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

February 13, 2024

SUBJECT: Flora Municipal Airport
Flora, Illinois
Clay County
Illinois Project Number: FOA-4986
SBG Project Number: N/A
Contract No. FL035
Item No. 14A, March 8,2024 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:
The wrong Special Provisions were inadvertently included.

To All Plan Holders:
The Special Provisions in the Proposal are to be replaced with the attached Special Provisions

Special Provisions Changes:
Delete the Special Provisions and replace with the attached Special Provisions

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 Lindsay Hausman, P.E. of Hanson Professional Services, Inc. at 217.747.9314.

ITEM 14A **FL035**

SECTION III
SPECIAL PROVISIONS

RECONSTRUCT AUTO PARKING LOT AND AIRCRAFT HANGAR ACCESS PAVEMENTS

FLORA MUNICIPAL AIRPORT

FLORA, ILLINOIS

IL PROJECT NO: FOA-4986

PREPARED BY

HANSON

Engineering | Planning | Allied Services

HANSON PROFESSIONAL SERVICES INC.

1525 SOUTH SIXTH STREET

SPRINGFIELD, ILLINOIS 62703-2886

Expires 11/30/25

100% SUBMITTAL

JANUARY 19, 2024

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FORWARD

These special provisions, together with applicable standard specifications, manuals, policies, memorandums, worksheets, rules and regulations, contract requirements for airport improvement projects (AIP), 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) for the following improvement project at Flora Municipal Airport, Flora, Illinois: **Reconstruct Auto Parking Lot and Aircraft Hangar Access Pavements.** This project includes reconstructing the parking lot. The work includes alternative pavement sections and the following items:

- Direct burying an existing conduit,
- Installation of a water-line shut-off pit,
- Removal of existing HMA parking lot pavement,
- Constructing new parking lot (HMA or PCC),
- Installing ADA compliant sidewalks and parking spaces,
- Installing a culvert,
- Installing a dumpster pad,
- Marking,
- Topsoiling,
- Seeding, and
- Mulching.

END OF FORWARD

GOVERNING SPECIFICATIONS AND RULES AND REGULATIONS

The Illinois Standard Specifications for Construction of Airports, State of Illinois Department of Transportation, Division of Aeronautics, adopted **April 1, 2012,** shall govern the project except as otherwise revised or noted in these Special Provisions. All references to IDOT Specifications refer to Standard Specifications for Road and Bridge Construction, Illinois Department of Transportation, adopted January 1, 2022, as revised. Resolution of conflicts with any part or parts of said Specifications shall be in accordance with Section 50-03 of the Standard Specifications.

The following Federal Aviation Administration Advisory Circulars are referenced on the Plans and/or Special Provision Specifications in regard to safety on airports. These Advisory Circulars are available on the FAA web site at http://www.faa.gov/regulations_policies/advisory_circulars

END OF GOVERNING SPECIFICATIONS AND RULES AND REGULATIONS

MANUALS, POLICY MEMORANDUMS, AND GUIDES

The Illinois Department of Transportation, Division of Aeronautics, Manuals, Policies, Memorandums and Guides that are incorporated into this Project by reference are listed below. Also provided is a notation as to whether all or a portion of each applicable Manual, Policy Memorandum, and Guide has been modified by these Special Provisions.

MANUALS	
Title	Modified By Special Provisions
Airport Construction Documentation Manual (Updated 6/2014)	NO
Manual for Documentation of Airport Materials (Updated 4/01/2010)	NO

MANUALS		
No.	Title	Modified By Special Provisions
87-2	Density Acceptance of Bituminous Pavements	NO
87-3	Mix Design, Test Batch, Quality Control, and Acceptance Testing of PCC Pavement Mixture	NO
87-4	Determination of Bulk Specific Gravity (d) of Compacted Bituminous Mixes	NO
90-1	Resampling and Retesting of PCC Pavement	NO
95-1	Field Test Procedures for Mixer Performance And Concrete Uniformity Tests	NO
96-1	Item 610, Structural Portland Cement Concrete: Job Mix Formula Approval & Production Testing	NO
96-3	Requirements for Quality Assurance on Projects with Bituminous Concrete Paving	NO
97-2	Pavement Marking Paint Acceptance	NO
2001-1	Requirements for Cold Weather Concreting (2020)	NO
2003-1	Requirements for Laboratory, Testing, Quality Control, and Paving of Superpave Bituminous Concrete Mixtures for Airports (2020)	NO
07-21	Acceptance Procedure for Finely Divided Minerals Used in Portland Cement Concrete and Other Applications	NO
22-1	Accepted Cement Types	NO
	HMA Comparison Samples	NO

FORMS		
No.	Title	Modified By Special Provisions
AER 26	Concrete Quality Control Plan	NO
AER 27	Hot Mix Asphalt (HMA) Quality Control Plan	NO

It is the Bidder's and Contractor's responsibility to review and incorporate into their bid, and work, the requirements contained in these Manuals, Policy Memorandums, and Guides. Copies of each applicable manual, policy memorandum, and guide can be found on the Illinois Department of Transportation, Division of Aeronautics webpage at:

https://idot.illinois.gov/doing-business/procurements/construction-services/contractor-resources/aeronautics/construction-and-materials.html.

Forms are located at: https://idot.illinois.gov/resources/forms.html.

END OF MANUALS, POLICY MEMORANDUMS, AND GUIDES

DIVISION I – GENERAL PROVISIONS

SECTION 40 - SCOPE OF WORK

Revise Section 40 of the Standard Specifications as follows:

40-05 MAINTENANCE OF TRAFFIC.

Add the following Paragraphs:

Prior to the issuance of a construction Notice-to-Proceed (NTP) by the Illinois Division of Aeronautics, the Contractor shall prepare and submit a Safety Plan Compliance Document (SPCD) in accordance with FAA Advisory Circular 150/5370-2 (current issue), paragraph 2.4.2, or equivalent section in subsequent/current issues. The SPCD shall be reviewed and approved by the Airport Manager, who will then submit the document to the Illinois Division of Aeronautics for their approval.

Construction of the project shall be performed by the Contractor in accordance with the guidelines specified in FAA advisory circular 150/5370-2 (current issue) and the airport rules and regulations. Any Contractor activities required for project safety shall be provided by the Contractor and be incidental to the contract.

To minimize disruptions of airport operations, construction operations must be controlled throughout the project's duration, and work must be completed expeditiously. A construction phasing plan detailing the sequencing of the Contractor's work throughout the project is included in the plans. The Contractor shall provide his written acceptance of the project construction phasing plan at the pre-construction conference. All changes to the construction phasing plan that may be requested by the Contractor must be approved by the FAA, the project engineer and the Airport Owner. It shall be the Contractor's responsibility to provide sufficient advance notice of any proposed phasing change to permit consideration and approval by the project engineer and the Airport Owner. The Contractor shall not be entitled to any extra compensation, nor extension to the contract time, because of a phasing change request or for any time necessary in receiving the required approvals. The Contractor shall expedite work at those stages where active taxiways, hangar access, aprons, roadways, or parking lots must be closed to minimize the length of time that Airport operations are restricted.

At the pre-construction conference, the Contractor shall provide a Contractor coordination plan that coordinates his work with the work of his subcontractors and the work of other contractors of other on-going Airport projects.

Airfield closures shall only be permitted by prior authorization of the resident engineer and the Airport Owner.

The Contractor shall furnish barricades for any airfield or roadway pavement to be closed by his work. It will be the Contractor's responsibility to furnish, place and maintain barricades as shown in the Construction Plans, and as directed by the Resident Engineer and Airport Owner. The cost of these items, and their maintenance will be considered incidental to the contract. Any work that requires portions of an active runway, taxiway, or apron to be closed must be completed expeditiously to minimize disruption to aircraft operations.

The Contractor shall erect and maintain, at no cost to the contract, directional and informational signs for the Contractor’s access routes at the existing construction entrances and for the Contractor’s route within the Airport Operations Area, as noted on the plans or as directed by the Resident Engineer. Where Contractor equipment is operating within active Aircraft Operations Areas, radio-equipped flaggers shall be furnished by the Contractor. Continuous pavement sweeping shall be furnished to remove debris from active aircraft movement paths. The cost of traffic control/flaggers will be considered incidental to the contract.

The Contractor shall not have access to any part of the active airfield (runways, taxiways, or aprons) for any equipment or personnel without the approval of the Resident Engineer and the Airport Owner. Activities within the Airport Operations Area (AOA) are subject to federal access control. Because of the high requirements for Airport security and safety, the following requirements must be adhered to:

- All employees of the Contractor shall park their personal vehicles in the designated equipment parking and storage area. Each person or vehicle entering the Contractor area shall do so in accordance with the policies and procedures of the Airport Owner. The Contractor will transport the workers from the parking areas to the work area. Only Contractor vehicles will be allowed outside of the proposed equipment storage and parking areas.

- Should any Contractor personnel be identified as noncompliant with any vehicle driving safety requirements in this project safety plan or in the Airport vehicle operations regulations, such drivers shall be penalized by rescission of their on-Airport driving privileges, and their access to the construction limit area when operating vehicles shall be revoked.

- The Contractor will be required to be in contact with Airport operations. This will keep the Contractor in contact with Airport personnel and enable the Airport personnel to immediately contact the Contractor in case of an

aeronautical emergency that would require action by the Contractor and/or his personnel.

The Contractor shall remain within the construction limits line shown in the plans. When outside these limits, all Contractor activities shall adhere to the following:

- **Runway 3/21 (5,003' x 75' Paved)**

  Remain more than 250 feet from the centerline and 300 feet from the end of the runway.

- **Runway 15/33 (2,715' x 100' Turf)**

  Remain more than 125 feet from the centerline and 240' from the end of the runway.

- **Taxiways**

  Remain more than 62 feet from any active centerline.

- **Taxilane**

  Remain 55 feet from any active centerline marked on the apron.

- **Apron**

  Remain 10 feet from any active apron edge.

When construction operations must be conducted within these separations, the pavement must be closed to aircraft activity by the Contractor by providing temporary barricades as shown in the plans, and in the case of runway pavements, closed runway markers. When haul vehicles are permitted to cross active airfield pavements, the Contractor will provide positive control of construction vehicles using radio-equipped flaggers. Contractor shall establish and maintain radio contact with:

- **CTAF/UNICOM (122.7 MHz).**

All Contractor's equipment used in active Airport Operations Areas shall be equipped with a FAA-standard flag, as referenced in FAA AC 150/5370-2, current issue. Aircraft shall have the right-of-way. The Contractor shall keep all equipment and personnel at least 15 feet from the edge of any active roadway or auto parking pavement. When his activities require working within 15 feet of the road/pavement edge, the Contractor shall provide for traffic control in accordance with IDOT Specifications (Highway Standards). Open trenches, excavations and

stockpiled material at the construction site shall be delineated with the use of barricades during hours of restricted visibility and/or darkness. No open trenches shall be allowed within the Runway Safety Area (RSA) or the Taxiway Safety Area (TSA) when the runway or taxiway is open to air traffic (including overnight). The following limits shall govern:

- **The RSA is defined as 75 feet from the centerline and 300 feet from the end of Runway 3/21.**

- **The RSA is defined as 60 feet from the centerline and 240 feet from the end of Runway 15/33.**

- **The TSA is measured as 39.5 feet from the centerline.**

No vertical drop of greater than 3-inches in height from pavement edge to earth grade or earth grade to earth grade within the RSA or TSA will be permitted when the runway or taxiway is open to air traffic. The Contractor will have steel plates on-site to allow for the rapid covering of trenches or earth drops in the event of unexpected work stoppages for weather or Airport emergencies.

When not in use and during nonworking hours, Contractor's equipment shall be parked within the Contractor's equipment storage and parking areas. The equipment storage and parking areas are to be located as shown on the phasing plan. The Contractor will be responsible for maintaining the construction entrances in good condition. The cost of maintaining the construction entrance and Contractor areas is to be incidental to the contract. The Contractor shall protect all existing pavement edges from damage from construction equipment and haul vehicles.

At no time shall the Contractor conduct any activities or operate or park equipment to obstruct active part 77 Airport imaginary surfaces or the runway protection zones (RPZ) as delineated in the plans. The contractor’s equipment shall extend no higher than 25 feet. Cranes shall not be used during instrument weather conditions or at night. Cranes shall be lowered when not in use.

Before reopening temporarily closed pavements, the Contractor shall inspect and clean, as necessary, the pavement to assure that no materials or objects that may damage aircraft or vehicles remain. Any required cleaning shall be to the satisfaction of the Resident Engineer and Airport Owner and is incidental to the contract.

All work shall be completed in accordance with the approved project safety plan, issued by the Illinois Division of Aeronautics.

Failure to use these prescribed procedures or adhere to the safety requirements will result in the suspension of work.

The Contractor must notify the Resident Engineer and the Airport Owner 3 days in advance of any required partial or complete closing of any runway, taxiway, or apron. The date, time and scheduled duration of the closing must be approved by the Resident Engineer and the Airport Owner. The Contractor shall notify the Resident Engineer and Airport Owner 3 days in advance of the Contractor's closing of other active roadways, airfield or roadway lighting circuits, or other Airport facilities.

Contractor's access to the project when on Airport property is shown in the plans. Contractor's access to the Airport itself is to be provided by public rights-of-way. The Contractor is to secure all necessary permits for the use of any public rights-of-way and shall maintain traffic on public roads, with the costs of permitting, cleaning, and repairing of pavement damaged by Contractor's activities incidental to the contract. Use of and repairs to any public facilities are to be completed to the satisfaction of the facility's Owner.

The Contractor is to provide temporary construction roads within the construction limit lines as may be required by his activities. Heavy vehicles shall not cross existing pavement surfaces except as approved by the Airport Owner and the Resident Engineer. Any damage to pavements that may occur by the Contractor's activities shall be repaired at the Contractor's expense and to the satisfaction of the Airport Owner and the Resident Engineer. For haul routes made by Contractor through grassed areas, Contractor shall grade, level, topsoil, seed, and mulch at the end of the project, cost incidental to the contract.

The Contractor is to provide an equipment storage and parking area at the locations shown in the plans. It is the Contractor's responsibility to maintain the access roads and the storage area during construction and to restore the areas at project completion to conditions suitable to the Airport Owner and the Resident Engineer. At the Airport Owner's discretion, the temporary facilities may remain, but they must be left in conditions suitable to the Airport Owner. The cost of providing, maintaining, and restoring the temporary facilities is incidental to the contract.

The Contractor shall provide 3 days prior notice of any outages or shutdowns of utilities to the Owner and the agency owning the affected utility. The Contractor shall provide any temporary connections or other measures as may be required to maintain service as may be required by the owning agency at no cost to the Owner.

END OF SECTION 40

SECTION 50 - CONTROL OF WORK

Revise Section 50 of the Standard Specifications as follows:

50-06 CONSTRUCTION LAYOUT STAKES. Revise the first paragraph to read:

The Contractor shall be responsible for all construction layout and any extension of the control network provided in the plans necessary to properly complete the work.

Remove the following:

Delete paragraphs A, B, and C (under the heading RESPONSIBILITY OF THE RESIDENT ENGINEER).

Add the following:

Grades shall be furnished by the Contractor to the Project Engineer and shall include:

1. Subgrade surface
2. Crushed aggregate surface completed under **AR209604 / AS209608 / AT209604**.
3. Each lift of asphalt compacted under **AS403613**.
4. Each lift of asphalt compacted under **AS401613**.
5. Final surface for PCC pavements completed under **AR501506 / AR501605 / AT501506**.
6. Inverts for all pipe culverts installed under the contract.

Surveying shall also be furnished by the Contractor after any constructed surface requested by the Resident Engineer for which deviations from Plan grade elevations and/or slopes that are greater than those allowed in the Standard Specifications, or these Special Provisions, as identified by the Resident Engineer.

50-12 LOAD RESTRICTIONS. Add the following:

By submitting a bid, the Contractor acknowledges that the existing Airport pavements are of the "light-duty" type, requiring their consideration of construction vehicle weights. Any damage to existing Airport pavements

shall be repaired by the Contractor at their own expense and to the satisfaction of the Airport Owner and the Resident Engineer.

The Contractor shall erect and maintain directional and informational signs for the Contractor's access routes at the existing construction entrance and for the Contractor's routes within the Airport, as noted on the Plans, or as directed by the Resident Engineer/Technician. This work will be considered incidental to the contract.

50-16 FINAL ACCEPTANCE. Revise the first sentence of the first paragraph to read:

Upon due notice to the Resident Engineer/Technician by the Contractor of presumptive completion of the entire project, the charging of Contract Time shall be suspended, and the Engineer and Owner will inspect the project.

Add after the first sentence of the second paragraph:

The charging of Contract Time shall resume upon receipt of the punchlist from the Engineer and continue until the remaining work, including work as required in Section 40–08 Final Clean Up, is completed to the satisfaction of the Engineer.

END OF SECTION 50

SECTION 70 - LEGAL REGULATIONS AND RESPONSIBILITY TO PUBLIC

Add the following sections:

70-21 ENVIORNMENTAL PROTECTION.

Erosion control features required to prevent erodible conditions shall be incidental to the contract.

70-27 MAINTAINING OPERATION OF AIRFIELD LIGHTING AND NAVAIDS.

Shutdown of airfield lighting and/or NAVAIDs shall only be permitted during daylight hours and must be coordinated with and approved by the Airport Manager. All airfield lighting and navaid circuits shall be operational at night fall. The Contractor shall not leave the runway lighting, taxiway lighting, or any other airfield lighting circuit inoperable overnight. The Contractor shall provide temporary cable connections (in unit duct) and any manual operations of airfield lighting to keep them in operation overnight. The Contractor shall secure, identify, and place temporary exposed wiring in conduit, duct, or unit duct to prevent electrocution and fire ignition sources in conformance with the requirements of FAA AC 150/5370-2G “OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION.

70-28 SITE INSPECTION.

The Contractor shall be responsible for an on-site inspection 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.

70-29 TRAFFIC MAINTENANCE.

The Contractor shall also meet the requirements of the Standard Specifications and these Special Provisions contained in Paragraph 40-5, Maintenance of Traffic, and Item AR150530 Traffic Maintenance.

END OF SECTION 70

SECTION 80 - PROSECUTION AND PROGRESS

80-13 CONTRACTOR'S ACCESS TO AIRFIELD. Add the following to this section:

The Contractor's personnel and equipment shall not traverse outside the designated work areas to other locations on the Airport. The designated haul route will be the only vehicular access to the construction site. It will be the responsibility of the Contractor to maintain the proposed haul route and equipment parking area for the duration of the project.

The Contractor will be responsible for obtaining any permits necessary to use the State/County/Township/City roads. All work required in complying with the above requirement will be considered incidental to the Contract, and no additional compensation will be allowed.

Failure to use the prescribed haul routes and equipment parking area or adhere to the safety requirements will result in the suspension of work.

Add the following sections:

80-14 EMPLOYEE PARKING.

The Contractor's employees shall park their personal vehicles in the designated Equipment Parking Area as shown on the Proposed Safety and Phasing Plan Sheets. The Contractor will transport the workers from the parking area to the work area. Only Contractor vehicles needed for construction will be allowed outside of the proposed equipment parking area. No employee vehicle will be allowed onto the proposed construction site.

80-15 EQUIPMENT PARKING AND MATERIAL STORAGE.

The Contractor will be allowed to park equipment and store material in the Proposed Equipment Parking Area shown on the Safety and Phasing Plan Sheets. The Contractor will maintain this area throughout the duration of the project and restore it to its original condition upon completion of the project. This work will be considered incidental to the Contract and no additional compensation will be allowed.

END OF SECTION 80

DIVISION II – PAVING CONSTRUCTION DETAILS

ITEM 150510 – ENGINEER'S FIELD OFFICE

CONSTRUCTION METHODS

150-2.1 Revise the following in the list of equipment and furniture required in the office:

B. Delete this item.

C. One two-drawer legal letter size filing cabinet with lock and an Underwriter's Laboratories insulated file device 350 degrees one hour rating.

H. A functional internet Wi-Fi device such as a mobile hot spot providing hi-speed broadband internet access to the field office. Dial up, or equivalent, internet service will not be acceptable.

J. Delete this item.

Add the following to the list of equipment to be furnished by the Contractor:

N. One (1) Windows-compatible scanner configured to operate with item m, and capable of producing images of documents sized up to 11 inch by 17 inch, for the exclusive use by the Resident Engineer.

BASIS OF PAYMENT

150-4.1 Add the following to this section:

The mobile hot spot, wireless Aircard, internet access and associated charges will be included in the contract unit price per lump sum for Engineer's Field Office. This price shall include all utility costs and shall reflect the salvage value of the building or buildings, equipment, and furniture which remain the property of the Contractor after release by the Engineer.

Payment will be made under:

Item AR150510 Engineer's Field Office – per lump sum.

END OF ITEM 150510

ITEM 105520 – MOBILIZATION

BASIS OF PAYMENT

105-3.1 Revise as follows:

Mobilization shall be limited to 10% of the original contract amount. Should the bid for mobilization exceed 10%, the amount over 10% will not be paid until the final acceptance of the project by the engineer.

Based upon the contract lump sum price for “Mobilization” partial payments will be allowed as follows:

a. With the first pay request, 25%.

b. When 25% or more of the original contract is earned, an additional 25%.

c. When 50% or more of the original contract is earned, an additional 40%.

d. The remaining 10% of the pay item will be paid along with any amount bid in excess of 10% of the original contract amount upon final acceptance of the project by the Engineer.

Payment will be made under:

Item AR150520 Mobilization – per lump sum.

END OF ITEM 150520

ITEM 105530 – TRAFFIC MAINTENANCE

DESCRIPTION

150530-1.1 This work shall consist of the furnishing, installation, maintenance, relocation, and removal of work zone traffic control and protection, and will be in accordance with the Plans, Plan details, and the guidelines specified in FAA Advisory Circular 150/5370-2 (current issue). The item shall also include the provision for pavement sweepers, cleaning, flaggers, radio equipment for traffic control, set-up, operation, maintenance, and removal of taxiway closure markers, as shown in the Site and Safety Plan and as specified in these Special Provisions.

The Contractor shall be responsible for the proper location, installation, and arrangement of all traffic control devices as shown in the Plans.

All traffic control devices used for the maintenance of traffic, as detailed on the Plans, shall be reflectorized prior to installation, and cleaned as specified by the Resident Engineer. When directed by the Resident Engineer, the Contractor shall remove all traffic control devices which were furnished, installed, or maintained by Contractor under this contract. All traffic control devices shall remain in place until specific authorization for relocation or removal is received from the Resident Engineer. The Contractor shall be responsible for replacement of any devices that are supplied by others and damaged by the Contractor's and/or Subcontractor's workforce during relocation or construction operation.

The Contractor will notify the Resident Engineer in writing three (3) calendar days prior to any activities that will disrupt runway, taxiway and/or apron traffic; a three-day notice will be required for road closures and lane closures.

MATERIALS

150530-2.1 Materials shall be according to the following:

- FAA Advisory Circular 150/5370-2 (current issue), Operational Safety on Airports During Construction.
- Illinois Department of Transportation Standard Specifications for Road and Bridge Construction adopted January 1, 2022.
- Illinois Department of Transportation Supplemental Specifications and Recurring Special Provisions adopted January 1, 2022.

CONSTRUCTION METHODS

150530-3.1 All work zone traffic control, and protection shall be according to: the Site and Safety Plan, Notes, and details; FAA Advisory Circular 150/5370-2 (current issue), Operational Safety on Airports During Construction, and Highway Standards (latest issue), as published by the Illinois Department of Transportation.

The traffic control shown on the Plans represents the minimum required combination of traffic control devices needed for a particular construction operation. Conditions created by the Contractor's operation which are not covered by the Plans shall be delineated by devices as directed by the Engineer at no additional cost to the Project.

The Construction Site and Safety Plan represents one suggested alternative for the construction sequencing and method of handling traffic. Revisions or modifications of the traffic control shall have the Engineer's written approval. Any deviation from the proposed plan shall be approved in writing by the Engineer before implementation.

The traffic control should remain in place only as long as needed and shall be removed when directed by the Resident Engineer.

At the pre-construction conference, the Contractor shall furnish the name and telephone number of the individual in the Contractor's employ who is to be responsible, 24 hours a day, for the installation and maintenance of traffic control for the Project. When the actual installation and maintenance are to be accomplished by a subcontractor, consent shall be requested of the Resident Engineer at the time of the preconstruction conference. This shall not relieve the Contractor of furnishing a responsible individual in the Contractor's direct employ. The Resident Engineer will provide the Contractor with the name of its representative who will be responsible for administration of the traffic control.

Removal, relocation, maintenance, and inspection of traffic control devices, as required by the Contractor's activities, shall be included in the item and not measured separately for payment.

METHOD OF MEASUREMENT

150530-4.1 Traffic control and protection required under Traffic Maintenance will not be measured for payment.

BASIS OF PAYMENT

150530-5.1 Traffic Maintenance shall include furnishing all labor, materials, tools, equipment, and incidentals, including that for relocation, removal and maintenance of the materials necessary to complete the item as specified. The effort will be considered incidental to the contract.

END OF ITEM 150530

ITEM 152 – EXCAVATION AND EMBANKMENT

DESCRIPTION

152-1.2 CLASSIFICATION Delete the second, third and fourth Paragraphs and add the following:

Earthwork cut as required in the Plans may result in unsuitable/unstable material that cannot be incorporated into the work as fill material when constructing the lines and grades shown in the Plan. All such unsuitable/unstable material, that cannot be used in the Work, as determined by the Resident Engineer, shall be loaded, and hauled to an off-site disposal site authorized to accept the debris. Excess but suitable material shall be used elsewhere in the Work to the extent possible. Any excess suitable material that cannot be incorporated into the Work shall be lawfully disposed of off-site. The loading, hauling and disposal off-site, including any regulatory testing/documentation, shall not be paid for separately, but shall be included in the Contract unit price for Unclassified Excavation.

CONSTRUCTION METHOD

152-2.1 GENERAL Add the following:

The Contractor will proof-roll the subgrade when required by the Resident Engineer, as directed by the Resident Engineer. The cost for this proof rolling will not be paid separately but shall be included in the cost for Unclassified Excavation.

152-2.2 EXCAVATION Add the following to the fifth paragraph:

Unsuitable/unstable material, as determined by the Resident Engineer, and any excess suitable material not used in the Work shall be loaded, hauled, tested/documented as may be required by state law, and disposed of at an off-site disposal site authorized to accept the debris. Only material identified by the Resident Engineer for haul and disposal shall be hauled from the Work and disposed of at the off-site location.

Contractor shall provide for all materials testing and suitability documentation as required by State law for the disposal of suitable material or unsuitable construction debris. Loading, haul, testing and disposal of the excess material to the off-site disposal site shall not be paid for separately, but shall be included in the Contract unit price for Unclassified Excavation.

Add the following:

Excess but suitable material shall be used elsewhere in the Work to the extent possible; any excess material that cannot be incorporated into the Work shall be lawfully disposed of off-site. The loading, hauling and disposal off-site, including any regulatory testing/documentation, shall not be paid for separately, but shall be included in the Contract unit price for Unclassified Excavation.

Topsoil to be used elsewhere under this project shall be stockpiled within the construction limits but located so as not to violate any runway or any taxiway safety or object area criteria, or obstruct any FAR Part 77 imaginary surfaces, or be located within 15 feet of the pavement edge, or the roadway clear area, whichever is greater, until separately placed. The location shall be approved by the Resident Engineer. Placement and storage of the topsoil shall not be paid for separately but shall be included in the Contract unit price for Unclassified Excavation.

Revise paragraph 8 as follows:

Excavation and embankment shall be compacted to a density of not less than the percentage of the maximum density, at optimum moisture, shown in TABLE 1 as determined by the compaction control tests cited in Division VII for ASTM D 698 (Standard Proctor) for Aircraft weights of less than 60,000 pounds. The same tests will apply to parking lots.

152-2.9 TOLERANCES Add the following:

For purposes of verifying these tolerances, the Contractor shall furnish to the Project Engineer for review, survey elevations for the prepared subgrade under pavements, and outside pavements, the final prepared grade prior to topsoil spread, as specified under Section 50-06 (Responsibility of the Contractor Paragraph G).

BASIS OF PAYMENT

152-5.1 Add the following:

Payment will be made under:

Item AS152410 Unclassified Excavation – per square yard.
Item AT152410 Unclassified Excavation – per square yard.

END OF ITEM 152

ITEM 156000 – EROSION CONTROL

BASIS OF PAYMENT

156-5.1 Remove and replace with the following:

Erosion control will not be measured for payment and will be considered incidental to the contract.

END OF ITEM 152511

ITEM 209 – CRUSHED AGGREGATE BASE COURSE

Revise Item 209 of the Standard Specifications as follows:

DESCRIPTION

209-1.1 Add the following:

The Crushed Aggregate Base Course shall be placed upon a prepared subgrade in lifts of limited thickness as required in the Standard Specifications and to the total uniform compacted thicknesses shown in the Plans. In accordance with Section 209-3.2, the material used in this item shall be pugmilled with water at a central mixing plant or traveling plant and placed at the material's optimum moisture content.

MATERIALS

209-2.1 CRUSHED COARSE AGGREGATE Add the following:

The Gradation B column in Table 1, Requirements for Gradation of Aggregate, shall be used.

CONSTRUCTION METHODS

209-3.4 FINISHING AND COMPACTING Add the following:

Add the following after the first Paragraph:

For compaction control testing, this item is to be constructed for aircraft weighing Less than 60,000 pounds (Standard Proctor).

Add the following after the third Paragraph:

The Contractor shall furnish the Resident Engineer with the size and type of straightedge required to check the pavement components as directed in the various sections of the Specifications.

209-3.7 SURFACE GRADE ACCURACY Add the following to this Section:

For purposes of this grade check, the Contractor shall furnish grade elevations for the crushed aggregate base course to the Project Engineer for review, as specified under Section 50-06 (Responsibility of the Contractor Paragraph G).

METHOD OF MEASUREMENT

209-4.1 Delete. Section 209-4.2 of the Standard Specifications shall be used.

209-4.3 Delete.

BASIS OF PAYMENT

156-5.1 Add the following:

Payment will be made under:

Item AR209604 Crushed Agg. Base Course-4" – per square yard.
Item AS209608 Crushed Agg. Base Course-8" – per square yard.
Item AT209604 Crushed Agg. Base Course-4" – per square yard.

END OF ITEM 209

ITEM 401 – BITUMINOUS SURFACE COURSE-SUPERPAVE

Revise Item 401 of the Standard Specifications as follows:

DESCRIPTION

401-1.1 Note the following:

Method I paving shall be used, and proportioning shall be for aircraft weighing less than 60,000 pounds, runway, parking or taxiway pavements.

MATERIALS

401-3.1 COMPOSITION OF MIXTURE Add the following:

A highway mix as described below may be used.

1. The asphalt mix design for the project will be completed using **Section 406 of the Standard Specifications for Road and Bridge Construction, Adopted January 1, 2022 shall govern all material and design requirements for this item.** Mix design shall meet criteria set forth in the Hot-Mix Asphalt Mixture Requirements Table.

HOT MIX ASPHALT MIXTURE REQUIREMENTS		
ITEM	MIXTURE TYPE	AIR VOIDS (%) @ Ndes
ITEM 401 BIT. SURF. CSE. – METHOD I SUPERPAVE	HMA SURFACE COURSE, MIX "C", N50 (IL 9.5 MM)	4% @ 50 GYR

2. The AC type shall be PG 64-22.

3. The job mix formula shall meet criteria set forth in the Hot-Mix Asphalt Mixture Requirements Table and in accordance with the Standard Specifications for Road and Bridge Construction, Adopted January 1, 2022.

401-3.2 JOB MIX FORMULA Add the following:

This item is to be designed for Traffic Mix Aircraft Under 60,000 Pounds – Parking Apron

CONSTRUCTION METHODS

401-4.4 HMA PAVERS Add the following:

Should Plan grade elevations and slopes for the Bituminous Base Course have been achieved, subject to the tolerances permitted for Item AR403613, the Contractor may use a ski-type device of not less than 30 feet in length, or as directed by the Engineer, in conjunction with the HMA paver controls. Should Plan grade elevations and/or slopes have not been achieved for the Bituminous Base Course, taut stringline (wire) shall be used for grade control.

401-4.14 SURFACE TESTS Add the following:

To verify conformance with Plan final grades, the Contractor shall furnish grade elevations for the final surface lift to the Project Engineer for review, as specified under Section 50-06 (Responsibility of the Contractor Paragraph G).

BASIS OF PAYMENT

401-6.1 Add the following:

Payment will be made under:

Item AS401613 Bit. Surf. Cse. -Method I, Superpave – per ton.

END OF ITEM 401

ITEM 401900 – REMOVE BITUMINOUS PAVEMENT

DESCRIPTION

401-1.1 Add the following to this section:

Within the limits shown in the Plans or as directed by the Resident Engineer, the Contractor shall remove all of the existing bituminous concrete pavement. No separate measurements will be made for various HMA thicknesses that may be encountered. Existing Crushed Aggregate Base Course removal that may be required to furnish Plan elevations shall be paid under Unclassified Excavation.

The existing bituminous pavement structure consists of an estimated 4.5 inches of asphalt over 6 inches of crushed stone for the parking lot.

BASIS OF PAYMENT

401-6.1 Add the following:

Payment will be made under:

Item AR401900 Remove Bituminous Pavement– per square yard.

END OF ITEM 401900

ITEM 403 – BITUMINOUS BASE COURSE - SUPERPAVE

Revise Item 401 of the Standard Specifications as follows:

DESCRIPTION

403-1.1 Note the following:

Method I paving shall be used, and proportioning shall be for aircraft weighing less than 60,000 pounds, runway, parking or taxiway pavements.

MATERIALS

403-3.1 COMPOSITION OF MIXTURE Revise with the following:

For the parking lot area only, a highway mix as described below may be used.

1. The asphalt mix design for the project will be completed using **Section 406 of the Standard Specifications for Road and Bridge Construction, Adopted January 1, 2022 shall govern all material and design requirements for this item.** Mix design shall meet criteria set forth in the Hot-Mix Asphalt Mixture Requirements Table.

HOT MIX ASPHALT MIXTURE REQUIREMENTS		
ITEM	MIXTURE TYPE	AIR VOIDS (%) @ Ndes
ITEM 403 BIT. BASE COURSE – METHOD I SUPERPAVE	HMA BINDER COURSE, N50 (IL 19.0 MM)	4% @ 50 GYR

2. The AC type shall be PG 64-22.

3. The job mix formula shall meet criteria set forth in the Hot-Mix Asphalt Mixture Requirements Table and in accordance with the Standard Specifications for Road and Bridge Construction, Adopted January 1, 2022.

401-3.2 JOB MIX FORMULA Add the following:

This item is to be designed for Traffic Mix Aircraft Under 60,000 Pounds – Parking

CONSTRUCTION METHODS

401-4.15 ACCEPTANCE TESTING F HMA MIXES FOR DENSITY Add the following:

Acceptance of the surface mix shall be performed in accordance with requirements for Method I: Less than 2,500 tons/pay item.

401-4.16 SURFACE TESTS Add the following:

To verify conformance with Plan final grades, the Contractor shall furnish grade elevations for the final surface lift to the Project Engineer for review, as specified under Section 50-06 (Responsibility of the Contractor Paragraph G).

BASIS OF PAYMENT

403-6.1 Add the following:

Payment will be made under:

Item AS403613 Bit. Base Course -Method I, Superpave – per ton.

END OF ITEM 403

ITEM 501 – PORTLAND CEMENT CONCRETE PAVEMENT

DESCRIPTION

501-1.1 Note the following:

If additive alternative B is awarded, the project will be completed using Method I Paving.

MATERIALS

501-2.3 CEMENTITIOUS MATERIAL Replace paragraph one with the following:

Cement shall conform to the requirements of ASTM C150 Type I or ASTM C595 Type IL. Other cement types may be allowed by Special Provision.

501-2.6 STEEL REINFORCEMENT Replace with the following:

Reinforcement of panels as shown in the Plans shall be welded wire steel fabric of the size and dimensions shown in the Plans conforming to ASTM A185

501-2.9 COVER MATERIAL FOR CURING Revise with the following:

Curing materials shall conform to the following specification:

A. Liquid membrane-forming compounds for curing concrete shall conform to the requirements of ASTM C 309, Type 2.

501-2.10 ADMIXTURES Add the following Item E:

Set-accelerating admixtures shall meet the requirements of ASTM C494, Type C. Calcium chloride and admixtures containing calcium chloride shall not be used.

Add the following:

501-2.12

Concrete materials shall meet the requirements of Item 610, Structural Portland Cement Concrete for sidewalk (AR501605 5” PCC Sidewalk) and for the refuse disposal area (dumpster pad).

CONSTRUCTION METHODS

501-3.6(A) PROPORTIONS Add with the following**:**

Proportioning, gradation analyses, test specimens, and other requirements will be considered incidental.

The test batch will be waived. However, the contractor is responsible for providing an approved mix and meeting all requirements of the Standard Specifications unless modified herein.

501-3.6(B) PROPORTIONS Delete this Section in its entirety.

501-3.16 SURFACE TEST Add the following:

To verify conformance with Plan final grades, the Contractor shall furnish grade elevations for the final surface lift to the Project Engineer for review, as specified under Section 50-06 (Responsibility of the Contractor Paragraph G).

501-3.21 OPENING TO TRAFFIC Add the following:

Prior to opening, the pavement shall be cleaned of all deleterious material. Sweeping shall be conducted in such a manner that dust will not affect operations at the Airport.

BASIS OF PAYMENT

501-5.1

Add the following:

The Test Batch will be waived.

Add the following:

Payment will be made under:

Item AR501605 5” PCC Sidewalk – per square foot.
Item AR501506 6” PCC Pavement – per square yard.
Item AT501506 6” PCC Pavement– per square yard.

END OF ITEM 501

ITEM 602 – BITUMINOUS PRIME COAT

MATERIALS

602-2.1 Revise as follows:

The bituminous material used for prime coat shall be either MC-30 or PEP.

CONSTRUCTION METHOD

602-2.1 APPLICATION OF BITUMINOUS MATERIAL: Revise as follows:

The prime coat shall be permitted to cure until the penetration has been approved by the Engineer, but at no time shall the curing period be less than 24 hours for MC-30 or 4 hours for PEP. Pools of bituminous material occurring in the depressions shall be squeegeed over the surrounding surface the same day the prime coat is applied. At no time during curing shall traffic be allowed upon the primed surface. The prime coat shall be maintained at all times by the Contractor.

BASIS OF PAYMENT

602-5.1 Add the following:

Payment will be made under:

Item AS602510 Bituminous Prime Coat – per gallon.

END OF ITEM 602

ITEM 603 – BITUMINOUS TACK COAT

BASIS OF PAYMENT

603-5.1 Add the following:

Payment will be made under:

Item AS603510 Bituminous Tack Coat – per gallon.

END OF ITEM 603

ITEM 610 – STRUCTURAL PORTLAND CEMENT CONCRETE

MATERIALS

610-2.4 CEMENT Add the following:

Cement shall conform to the requirements of ASTM C150 Type I or ASTM C595 Type IL. Other cement types may be allowed by Special Provision.

610-2.11 CALCIUM CHLORIDE Delete Section.

610-3.2 CONCRETE PROPORTIONS Revise the sixth paragraph as follows:

The concrete used for the refuse disposal area (dumpster pad) shall develop a compressive strength of 4,000 pounds per square inch in 14 days, and all other 610 concrete on the project shall develop a compressive strength of 3,500 pounds per square inch in 14 days, as determined by test cylinders made in accordance with AASHTO T 23 and tested in accordance with AASHTO T 22.

END OF ITEM 610

ITEM 620 – PAVEMENT MARKING

MATERIALS

620-2.2 PAINT Add the following as the first paragraph:

The paint used to mark the proposed pavements shall be Waterborne paint.

Yellow paint color shall match color 33538 or 33655 of Federal Standard No. 595.

When concrete pavement is to be painted, it shall attain an age of 28 days before the curing compound is removed and the paint is applied.

CONSTRUCTION METHODS

620-3.5 APPLICATION

Replace paragraph two with the following:

The paint shall be mixed in accordance with the manufacturer's instructions and, except for black paint, applied to the pavement with a marking machine in two applications as shown in TABLE 1. The first application shall be 50% of the specified application rate. The final marking application must be at a rate equal to 100% of the full application rate with glass beads. The addition of thinner will not be permitted.

Paint shall be applied to the locations and to the dimensions and spacing shown on the plans. Paint shall not be applied until the layout and condition of the surface has been approved by the RPR.

BASIS OF PAYMENT

620–5.1 Add the following to this section:

Payment will be made under:

Item AR620520 Pavement Marking–Waterborne – per square foot.

END OF ITEM 620

DIVISION IV – DRAINAGE

ITEM 701 – PIPE FOR STORM SEWERS AND CULVERTS

DESCRIPTION

701-1.1 Add the following:

This item shall also include the removal of existing pipes, regardless of size and type, at the locations shown in the Plans, or as directed by the Resident Engineer.

MATERIALS

701-2.1 GENERAL Add the following:

The culvert shall be a 16-inch HDPE N-12, dual wall, soil-tight (ST), integral bell (IB) culvert pipe or equivalent. Structure strength must be able to support H-25 live loads with 12” minimum cover.

Material for pipe production shall be high-density polyethylene conforming with the minimum requirements of cell classification 424420C for 4- through 10-inch diameters, and 435400C for 12- through 60-inch diameters, as defined and described in the latest version of ASTM D3350, except that carbon black content should not exceed 4%. The 12- through 60-inch pipe material shall comply with the notched constant ligament-stress (NCLS) test as specified in Sections 9.5 and 5.1 of AASHTO M294 and ASTM F2306, respectively.

Pipe shall be joined using a bell & spigot joint meeting AASHTO M252, AASHTO M294 or ASTM F2306. The joint shall be soil-tight and gaskets for diameters 12- through 60-inch, shall meet the requirements of ASTM F477. For diameters 4- through 10-inch, the joint shall be soil tight using an engaging dimple connection. Gaskets shall be installed by the pipe manufacturer and covered with a removable, protective wrap to ensure the gasket is free from debris. A joint lubricant available from the manufacturer shall be used on the gasket and bell during assembly.

Fittings shall conform to AASHTO M252, AASHTO M294 or ASTM F2306. Bell and spigot connections shall utilize a welded bell and valley or saddle gasket meeting the soil-tight joint performance requirements of AASHTO M252, AASHTO M294 or ASTM F2306.

METHOD OF MEASUREMENT

701-4.1 Add the following:

The footage of pipe removed to be paid for shall be the number of linear feet of pipe, marked for removal in the plans or by the Resident Engineer, completed and approved, to be measured along the centerline of the pipe from end of pipe or inside face of structure to end of pipe or inside face of structure, whichever is applicable. The classes, and types and sizes of pipe removed will not be measured separately but shall be the sum of all measured pipe lengths.

BASIS OF PAYMENT

701–5.1 Add the following:

Payment will be made under:

Item AR701900 Remove Pipe – per foot.
Item AR800925 HDPE Pipe Culvert – per foot.

END OF ITEM 701

ITEM 705 – PIPE UNDERDRAINS FOR AIRPORTS

DESCRIPTION

705-1.1 Add the following:

The work will consist of adjusting existing PVC cleanout and inspection pipes and installing inspection / cleanout frame and lids capable of handling vehicular traffic.

MATERIALS

705-3.9 HEADWALLS, END SECTIONS, INSPECTION HOLES, COLLECTION STRUCTURES AND CLEANOUTS FOR UNDERDRAINS Add the following:

Cleanouts for underdrains shall be constructed in accordance with the applicable sections of Item 752. Castings shall be R-6461 by Neenah Foundry, V2610-1 by EJ Group. The frame and lid shall be flush with pavement.

BASIS OF PAYMENT

705–5.1 Add the following to this section:

Payment will be made under:

Item AR705944 Adjust Underdrain cleanout – per each.

END OF ITEM 705

ITEM 751 – MANHOLES, CATCH BASINS, INLETS AND INSPECTION HOLES

DESCRIPTION

751-1.1 Add the following:

This item will also include the construction of a trench drain that shall be installed in accordance with the manufacturer's instructions. The product shall be made up of selected components that together shall make a functional trench drain system. The trench drain components, provided and installed, shall be the trench drain body, load bearing frame, trench drain grate, grate locking mechanism, concrete cradle, channel joint sealing, and any required outlet connection.

MATERIALS

Add the following section:

751-2.9 TRENCH DRAIN

The trench drain shall be Dura Trench manufactured by Eric'sons, Trench Drain Systems (TDS), or approved equal.

A. Trench Body Material: Prefabricated glass fiber reinforced polymer body (Polyester resin) (DTPF). The trench drain body shall be composed of polyester fiber reinforced polymer concrete. The trench shall have a clear open throat and have a rounded or flat bottom as indicated in plan details. The trench body shall be gray in color to closely resemble the color of concrete. The trench body shall have a manning's roughness coefficient of 0.009 for improved flow rates and reduced debris build-up. Sections shall be 96" long (typical) and have a 2" receiving flange on the upstream end for receiving and sealing the trench sections together. Each of the sections shall be labeled to indicate proper flow and placement. The trench body shall mate to the frame and form a grate seat that shall accept the specified grate. The body shall be supplied with a factory-fitting plywood top for rail alignment and fastening of the channels in the field ensuring that the rails are cast in a coplanar manner. The trench body shall have the following properties: 12,600 psi minimum tensile strength per ASTM C307, 12,000 psi. minimum compressive strength per ASTM C579, 26,500 psi minimum flexural strength per ASTM C580, less than 0.35% water absorption, shall be frost proof, salt proof, and be resistant to dilute acids and alkalis per ASTM C267.

B. Slope: 0.5% Minimum (see plans).

C. Grate: The grate shall be steel per ASTM A36 with a black power coating. The Grate shall be ADA compliant and exceed H-20-wheel loading.

D. Frame: HDBP - Heavy duty black powder painted steel.

E. Grate Locking: Not required.

F. Outlet: The outlet will be

a. Pipe Size: 3-inch

b. Pipe Type SDR 35

c. Location: One end shall be capped, and one end shall allow for the connection of the applicable pipe size.

CONSTRUCTION METHODS

751-3.1 UNCLASSIFIED EXCAVATION Add the following:

The contractor shall ensure the subgrade is compacted in accordance with Item 152.

The contractor shall ensure any reinforcement is placed and firmly held in place prior to linear drain installation. All reinforcement steel shall follow concrete reinforcing steel institute standards.

751-3.3 CONCRETE STRUCTURES Add the following:

Place concrete to completely encapsulate the trench drain as shown in contract documents. The drain shall be finished 1/8” below finish grade while ensuring proper slope of adjacent areas toward the drain creating positive flow to the drain.

Construct expansion and control joints as indicated in construction documents. The trench drain products are not to be used as a construction or control joint in the lengthwise direction. All construction, expansion, or control joints placed traverse to the system shall be made at linear drain joints in the frame.

BASIS OF PAYMENT

751–5.1 Add the following to this section:

Payment will be made under:

Item AR751001 Trench Drain – per foot.

END OF ITEM 751

ITEM 760810 – WATER METER

DESCRIPTION

760810-1.1

The work will consist of coordinating with the owner and utility company to adjust an existing water meter pit that consists of a white corrugated poly meter box and Mueller lid. There are two PVC ball valves that have a wire tracer that extends to existing frost proof hydrants. The scope will consist of installing a new bottomless two (2) foot diameter catch basin with a cast iron solid lid casting. The catch basin will require creating doghouse openings to straddle the pipes. Adjustments to the shutoffs and waterlines to maintain proper depth will be incidental to this pay item.

MATERIALS

760810-2.1

This work shall be performed in accordance with, and the materials shall comply with the applicable portions of the Standard Specifications for Water and Sewer Main Construction in Illinois, Seventh Edition, dated 2014 and the Illinois Department of Transportation Standard Specifications for Road and Bridge Construction, dated April 1, 2022.

CONSTRUCTION METHODS

760810-3.1

The resetting of the pit, shutoffs, and water line shall be done in accordance with the requirements of the Clay Electric Cooperative, Inc.

METHOD OF MEASUREMENT

760810–4.1

The quantity shall be measured by the number of water meters placed, per each, as shown in the plans or as directed by the Engineer.

BASIS OF PAYMENT

760810–5.1

This price shall be full compensation for furnishing all materials and for all preparation, excavation, backfilling and placing of materials; furnishing and installation of such specials and connections to pipes and other structures as may be required to complete

the item as shown on the plans; and for all labor, equipment, tools, and incidentals necessary to complete installing water valves to the elevations depicted on the plans.

Payment will be made under:

Item AR760810 Water Meter – per each.

END OF ITEM 760810

DIVISION V – TURFING

ITEM 901 – SEEDING

MATERIALS

901-2.1 SEED Revise the seed mixture table as follows:

Seed	Minimum Seed Purity	Minimum Germination	Application Rate (lb/acre)
* Tall Fescue	98%	90%	60
Annual Rye	98%	90%	20
* Red Fescue	98%	85%	30
* Hard Fescue	96%	85%	30

* Seed shall be of a variety bred to contain high levels of endophyte.

BASIS OF PAYMENT

901-5.1 Add the following:

Payment will be made under:

Item AR901510 Seeding – per acre.

END OF ITEM 901

ITEM 905 – TOPSOILING

METHOD OF MEASUREMENT

Delete and add the following:

905-4.1 Topsoil obtained on the site shall be measured by the number of square yards of topsoil measured in its final position. Topsoil shall be measured by squared yards using a 6-inch depth.

905-4.2 Topsoil obtained off the site shall be measured by the number of square yards of topsoil measured in its final position. Topsoil shall be measured by square yards and placed at a 6-inch depth.

BASIS OF PAYMENT

905-5.1 Delete and add the following:

Payment for accepted quantities of work performed by the Contractor and measured by the Resident Engineer shall be made at the contract unit price as specified in paragraphs 905-4.1 and 905-4.2 of this section. Payment shall be full compensation for furnishing all materials and for all preparation, placing, and spreading of the materials, and for all labor, equipment, tools, and incidentals necessary to complete the work as specified.

Item AR905530 Topsoiling – per square yard.

END OF ITEM 905

ITEM 908 – MULCHING

MATERIALS

908-2.1 MULCH MATERIAL. Select the following:

Material used for mulching shall be (B) straw.

B. Straw. Straw shall be the threshed plant residue of oats, wheat, barley, rye, or rice from which grain has been removed.

BASIS OF PAYMENT

905-5.1 Add the following:

Payment will be made under:

Item AR908510 Mulching – per acre.

END OF ITEM 908

DIVISION VI – LIGHTING INSTALLATION

ITEM 108 – INSTALLATION OF UNDERGROUND CABLE AT AIRPORTS

DESCRIPTION

108-1.1 Add the following:

This item will consist of pulling cable in proposed conduit for a security system. The work will include disconnecting power to existing cable, and making proper connections once buried. The existing cable is for a security system, and replacement for additional length shall be the same cable size, type, and rating that is in the existing conduit.

The Contractor shall furnish shop drawings for approval before ordering equipment and/or materials. The contractor will be required to field verify cable type. Shop drawings shall include the following information:

A. 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. The State of Illinois under the Steel Products Procurement Act requires that all steel materials 100% domestic.The contractor is required to submit certification that assures only domestic steel products are used. Producers may use the Illinois Department of Transportation Domestic Material Compliance Certification Form AER 25 to satisfy this requirement.

C. Indicate the pay item number for each respective cable.

D. Shop drawings shall include wire/conductor/cable cut sheets with type, size, specifications, Intertek Testing Services verification/ETL listing or UL listing, manufacturer, and catalog or part number.

EQUIPMENT AND MATERIALS

108-2.1 General Add the following:

Existing cable shall be used unless necessary to make connection as part of direct burying conduit.

All cable shall be FAA approved or UL-listed as suitable for installed application. All conductors shall be Copper.

CONSTRUCTION METHODS

108-3.1 General Add the following:

Keep all work, power outages, and/or shut down of existing systems coordinated with the Airport Director/Manager and the Resident Engineer. Any shutdown of existing systems shall be scheduled with and approved by the Airport Director/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).

Examine the site to determine the extent of the work. Contractor shall field verify existing site conditions.

Verify respective circuits and power sources prior to removing, disconnecting, relocating, installing, connecting, or working on the respective airfield lighting, taxi sign, NAVAID, or other device. Identify each respective circuit prior to performing work on that circuit.

If the Contractor wishes to lay cable on a line other than that shown on the Plans, he shall obtain approval of the Project Engineer of record before doing so and coordinate with the Resident Engineer. Any additional cable needed because of such change will be at the Contractor's expense.

Cables shall be installed a minimum of 18 inches below grade to comply with NEC 300.5 Underground Installations. Deeper depths might be required to avoid obstructions, or where detailed herein.

Locate and identify all existing underground utilities located within the area where the proposed cables are being installed and take all precautions to protect these utilities from damage. Care shall be taken so as not to damage any existing circuits. Any existing circuits damaged shall be immediately repaired to the satisfaction of the Engineer and/or the respective utility or owner where applicable. Any underground utility damaged will be repaired or replaced at the Contractor’s own expense. Any repairs of existing cables will be considered incidental to the contract, and no additional compensation will be allowed.

In areas where there is a congestion of buried cables or where the proposed cable crosses an existing cable, the Contractor will be required to hand dig and/or carefully excavate the trench necessary for the proposed cable. At other locations, the proposed cable in unit duct, or conduit may be trenched or plowed into place. Hand digging, trenching, and/or plowing will be considered incidental to the proposed cables and no additional compensation will be allowed.

Grounding work and modifications shall not be performed during a thunderstorm or when a thunderstorm is predicted in the area.

The respective personnel performing airfield lighting work, vault work, and/or test shall be familiar with, and qualified to work on 5000 Volt airfield lighting series circuits, constant current regulators and associated airport electrical vault equipment.

FAA requires that every airfield lighting cable splicer shall be qualified in making cable splices and terminations on cables rated at and/or above 5000 Volts AC and shall have a minimum of three (3) years continuous experience in terminating/splicing medium voltage cable.

Only cable in unit duct may be plowed or directional-bored.

Obey and comply with the applicable requirements of NFPA 70E – Standard for Electrical Safety in the Workplace.

The Contractor shall comply with the requirements of FAA AC No. 150/5370-2 (current issue in effect) “OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION”.

In the event a conflict is determined with respect to manufacturer installation instructions, National Electrical Code, and/or the Contract Documents, contact the Project Engineer for further direction.

Secure, identify and place any above ground temporary wiring in conduit to prevent electrocution and fire ignition sources in conformance with the requirements of FAA AC 150/5370-2G, Part 2.18.3 “Lighting and Visual NAVAIDs”. All temporary installations shall comply with National Electrical Code Article 590 – “Temporary Installations.”

Existing ducts and cables associated with removal work shall be abandoned in place unless it conflicts with the installation of the airfield light, sign, duct, cable, handhole, manhole, site work, pavement or other work, then it shall be disconnected, removed, and disposed of off the site at no additional cost to the Contract. Contractor may remove abandoned cables at no additional cost to the Contract and shall have the salvage rights to abandoned cables.

Other construction projects might be in progress on the Airport at the same time as this project. The Contractor will be required to cooperate with all other contractors and the Airport Director/Manager in the coordination of the work.

Relocation of existing cables and/or cable in unit duct will require careful excavation of the cables to prevent damage to them. The cables and/or cable in unit duct shall be excavated and exposed and then relocated to a different depth and/or route to accommodate the respective site work.

The cable quantities as shown on the Construction plans are based on straight-line measurement. All other cable lengths, such as slack or waste, will not be measured for payment.

All cables installed by the Contractor shall be properly labeled and tagged at all points of access (handholes, manholes, terminal panels, control panels, and the respective wireway in the vault).

All changes to the airfield lighting system shall be documented by the Contractor and provided to the Resident Engineer.

BASIS OF PAYMENT

108-5.1 Add the following:

Payment will be made at the contract unit price per lin. ft. of cable completed and accepted by the Resident Engineer. This price shall be full compensation for furnishing all materials, and for all preparation, assembly, and installation of these materials; for all plowing, trenching, directional-boring, coring of manholes or handholes, installation in ducts, raceways, conduits, splice cans, handholes, or manholes, and for all excavation and backfilling; for all site restoration (topsoiling, grading, seeding, mulching) and pavement restoration; and for all labor, equipment, tools, testing, and incidentals necessary to complete this Item

Payment will be made under:

Item AR108962 Replace Cable – per foot.

END OF ITEM 108

ITEM 110 – INSTALLATION OF AIRPORT UNDERGROUND ELECTRICAL DUCT

DESCRIPTION

110-1.1 Add the following:

This item will consist of burying conduit for a security system that is currently above grade. The work will include disconnecting power to existing cable and making proper waterproof conduit connections once buried.

The Contractor shall furnish shop drawings for approval before ordering equipment and/or materials. The contractor will be required to field verify cable type. Shop drawings shall include the following information:

A. 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. The State of Illinois under the Steel Products Procurement Act requires that all steel materials 100% domestic.The contractor is required to submit certification that assures only domestic steel products are used. Producers may use the Illinois Department of Transportation Domestic Material Compliance Certification Form AER 25 to satisfy this requirement.

C. Indicate the pay item number for each respective conduit or duct.

D. Shop drawings shall include conduit and/or duct cut sheets with type, size, specifications, UL listing, manufacturer, and catalog or part number.

E. Provide manufacturer’s literature confirming the respective duct to be bored is suitable for directional boring with the respective Shop Drawing submittal.

F. Provide certification that the respective steel conduits used on this project are manufactured from 100 percent domestic steel.

G. Provide certification that the respective plastic conduits used on this project are manufactured from domestic materials.

EQUIPMENT AND MATERIALS

110-2.3 PLASTIC CONDUIT Add the following:

Conduits for direct burial in earth shall be PVC Schedule 40 (minimum wall thickness), UL-listed, rated for 90°C cable-conforming to NEMA Standard TC-2 and UL 651, listed suitable for direct burial in earth, or HDPE Schedule 40 (minimum wall thickness), conforming to NEMA Standard TC-7 and UL 651B, or HDPE SDR 13.5 (minimum wall thickness) manufactured in accordance with ASTM D-3350 (Specification of Polyethylene Plastics Pipe and Fittings Materials) and ASTM F2160 (Standard Specification for Solid Wall, High-Density Polyethylene Conduit Based on Controlled Outside Diameter). Conduits shall be suitable for direct burial in earth.

CONSTRUCTION METHODS

110-3.1 GENERAL Add the following:

The proposed conduits shall be constructed at the locations and in accordance with the details shown on the Construction Plans. Conduit shall be installed 18 in. minimum below grade. Where detailed on the Plans or where required to avoid obstructions, ducts shall be buried deeper.

The Contractor will determine if there is a conflict between the installation of the proposed electrical ducts and any existing/proposed utilities. The contractor will make all necessary adjustments in the depth of installation to avoid all existing/proposed underground improvements.

Add the following:

110-3.8 EXISTING UTILITIES

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 Director/Manager and Airport Personnel for assistance in locating underground Airport cables and/or utilities. Also coordinate work with all aboveground utilities.

The contractor shall locate and mark all existing cables within ten (10) feet of the proposed. excavating/trenching area. Any cables found interfering with proposed excavation or cable/trenching shall be hand dug and exposed. Any damaged cables shall be immediately repaired to the satisfaction of the Resident Engineer at the Contractor's expense. The Resident Engineer and Owner shall be notified immediately if any cables are damaged.

Due to the quantities of existing utilities and lines in the proposed areas of work, the Contractor will need to carefully excavate to expose and protect these utilities and lines prior to installing manholes, handholes, and/or junction structures and the associated trenches for the proposed conduits, ducts, and raceway system.

Payment for locating and marking underground utilities and cables will not be paid for separately but shall be considered incidental to the respective duct installation.

BASIS OF PAYMENT

110-5.1 Add the following:

All restoration work associated with installation of ducts and conduits will be considered incidental to the respective item for which they are installed, and no additional measurement will be made. Removal and replacement of bituminous pavement or concrete pavement will be considered incidental to the respective pay item for which the duct is installed. Any fence skirting required to be moved will be considered incidental and must be re-installed to its original condition or replaced.

All duct and conduit interface to manholes, handholes, junction structures, or pull boxes including coring of manholes, handholes, junction structures, or pull boxes will be considered incidental to the respective item for which they are installed,

and no additional measurement will be made. Conduits, conduit nipples, conduit couplings, and other conduit fittings included with splice cans, junction structures,

All lockout/tagout procedures to ensure and maintain safety of personnel will be considered incidental to the respective item of work for which it applies, and no additional compensation will be allowed.

Payment will be made under:

Item AR110117 11/2” PVC Duct, Direct Bury – per foot.

END OF ITEM 110

DIVISION VIII – MISCELLANEOUS

ITEM 910230 – HANDICAP SIGN

DESCRIPTION

910230-1.1

This item of work shall consist of furnishing and installing a R7-8 handicap parking sign, a separate Illinois Standard R7-I101 parking fine sign that conforms to Sections 5/11-301.1 and 5/11-1301.3 of the Illinois Vehicle Code, associated sign support, and concrete foundation.

CONSTRUCTION METHODS

910230-2.1

Sign panels shall be installed using all required supporting channels and mounting hardware specified. Sign support foundations shall be cast-in-place according to Item 610. All other construction activities performed in this section will be completed in accordance with all applicable sections of the Standard Specifications for Road and Bridge Construction, adopted January 1, 2022.

BASIS OF PAYMENT

910230–3.1

Payment will be made under:

Item AR910230 Handicap Sign – per each.

END OF ITEM 910230

ITEM 910410 – PARKING BLOCK

DESCRIPTION

910410-1.1

This item of work shall consist of furnishing and installation of 3,500 psi. concrete parking blocks under Item 610. The parking blocks shall be painted safety yellow.

CONSTRUCTION METHODS

910410-2.1

The parking blocks shall be anchored to the parking lot surface. Any damage to the parking lot surface due to installation shall be repaired by the contractor at his own expense.

BASIS OF PAYMENT

910410–3.1

Payment will be made under:

Item AR910410 Parking Block – per each.

END OF ITEM 910410

ITEM 910415 – REMOVE PARKING BLOCK

DESCRIPTION

910415-1.1

The work will also consist of removing existing parking blocks.

CONSTRUCTION METHODS

910415-2.1

The contractor shall lawfully dispose of parking blocks off-site unless the Owner requests to keep them. The cost to remove and place on-site for the owner will be completed at no additional cost to the contract.

BASIS OF PAYMENT

910415–3.1

Payment will be made under:

Item AR910415 Remove Parking Block – each.

END OF ITEM 910415

ITEM 910420 – BOLLARD

DESCRIPTION

910420-1.1

This item of work shall consist of furnishing and installation of 3,500 psi. concrete in steel bollards under Item 610. The bollards shall be painted safety yellow.

CONSTRUCTION METHODS

910420-2.1

The bollards shall be steel pipes, concrete filled, crown capped, and either prime paint finished or covered with a HDPE plastic bollard sleeve, as detailed in the plans. The paint and sleeve shall be yellow.

BASIS OF PAYMENT

910420–3.1

Payment will be made under:

Item AR910420 Bollard – per each.

END OF ITEM 910420

ITEM 910425 – REMOVE BOLLARD

DESCRIPTION

910425-1.1

This item of work shall consist of removing bollard-style structures, as called out in the plans. Removal will include the bollard/post and associated footing. Backfill for the footing will consist of compacted CA-6, or as approved by the resident engineer.

BASIS OF PAYMENT

910425–3.1

Payment will be made under:

Item AR910425 Remove Bollard – per each.

END OF ITEM 910425

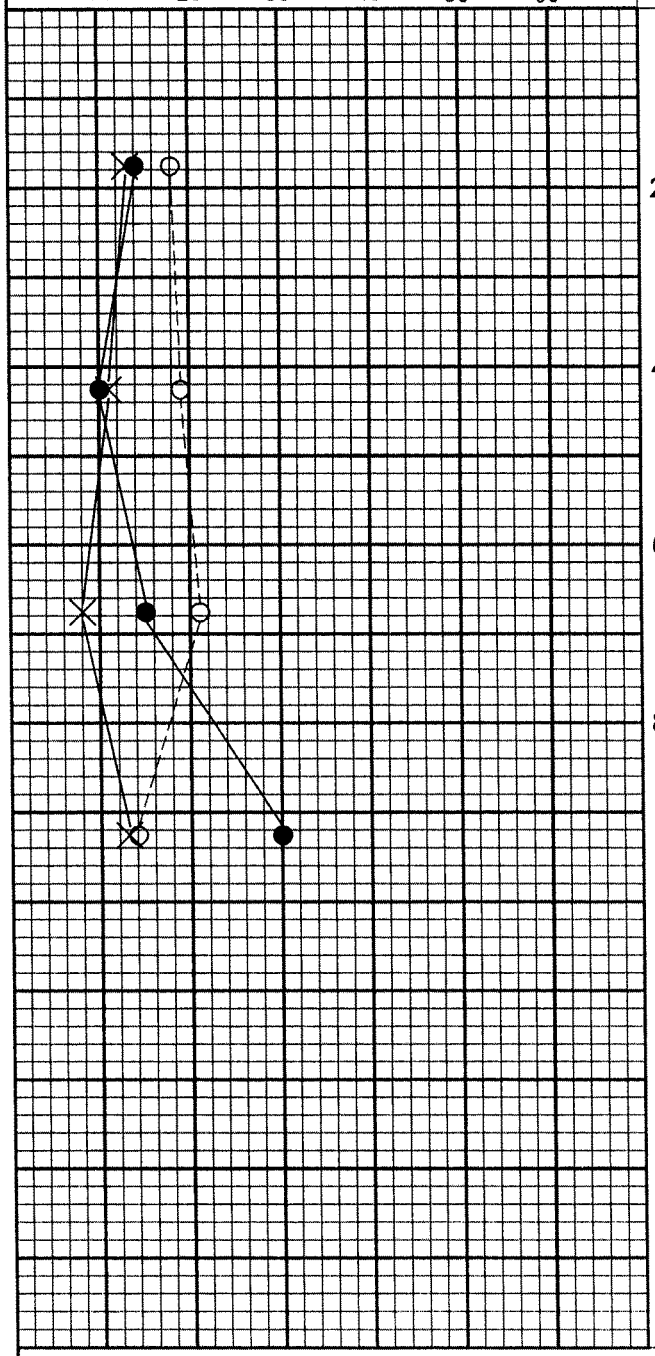
APPENDIX A

Project: **Flora Municipal Airport** **Flora, Illinois** *Client:* **Hanson Professional Services** **Springfield, Illinois**	**Boring Location Diagram**	**Project No. H-22235** **North** **Not to Scale** **December 19, 2022**

Holcomb Foundation Engineering Co.
393 Wood Road Corbondale, Illinois

LOG of BORING B-1

Unconfined Compressive Strength (Tons/Sq. Ft.)
1 2 3 4 5 6
Woter Content (%)
Standord N Penetration, Blows/Ft.
10 20 30 40 50 60



Depth in Feet	Sample No.	Type Sample	Sample Distance	Description of Material
				Surface Elevation
				4.5"Asphalt over 6"Crushed Stone
2	1	ss		Brown Mottled Gray Silty CLAY (CL) with trace sand
4	2	ss		Brown Silty CLAY (CL) with trace sand
6	3	ss		
8	4	ss		
10				End of Boring -10'
12				
14				

Ground Water Doto
No Ground Water Encountered During Drilling and Dry Upon Completion.

Project: Flora Municipal Airport Pavement Reconstruction
Flora, Illinois

Date of Boring
December 19, 2022

Client: Hanson Professional Services
Springfield, Illinois

Project No.
H-22235

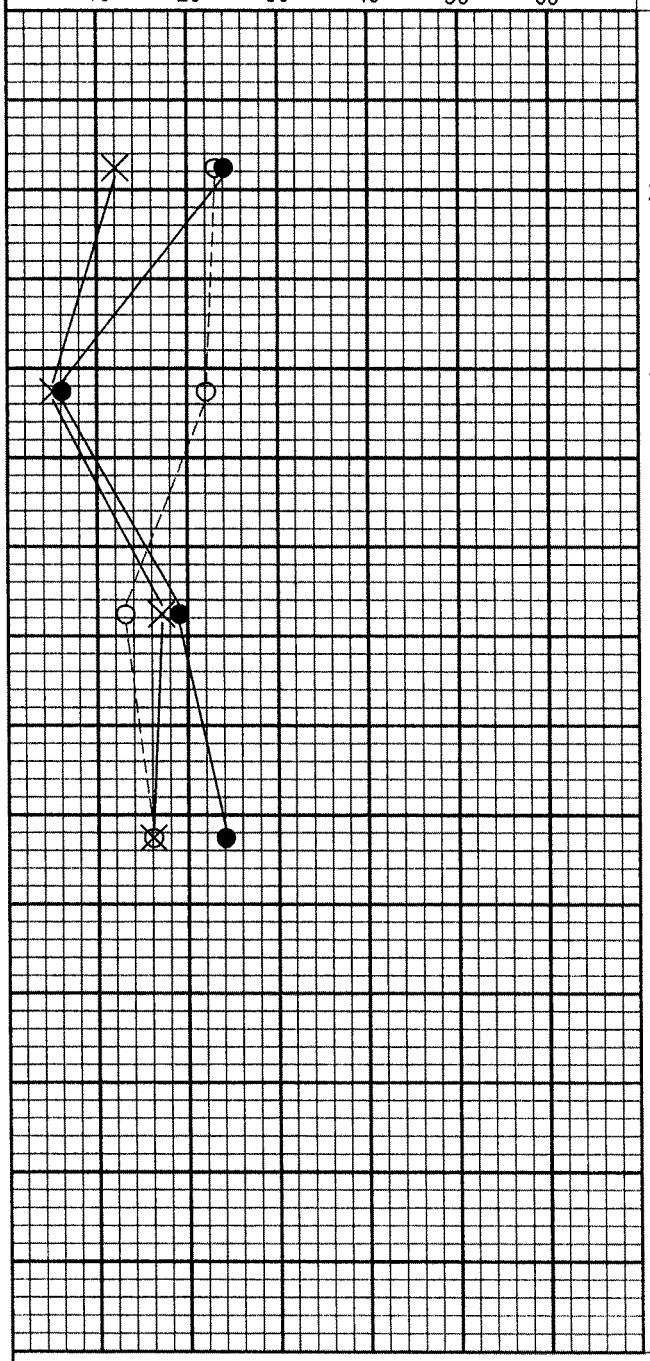
Holcomb Foundation Engineering Co.
393 Wood Rood Corbondale, Illinois

LOG of BORING B-2

Unconfined Compressive Strength (Tons/Sq. Ft.)
1 2 3 4 5 6

Woter Content (%)

Stondard N Penetrotion, Blows/Ft.
10 20 30 40 50 60



Depth in Feet	Sample No.	Type Sample	Sample Distance	Description of Material
				Surface Elevation
				8" Crushed Stone
2	1	ss		Brown Sandy CLAY (CL)
4	2	ss		Brown Silty CLAY (CL) with trace sand and gravel
6	3	ss		Brown Mottled Gray Silty CLAY (CL) with trace sand and gravel
8				
10	4	ss		
				End of Boring -10'
12				
14				

Ground Water Data
No Ground Water Encountered During Drilling and Dry Upon Completion.

Project: Flora Municipal Airport Pavement Reconstruction
Flora, Illinois

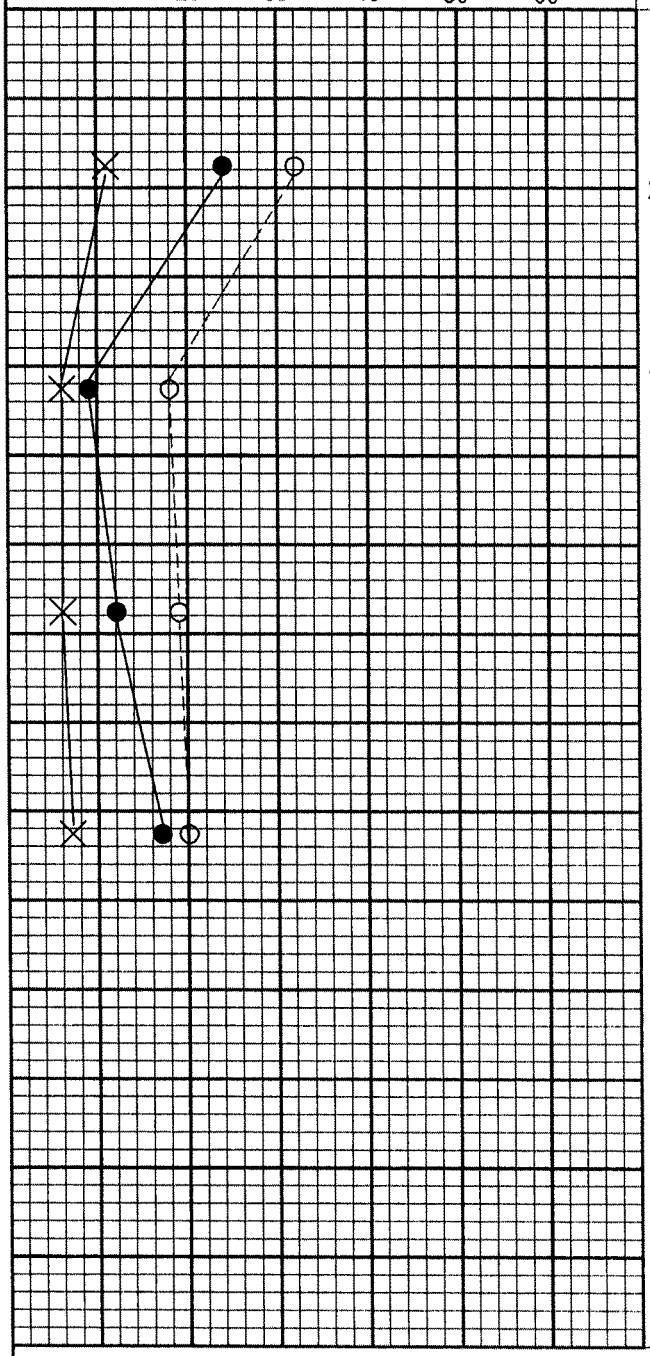
Dote of Boring
December 19, 2022

Client: Hanson Professional Services
Springfield, Illinois

Project No.
H-22235

Holcomb Foundation Engineering Co.
393 Wood Road Carbondale, Illinois

LOG of BORING B-3



Depth in Feet	Sample No.	Type Sample	Sample Distance	Description of Material
				Surface Elevation
				3.5"Asphalt over 14"Crushed Stone
2	1	ss		Gray Mottled Brown Silty CLAY (CH) with trace sand and gravel
4	2	ss		Brown Silty CLAY (CL) with trace sand and gravel
6	3	ss		
8	4	ss		
10				End of Boring -10'
12				
14				

Ground Water Data
No Ground Water Encountered During Drilling and Dry Upon Completion.

Project: Flora Municipal Airport Pavement Reconstruction
Flora, Illinois

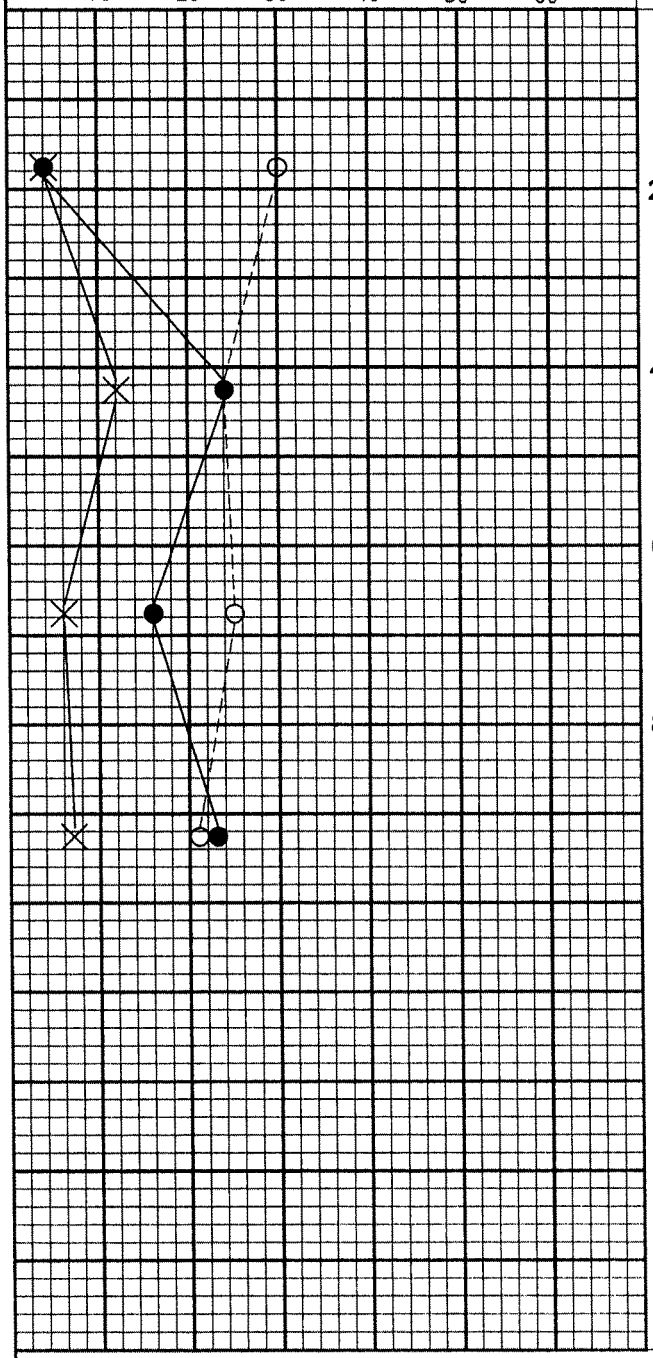
Date of Boring
December 19, 2022

Client: Hanson Professional Services
Springfield, Illinois

Project No.
H-22235

Holcomb Foundation Engineering Co.
393 Wood Road Carbondale, Illinois

LOG of BORING B-4



Depth in Feet	Sample No.	Type Sample	Sample Distance	Description of Material
				Surface Elevation
				6" Concrete
				Gray Silty CLAY (CL) with gravel
2	1	ss		
4	2	ss		Gray Mottled Brown Silty CLAY (CL) with trace sand
6	3	ss		
8	4	ss		
10				End of Boring -10'
12				
14				

Ground Water Data
No Ground Water Encountered During Drilling and Dry Upon Completion.

Project: Flora Municipal Airport Pavement Reconstruction
Flora, Illinois

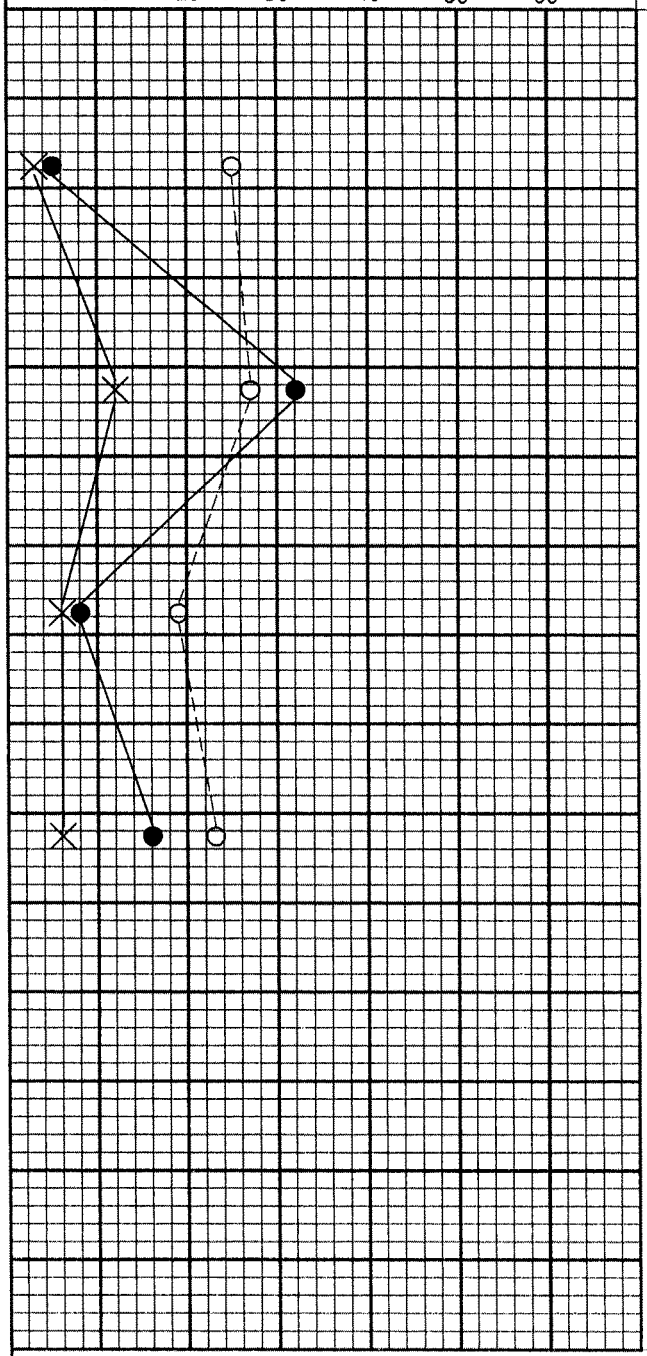
Date of Boring
December 19, 2022

Client: Hanson Professional Services
Springfield, Illinois

Project No.
H-22235

Holcomb Foundation Engineering Co.
393 Wood Road Carbondale, Illinois

LOG of BORING B-5



Depth in Feet	Sample No.	Type Sample	Sample Distance	Description of Material
				Surface Elevation
				10" Asphalt over 6"Crushed Stone
				4" Sand
2	1	ss		Gray Silty CLAY (CL)
4	2	ss		Gray Mottled Brown Sandy CLAY (CL)
6	3	ss		
8				
	4	ss		
10				End of Boring -10'
12				
14				

Ground Water Data
No Ground Water Encountered During Drilling and Dry Upon Completion.

Project: Flora Municipal Airport Pavement Reconstruction Flora, Illinois	Date of Boring December 19, 2022
Client: Hanson Professional Services Springfield, Illinois	Project No. H-22235

Holcomb Foundation Engineering

Moisture - Density Relationship

Project: Flora Municipal Airport
Flora, Illinois

Location: B-1, B-2, B-3, B-4, B-5
Depth 1-5'

Project No.: H-22235

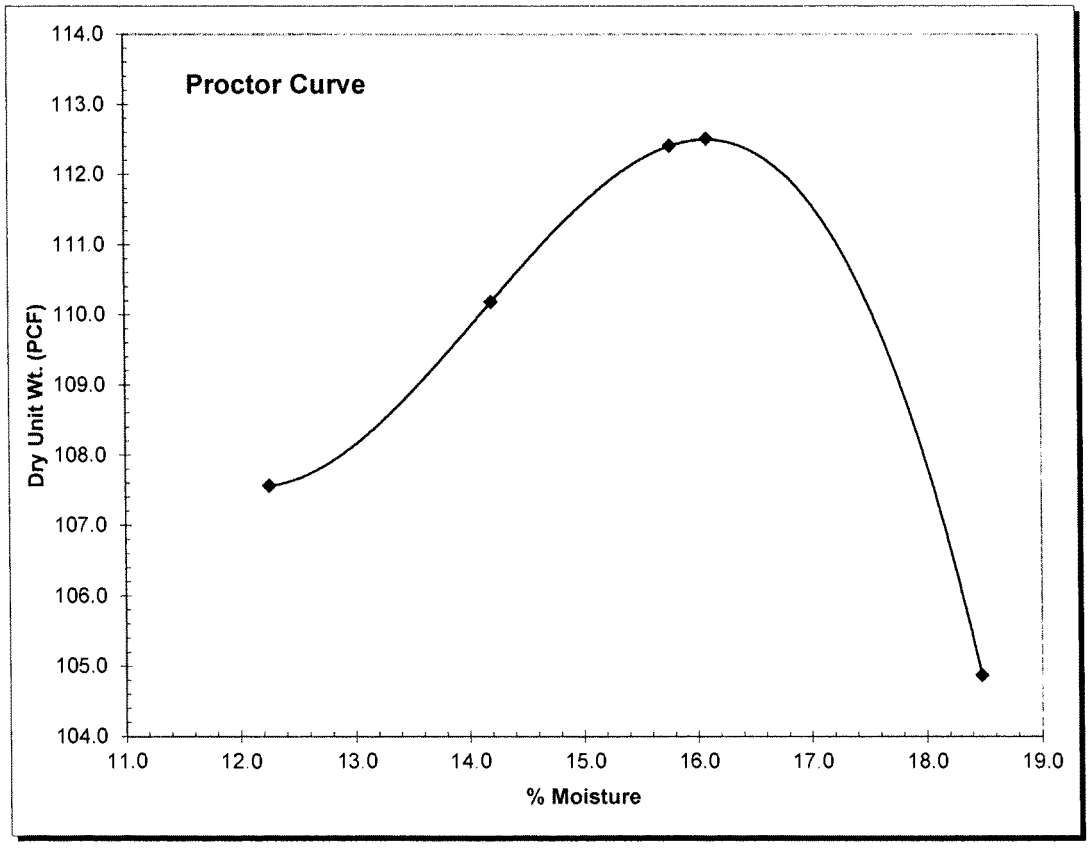
Date: 12/23/22

Test Data ASTM D-698 (standard)

Proctor Test Results

Soil Classification: Brown Mottled Gray Silty CLAY
Maximum Dry Density (PCF) 112.5
Optimum Moisture Content (%) 16.1

Moisture Content (%)	Dry Unit Wt. (PCF)
12.3	107.6
14.2	110.2
15.8	112.4
18.5	104.9
16.1	112.5



Holcomb Foundation Engineering Co.
California Bearing Ratio Test

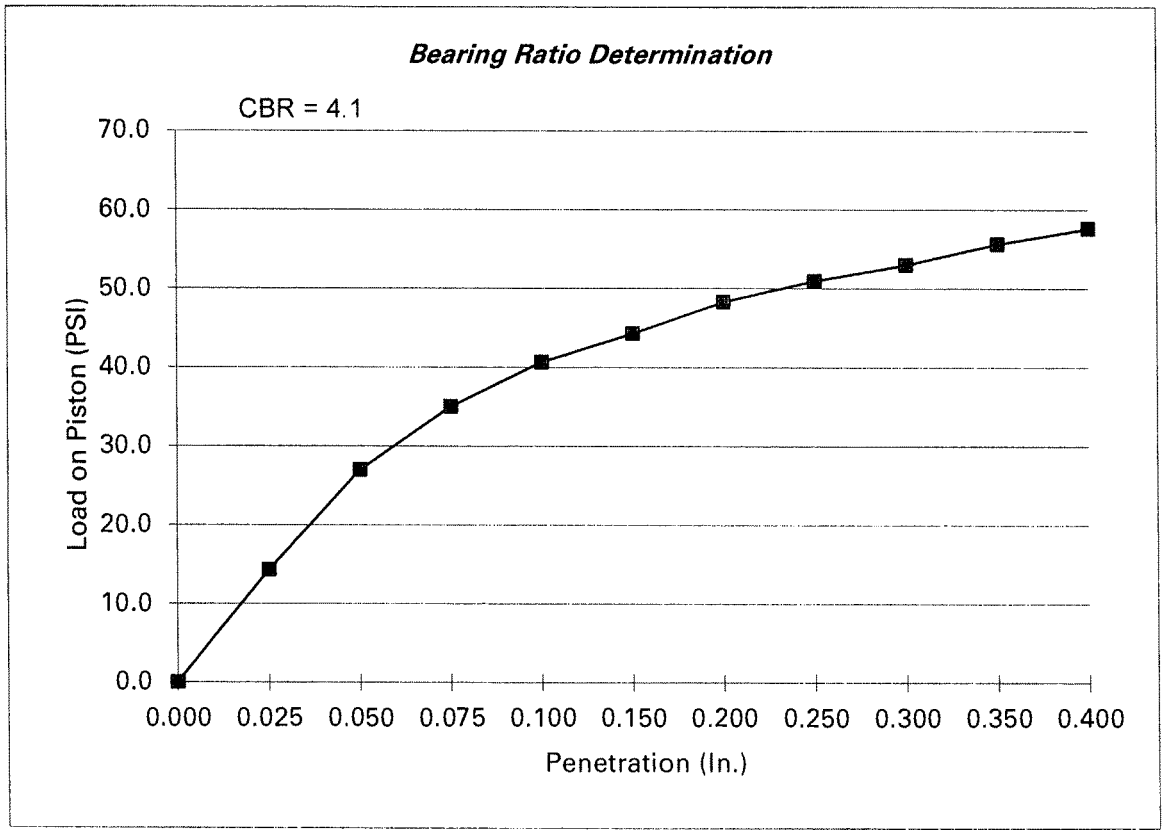
Project: Flora Municiapal Airport
Flora, Illinois
Project No.: H-22235

Location: Borings 1 thru 5
Depth: 1-5'

Date: 12/30/2022

Test Data

Proctor Results		**CBR Test**		
Soil Classification	CLAY	Penetration	Pounds	PSI
Maximum Dry Density(PCF)	112.5	0.000	0.0	0.0
Optimum Moisture Content (%)	16.1	0.025	43.0	14.3
		0.050	81.0	27.0
Before Test		0.075	105.0	35.0
Molded Weight (PCF)	104.3	0.100	122.0	40.7
Moisture Content (%)	15.9	0.150	133.0	44.3
Percent Compaction	92.7	0.200	145.0	48.3
		0.250	153.0	51.0
After Test		0.300	159.0	53.0
Moisture Content (%)	21.5	0.350	167.0	55.7
Swell (%)	1.2	0.400	173.0	57.7



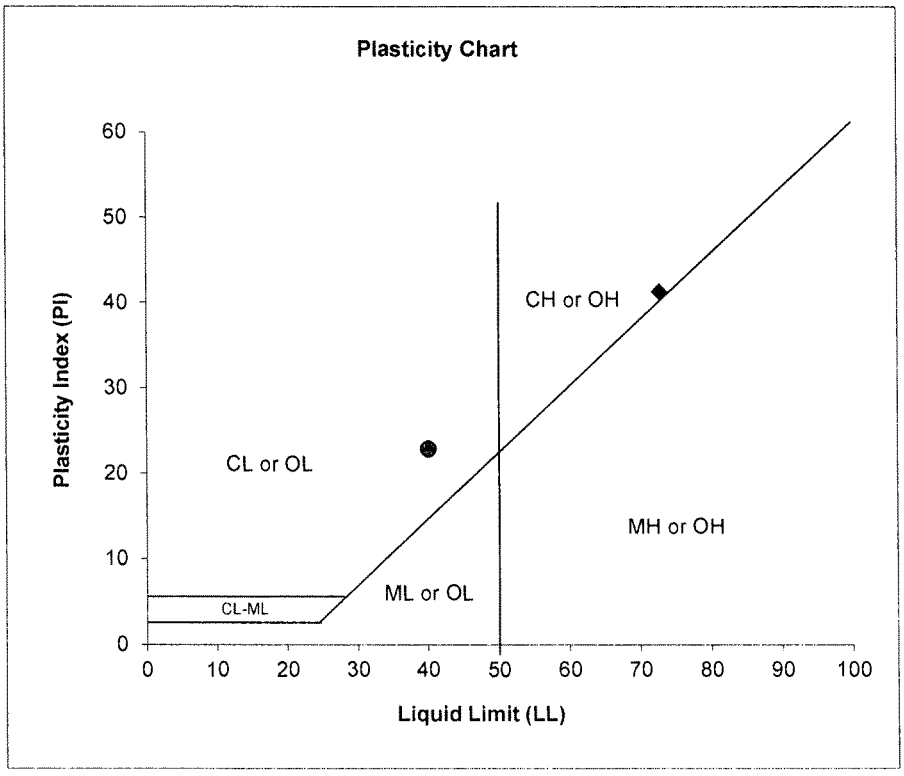
Holcomb Foundation Engineering Company

Laboratory Atterberg Testing Results

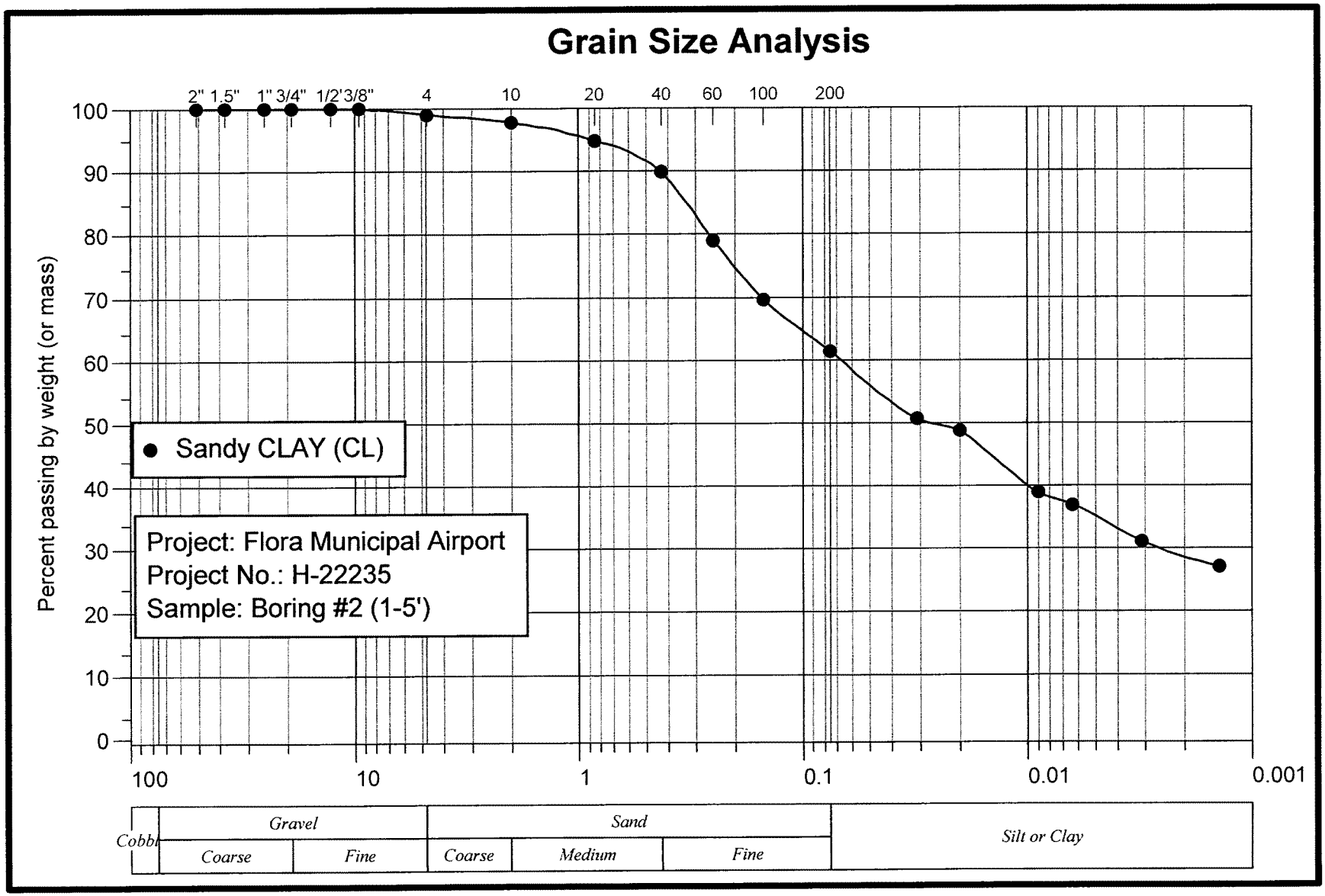
Project: Flora Municipal Airport

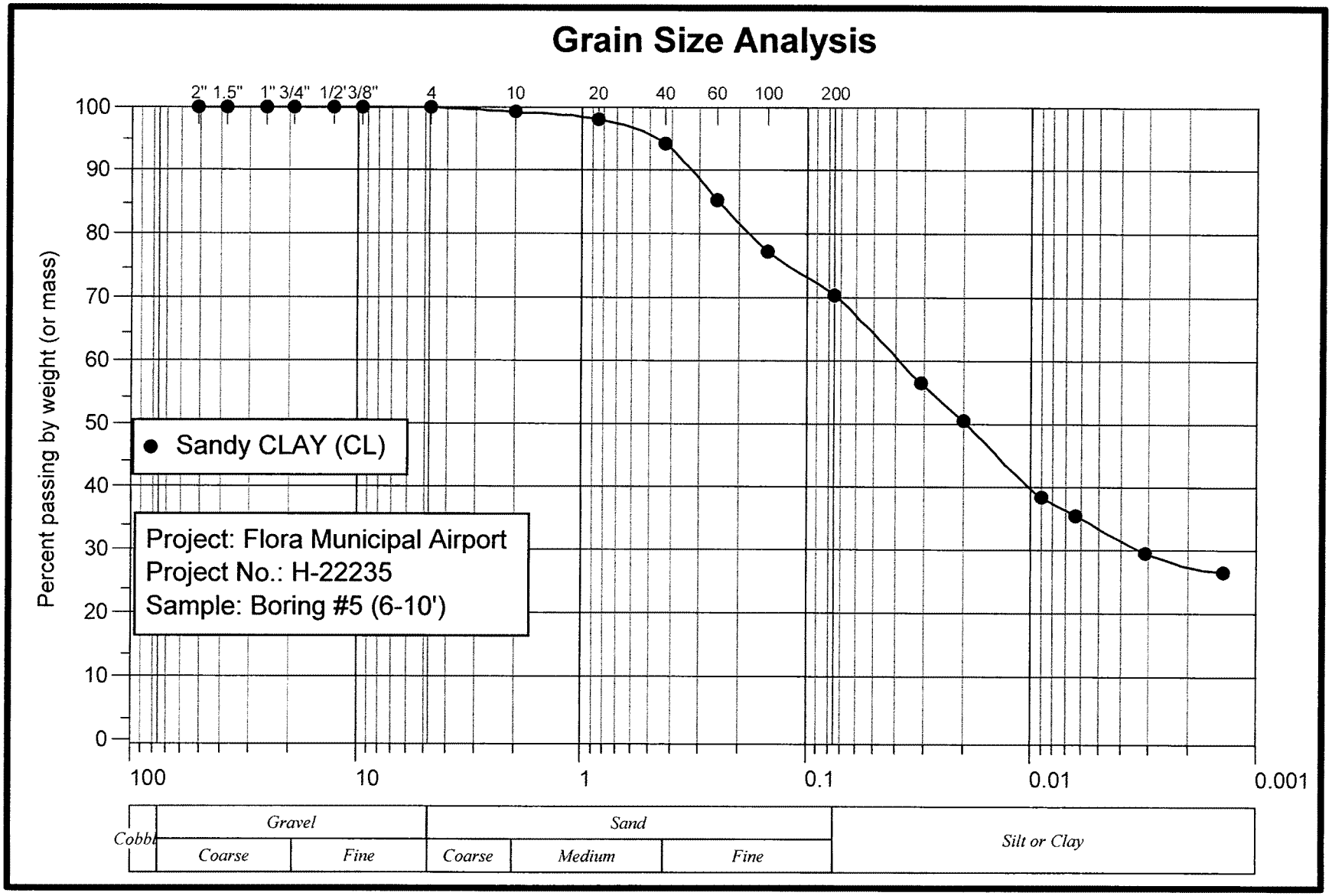
Project No: H-22235

Sample	B-1 3.5-5'	B-3 1-2.5'	▲	□	■
	●	◆			
Dish Number	1	30			
Mass of can, W_1 (g)	37.31	33.60			
Mass of can + moist soil, W_2 (g)	70.94	65.45			
Mass of can + dry soil, W_3 (g)	61.32	52.14			
Moisture content, w (%)	40.07	71.79			
Number of blows, N	25	28			
Liquid Limit, LL	40	73			
Dish Number	1A	30A			
Mass of can, W_1 (g)	32.63	25.63			
Mass of can + moist soil, W_2 (g)	56.65	45.35			
Mass of can + dry soil, W_3 (g)	53.12	40.62			
Plastic Limit, PL	17	32			
PI =	23	41			



Grain Size Analysis




Grain Size Analysis
2" 1.5" 1" 3/4" 1/2" 3/8" 4 10 20 40 60 100 200
Percent passing by weight (or mass)
100
90
80
70
60
50
40
30
20
10
0
Sandy CLAY (CL)
Project: Flora Municipal Airport
Project No.: H-22235
Sample: Boring #5 (6-10')
100
10
1
0.1
0.01
0.001
Cobbl
Gravel
Coarse
Fine
Sand
Coarse
Medium
Fine
Silt or Clay

GENERAL NOTES

SAMPLE IDENTIFICATION

The Unified Classification System is used to identify the soil unless otherwise noted.

RELATIVE DENSITY & CONSISTENCY CLASSIFICATION

TERM (NON-COHESIVE SOILS)	BLOWS PER FOOT
Very Loose	0 - 4
Loose	5 - 10
Firm	11 - 30
Dense	31 - 50
Very Dense	Over 50

TERM (COHESIVE SOILS)	QU (tsf)
Very Soft	0 - 0.25
Soft	0.25 - 0.50
Firm	0.50 - 1.00
Stiff	1.00 - 2.00
Very Stiff	2.00 - 4.00
Hard	4.00+

DRILLING & SAMPLING SYMBOLS

ss:	Split Spoon - 1 3/8" I.D., 2" O.D.
st:	Shelby Tube - 2.80"I.D., 3" O.D.
au:	Auger Samples
cs:	Continuous Sampling - 2.0" I.D.

SOIL PROPERTY SYMBOLS

●	Unconfined Compressive Strength, Qu, (tsf)
+	Penetrometer Value, (tsf)
	Plastic Limit (%)
O	Water Content (%)
	Liquid Limit (%)
X	Standard "N" Penetration: Blows per foot of a 140 pound hammer falling 30 inches on a 2" O.D. Split Spoon

PARTICLE SIZE

Boulders	8 in. +	Medium Sand	0.6 mm to 0.2 mm
Cobbles	8 in. to 3 in.	Fine Sand	0.2 mm to 0.74 mm
Gravel	3 in. to 5 mm	Silt	0.074 mm to 0.0005 mm
Coarse Sand	5 mm to 0.6 mm	Clay	less than 0.005 mm

UNIFIED SOIL CLASSIFICATIONS

MAJOR DIVISIONS			SYMBOL	TYPICAL DESCRIPTION
COARSE GRAINED SOILS	GRAVEL AND GRAVELLY SOILS	CLEAN GRAVELS	GW	Well graded gravels, gravel-sand mixtures
			GP	Poorly graded gravels, gravel-sand mixtures
		GRAVELS WITH FINES	GM	Silty gravels, gravels-sand silt mixtures
			GC	Clayey gravels, gravel-sand clay mixtures
		CLEAN SANDS	SW	Well-graded sands, gravelly sands
			SP	Poorly graded sands, gravelly sands
		SANDS WITH FINES	SM	Silty sands, sand-silt mixtures
			SC	Clayey sands, clay-sand mixtures
FINE GRAINED SOILS	SILTS AND CLAYS LOW PLASTICITY		ML	Inoganic silts of clayey silts with slight plasticity
			CL	Inorganic clays of low to medium plasticity
	SILTS AND CLAYS HIGH PLASTICITY		OL	Organic silts and organic silty clays of low plasticity
			MH	Inorganic clays of high plasticity
			CH	Organic clays of high plasticity
HIGHLY ORGANIC SOILS			OH	Organic clays of medium to high plasticity
			PT	Peat, humus, swamp soils with high organic contents