B"
9. ⑨ FABRIC FOR GROUND STABILIZATION
10. ⑩ CRUSHED AGGREGATE BASE COURSE (209), 6" DEPTH
11. ⑪ BITUMINOUS PRIME COAT (602) (0.35 GAL. PER SQ. YD. – 50/50)
12. ⑫ BITUMINOUS BASE COURSE (403), 5" DEPTH (2 – 2.5" LIFTS)
13. ⑬ BITUMINOUS TACK COAT (603) (0.10 GAL. PER SQ. YD. – 50/50)
14. ⑭ BITUMINOUS SURFACE COURSE (401), 4" DEPTH (2 – 2" LIFTS)
15. ⑮ UNDER DRAIN



TYPICAL CROSS SECTION
SOUTH DRAINAGE DITCH
NOT TO SCALE



PAVED DITCH
NOT TO SCALE

DRAWN BY: DRAWN	REVISIONS			
CHECKED BY: CHECKED	LEVEL	BY	DATE	DESCRIPTION
DATE: 6/13/2025		CJK	6/6/25	ADDENDUM TO SUBGRADE NOTE

Chamlin & Associates

PERU MORRIS
OTTAWA MENDOTA
ILLINOIS

CONSTRUCT CROSSWIND
RUNWAY 7/25 MORRIS, ILLINOIS

TYPICAL SECTIONS

CONSTRUCTION PLANS

CURRENT AS OF: 6/6/2025	
SCALE: AS NOTED	SHEET 3
FILE NO.: 1216.01 Y–	OF 144

REMOVALS

14	TAXIWAY LIGHTS TO BE REMOVED
2	GUIDANCE SIGNS TO BE REMOVED
2,002 SY	PAVEMENT REMOVAL
666 LF	PAVEMENT MARKING REMOVAL

LEGEND

FULL DEPTH PAVEMENT REMOVAL

R ITEM TO BE REMOVED

GRAPHIC SCALE
0 10 20
(IN FEET)

N

2,002 SY
PAVEMENT REMOVAL

565 LF PAVEMENT
MARKING REMOVAL

101 LF PAVEMENT MARKING REMOVAL

TREE REMOVAL

PROPERTY LINE

587.73

572.70

TAXIWAY A1
TAXIWAY A2
TAXIWAY A3
TAXIWAY A4
TAXIWAY A5
TAXIWAY A
TAXIWAY B
TAXIWAY C
TAXIWAY C1
TAXIWAY C2
RUNWAY 7/25
RUNWAY 18/36

TOFA TSA OFA RSA BRL

DRAWN BY: DRAWN	CURRENT AS OF: 6/6/2025		
CHECKED BY: CHECKED	SCALE: AS NOTED	SHEET 9	
DATE: 6/13/2025	FILE NO.: 1216.01 Y–	OF 144	

REVISIONS

LEVEL	BY	DATE	DESCRIPTION
	CJK	6/6/25	REVISED TREE REMOVAL AREA

Chamlin & Associates

PERU MORRIS
OTTAWA MENDOTA
ILLINOIS

CONSTRUCT CROSSWIND
RUNWAY 7/25 MORRIS, ILLINOIS

EXISTING CONDITIONS AND REMOVALS

CONSTRUCTION PLANS

ITEM NO. 01A MR026

SECTION III
SPECIAL PROVISIONS

FOR

CONSTRUCT CROSSWIND RUNWAY 7/25

ILLINOIS PROJECT NO. C09-5011
AIP NO. N/A
CONTRACT NO. MR026
ITEM NO. 01A

June 13, 2025 IDOT LETTING DATE

AT

MORRIS MUNICIPAL AIRPORT
THE CITY OF MORRIS, ILLINOIS

April 23, 2025

PREPARED BY:

Chamlin & Associates
Peru • Morris • Ottawa • Mendota
www.chamlin.com

Chamlin & Associates, Inc.
221 W. Washington Street
Morris, Illinois 60450
Phone: (815) 941-1402

Addendum A

INDEX TO SPECIAL PROVISIONS

GENERAL

These Special Provisions, together with applicable Standard Specifications for Construction of Airports including Supplemental Specifications and Recurring Special Provisions, Rules and Regulations, Contract Requirements for Airport Improvement Projects, Payroll Requirements and Minimum Wage Rates which are hereto attached or which by reference are herein incorporated, cover the requirements of the State of Illinois, Department of Transportation (IDOT), Division of Aeronautics (Division), Federal Aviation Administration (FAA), and the representatives of the Morris Municipal Airport for the project entitled "Construct Runway 7/25" and associated improvements at the Morris Municipal Airport, Morris, Illinois.

SCOPE OF WORK

Project consists of the Construction of Crosswind Runway 7/25, including parallel Taxiway “B” and Taxiway “C”, all connecting taxiways, associated vault modifications, airfield lighting items, removal items, aggregate base course, Bituminous surface course, bituminous base course, water borne pavement marking, storm sewer, pipe underdrain, storm structures, landscape restoration items, and other necessary and related work.

GOVERNING SPECIFICATIONS AND RULES AND REGULATIONS

The Standard Specifications for Construction of Airports, State of Illinois, Department of Transportation, Division of Aeronautics, adopted March 22, 2023 shall govern the project except as otherwise noted in these Special Provisions. All references to IDOT specifications refer to the Standard Specifications for Road and Bridge Construction, Illinois Department of Transportation, adopted January 1, 2022, as revised.

In the event of inconsistencies between the Standard Specifications and the Special Provisions, the Special Provisions shall govern.

ILLINOIS STEEL PRODUCTS PROCUREMENT PROVISIONS

It will be the responsibility of the Contractor to provide all certifications, waivers or any necessary documents required on behalf of the Morris Municipal Airport in order to maintain compliance with the current Illinois Steel Products Procurement Act requirements.

PART 1 – GENERAL CONTRACT PROVISIONS:

Section 40 - Scope Of Work

40-05 Maintenance of Traffic.

Add the following:
Jeff Vogen, acting as the Airport Manager, will give proper notice to the nearest Flight Service Stations and the Airways Facilities Chief of the Federal Aviation Administration prior to beginning construction.

The Contractor will notify the Airport Manager, Jeff Vogen, phone (815) 942-1600, seven (7) days in advance of the proposed date for commencement of work.

END SECTION 40

Section 50 - Control Of Work

50-06 Construction Layout and Stakes.

Add the following to this section:
All construction layout necessary for the construction of the various pay items will be the responsibility of the Contractor. Horizontal and vertical control as shown in the plans will be furnished by the Engineer. Any extension of the control network provided in the plans will also be the responsibility of the Contractor.

END SECTION 50

Section 60 - Control Of Materials

60-01 Source of Supply and Quality Requirements.

Add the following to this section:
The Contractor will furnish the Engineer with certification documents or other evidence of compliance prior to the installation of any material item into this project. The Resident Engineer will not report undocumented quantities for payment and the Engineer may request them to be removed from the project.

60-05 Resident Engineer's Field Office.

Revise this section to read:

The Contractor will not be required to furnish a Resident Engineer's Field Office for this project. The Resident Engineer will use the facilities at the airport that can be made available for this use.

END SECTION 60

Section 70 - Legal Regulations And Responsibility To Public

70-11 Protection and Restoration of Property and Landscape.

Add the following paragraphs to this section:
The Contractor shall take special care when working in the vicinity of existing airport lighting systems not to damage them. Should the Contractor damage any of the lighting systems, he shall immediately make any necessary repairs or replacement to place them in working order. No electrical circuit will be allowed to remain out of service overnight. The cost of equipment and making the repairs will be the responsibility of the Contractor. If during the course of construction, it is necessary to interrupt any electrical circuits temporary cables shall be installed as needed to make the circuit operational.

Active areas shall be kept broom clean at all times.

The Contractor shall maintain the premises in reasonably clean condition and shall not allow any sizeable accumulation of rubbish on the premises.

The Contractor shall leave the premises in broom clean condition upon completion of the project.

70-16 Contractor's Responsibility for Utility Service and Facilities of Others.

Add the following to this section:
The Contractor is responsible for contacting all utility companies and organizations that have lines or conduits in the proposed work area. All lines and conduits shall be located and identified for depth before any excavation begins. The Contractor shall call JULIE (1-800-892-0123) to accomplish these requirements. The Contractor is also responsible for identifying all non-JULIE utilities located within the proposed construction limits. These utilities are also to be located prior to the start of construction at the expense of the Contractor, if applicable.

70-21 Environmental Protection.

Add the following to this section:
The Contractor will be required to minimize air pollution from dust by watering disturbed areas at whatever frequency necessary in order to control the creation of airborne dust. The furnishing and distribution of the water will be considered as an incidental item to the contract, and no additional compensation will be allowed.

Add this section to Section 70:

70-26 Site Inspection.

The Contractor shall be responsible for an on-site inspection or being familiar with the project construction site prior to submitting a bid on this project. Upon receipt of a bid, it shall be assumed that the Contractor is fully familiar with the construction site.

Add this section to Section 70:

70-27 Barricades, Warning Signs and Hazard Markings.

When the Contractor's vehicles are on the airport property, they shall be properly marked. The markings shall consist of a three (3') foot square flag consisting of a checkered pattern of international orange and white squares of not less than one (1') foot per side, displayed in full view above the vehicle. The flags are not required for vehicles used for continuous hauling of materials to the project from off of the airport property. The Contractor shall make two flags available for use by the Resident Engineer and staff.

The Contractor will be responsible for placing barricades and/or traffic cones at any location directed by the Airport Manager and Resident Engineer. It will be the Contractor's responsibility to furnish and maintain the barricades, equipped with red flashing lights throughout the duration of this project. The barricades and their maintenance will be considered as an incidental item to the contract and no additional compensation will be allowed. Any cost of labor and equipment necessary to ensure safety at the airport during the duration of the project will be considered incidental to the contract and no additional reimbursement for these items of work will be received.

END SECTION 70

Section 80 - Prosecution And Progress

80-13 Work Area, Storage Area and Sequence of Operations.

Add the following to this section:

The Contractor will use only the designated construction entrance, equipment parking area and airport access as shown in the construction plans. The Contractor's personnel and equipment shall not traverse outside the designated work areas to other locations on the airport.

The Contractor shall be responsible for providing a haul road as necessary to prevent tracking mud and other deleterious materials onto the aggregate base course or pavement. The Contractor shall designate a location for a haul road prior to starting the placement of the aggregate base course. The designated location shall conform with the Contractor’s workflow, means and methods and shall be approved by the Engineer. The material, installation, and removal of the haul road will not be paid for separately but should be included in the cost of Unclassified Excavation.

Barricades and road closed signs are the responsibility of the Contractor at no additional cost to the contract.

All haul route areas and equipment parking areas shall be restored to the pre-construction condition or proposed condition and to the satisfaction of the Engineer upon completion of their continued use for the Project.

END SECTION 80

PART 2 – GENERAL CONSTRUCTION ITTEMS:

Item 102 Temporary Air And Water Pollution, Soil Erosion, And Siltation Control

MATERIALS

102-2.8

Replace this section with the following:

Temporary ditch checks. Temporary ditch checks shall be constructed with rolled excelsior from a manufacturer on the Department's approved list.

BASIS OF PAYMENT

102-5.1

ADD:

Payment will be made under:

Item AR156510 – Silt Fence – per foot.
Item AR156511 – Ditch Check – per each.
Item AR156530 – Temporary Seeding – per acre.

END OF ITEM 102

Item 105 Mobilization

ITEM 105 MOBILIZATION is modified as follows:

BASIS OF PAYMENT

105-3.1

ADD:

Payment will be made under:

Item AR150520 – Mobilization – per lump sum.

END OF ITEM 105

PART 3 – SITEWORK:

Item 101 Preparation/Removal Of Existing Pavements:

BASIS OF PAYMENT

101-5.1

ADD:

Payment will be made under:

Item AR401900 – Remove Bituminous Pavement – per square yard.

END OF ITEM 101

Item 151 Clearing and Grubbing:

BASIS OF PAYMENT

151-4.1

ADD:

Payment will be made under:

Item AR151452 – Clearing and Grub. 6”-More than 2’ – per Acre.

END OF ITEM 151

Item 152 Excavation, Subgrade, And Embankment:

METHOD OF MEASUREMENT

152-4.1 a.

ADD:

This measurement shall be made from the existing ground surface prior to any stripping of topsoil and shall be measured to the proposed final subgrade surface as required to construct the improvements in compliance with the plans and specifications.

152-4.1 b.

REVISE:

Embankment. The quantity of embankment in place will not be measured for payment when utilizing materials originating on site. Placement and compaction of this material shall be included in the cost of Unclassified Excavation.

BASIS OF PAYMENT

152-5.1

REMOVE:

Section **152-1.3 d.**

ADD:

Payment will be made under:

Item AR152410 – Unclassified Excavation – per cubic yard.
Item AR152540 – Soil Stabilization Fabric – per square yard.

END OF ITEM 152

PART 4 – BASE COURSES:

Item 209 Crushed Aggregate Base Course

BASIS OF PAYMENT

209-5.1

ADD:

Payment will be made under:

Item AR209606 – Crushed Aggregate Base Course – 6” – per square yard.

END OF ITEM 209

PART 6 – FLEXIBLE PAVEMENTS:

Item 401 Asphalt Mix Pavement Surface Course

DESCRIPTION

401-1.1

ADD:

The surface course shall be laid in lifts not exceeding two (2) inches.

COMPOSITION

401-3.3 - JOB MIX FORMULA (JMF).

ADD:

Asphalt Design Criteria shall indicate the Design Parameters on a Runway or Taxiway for Aircraft weighing under 60,000 lbs.

401-3.5

ADD:

A Bituminous Test Section is required for the surface course.

CONSTRUCTION METHODS

401-4.2 h.

ADD:

Profile testing of the final surface will be required on this project in accordance with this section.

BASIS OF PAYMENT

401-8.1

ADD:

Payment will be made under:

Item AR401614 – Bit. Surf. Cse. – Method II, Superpave – per ton.
Item AR401630 – Bituminous Surface Test Section – per each.

END OF ITEM 401

Item 403 Asphalt Mix Pavement Base Course:

DESCRIPTION

403-1.1

ADD:

The base course shall be laid in two lifts consisting of 2.5”

COMPOSITION

403-3.3 - JOB MIX FORMULA (JMF).

ADD:

Asphalt Design Criteria shall indicate the Design Parameters on a Runway or Taxiway for Aircraft weighing under 60,000 lbs.

403-3.5

ADD:

A Bituminous Test Section is required for the base course.

BASIS OF PAYMENT

403-8.1

ADD:

Payment will be made under:

Item AR403614 – Bit. Base Cse. – Method II, Superpave – per ton.
Item AR403630 – Bituminous Base Test Section – per each.

END OF ITEM 403

PART 9 – MISCELLANEOUS:

Item 602 Emulsified Asphalt Prime Coat:

BASIS OF PAYMENT

602-5.1

ADD:

Payment will be made under:

Item AR602510 – Bituminous Prime Coat – per gallon.

END OF ITEM 602

Item 603 Emulsified Asphalt Tack Coat:

BASIS OF PAYMENT

603-5.1

ADD:

Payment will be made under:

Item AR603510 – Bituminous Tack Coat – per gallon.

END OF ITEM 603

Item 620 Pavement Marking

DESCRIPTION

620-1.1

ADD:

All paint shall be waterborne.

MATERIALS

620-2.2

ADD:

All paint shall be waterborne for this project.

620-2.4

ADD:

Reflective media glass beads shall be applied to all painted surfaces except on the black border.

620-3.5

ADD:

All pavement markings shall consist of two applications of paint, one coat in each direction.

BASIS OF PAYMENT

620-5.1

ADD:

The quantity of permanent markings to be paid for shall be the number of square feet of completed markings, measured only once, regardless of the number of applications.

Payment will be made under:

Item AR620520 -- Pavement Marking - Waterborne – per square foot
Item AR620525 -- Pavement Marking – Black Border – per square foot

The quantity of pavement markings to be removed shall be paid for per square foot of marking removed.

Payment will be made under:

Item AR620900 – Pavement Marking Removal – per square foot

END OF ITEM 603

PART 11 – DRAINAGE:

Item 701 Pipe for Storm Drains and Culverts

701-2.2

ADD:

Pipe shall be reinforced concrete pipe class IV and shall be in accordance with Section 550 the Illinois Department of Transportation's Standard Specifications for Road and Bridge Construction in Illinois, latest edition.

701-5.1

ADD:

Payment will be made under:

Item AR701512 – 12" RCP, CLASS IV – per linear foot.
Item AR701515 – 15" RCP, CLASS IV – per linear foot.
Item AR701518 – 18" RCP, CLASS IV – per linear foot.
Item AR701524 – 24" RCP, CLASS IV – per linear foot.
Item AR701536 – 36" RCP, CLASS IV – per linear foot.
Item AR701548 – 48" RCP, CLASS IV – per linear foot.

END OF ITEM 701

Item 705 Pipe Underdrains For Airports

MATERIALS

705-2.1

ADD:

Underdrains shall be Type 1.

705-2.2

ADD:

Pipe shall be Type 2.

BASIS OF PAYMENT

705-5.1

ADD:

Payment will be made under:

Item AR705526 –6" Perforated Underdrain w/sock – per linear foot.
Item AR705640 – Underdrain Cleanout – per each.

END OF ITEM 705

Item 751 Manholes, Catch Basins, Inlets And Inspection Holes:

CONSTRUCTION METHODS

751-3.3

DELETE entire section

751-3.4

DELETE entire section

751-3.5

ADD:

All structures provided on this project shall be precast concrete structures.

751-3.6

DELETE entire section

BASIS OF PAYMENT

751-5.1

ADD:

Payment will be made under:

Item AR751540 – Manhole, 4’ – per each.

END OF ITEM 751

Item AR 751570 Manhole – Special

DESCRIPTION

This work shall consist of the installation of the stormwater management outlet control structure in accordance with the requirements of ITEM AR 751540 special provision and the details in the plans.

CONSTRUCTION REQUIREMENTS

The Contractor shall supply a precast structure in accordance with the Outlet Control Structure detail provided in the plans. The structure shall include all flow limiting devices, weir walls, secondary frames and flat top lids as required in the details.

BASIS OF PAYMENT

Payment will be made under:

Item AR751570 – Manhole, Special – per each.

END OF ITEM AR 751570

Item 752 Concrete Culverts, Headwalls, And Miscellaneous Drainage Structures

BASIS OF PAYMENT

752-5.1

ADD:

Payment will be made under:

Item AR752412 – Precast Reinforced Concrete Flared End Section, 12” – per each.
Item AR752415 – Precast Reinforced Concrete Flared End Section, 15” – per each.
Item AR752418 – Precast Reinforced Concrete Flared End Section, 18” – per each.
Item AR752424 – Precast Reinforced Concrete Flared End Section, 24” – per each.
Item AR752436 – Precast Reinforced Concrete Flared End Section, 36” – per each.
Item AR752448 – Precast Reinforced Concrete Flared End Section, 48” – per each.

Item 754 Concrete Gutters, Ditches, And Flumes

BASIS OF PAYMENT

754-5.1

ADD:

Payment will be made under:

Item AR754610 – Paved Ditch – per linear foot.

PART 12 – TURFING:

Item 901 Seeding:

BASIS OF PAYMENT

901-5.1

ADD:

Payment will be made under:

Item AR901510 – Seeding – per acre.

END OF ITEM 901

Item 905 Topsoil:

BASIS OF PAYMENT

905-3.4

REVISE Sentence 1 of the 1st paragraph:

The topsoil shall be evenly spread on the prepared areas to a uniform depth of six (6) inches after compaction, unless otherwise specified in the contract documents.

905-4.1

REPLACE:

The quantity of topsoil obtained on the site will not be measured for payment, but shall be included in the cost of Unclassified excavation.

END OF ITEM 905

Item 908 Mulching

MATERIALS

908-2.1

ADD:

All mulch material shall be Light-Duty Hydraulic Mulch.

BASIS OF PAYMENT

908-5.1

ADD:

Payment will be made under:

Item AR908510 – Mulching – per acre.

END OF ITEM 908

PART 13 – LIGHTING INSTALLATION:

Item 108 Underground Power Cable For Airports

BASIS OF PAYMENT

108-5.1

ADD:

Payment will be made under:

Item AR108066 – REIL Cable - per linear foot.
Item AR108158 – 1/C #8 5KV UG Cable in UD – per linear foot.

END OF ITEM 108

Item 109 Installation Of Airport Transfomer Vault And Vault Equipment

DESCRIPTION

109-1.1

Delete this paragraph and replace with the following:

This item shall consist of furnishing and installing electrical equipment and modifying the existing electrical vault to accommodate the proposed addition of Runway 7/25 as shown on the Plans and as specified herein. This item shall include all labor, materials, transportation, equipment, wiring, raceways, grounding, warranties, tools, coordination, relocations, operational instructions, labeling, testing, and all incidentals required to place the vault and associated equipment into proper working order as a completed unit to the satisfaction of the Owner and Resident Engineer. The existing vault was prefabricated to accommodate the addition of the 2-10 KW regulators.

Included under this item shall be the following:

a Field verification of existing site conditions to determine complexity of the proposed work.

b Coordinating all work with the Airport Manager and the Resident Engineer.

c Furnishing and installing all associated electrical equipment, support hardware, raceways, conduits, cable, wiring, grounding, and accessories as detailed on the Plans and specified herein.

d Furnishing and installing all pull boxes, junction boxes, wireways, raceways, conduits, conduit fittings, and ducts within or at the vault.

e Furnishing and installing all necessary cable and wiring within or at the vault, as specified herein.

f Furnishing and installing all grounding and surge protection as required by the governing codes and equipment manufactures.

g All work shall be coordinated with the Airport Manager and shall provide a minimum of 72 hour notice prior to a shutdown of any runway lighting or NAVAID equipment.

h Furnishing catalog cuts of supplied materials and equipment.

i Testing, adjusting, and retesting (where applicable) all new equipment and modifications to existing systems for proper operation.

j Labeling all electrical equipment and incidentals necessary to place all of the equipment in operation as a complete unit acceptable to the Owner and Resident Engineer.

k Furnishing operation, maintenance, and installation manuals for all new equipment."

Add the following section:

109-1.2 References.

a ANSI C80.1 -- Rigid Steel Conduit, Zinc Coated.

b ANSI C80.4 -- Fittings Rigid Metal Conduit and EMT.

c ANSI Z535.4-2011 - American National Standard for Product Safety Signs and Labels.

d ASTM Specification B3 -- Standard Specification for Soft or Annealed Copper Wire.

e ASTM Specification B8 -- Standard Specification for Concentric-Lay-Stranded Copper Conductors, Hard, Medium-Hard, or Soft.

f Federal Specification A-A-59544 Cable and Wire, Electrical (Power, Fixed Installation).

g FAA AC No. 150/5340-26C "MAINTENANCE OF AIRPORT VISUAL AID FACILITIES."

h FAA AC No. 150/5340-30J "DESIGN AND INSTALLATION DETAILS FOR AIRPORT VISUAL AIDS."

i FAA AC No. 150/5345-7F, (or latest edition) "SPECIFICATIONS FOR L-824 UNDERGROUND ELECTRICAL CABLE FOR AIRPORT LIGHTING CIRCUITS."

j FAA AC No. 150/5345-53 "AIRPORT LIGHTING EQUIPMENT CERTIFICATION PROGRAM" (most current issue) and FAA AC No. 150/5345-53D, AIRPORT LIGHTING EQUIPMENT CERTIFICATION PROGRAM, Appendix 1 Addendum.

k FAA AC No. 150/5370-2G (or more current issue) "OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION."

l FAA-STD-019f dated October 18, 2017, Department of Transportation, Federal Aviation Administration Standard, LIGHTNING AND SURGE PROTECTION, GROUNDING, BONDING, AND SHIELDING REQUIREMENTS FOR FACILITIES AND ELECTRONIC EQUIPMENT.

m NFPA 70 -- National Electrical Code (most current issue in force).

n NFPA 70E -- Standard for Electrical Safety in the Workplace.

o OSHA 29 CFR Part 1910 Occupational Safety and Health Standards for electrical safety and lockout/tagout procedures.

p UL Standard 6 -- Rigid Metal Conduit.

q UL Standard 44 -- Thermoset-Insulated Wires and Cables.

r UL Standard 83 -- Thermoplastic-Insulated Wires and Cables.

s UL Standard 467 -- Grounding and Bonding Equipment.

t UL Standard 486A-486B Wire Connectors.

u UL Standard 514B -- Conduit, Tubing and Cable Fittings.

Add the following section:

109-1.4 Shop drawings.

The Contractor shall furnish shop drawings for approval before ordering equipment and/or materials. Shop drawings are required for equipment and materials to be used on the project. **Shop drawings shall be clear and legible. Copies that are illegible will be rejected.** Contractor shall submit sufficient copies of shop drawings to meet the needs of his personnel, sub-contractor personnel, and equipment suppliers plus four (4) copies to be retained by the Project Engineer. Shop Drawings shall clearly indicate proposed items, capacities, characteristics, and details in conformance with the Plans and Specifications. The respective manufacturer shall certify capacities, dimensions, special features, etc. When a submittal is marked "Revise and Resubmit", "Rejected", and/or "Not Approved", do not proceed with that part of the work covered by the submittal, including purchasing, fabrication, delivery, or other activity. Revise or prepare a new submittal in accordance with the notations, resubmit, and repeat if necessary to obtain a different action mark such as "No Exceptions Taken" or "Furnish as Corrected." Contractor is responsible for compliance with the specified characteristics. Contractor's responsibility for error and omissions in submittals is not relieved by the Engineer's review of submittals. Accompany each submittal with a transmittal letter that includes the date, project title and number, Contractor's name and address, the number of Shop Drawings, product data and/or samples submitted, notification of any deviations from the Contract, and any other pertinent information. Shop drawings shall include the following information:

a In order to expedite the shop drawing review, inspection and/or testing of materials and equipment, the Contractor shall furnish complete statements to the Project Engineer as to the origin and manufacturer of all materials and equipment to be used in the work. Such

statements shall be furnished promptly after execution of the contract but, in all cases, prior to delivery of such materials and equipment.

b Provide cut sheets for the power conductors.

c Cut sheets with part number and specifications for each provided component.

EQUIPMENT AND MATERIALS

109-2.1 General.

Add the following to this section:

g. FAA approval of airport lighting equipment and subsequent inclusion in FAA AC 150/5345-1 "Approved Airport Equipment", and or FAA AC 150/5345-53 "Airport Lighting Equipment Certification Program" only means that the test data satisfied the applicable Specification requirements. This does not ensure that the approved equipment will satisfactorily operate when connected power-wise and/or control-wise to other approved airport lighting equipment or "off the shelf" equipment not requiring FAA approval.

h. The Contractor shall ascertain that all lighting system components furnished by him (including FAA-approved equipment) are compatible in all respects with each other and the remainder of the new system. Any non-compatible components furnished by the Contractor shall be replaced by him, 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.

i. All materials and equipment used to construct this item shall be submitted to the Engineer for approval prior to ordering the equipment. Submittals consisting of marking catalog sheets or shop drawings shall be provided. Submittal data shall be presented in a clear, precise and thorough manner. Original catalog sheets are preferred. Photocopies are acceptable provided they are as good a quality as the original. Clearly and boldly mark each copy to identify pertinent products or models applicable to this project. Indicate all optional equipment and delete non-pertinent data. Submittals for components of electrical equipment and systems shall identify the equipment for which they apply on each submittal sheet. Markings shall be boldly and clearly made with arrow or circles (highlighting is not acceptable). Contractor is solely responsible for delays in project accruing directly or indirectly from late submissions or resubmissions of submittals.

The data submitted shall be sufficient, in the opinion of the Engineer, to determine compliance with the Plans and Specifications. The Contractor’s submittals (five (5) copies) shall be neatly bound in a properly sized 3-ring binder, tabbed by specification

section. The Engineer reserves the right to reject any and all equipment, materials or procedures, which, in the Engineer's opinion, does not meet the system design and the standards and codes, specified herein.

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.

j. Except as specified otherwise, all new equipment shall be provided by the Contractor and shall be tested for Specification conformance as part of the Aviation Lighting Equipment Certification Program. Certification of Conformance, as tested by the respective testing laboratory, shall be provided by the manufacturer for all items submitted for approval."

109-2.6 Brick.

Delete this section.

109-2.7 Rigid steel conduit.

Add the following:

"GRSC shall be heavy wall, hot-dipped, galvanized steel pipe bearing the UL label and conforming to UL-6 and ANSI Specification C80.1. Couplings, connectors and fittings for rigid steel conduit shall be threaded, galvanized steel, or galvanized malleable iron specifically designed and manufactured for the purpose. Fittings shall conform to ANSI C80.4 and UL-514B. Set screw type fittings are not acceptable. Steel used to manufacture conduits shall be 100 percent domestic steel. Contractor shall provide certification that the respective steel conduits used on this project are manufactured from 100 percent domestic steel."

109-2.12 Paint.

Delete this section.

109-2.16 Vault pre-fabricated metal housing.

Delete this section.

109-2.18 Other electrical equipment.

Add the following:

"Switches, cutouts, relays, lighting connectors, terminal blocks, circuit breakers, and all other regularly used commercial items of electrical equipment not covered by FAA equipment specifications shall conform to the applicable rulings and standards of the Institute of Electrical and Electronic Engineers or the National Electric Manufacturers Association. When specified, test reports from a testing laboratory indicating that the equipment meets the specifications shall be supplied. In all cases, equipment shall be new and a first-grade product. This equipment can be supplied in the quantities required for the specific project and shall incorporate the electrical and mechanical characteristics specified in the Plans or in the proposal. Contractor shall confirm quantity for all electrical equipment with the Plans. Equipment and materials shall be manufactured in the United States to comply with the Airport Improvement Program Buy American Requirements and the Buy American Act. Proposed electrical equipment for the vault shall be as follows:

a Junction and Pull Boxes. Junction and pull boxes shall be sized, as required for conductors and splices and per NEC Article 314. Boxes shall be UL-listed. Special boxes made to suit conditions shall be used to accommodate the respective application, or where required by the NEC, even though they might not be indicated on the Drawings. Surface-mounted exterior junction and pull boxes located in non-hazardous, non-classified areas shall be NEMA

b Constant Current Regulators

1. Two each - L828 Constant Current Regulators, 240 Volt Input, 6.6A Output, 10KW (DCF - Ferroresonant design). (Internal Control Interface cards interchangeable with existing CCR currently on site.)

   Each cell is 24 inch x 25.25 inch x 40 inch. It provides full access to all interior equipment through front door and includes the following items:

   a) DCF Ferroresonant Sine Wave Design, Maximum Current THD 5% or less at any load or output setting, interchangeable with existing CCR installed.

   b) 10 kW Output transformer.

   c) Contactor 3-pole, 200 Amp Interrupting Capacity.

   d) Brightness level indicating via Digital Display.

   e) Status level indicating LED lights.

   f) Load isolator (LDT).

g) Safety door interlocks.

h) Integral structural design features that allow regulators to be close-coupled and mounted in a side by side or back to back configuration.

i) Removable lift-off interchangeable door, containing all regulating and control components - simplifies troubleshooting and maintenance. All doors from 4KW to 20KW are Ferro topology interchangeable.

j) 10) Standard 3 brightness step design, each step fully field adjustable over the full range allowing 3 and 5 step control from the same regulator, Actual Current Set Point accuracy +0.010A, by front panel configuration of Firmware.

k) Overcurrent surges set point and quantities are programmable from 1 to 10 events.

l) Output Ammeter via Digital Display.

m) Output Voltmeter via Digital Display.

n) Elapsed Time Meter via Digital Display.

o) Power Factor via Digital Display.

p) Load Power via Digital Display.

q) VA set points programmable.

r) Lamp failure set points programmable.

s) Internal Meggering - Insulation Resistance Monitoring, readout via Main Display.

109-2.19 Electric wire and cable

Add the following to Section a. Control circuits:

"THWN Wire. Cable shall comply with Underwriters' Laboratories Standard UL-83 and Federal Specification A-A-59544. Conductor shall be soft-annealed, uncoated Copper and shall comply with ASTM B3 and B8. Insulation shall be rated for 600-volt. Insulation shall be polyvinyl chloride conforming to Underwriters' Laboratories requirements for Type THW. The outer covering shall be nylon-conforming to Underwriters' Laboratories for type THHN or THWN. Cable shall be UL listed and marked THWN."

Delete paragraphs 1, 2, and 3 under Paragraph 2.19.b - Power Circuits.

Add the following:

"Power Cable (600-Volt and Below). All power wiring, 600-volt and below, shall be the type, size, and number of conductors as noted on the Plans.

THWN Wire. Cable shall comply with Underwriters' Laboratories Standard UL-83 and Federal Specification A-A-59544. Conductor shall be soft-annealed, uncoated Copper and shall comply with ASTM B3 and B8. Insulation shall be rated for 600-volt. Insulation shall be polyvinyl-chloride conforming to Underwriters' Laboratories requirements for Type THW. The outer covering shall be nylon-conforming to Underwriters' Laboratories for type THHN or THWN. Cable shall be UL-listed and marked THWN-2. Power and control wiring shall be Type THWN-2, or approved equal. **Note where THWN wiring is referenced on the Plans, it shall be THWN-2.**

Series Circuit 5,000-Volt Cable. Cable for use with series circuit airfield lighting shall be FAA-L-824, dual rated, MV-90, 5KV, XLP, Type C cable complying with Item 108. L-824 cable shall be FAA approved and listed in the current FAA AC No. 150/5345-53D, AIRPORT LIGHTING EQUIPMENT CERTIFICATION PRORAM, Appendix 3 Addendum. Cable furnished on this project shall comply with the requirements of the Airport Improvement Program Buy American Requirements and the "Buy American Act." Circuits for use with constant current regulator outputs (runway or taxiway lighting circuits) shall use 5000-volt rated cable.

Grounding electrode conductors and/or bonding jumpers shall be the size and type, as detailed on the Plans. Ground wire for bonding constant current regulator housings, cutout enclosures, and other vault equipment frames to the vault ground bus shall be #6 AWG stranded Copper."

INSTALLATION OF EQUIPMENT IN VAULT OR PREFABRICATED METAL HOUSING

109-4.1 General.

Add the following to this section:

"The Contractor shall furnish and install all materials necessary for complete and operational installation of the equipment, as specified herein and as shown on the Plans. The complete installation and wiring shall be done in a neat, workmanlike manner. All

electrical work shall comply with the requirements of the NFPA 70 - National Electric Code (NEC) most current issue in force, and all other applicable local codes, laws, ordinances, and requirements in force. Electrical equipment shall be installed in conformance with the respective manufacturer's directions and recommendations for the respective application. Any installations which void the UL listing, ETL listing (or other third party listing), and/or the manufacturer's warranty of a device will not be permitted.

a. Contractor shall keep a copy of the latest NEC in force on site at all times during construction for use as a reference.

b. Contractor shall keep a copy of the Plans, Special Provision Specifications including any addenda, and copies of any change orders on site at all times during construction.

c. Contractor shall coordinate work and any power outages with the Airport Manager and the Resident Engineer. Any shutdown of existing systems shall be scheduled with and approved by the Airport Manager prior to shutdown. Once shut down, the circuits shall be labeled as such to prevent accidental energizing of the respective circuits. All personnel shall follow U.S. Department of Labor Occupational Safety & Health Administration (OSHA) 29 CFR Part 1910 Occupational Safety and Health Standards for electrical safety and lockout/tagout procedures including, but not limited to, 29 CFR section 1910.147 The Control of Hazardous Energy (lockout/tagout).

d. Contractor shall comply with the applicable requirements of NFPA 70E - Standard for Electrical Safety in the Workplace.

e. All electrical equipment installed by the Contractor shall be properly labeled, and all cables must be tagged.

f. All changes to the airfield lighting system control wiring will be documented by the Contractor and provided to the Resident Engineer.

g. Locate Existing Underground Utilities and Cables. The location, size, and type of material of existing underground and/or aboveground utilities indicated on the Plans are not represented as being accurate, sufficient, or complete. Neither the Owner nor the Engineer assumes any responsibility whatever in respect to the accuracy, completeness, or sufficiency of the information. There is no guarantee, either expressed or implied, that the locations, size and type of material of existing underground utilities indicated are representative of those to be encountered in the construction. It shall be the Contractor's responsibility to determine the actual location of all such facilities, including service connections to underground utilities. Prior to construction, the Contractor shall notify the utility companies of his

operational plans, and shall obtain, from the respective utility companies, detailed information and assistance relative to the location of their facilities and the working schedule of the companies for removal or adjustment, where required. In the event an unexpected utility interference is encountered during construction, the Contractor shall immediately notify the utility company of jurisdiction. The Owner's Representative and/or the Resident Engineer shall also be immediately notified. Any damage to such mains and services shall be restored to service at once and paid for by the Contractor at no additional cost to the Contract. All utility cables and lines shall be located by the respective utility. **Contact JULIE (Joint Utility Location Information for Excavators) for utility information, phone: 1-800-892-0123.** Contact the FAA (Federal Aviation Administration) for assistance in locating FAA cables and utilities. Location of FAA power, control, and communication cables shall be coordinated with and/or located by the FAA. Also contact Airport Manager and Airport Personnel for assistance in locating underground airport cables and/or utilities. Also coordinate work with all aboveground utilities.

h. Contractor shall comply with the requirements of FAA AC No. 150/5370-2G (or most current issue) "OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION."

i. Secure, identify, and place any temporary exposed wiring in conduit to prevent electrocution and fire ignition sources."

109-4.3 Switchgear and panels.

Add the following to this section:

a. Installation of Circuit Breakers in Panelboards. Install circuit breakers in panelboards in conformance with the respective manufacturer's directions. Connect only one (1) wire/cable to each breaker terminal. Update circuit directory to identify the respective device fed by each new circuit breaker.

109-4.4 Duct and conduit.

Add the following to this section:

a. Conduit shall be installed in accordance with the following:

1. All service, feeder, branch circuit, and control circuit conduits associated with the vault shall be galvanized rigid steel conduit as detailed on the Plans.

2. Schedule 40 PVC conduits shall be used for individual grounding electrode conductors and/or bonding jumpers.

b. Conduit Runs:

1. All conduits shall be sized, as indicated on the Drawings, or if conduit sizes not shown shall be in accordance with the NEC. All conduit systems shall be mechanically and electrically continuous from source of current to all outlets and grounded in accordance with the NEC.

2. Run all exposed conduit parallel to building walls using right angle bends. Exposed diagonal runs of conduit will not be permitted. Do not install conduit on roof surfaces unless specifically indicated on the Drawings.

3. Ream conduit after threads are cut. Cut ends square and butt solidly into couplings.

4. Prevent the accumulation of water, foreign matter, or concrete in the conduits during the execution of the work. Temporarily plug conduit, blowout, and swab before wires are pulled.

5. Fasten conduits to all sheet metal boxes and cabinets with two (2) locknuts in accordance with the NEC where insulated bushings are used and where bushings cannot be brought into firm contact with the metal enclosures; otherwise, use at least a single locknut and bushing.

6. Seal each underground joint and make water-tight.

7. Where building construction or other conditions make it impossible to use standard threaded couplings, install water-tight, threaded unions.

8. Make changes in direction of runs with symmetrical bends or cast-metal fittings. Make field-made bends and offsets with conduit bending machine to avoid changing the internal diameter of the conduit and not damage its protective coating either inside or outside. Individual bends shall not exceed 90 degrees, and not more than 270 degrees total bends will be allowed in any one (1) conduit run. Where more bends are necessary, and conduit runs exceed 150 linear feet, install a suitable pull box or junction box.

9. Provide empty conduits installed with a pull wire. Pull wire shall be No. 14 AWG, zinc-coated steel or of plastic having not less than 200 lb. tensile strength. Leave not less than 12 inches of slack at each end of the pull wire.

10. Use liquid-tight, flexible metal conduit for final connection to motors, constant current regulators, transformers, portable equipment, and for equipment subject

to vibration and noise transmission. For each conduit size up to 1-inch trade size, flexible conduit shall be minimum length of 12 inches and a maximum length of 36 inches and for conduit sizes above 1-inch trade size, flexible conduit shall be minimum length of 20 inches and maximum length of 48 inches. Liquid-tight flexible metal conduit and associated fitting shall be UL listed to meet the requirements of NEC 350.6. Liquid-tight flexible metal conduit that is used for flexibility (including connections to motors, constant current regulators, and transformers) shall require an external bonding jumper or internal equipment grounding conductor per NEC 350.60. Do not install liquid-tight flexible metal conduit that is not UL listed.

11. Provide duct seal at conduit terminations inside enclosures where the respective conduit is from below grade.

12. Provide NEMA 4 hubs at conduit entrances for equipment rated NEMA 3R to maintain a watertight seal.

c. Raceway Support and Hangers:

1. Securely fasten raceways in-place and support from ceiling or walls at spacing not exceeding:

Maximum Spacing	**Material of Supports**
1/2-in. through 1-in. trade size conduit	6 ft.
1-1/4-in. through 1-1/2-in. trade size conduit	8 ft.
2-in. to 4-in. trade size conduit	10 ft.
Liquid-tight, flexible metal conduit	4-1/2 ft.
Metal wireway	10 ft

2. Support rigid conduits within 3 feet of every outlet box, junction box, pull box, cabinet, or termination. Support flexible conduit within 12 inches on each side of every outlet box or fitting.

3. Support conduits by pipe straps, wall brackets, hangers, or ceiling trapeze. The use of perforated iron or wire for supporting conduits is prohibited. Fasten with wood screws or screw nails to wood; by toggle bolts on hollow masonry units, by concrete inserts, or expansion bolts on concrete or spring-tension or threaded C-clamps for rigid steel conduits on steel. Do not weld conduits or pipe straps to steel structures unless specifically indicated.

4. The load applied to fasteners shall not exceed one-third the proof test load of the fasteners.

5. Fasteners attached to concrete shall be vibration and shock-resistant.

6. All screws, bolts, washers, and miscellaneous hardware used for conduit supports shall be fabricated from rust-resisting metal. Trapeze hangers shall have hanger assemblies protected with galvanized finish."

109-4.5 Wiring and connections.

Add the following to this section:

"Low-voltage wiring shall maintain separation from high-voltage wiring. Low-voltage and high-voltage wiring shall not be installed in the same raceway. Low-voltage and high voltage wiring shall not be installed in the same handhole or junction box."

109-4.6 Marking and labeling.

Add the following to this section:

c. Legend plates shall be provided for all equipment. Legend plates shall be provided to identify the equipment controlled, the power source, and the function of each device. Legend plates shall be weatherproof and abrasion-resistant phenolic/plastic engraved material and fastened with contact type permanent adhesive, screws, or rivets. Installation shall not break, crack, or deform the legend plate. Lettering shall be ¼ inch high, black on a white background, unless noted otherwise.

d. Identify control wiring at each termination point and in junction/terminal boxes with wire number corresponding to the respective control wiring diagram or respective terminal numbering arrangement. Each individual control wire shall have unique identification and shall maintain that same identification from its point of origin to its final termination point. Wire markers shall be permanent pressure sensitive label with suitable numbers of letters for easy recognition. Where new control wiring is interfaced to existing control wiring it shall also match the color coding of the existing control wiring.

e. Each individual circuit breaker, control panel, terminal panel, safety switch, etc. shall be furnished with a phenolic-engraved legend plate that identifies the respective device, the power source, and the respective voltage, phase, and wire.

Furnish additional phenolicengraved legend plates as detailed on the Plans and/or where required by code.

f. At electrical handholes, identify each cable originating in the vault with respect to the system or device served.

g. Color-code phase and neutral conductor insulation for No. 6 AWG or smaller. Provide colored marking tape for phase and neutral conductors for No. 4 AWG and larger. Insulated ground conductors shall have green colored insulation for all conductor sizes (AWG and/or KCMIL) to comply with NEC 250.119. Neutral conductors shall have white colored insulation for No. 6 AWG and smaller to meet the requirements of NEC 200.6. Standard colors for power wiring and branch circuits shall be as follows:

120/240 VAC, 1-Phase, 3-Wire System	
Phase A	Black
Phase B	Red
Neutral	White
Ground	Green

h. Furnish and install weatherproof warning label for each meter socket, enclosed circuit breaker, disconnect switch, switchboard, cutout, panelboard, load center, motor control center, and control panel to warn persons of potential electric arc flash hazards, per the requirements of NEC 110.16 "Flash Protection." Labels shall also conform to ANSI Z535.4-2011 "American National Standard for Product Safety Signs and Labels." NEC 110.16 requires that switchboards, panelboards, industrial control panels, meter socket enclosures, and motor control centers that are likely to require examination, adjustment, servicing, or maintenance while energized shall be field marked to warn qualified persons of potential arc flash hazards. The markings shall be located so as to be clearly visible to qualified persons before examination, adjustment, servicing, or maintenance of the equipment. This new requirement is intended to help reduce the occurrence of serious injury or death due to arcing faults to those working on or near energized electrical equipment. The warning labels are to indicate to a qualified worker who intends to open the equipment for analysis of work that a serious hazard exists and that the work should follow appropriate work practices and wear appropriate personal protective equipment (PPE) for the specific hazard. Labels shall be as detailed on the Plans or shall include at least the following information: "Warning - Potential Arc-Flash Hazards exist while working on this energized equipment. Appropriate PPE Required."

i. Furnish and install "DANGER -- HIGH VOLTAGE" signs or labels on all fixed electrical equipment where potentials of 500-volts or more terminal-to-ground are exposed (including, but not limited to, constant current regulators, series circuit

cutout enclosures, high voltage junction boxes, and high voltage wireways) in accordance with FAA AC No. 150/5340-26C "MAINTENANCE OF AIRPORT VISUAL AID FACILITIES." Place signs in a conspicuous location, usually on the outside of equipment.

109-4.8 Testing

Add the following:

Tests shall include resistance, voltage, and current reading, as applicable for the respective equipment. When tests disclose any unsatisfactory workmanship or equipment furnished under this contract, correct defects and retest. Repeat tests until satisfactory results are obtained. When any wiring or equipment is damaged by tests, the wiring or equipment shall be repaired or replaced at no additional cost to the contract. Test repaired or replaced items to ensure satisfactory operation. Submit three (3) copies of all test reports to the Engineer. All test reports shall be assembled and bound in a folder or binder. Each test report shall include the following information:

- Project number
- Project title and location
- Device or system tested
- Test performed
- Date performed
- Test equipment used
- Respective Contractor's name, address and telephone number
- Testing firm's name, address and telephone number if other than the Contractor
- Names of individuals performing tests
- Names of individuals observing tests
- Statement verifying each test
- Nameplate data from respective equipment tested
- Test results
- Retest results after correction of defective components or systems (where applicable)

The Contractor shall be required to schedule an on-site visit from the regulator equipment manufacturer prior to energizing the system. A complete evaluation shall be completed by the manufacturer of all regulator equipment (new and existing) to ensure that the equipment is working properly.

Add the following section:

109-4.9 Grounding requirements.

Grounding shall conform to the following as applicable: The Contractor shall furnish and install all grounding as shown on the Plans and/or as may be necessary or required to make a complete grounding system, as required by the latest NEC (NFPA 70) in force. The reliability of the grounding system is dependent on careful, proper installation, and choice of materials. Improper preparation of surfaces to be joined to make an electrical path, loose joints, or corrosion can introduce impedance that will seriously impair the ability of the ground path to protect personnel and equipment and to absorb transients that can cause noise in communication circuits. The following functions are particularly important to ensure a reliable ground system:

a. All products associated with the grounding system shall be UL-listed and labeled.

b. All bolted or mechanical connections shall be coated with a corrosion preventative/conductive grease and lubricant suitable for electrical connections and grounding connections, before joining. Sanchem, Inc. "NO-OX-ID A-Special" compound, Burndy Penetrox E, or approved equal.

c. Metallic surfaces to be joined shall be prepared by the removal of all non-conductive material, per 2011 NEC Article 250.12. All Copper bus bars must be cleaned prior to making connections to remove surface oxidation.

d. Metallic raceway fittings shall be made up tight to provide a permanent low impedance path for all circuits. Metal conduit terminations in enclosures shall be bonded to the enclosure with UL-listed fittings suitable for grounding. Provide grounding bushings with bonding jumpers for all metal conduits entering service equipment (meter base, CT cabinet, main service breaker enclosure, etc.), generator breaker enclosures, and automatic transfer switch enclosures. Provide grounding bushings with bonding jumpers for all metal conduits entering an enclosure through concentric or eccentric knockouts that are punched or otherwise formed so as to impair the electrical connection to ground. Standard lockouts or bushings shall not be the sole means for bonding where a conduit enters an enclosure through a concentric or eccentric knockout.

e. All connections, located above grade, between the different types of grounding conductors shall be made using UL-listed, double-compression, crimp-type connectors or UL-listed, bolted ground connectors. For ground connections to enclosures, cases, and frames of electrical equipment not supplied with ground lugs, the Contractor shall drill required holes for mounting a bolted, ground connector. All bolted, ground connectors shall be Burndy, Thomas and Betts, or equal. Tighten

connections to comply with tightening torques in UL Standard 486A to ensure permanent and effective grounding.

f. All metal equipment enclosures, conduits, cabinets, boxes, receptacles, etc. shall be bonded to the respective grounding system. Provide grounding bushings at all conduits entering service entrance equipment (meter bases, service disconnects, service panelboards, etc.) and distribution panels or load centers and ground wire from bushing to ground bus in the respective service entrance equipment or distribution panel.

g. Each feeder circuit and/or branch circuit shall include an equipment ground wire. Metal raceway or conduit shall not meet this requirement. The equipment ground wire from equipment shall not be smaller than allowed by 2011 NEC Table 250.122 "Minimum Size Conductors or Grounding Raceway and Equipment." When conductors are adjusted in size to compensate for voltage drop, equipment-grounding conductors shall be adjusted proportionately according to circular mil area. All equipment ground wires shall be Copper, either bare or insulated green in color. Where the equipment grounding conductors are insulated, they shall be identified by the color green, and shall be the same insulation type as the phase conductors.

h. Bond the main electrical service neutral to ground at the main service disconnect. Bond the service neutral to ground at one (1) location only per the NEC. A grounding connection shall not be made to any neutral circuit conductor on the load side of the service disconnecting means, except as permitted by 2011 NEC 250.24.

i. The secondary neutral of all transformers (separately derived system transformers) shall be grounded in accordance with the NEC. The respective grounding electrode conductor shall be connected to the neutral point of the transformer between the transformer and the output disconnecting means. Size of the grounding electrode conductor shall be in accordance with 2011 NEC Article 250.66 and Table 250.66 unless shown larger on the Plans. A bond shall be provided between the neutral and transformer case, or other metal that is part of the AC equipment grounding system, so as to complete a circuit for fault current to the transformer winding from the AC equipment grounding system. Size of the neutral bonding conductor shall be in accordance with 2011 NEC Article 250.102.

j. All exterior metal conduits, where not electrically continuous because of manholes, handholes, non-metallic junction boxes, etc. shall be bonded to all other metal conduit in the respective duct run, and at each end, with a Copper-bonding jumper sized in conformance with 2011 NEC 250.102. Where metal conduits terminate in an enclosure (such as a motor control center, switchboard, etc.) where there is not electrical continuity with the conduit and the respective enclosure, provide a bonding

jumper from the respective enclosure ground bus to the conduit sized per 2011 NEC 250.102.

k. Install grounding electrode conductors and/or individual ground conductors in Schedule 40 or Schedule 80 PVC conduit. Where grounding electrode conductors or individual ground conductors are run in PVC conduit, do not completely encircle conduit with ferrous and/or magnetic materials. Use non-metallic, reinforced fiberglass strut support. Where metal conduit clamps are installed, use nylon bolts, nuts, washers, and spacers to interrupt a complete metallic path from encircling the conduit.

l. Individual ground conductors and/or grounding electrode conductors shall not be run in metallic conduit and shall not be encircled by metallic clamps. If local codes dictate that grounding conductors must be run in metal conduit or raceway, then the conduit or raceway must be bonded to the grounding conductor at both ends with a bonding jumper sized in accordance with NEC 250.64(E). All such installations requiring individual grounding conduits to be run in metal conduit or raceway shall be verified and reviewed with the Resident Engineer. This does not apply to AC equipment ground wires run with AC circuits.

METHOD OF MEASUREMENT

109-5.4.

a. The quantity of vault modifications, equipment, and materials to be paid for under Item AR109210 Vault Modification shall consist of furnishing and installing all electrical equipment and performing the necessary modifications to the existing vault, as detailed on the Plans and specified herein. This item shall include all labor, equipment, grounding, materials, tools, operational instructions, coordination, and testing required to place the modifications and associated electrical equipment into proper working order. Conduit entries, elbows, and fittings located at, adjacent to, or beneath the structure shall be considered incidental to this item and no additional compensation will be allowed.

b. Constant current regulators will be measured for payment per each unit installed and connected as specified, completed, ready for operation and accepted by the Engineer.

BASIS OF PAYMENT

109-6.1

Add the following:

Payment will be made under:

Item AR109210 Vault Modification - Per Lump Sum.
Item AR109321 10 Kw Regulator, Style 1 – Per Each

END OF ITEM 109

Item 110 Airport Underground Electrical Duct Banks And Conduits

BASIS OF PAYMENT

110-5.1

ADD:

Payment will be made under:
Item AR110101 – Cable Marker – per each.
Item AR110102 – Duct Marker – In Pavement – per each.
Item AR110502 – 2-Way Concrete Encased Duct – per linear foot.

END OF ITEM 110

Item 125 Installation Of Airport Lighting Systems

DESCRIPTION

125.1.1

ADD:

Also included in this work shall be the removal of airfield lighting, guidance signs, splice cans and other associated appurtenances in accordance with the plans and specifications.

Special attention is called to the following standards related to all electrical work on the airfield lighting systems:

a. OSHA 29 CFR Part Number 1910; Occupational Safety and Health Standards, Standard Number 1910.147; The control of hazardous energy (lockout/tagout)
b. NFPA 70E – Standard for Electrical Safety in the Workplace
c. FAA AC No. 150/5370-2G "Operational Safety on Airports During Construction (current edition)

EQUIPMENT AND MATERIALS

125-2.8 d

ADD:

Taxiway A shall have taxiway edge lights that are Type L-861T Medium intensity Taxiway Edge Light.

Taxiway B, Taxiway C, and their associated connecting taxiways shall have taxiway edge lights that are Type L-861T(L) Medium Intensity Taxiway Edge Light with LED (Light Emitting Diode) illumination.

Runway 7/25 shall have runway edge lights that are Type L-861(L) Medium Intensity Runway Edge Light with LED (Light Emitting Diode) illumination.

Runway 7/25 shall have runway threshold/end lights that are Type L-861E(L) Medium Intensity End Light with LED (Light Emitting Diode) illumination.

Runway 18/36 shall have runway edge lights that are Type L-861 Medium Intensity Runway Edge Light.

125-2.9

ADD:

All runway and taxiway guidance signs shall be Size 2, Style 2, Class 2, and Mode 2.

ADD:

125-2.16
Sign panels to be replaced in existing taxiway guidance signs shall be in accordance with the requirements of 125-2.9. The Contractor shall be responsible for verifying the provided sign panel's compatibility with the existing guidance sign.

CONSTRUCTION METHODS

125-3.1

ADD:

The Contractor shall check with the Airport Sponsor to see what, if any, components the Sponsor would like to keep from the existing stake mounted light after removal by the Contractor. The Contractor shall dispose of any unwanted components off site.

ADD:

125-3.5 Removal of Electrical Items. The Contractor shall be responsible for the removal of items designated for removal on the plans or as directed by the resident engineer. The removal of items shall be performed with qualified electrical professionals with experience in medium voltage, series circuit systems.

The Contractor shall be responsible for coordinating the shut down of the airfield electrical systems a minimum of 72 hour prior to system shutdown and shall also be responsible for the verification of the safe shutdown and subsequent lockout of the system. The Contractor shall familiarize himself with the airfield circuitry and perform all necessary tests for verification of system safety prior to initiating any work on the existing system.

Interruptions to the operation of the airfield lighting system should be limited in duration. In instances where temporary connections are necessary to limit interruption, the Contractor shall furnish temporary cable and connector kits as necessary to place the system back into service. All temporary connection shall be left in a manner consistent with all applicable referenced standards. Temporary work will not be paid separately but shall be included in the cost of the associated removal item.

Lights and guidance signs shall be removed in their entirety, including but not limited to stakes, concrete bases, transformers, foundations, and all other related appurtenances. Any cabling that is to remain shall be verified to be fully disconnected from the system and shall be buried a minimum of 18" below grade. Any necessary splicing of cable to remain for the continued operation of the existing system shall be completed in accordance with the plan details and specifications.

All removed fixtures and stakes shall be returned to the Airport Manager. Care should be taken in the removal process so as not to damage the items that will be returned. In instances where the Engineer determines that damage to salvaged items is excessive or avoidable, the Contractor will not be paid for the removal of that item.

All other removed items, including splice cans, foundations, and removed cable shall be disposed of by the Contractor off-site in accordance with all applicable laws governing the disposal of construction debris. The cost of this disposal shall be included in the cost of the associated removal item.

BASIS OF PAYMENT

125-5.1

ADD:

Payment will be made under:

Item AR125410 – MITL – Stake Mounted – per each.
Item AR125415 – MITL – Base Mounted – per each.
Item AR125441 – Taxiway Guidance Sign, 1 Character – per each.
Item AR125442 – Taxiway Guidance Sign, 2 Character – per each.
Item AR125443 – Taxiway Guidance Sign, 3 Character – per each.
Item AR125444 – Taxiway Guidance Sign, 4 Character – per each.
Item AR125505 – MIRL – Stake Mounted – per each.
Item AR125510 – MIRL – Base Mounted – per each.
Item AR125565 – Splice Can – per each.
Item AR125610 – REIL – per pair.
Item AR125901 – Remove Stake Mounted Light – per each.
Item AR125902 – Remove Base Mounted Light – per each.
Item AR125904 – Remove Taxiway Guidance Sign – per each.
Item AR125906 – Remove Splice Can – per each.
Item AR125932 – Replace Sign Panel – per each.

END OF ITEM 125

Appendix A

Geotechnical Report

Chamlin & Associates
ENGINEERS • SURVEYORS • PLANNERS

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GEOTECHNICAL REPORT

Morris Municipal Airport
Crosswind Runway
Morris, Illinois
July 25, 2024

Prepared By: Troy Reddoch, P.E.
Chamlin & Associates
troyr@chamlin.com

Prepared For: City of Morris
700 N. Division St.
Morris, IL 60450

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Appendix G – Dynamic Cone Penetrometer Results

I. GENERAL INFORMATION

Introduction

Chamlin & Associates (Chamlin) has been retained by the City of Morris to complete a geotechnical report for the proposed crosswind runway at the Morris Municipal Airport. The airport is located approximately 2.85 miles north of I-80 and is adjacent to Illinois Route 47, in Morris, IL. The project is in Section 15, Township 34N, Range 7E of the 3rd Principal Meridian, see Figure 1.

The purpose of this report is to describe the soil conditions encountered during the geotechnical subsurface investigation, to analyze and evaluate the soil test data obtained, and to provide recommendations for runway pavement construction.

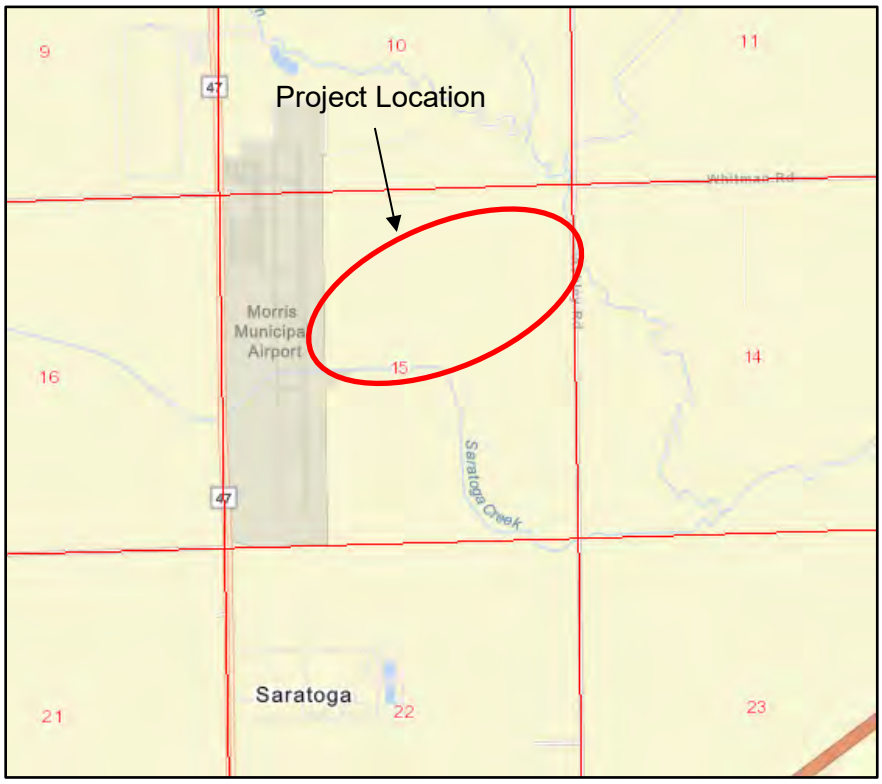


Figure 1 - Project Location

Project Description

This project is located to the east of the existing airport and involves the following improvements:

- Constructing Runway 7-25, 3,500 feet long and 60 feet wide runway.
- Constructing Taxiway B, 400 feet east of Runway 18-36 from Taxiway C to Runway 18 threshold
- Constructing/Relocating Taxiway A3
- Constructing Taxiway C, a full-length parallel taxiway, 240 feet north of Runway 7-25.

Area Geology

The project site is part of the Kankakee Plain with quaternary deposits from the Henry Formation of the Mason Group from the Wisconsin Episode. The bedrock in this consists of the Carbondale Formation of the Pennsylvanian Age and like the rest of the Pennsylvanian, is composed of gray shale or mudstone, siltstone, and sandstone. Rock bodies vary greatly in thickness and commonly grade laterally into one another.

Soils

According to the Natural Resources Conservation Service, NRCS, soil maps for the project limits, the native soils of the area are Loam and Silt Loam. The soils that make up most of the area are Martinton Silt Loam and Proctor Silt Loam. Martinton Silt loam is considered a somewhat poorly drained soil, while Proctor Silt Loam is considered a well-drained soil. A copy of the NRCS soil map is included in the Appendix.

Climate Data

This section summarizes the climatic conditions for the months of the subsurface investigations and the three months prior to each of the investigations. The data was evaluated to determine any effects of precipitation and temperature on the water table level and soil moisture content that was encountered during the investigations. The climatic conditions were compared against the historical average for that month and are summarized in Table 1 and Table 2. Local data was available from the National Weather Service's website. Historical averages were available from the National Oceanic Atmospheric Administration.

For the months evaluated for the April 2024 investigation, the precipitation sums were above the historical average in all the months except for February. Overall, for the months examined, the precipitation sum was higher than the average by 1 inch. The average monthly temperature was higher than the historical average in all four months examined.

Table 1 - Precipitation Data

Month / Year	Actual, inches*	Historical Average, inches**	Gain (+) or Loss (-), inches
December 2023	2.67	2.02	+0.65
January 2024	2.29	2.09	+0.20
February 2024	0.55	1.79	- 1.24
March 2024	3.65	2.23	+1.42
Total	9.16	8.13	+1.03

Table 2 - Temperature Data

Month / Year	Average Temperature, Fahrenheit	Historical Average, Fahrenheit	Gain (+) or Loss (-), Fahrenheit
December 2023	40.8	29.1	+11.7
January 2024	27.9	23.4	+4.5
February 2024	40.3	27.4	+12.9
March 2024	44.8	38.3	+6.5

II. SUBSURFACE INVESTIGATION

This section describes the subsurface investigation program and laboratory testing procedures completed as part of this project. The locations and depths of the soil borings were selected by Chamlin and Associates. The laboratory testing program was also completed in house.

Subsurface Investigation Program

Soil boring logs are available from the April 2024 subsurface investigation taken along the runway alignment. The subsurface investigation for the proposed runway improvements was conducted in April 2024 by Chamlin & Associates.

These borings were performed using a CME 55 truck mounted rig. The structure borings utilized standard penetration test methods with an automatic hammer weighing 140 pounds that is lifted and dropped repeatedly from a height of 30 inches, following the guidelines of ASTM D1586. The blow counts are recorded every 6 inches while advancing the split spoon a total of 18 inches into the soil at regular intervals. The number of blows it takes to advance the split spoon the last 12 inches is known as the N-value. Unconfined compressive strengths were tested using a Rimac machine when suitable samples were retrieved, a pocket penetrometer was used on the others.

Dynamic cone penetrometer testing was conducted adjacent to each location to estimate in situ California Bearing Ratio (CBR) using Equation 6 from ASTM D6951. DCP summary tables are included in Appendix G.

Subsurface Soil Conditions

The soil borings completed for this project were taken within the alignment of the proposed runway. The soil samples were classified in the lab in accordance with the Illinois Division of Highways Textural Classification chart to confirm the findings in the field. AASHTO designations with group indices for the engineering classification were determined and are included in Appendix.

In general, there is between 6 – 12 inches of organic silty clay topsoil across the site. Below the topsoil is 1 to 4 feet of medium stiff, low plasticity clay and silty clay loam. The soil has an

average Qu = 1.3 tsf and a moisture content of approximately 28%. Atterberg Limit testing resulted in liquid limit values between 19.7 to 48.3 and plastic limit values between 17.5 to 23.8. Several of the soil samples tested were non plastic.

Below the medium stiff silty clay from 4 to 9 feet below the grounds surface is stiff clay and silt loam with an average Qu = 1.5 tsf. The borings were terminated at 11 feet below the ground surface in medium dense to dense silt/sand with blow counts over 25. Bedrock was not encountered in any of the soil borings.

Laboratory Testing Program

Laboratory testing consisted of moisture content, grain size analysis and Atterberg Limits on representative samples. Select samples were inspected in the laboratory to verify the field classifications. The moisture contents shown on the profile are determined from samples collected during drilling. These moisture content values can and will change with the seasons and varying climate. It is likely the moisture contents will not be the same at the time of construction. A copy of the tests results is included in the appendix of this report.
The testing regiment was completed in accordance with the following test standards:

Test Description	Test Identification
Moisture Content	AASHTO T 265
Grain Size Analysis	AASHTO T 27 / T 11 & T 88, ASTM D 422-63
Atterberg Limits	AASHTO T 89 & T 90

Existing Pavement Conditions

The existing runway, 18/36, had an extension added to it in 2006. The extension's pavement section consisted of 9.5 inches of HMA over 6 inches of crushed aggregate.

Groundwater Conditions

Water levels were measured in each boring during the drilling operation and once the boring was completed to determine general groundwater conditions. The borings were immediately backfilled, so no 24-hour readings were obtained. Groundwater was encountered in four of the borings and had an elevation ranging from 559.75 to 563.23 feet, see Table 3. The average depth of ground water is 7.5 ft below the ground surface.

Table 3 - Summary of Groundwater Elevations

Boring ID	Ground Surface Elevation (ft.)	Groundwater Elevation (ft.)	Depth (ft)
B-3	568.82	559.82	8
B-5	570.73	563.23	6.5
B-7	570.44	561.44	9
B-8	566.25	559.75	6.5

Fluctuations in the groundwater level may occur due to variation in rainfall or other climatic conditions not evident at the time of measurement. Based on the average depth of the groundwater surface, it is not expected that groundwater will affect the site preparation or runway construction activities.

III. GEOTECHNCIAL ANALYSIS AND RECOMMENDATIONS

The recommendations for design and construction presented in the following sections are based on Chamlin's understanding of the proposed roadway improvements, an engineering assessment of the anticipated subsurface conditions and Chamlin's experience with similar projects. If the alignment or proposed grades change, we request that you contact us for an opportunity to re-evaluate our recommendations.

Frost Susceptible Soils

For a soil to be considered frost susceptible, the soil must have:

- Plasticity Index, PI, less than 12.
- Contain more than 65% silt and fine sand.
- The level of capillary rise must be within the depth of frost penetration.

The recommended frost depth for this site is 48 inches in extreme weather conditions. Only one of the samples, from B-8 encountered within this depth meet the first two criteria to be considered frost susceptible. However, to have frost heave all three of the frost susceptible criteria mentioned above must be present.

The water table, where encountered was at a depth of 6.5 to 9.0 feet below the ground surface. There was no evidence of capillary rise during the subsurface investigation and the existing runway pavement does not show evidence of heaving. Due to these circumstances, we believe this soil can remain in place, given that positive drainage is maintained during construction and through the life of the pavement structure. Underdrains should be considered in the plans to help promote drainage away from the natural soils with high fines content and low PI values.

High Liquid Limit Soils and Topsoil

Soils with a Liquid Limit, LL, greater than 50 have a greater potential for swelling and instability. No soils meeting this criterion were encountered during the subsurface investigation. Any topsoil encountered during this project should be stripped. The topsoil may be replaced with well compacted suitable earth embankment or by thickening the bottom gradation portion of the improved subgrade.

Subgrade Soils

The subsurface investigation completed by Midwest Testing Services indicates that subgrade soils will consist of medium stiff clay to silty clay loam. Below the 12 inches of topsoil, the subgrade soil had an average penetration rate of 2.0 in/blow. Using equation 6 from ASTM D6951 this correlates to a CBR value of 6.9 with a Modulus E = 10350 psi. These values should be used for the subgrade soil in the FAARFIELD program to determine the appropriate pavement section.

According to AC No. 150/5320-6G Section 2.4, soils with a mean subgrade strength lower than 5 require subgrade improvement. The soil encountered in B-4 had CBR < 5 for the upper

18 inches. Some subgrade treatment is recommended in this area. The simplest solution would be to over-excavate the pavement section to the bottom of the soft layer, 18 inches below the ground surface, and replace the material with aggregate. Crushed aggregate such as CA06 is recommended. Additionally, based on the clay content of the soil, Lime modification would also be a viable option in this area.

During construction, after the topsoil has been removed the subgrade soil should be prepared as described in Section 301, Subgrade Preparation, of the IDOT Standard Specifications for Road and Bridge Construction. The grade should be proof rolled and tested with a DCP to confirm the CBR = 6.9. A final recommendation should be made in the field after proof rolling and subsequent DCP tests are performed on areas that exhibit rutting exceeding 1 inch. Any cohesive material encountered at the surface exhibiting unconfined compressive strengths less than 1.0 tsf and/or moisture contents greater than 30% should be removed during construction.

Embankments

The proposed runway will have little to no change in the existing grade. Any areas where there are fill, the embankment material shall be placed according to Article 205 of the Standard Specifications for Road and Bridge Construction Manual. The borings show medium stiff to stiff cohesive soils with moderate moisture contents under the proposed subgrade layer. Settlement is not anticipated in the pavement sections of the crosswind runway.

Slope Stability

There is minimal change in the proposed profile grade. Per the 2015 IDOT Geotechnical Manual, because the cuts and fills are so shallow, a slope stability analysis was not performed.

Borrow Material and Compaction Requirements

If borrow material is used for onsite construction, it should conform to Section 204 “Borrow and Furnish Excavations” of the IDOT Standard Specifications for Road and Bridge Construction (2022). Materials placed within the embankment core, below the 24-inch subgrade surface shall:

- Have a minimum SSD of 90 pcf
- Have less than 10% organic content
- Have Liquid Limits less than 50%

Material to be used in the upper 24 inches of the embankment should meet the permissible limits in Table 8.4-1 of the IDOT Geotechnical Manual. Fill material should be placed in lifts and compacted according to Section 205 of the Standard Specifications for Road and Bridge Construction Manual.

Pavement Design (by others)

The proposed pavement design was not provided to us at the time of this report.

Summary

This geotechnical study was commissioned to investigate the engineering parameters of the subsurface materials found at the Morris Municipal Airport. From the Boring logs and laboratory testing, recommendations were provided for the design and construction of the new roadway improvements.

The analysis and recommendations in this report are based upon data obtained from the borings taken April 2024. This report does not reflect variations that may occur away from the boring's location or variations due to the modifying effects of construction or weather.

This report has been prepared for the specific application to the project discussed and has been prepared in accordance with generally accepted geotechnical engineering practices for this geographical area. No warranties, either expressed or implied, are offered.

Review of the final set of plans would provide us an opportunity to make sure the recommendations have been properly incorporated into the design documents. This document should be forwarded onto the contractor at the discretion of the engineer and is not intended to be a complete description of problems which may be encountered by the contractor.

Respectfully submitted,

Troy Reddoch

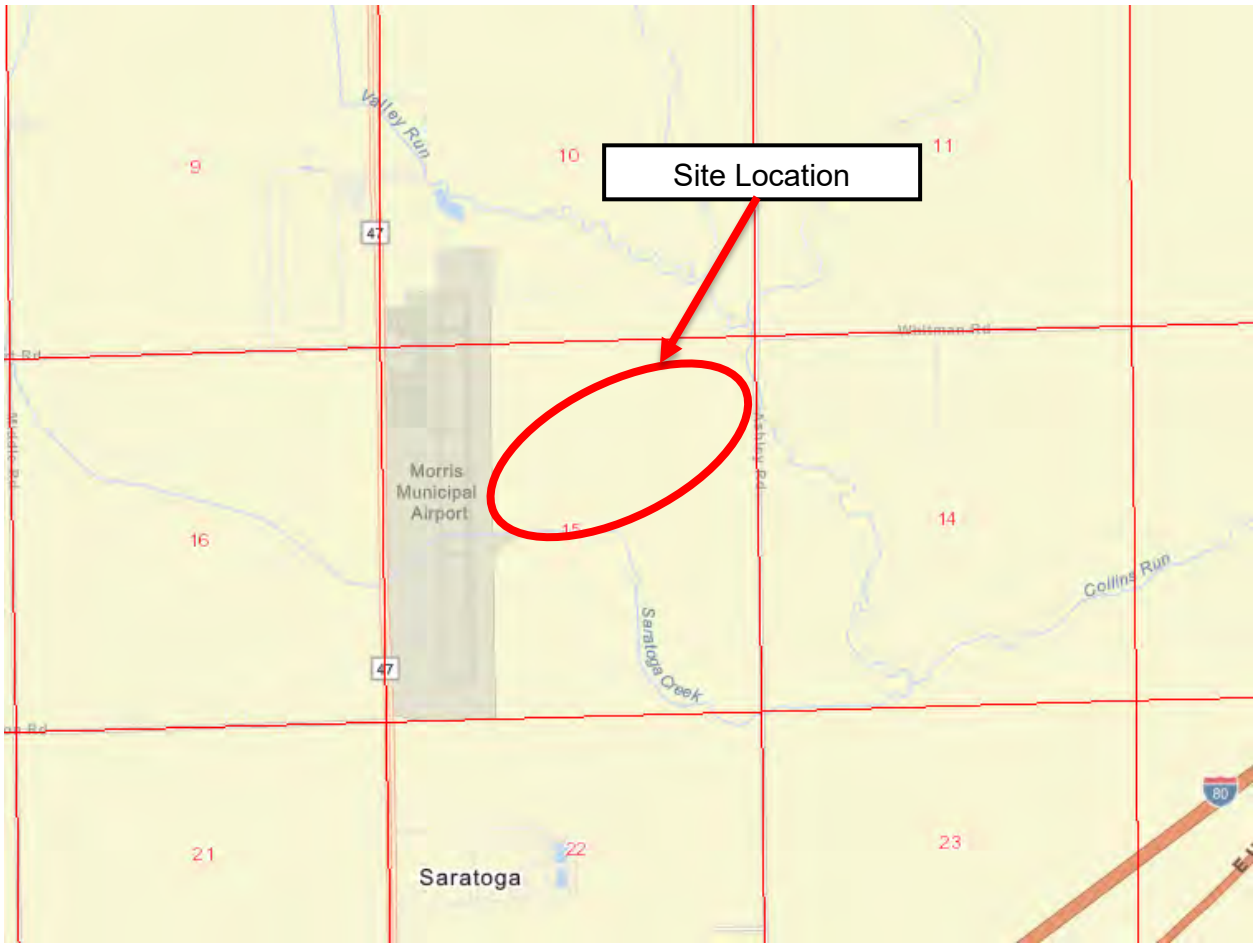
Troy Reddoch, P.E.

7-25-24

exp 11/25

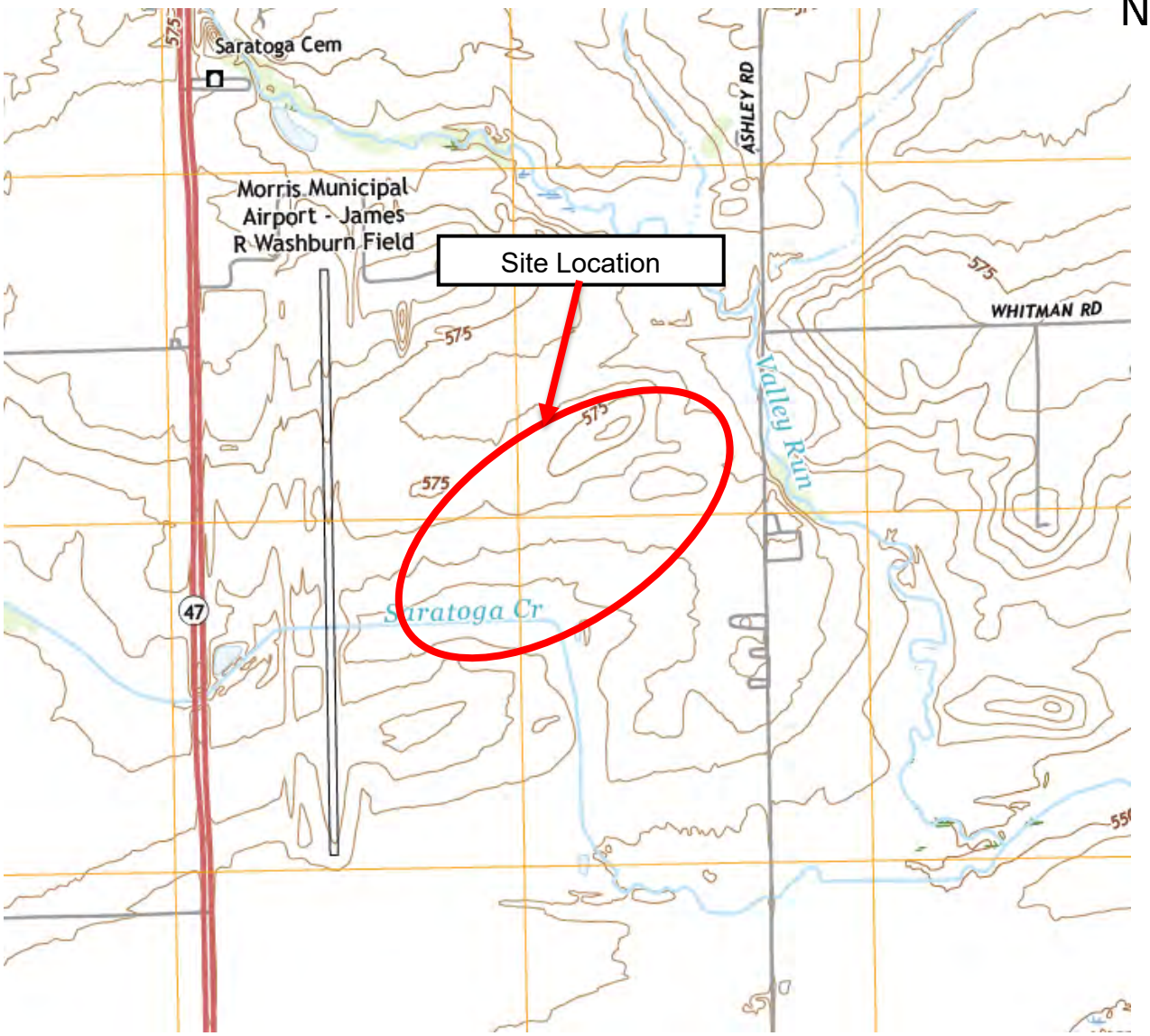
APPENDIX

Location Map



Location Map – Crosswind Runway		
Section 15	Township 34N	Morris, Illinois Grundy County
Range 7E	3rd Principal Meridian	

Topography Map

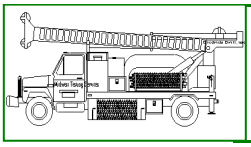


Topography Map – Crosswind Runway		
Section 15	Township 34N	Morris, Illinois Grundy County
Range 7E	3rd Principal Meridian	

Soil Boring Location Map


B-9
N: 1734942.7711
E: 964013.5558
B-8
N: 1734212.4816
E: 964561.4114
B-6
N: 1734085.0531
E: 963540.3868
B-7
N: 1734035.8013
E: 964093.1293
B-4
N: 1733733.0199
E: 962604.3993
B-5
N: 1733683.7681
E: 963157.1418
B-2
N: 1733380.9868
E: 961668.4118
B-3
N: 1733331.7349
E: 962221.1543
B-1
N: 1732979.7017
E: 961285.1668
ASHLEY ROAD

Soil Boring Logs



Midwest Testing Services, Inc.
3705 Progress Blvd.
Peru, IL 61354

Phone: 815-223-6696
Fax: 815-223-6659
e-mail: mts37@comcast.net

BORING LOG

Sheet 1 of 1

Client: Chamlin & Associates, Inc.
Project Name: Morris Airport Future Runway Extension
Project Site: Morris Municipal Airport
9980 N. Rt. 47
Morris, IL 60450

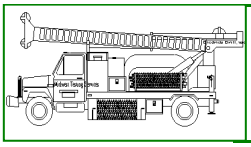
Location: Southwest most Boring, see Boring Location Map
N. 1732979.74 E. 961285.26

Boring No. B-1
Surface Elev. 566.93
Auger Depth 11.00 Rotary Depth NA
Start Date 04/20/24 Finish Date 04/20/24

DRILLED BY: Randy Safranski, Diedrich D-50 Turbo

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	SAMPLES: Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)	Dry Density (PCF)	REMARKS
566.93											
565.93	12" Black Silty Clay Topsoil		1								
564.93	Medium Stiff Brown/Gray Clay		2								
563.93			3	1	SS	1.0	5	B	25		
562.93			4								
561.93			5								
560.93	Stiff Brown/Gray Clay		6	2	SS	1.5	9	B	22		
559.93			7								
558.93			8	3	SS	1.4	10	B	25		
557.93			9								
556.93	Medium Dense Brown Sand		10								
555.93	Boring Terminated		11	4	SS	---	23	---	15		
554.93			12								
553.93			13								
552.93			14								
551.93			15								
550.93			16								
549.93			17								
548.93			18								
547.93			19								
546.93			20								

Groundwater Data: Boring dry after auger removal.
Comments:



Midwest Testing Services, Inc.
3705 Progress Blvd.
Peru, IL 61354

BORING LOG

Sheet 1 of 1

Phone: 815-223-6696
Fax: 815-223-6659
e-mail: mts37@comcast.net

Client: Chamlin & Associates, Inc.
Project Name: Morris Airport Future Runway Extension
Project Site: Morris Municipal Airport
9980 N. Rt. 47
Morris, IL 60450

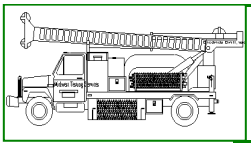
Location: Northeast of Boring B-1, see Boring Location Map
N. 1733381.04 E. 961668.38

Boring No. B-2
Surface Elev. 571.63
Auger Depth 11.00 Rotary Depth NA
Start Date 04/20/24 Finish Date 04/20/24

DRILLED BY: Randy Safranski, Diedrich D-50 Turbo

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	SAMPLES: Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)	Dry Density (PCF)	REMARKS
571.63											
570.63	7" Black Silty Clay Topsoil		1								
569.63	Medium Stiff to Stiff Brown/Gray Clay		2								
568.63			3	1	SS	1.2	7	B	17		
567.63			4								
566.63			5								
565.63	Stiff Brown Clay		6	2	SS	1.5	9	B	12		
564.63			7								
563.63			8	3	SS	1.8	10	B	14		
562.63			9								
561.63	Hard Brown Loam Till		10								
560.63			11	4	SS	---	43	---	12		
559.63	Boring Terminated		12								
558.63			13								
557.63			14								
556.63			15								
555.63			16								
554.63			17								
553.63			18								
552.63			19								
551.63			20								

Groundwater Data: Boring dry after auger removal.
Comments:



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BORING LOG

Sheet 1 of 1

Client: Chamlin & Associates, Inc.
Project Name: Morris Airport Future Runway Extension
Project Site: Morris Municipal Airport
9980 N. Rt. 47
Morris, IL 60450

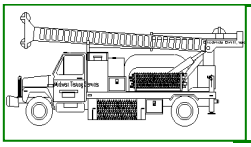
Location: Southeast of Boring B-2, see Boring Location Map
N. 1733331.72 E. 962221.18

Boring No. B-3
Surface Elev. 568.82
Auger Depth 11.00 Rotary Depth NA
Start Date 04/20/24 Finish Date 04/20/24

DRILLED BY: Randy Safranski, Diedrich D-50 Turbo

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	SAMPLES: Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)	Dry Density (PCF)	REMARKS
568.82											
567.82	10" Black Silty Clay Topsoil		1								
566.82	Medium Stiff to Stiff Brown/Gray Clay		2								
565.82			3	1	SS	1.4	8	B	30		
564.82			4								
563.82	Medium Stiff Brown Sandy Clay		5								
				2	SS	---	5	---	16		
562.82			6								
561.82	Stiff Brown/Gray Clay Till		7								
560.82			8	3	SS	1.7	9	S	13		
559.82			9								Water
558.82	Very Stiff Gray Silt Loam		10								
				4	SS	---	18	---	19		
557.82	Boring Terminated		11								
556.82			12								
555.82			13								
554.82			14								
553.82			15								
552.82			16								
551.82			17								
550.82			18								
549.82			19								
548.82			20								

Groundwater Data: Water 9-feet below top of ground after auger removal.
Comments:



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Peru, IL 61354

BORING LOG

Sheet 1 of 1

Phone: 815-223-6696
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Client: Chamlin & Associates, Inc.
Project Name: Morris Airport Future Runway Extension
Project Site: Morris Municipal Airport
9980 N. Rt. 47
Morris, IL 60450

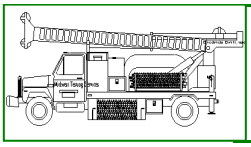
Location: Northwest of Boring B-3, see Boring Location Map
N. 1733732.96 E. 962604.50

Boring No. B-4
Surface Elev. 573.12
Auger Depth 11.00 Rotary Depth NA
Start Date 04/20/24 Finish Date 04/20/24

DRILLED BY: Randy Safranski, Diedrich D-50 Turbo

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	SAMPLES: Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)	Dry Density (PCF)	REMARKS
573.12	6" Brown/Black Silty Clay Topsoil										
572.12			1								
571.12	Stiff Brown/Gray Clay		2								
570.12			3	1	SS	1.8	9	B	27		
569.12			4								
568.12	Medium Stiff Brown Sandy Loam		5	2	SS	---	6	---	18		
567.12			6								
566.12	Very Stiff Brown Silt Loam		7								
565.12			8	3	SS	---	26	---	24		
564.12			9								
563.12	Very Stiff Gray Silt Loam		10								
562.12	Boring Terminated		11	4	SS	---	24	---	29		
561.12			12								
560.12			13								
559.12			14								
558.12			15								
557.12			16								
556.12			17								
555.12			18								
554.12			19								
553.12			20								

Groundwater Data: Boring dry after auger removal.
Comments:



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BORING LOG

Sheet 1 of 1

Client: Chamlin & Associates, Inc.
Project Name: Morris Airport Future Runway Extension
Project Site: Morris Municipal Airport
9980 N. Rt. 47
Morris, IL 60450

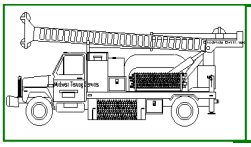
Location: Southeast of Boring B-4, see Boring Location Map
N. 1733683.76 E. 963157.20

Boring No. B-5
Surface Elev. 570.73
Auger Depth 11.00 Rotary Depth NA
Start Date 04/20/24 Finish Date 04/20/24

DRILLED BY: Randy Safranski, Diedrich D-50 Turbo

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	SAMPLES: Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)	Dry Density (PCF)	REMARKS
570.73											
569.73	8" Brown/Black Silty Clay Topsoil		1								
568.73	Medium Stiff to Stiff Brown/Gray Clay		2								
567.73			3	1	SS	1.5	6	B	26		
566.73			4								
565.73	Medium Stiff to Stiff Brown Clay		5								
564.73			6	2	SS	1.5	7	B	15		
563.73			7								Water
562.73	Dense Brown Sand & Gravel		8	3	SS	---	33	---	22		
561.73			9								
560.73	Very Dense Brown Gravel		10								
559.73	Boring Terminated		11	4	SS	---	56	---	17		
558.73			12								
557.73			13								
556.73			14								
555.73			15								
554.73			16								
553.73			17								
552.73			18								
551.73			19								
550.73			20								

Groundwater Data: Water 4-feet below top of ground after auger removal.
Comments:



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BORING LOG

Sheet 1 of 1

Client: Chamlin & Associates, Inc.
Project Name: Morris Airport Future Runway Extension
Project Site: Morris Municipal Airport
9980 N. Rt. 47
Morris, IL 60450

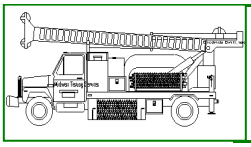
Location: Southeast of Boring B-5, see Boring Location Map
N. 1734085.16 E. 963540.30

Boring No. B-6
Surface Elev. 576.03
Auger Depth 11.00 Rotary Depth NA
Start Date 04/20/24 Finish Date 04/20/24

DRILLED BY: Randy Safranski, Diedrich D-50 Turbo

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	SAMPLES: Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)	Dry Density (PCF)	REMARKS
576.03											
575.03	8" Brown/Black Silty Clay Topsoil		1								
574.03	Medium Stiff to Stiff Brown/Gray Clay		2								
573.03			3	1	SS	1.7	8	B	19		
572.03			4								
571.03	Stiff Brown Silt Loam		5								
570.03			6	2	SS	---	9	---	29		
569.03			7								
568.03			8	3	SS	---	12	---	27		
567.03			9								
566.03	Very Stiff Brown Silt Loam		10								
565.03	Boring Terminated		11	4	SS	---	19	---	25		
564.03			12								
563.03			13								
562.03			14								
561.03			15								
560.03			16								
559.03			17								
558.03			18								
557.03			19								
556.03			20								

Groundwater Data: Boring dry after auger removal.
Comments:



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BORING LOG

Sheet 1 of 1

Client: Chamlin & Associates, Inc.
Project Name: Morris Airport Future Runway Extension
Project Site: Morris Municipal Airport
9980 N. Rt. 47
Morris, IL 60450

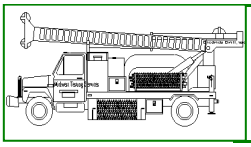
Location: Southeast of Boring B-6, see Boring Location Map
N. 1734035.80 E. 964093.09

Boring No. B-7
Surface Elev. 570.44
Auger Depth 11.00 Rotary Depth NA
Start Date 04/20/24 Finish Date 04/20/24

DRILLED BY: Randy Safranski, Diedrich D-50 Turbo

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)	Dry Density (PCF)	REMARKS
570.44	6" Black Silty Clay Topsoil										
569.44			1								
568.44	Soft Brown Silt Loam		2								
567.44			3	1	SS	---	2	---	24		
566.44			4								
565.44			5								
564.44	Stiff Brown Silt Loam		6	2	SS	---	9	---	27		
563.44			7								
562.44			8	3	SS	---	8	---	28		
561.44			9								Water
560.44	Dense Brown Fine Sand		10								
559.44	Boring Terminated		11	4	SS	---	31	---	17		
558.44			12								
557.44			13								
556.44			14								
555.44			15								
554.44			16								
553.44			17								
552.44			18								
551.44			19								
550.44			20								

Groundwater Data: Water 9-feet below top of ground after auger removal.
Comments:



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Peru, IL 61354

BORING LOG

Sheet 1 of 1

Phone: 815-223-6696
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e-mail: mts37@comcast.net

Client: Chamlin & Associates, Inc.
Project Name: Morris Airport Future Runway Extension
Project Site: Morris Municipal Airport
9980 N. Rt. 47
Morris, IL 60450

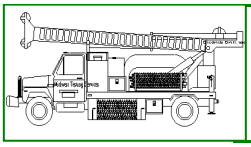
Location: Southeast of Boring B-6, see Boring Location Map
N. 1734212.52 E. 964561.39

Boring No. B-8
Surface Elev. 566.25
Auger Depth 11.00 Rotary Depth NA
Start Date 04/20/24 Finish Date 04/20/24

DRILLED BY: Randy Safranski, Diedrich D-50 Turbo

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	SAMPLES: Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)	Dry Density (PCF)	REMARKS
566.25											
565.25	8" Brown/Black Silty Clay Topsoil		1								
564.25	Medium Stiff to Stiff Brown Clay		2								
563.25			3	1	SS	1.3	7	B	36		
562.25			4								
561.25	Stiff Brown Silty Clay		5								
560.25			6	2	SS	1.6	15	S	30		
559.25	Medium Dense Gray Silt		7								Water
558.25			8	3	SS	---	20	---	26		
557.25			9								
556.25	Dense Gray Silt		10								
555.25	Boring Terminated		11	4	SS	---	36	---	16		
554.25			12								
553.25			13								
552.25			14								
551.25			15								
550.25			16								
549.25			17								
548.25			18								
547.25			19								
546.25			20								

Groundwater Data: Water 6.5-feet below top of ground after auger removal.
Comments:



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e-mail: mts37@comcast.net

BORING LOG

Sheet 1 of 1

Client: Chamlin & Associates, Inc.
Project Name: Morris Airport Future Runway Extension
Project Site: Morris Municipal Airport
9980 N. Rt. 47
Morris, IL 60450

Location: North of Boring B-7, see Boring Location Map
N. 1734942.77 E. 964013.56

Boring No. B-9
Surface Elev. NA
Auger Depth 11.00 Rotary Depth NA
Start Date 04/20/24 Finish Date 04/20/24

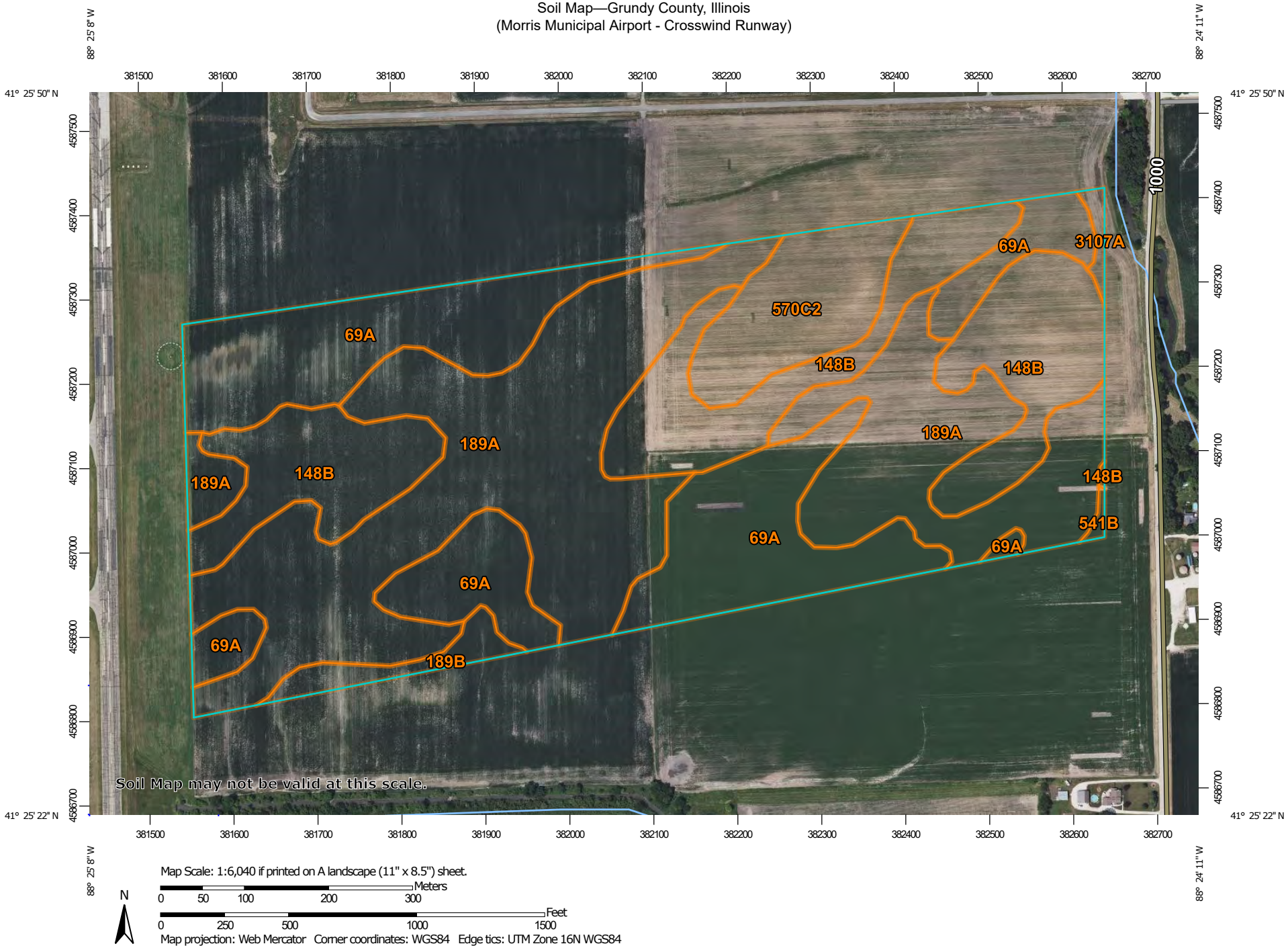
DRILLED BY: Randy Safranski, Diedrich D-50 Turbo

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)	Dry Density (PCF)	REMARKS
NA				SAMPLES							
######	26" Black/Brown Silty Clay Topsoil		1								
######			2								
######	Medium Stiff to Stiff Brown/Gray Clay		3	1	SS	1.4	6	B	27		
######			4								
######	Soft to Medium Stiff Brown/Gray Clay		5	2	SS	1.0	3	B	26		
######			6								
######			7								
######	Stiff Gray Silt Loam		8	3	SS	---	13	---	21		
######			9								Water
######	Medium Dense Gray Silt		10	4	SS	---	26	---	13		
######	Boring Terminated		11								
######			12								
######			13								
######			14								
######			15								
######			16								
######			17								
######			18								
######			19								
######			20								

Groundwater Data: Water 9-feet below top of ground after auger removal.
Comments:

NRCS Soil Map

Soil Map—Grundy County, Illinois
(Morris Municipal Airport - Crosswind Runway)



Map Scale: 1:6,040 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 50 100 200 300

Feet
0 250 500 1000 1500

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Grundy County, Illinois
Survey Area Data: Version 18, Aug 28, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

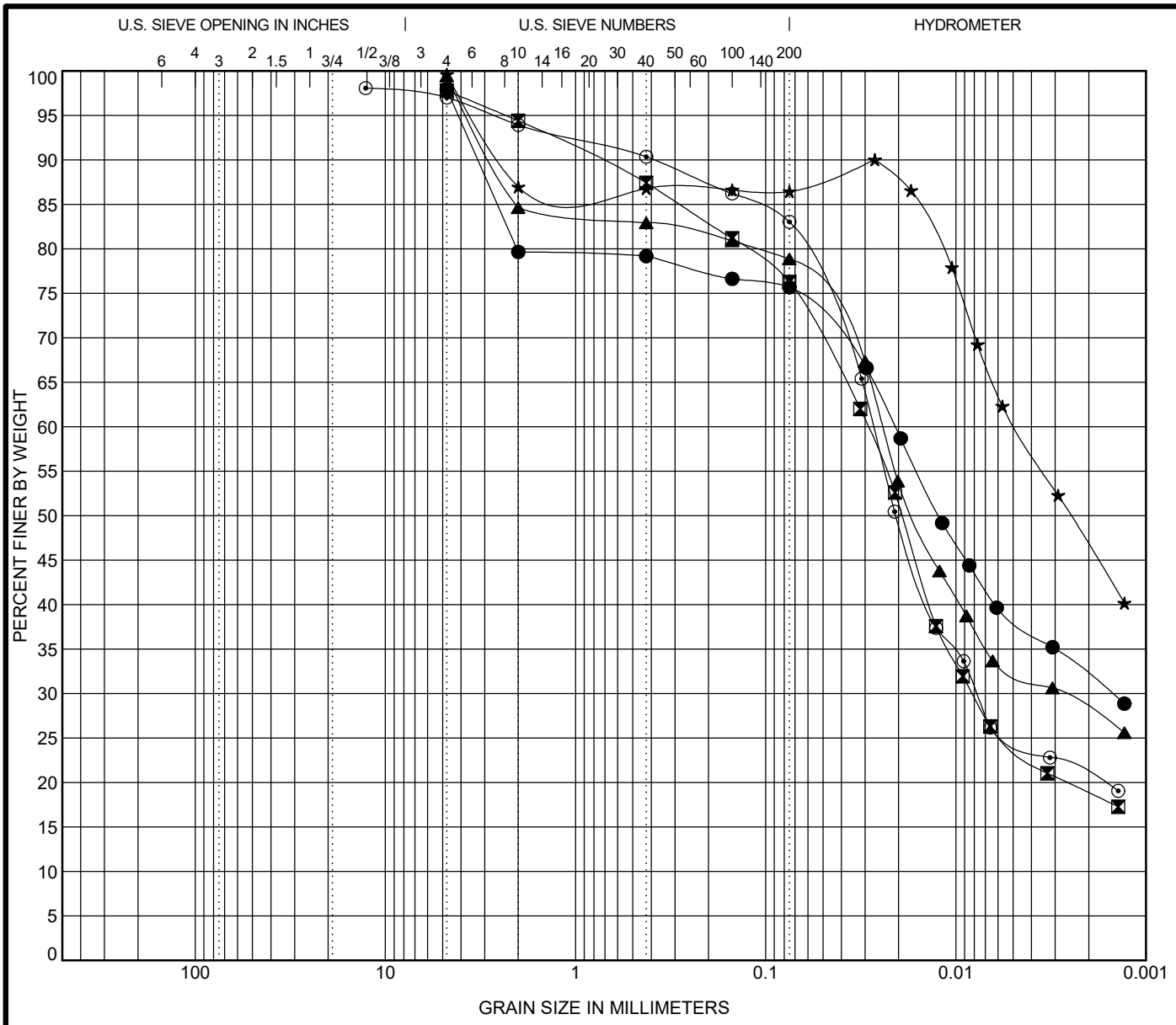
Date(s) aerial images were photographed: Jul 5, 2020—Jul 6, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
69A	Milford silty clay loam, 0 to 2 percent slopes	32.8	27.4%
148B	Proctor silt loam, 2 to 5 percent slopes	26.3	22.0%
189A	Martinton silt loam, 0 to 2 percent slopes	49.9	41.7%
189B	Martinton silt loam, 2 to 4 percent slopes	2.1	1.7%
541B	Graymont silt loam, 2 to 5 percent slopes	0.2	0.2%
570C2	Martinsville loam, 4 to 6 percent slopes, eroded	7.8	6.5%
3107A	Sawmill silty clay loam, heavy till plain, 0 to 2 percent slopes, frequently flooded	0.5	0.4%
Totals for Area of Interest		**119.5**	**100.0%**

Grain Size Analysis



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification			Classification	LL	PL	PI	Cc	Cu
●	B-1	1.00	A-7-6 (21) CLAY	48.3	19.6	28.7		
⊠	B-2	1.00	A-4 (0) SILTY LOAM	21.3	NP	NP		
▲	B-3	1.00	A-7-6 (17) SILTY CLAY LOAM	40.7	18.2	22.5		
★	B-4	1.00	A-7-6 (22) CLAY	44.8	19.6	25.2		
⊙	B-5	1.00	A-4 (0) SILTY CLAY LOAM	29.1	NP	NP		

Specimen Identification			D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	B-1	1.00	4.75	0.021	0.002		0.0	22.3	43.7	32.0
⊠	B-2	1.00	4.75	0.029	0.008		0.0	21.5	57.4	18.8
▲	B-3	1.00	4.75	0.024	0.003		0.0	20.6	50.8	28.1
★	B-4	1.00	4.75	0.005			0.0	13.2	39.8	46.7
⊙	B-5	1.00	12.7	0.027	0.008		1.1	14.0	62.4	20.7

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Peru Illinois 61354

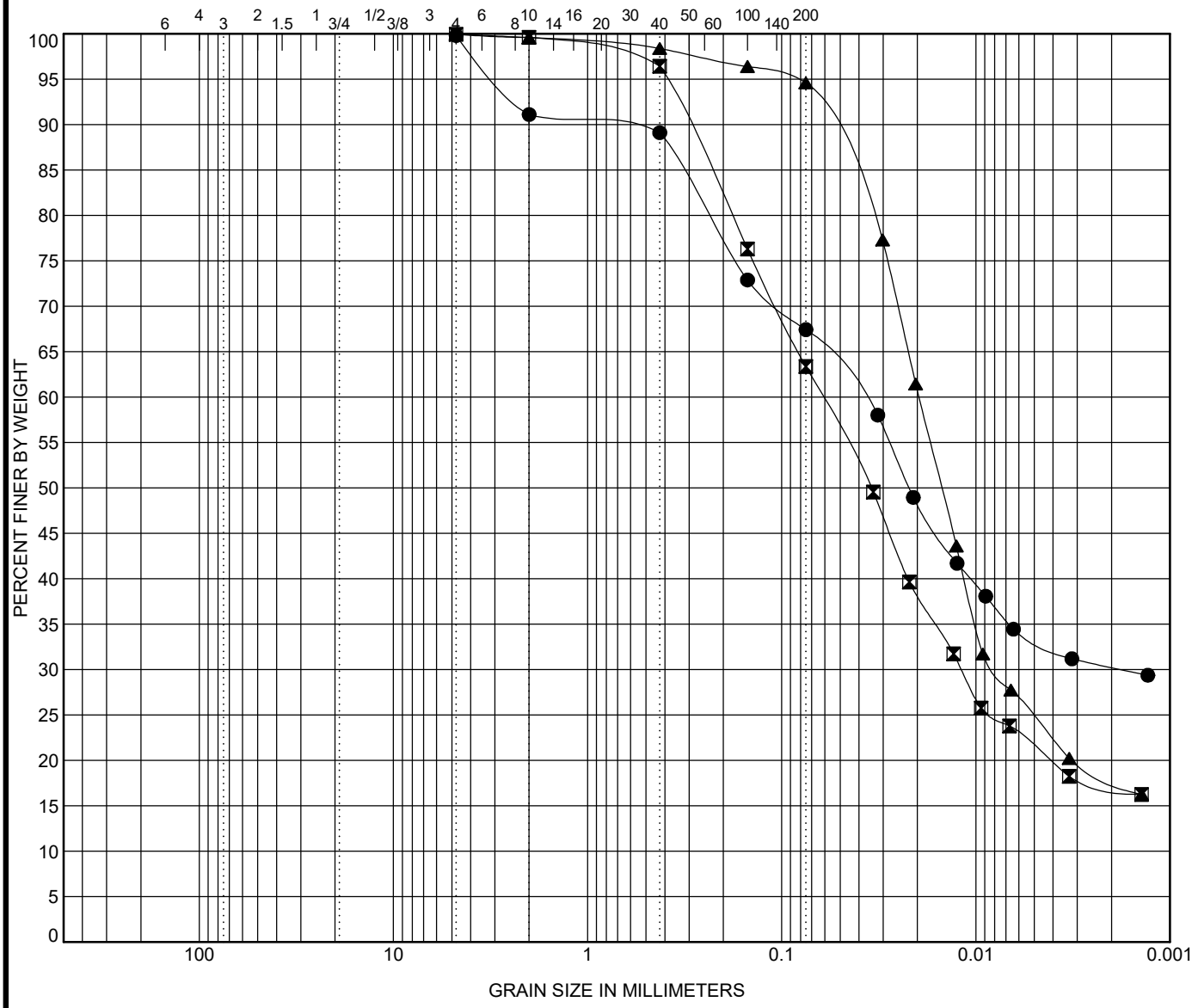
GRAIN SIZE DISTRIBUTION

Route: Morris Airport Crosswind Runway

Section:

County: Grundy

GRAIN SIZE 01216.01 MORRIS AIRPORT CROSSWIND RUNWAY.GPJ IL_DOT.GDT 5/21/24



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Specimen Identification		Classification	LL	PL	PI	Cc	Cu
●	B-6	1.00	A-6 (13) CLAY	39.6	17.5	22.1		
⊠	B-7	1.00	A-4 (0) LOAM	19.7	NP	NP		
▲	B-8	1.00	A-4 (7) SILTY LOAM	30.8	23.8	7.0		

	Specimen Identification		D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	B-6	1.00	4.75	0.038	0.002		0.0	32.4	37.2	30.2
⊠	B-7	1.00	4.75	0.062	0.012		0.0	36.6	46.3	17.1
▲	B-8	1.00	4.75	0.02	0.008		0.0	5.4	76.7	17.9

Chamlin & Associates
Peru • Morris • Ottawa • Mendota
www.chamlin.com

4152 Progress Blvd.
Peru Illinois 61354

GRAIN SIZE DISTRIBUTION

Route: Morris Airport Crosswind Runway

Section:

County: Grundy

GRAIN SIZE 01216.01 MORRIS AIRPORT CROSSWIND RUNWAY.GPJ IL_DOT.GDT 5/21/24

Dynamic Cone Penetrometer Results

Chamlin & Associates
ENGINEERS • SURVEYORS • PLANNERS

4152 Progress Boulevard
Peru , Il 61354
Phone (815) 223-3344
www.chamlin.com

Dynamic Cone Penetrometer Results and Respective In-situ California Bearing Ratio

Soil Boring	Initial Depth	Final Depth	# Blows	Ave. Drop (in/blow)	CBR
1	0	6	3	2.00	6.86
	6	12	3	2.00	6.86
	12	18	3	2.00	6.86
	18	24	4	1.50	9.14
	24	30	3	2.00	6.86
	30	36	3	2.00	6.86
2	0	6	1	6.00	2.29
	6	12	4	1.50	9.14
	12	18	3	2.00	6.86
	18	24	3	2.00	6.86
	24	30.25	9	0.69	19.75
	30.25	36.5	9	0.69	19.75
3	0	6	1	6.00	2.29
	6	12	4	1.50	9.14
	12	18	3	2.00	6.86
	18	24	3	2.00	6.86
	24	30	10	0.60	22.86
	30	36	10	0.60	22.86
4	0	6	1	6.00	2.29
	6	12	2	3.00	4.57
	12	18	2	3.00	4.57
	18	24	3	2.00	6.86
	24	30	4	1.50	9.14
	30	36	6	1.00	13.71

The above depths started below the pavement and are limited in depth by the length of the DCP rod.

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Peru , Il 61354
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Dynamic Cone Penetrometer Results and Respective In-situ California Bearing Ratio

Soil Boring	Initial Depth	Final Depth	# Blows	Ave. Drop (in/blow)	CBR
5	0	6	2	3.00	4.57
	6	12	3	2.00	6.86
	12	18	4	1.50	9.14
	18	24	4	1.50	9.14
	24	30	3	2.00	6.86
	30	36	8	0.75	18.28
6	0	6	1	6.00	2.29
	6	12	3	2.00	6.86
	12	18	3	2.00	6.86
	18	24	3	2.00	6.86
	24	30	4	1.50	9.14
	30	36	5	1.20	11.43
7	0	6	1	6.00	2.29
	6	12	3	2.00	6.86
	12	18	3	2.00	6.86
	18	24	3	2.00	6.86
	24	30	3	2.00	6.86
	30	36	3	2.00	6.86
8	0	6	1	6.00	2.29
	6	12	4	1.50	9.14
	12	18	3	2.00	6.86
	18	24	3	2.00	6.86
	24	30	3	2.00	6.86
	30	36	2	3.00	4.57

The above depths started below the pavement and are limited in depth by the length of the DCP rod.

Appendix B

Existing Signage OEM Exhibit

Morris Airfield Existing Sign Photos

Manufacturers:

Airfield Guidancesign Manufacturers (AGM)

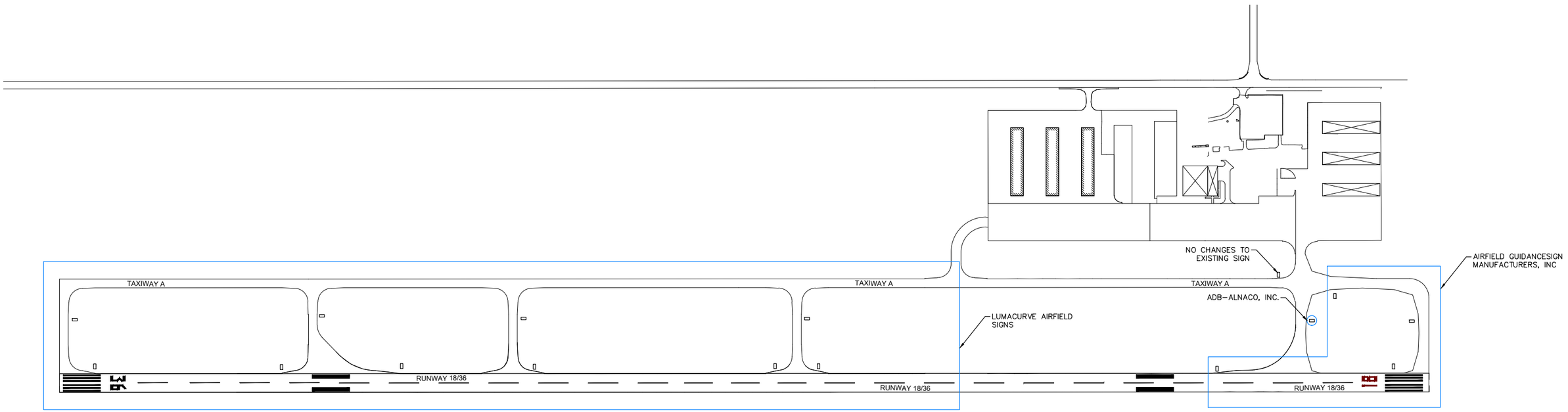
ADB-Alnaco, Inc.

Lumicurve

The following photos provided a representation of all existing manufacturers and models at the Morris Municipal Airport that will require new sign panels. The data provided for the Lumicurve models is the best available data.

The provided exhibit indicates where each model is located. A photograph of each sign has not been provided.

GRAPHIC SCALE
0 100 200
(IN FEET)



DRAWN BY: CJK	REVISIONS			PERU MORRIS OTTAWA MENDOTA ILLINOIS	**CONSTRUCT CROSSWIND RUNWAY 7/25 MORRIS, ILLINOIS**	**EXISTING SIGN EXHIBIT**	DRAFT NOT FOR CONSTRUCTION	CURRENT AS OF: 6/6/2025	
CHECKED BY: CJM	LEVEL	BY	DATE	DESCRIPTION				SCALE: AS NOTED	SHEET 1
DATE: 6/13/2025								FILE NO.: 1216.01 Y–	OF 1


LUMACURVE
LUMACURVE


C


C


LUMACURVE


LUMINAIRE


AGM
108 Fairgrounds Drive • Suite 8
Manlius, New York 13104 USA
Ph:315-682-6707 Fx:315-682-6759
www.agmsigns.com
CAT.# 112G1.5SF
SIZE 1
STYLE 2
CLASS 2
LB3D SIZE 200W
POWER FACTOR .81
YA LOAD 157
LAMP PART# T7-9Q
SERIAL# 01510010
TLUX
A1


AGM
Airfield Guidancesign Manufacturers, Inc.
108 Fairgrounds Drive • Suite 8
Manlius, New York 13104 USA
Ph:315-682-6707 Fx:315-682-6758
www.agmsigns.com
CAT.# I12G1.5SF
SIZE 1
STYLE 2
CLASS 2
ILUX
L830 SIZE 200W
POWER FACTOR .81
VA LOAD 157
LAMP PART# I7-9Q
SERIAL# 01510010


AGM
108 Fairgrounds Drive • Suite 8
Manlius, New York 13104 USA
Ph:315-682-6707 Fx:315-682-9758
www.agmsigns.com
CAT.# I13U1.0SF
SIZE 1
STYLE 3
CLASS 2
ILUX
L830 SIZE 100W
POWER FACTOR 1.00
VA LOAD 90
LAMP PART# MR16
SERIAL# 01506011
A
AGM


A


AGM
Airfield Guidancesign Manufacturers, Inc.
108 Fairgrounds Drive • Suite 8
Manlius, New York 13104 USA
Ph:315-682-6707 Fx:315-682-6758
www.agmsigns.com
CAT.# I13U1.5DF
SIZE 1
STYLE 3
CLASS 2
ILUX
L830 SIZE 300W
POWER FACTOR 1.00
VA LOAD 141
LAMP PART# MR16
SERIAL# 01506010


A
18


AGM
Airfield Guidancesign Manufacturers, Inc.
108 Fairgrounds Drive • Suite 8
Manlius, New York 13104 USA
Ph:315-682-6707 Fx:315-682-6758
www.agmsigns.com
CAT.# I13U1.5DF
SIZE 1
STYLE 3
CLASS 2
ILUX
L830 SIZE 300W
POWER FACTOR 1.00
VA LOAD 141
LAMP PART# MR16
SERIAL# 01506009


A


TAXIWAY AND RUNWAY SIGN
FAA TYPE L-858
SIZE
STYLE
CLASS 1 & 2
LAMP
WATT
TOTAL MAXIMUM VA LOAD: STYLE 1
(FROM PRIMARY SIDE OF ISOLATION TRANSFORMER)
MAXIMUM VA LOAD: STYLE 2,3,5
(INCLUDING ISOLATION TRANSFORMER/WORST CASE)
POWER FACTOR:
STYLE 1
STYLE 2,3,5
PART NO.
SERIAL NO.
ADB-ALNACO, INC.
A SIEMENS COMPANY
577 GAHANNA PARKWAY
COLUMBUS, OHIO 43230


A1
18-36


AC 150/5345


C
18-36

18-36


LUMACURVE