

ADDENDUM No. 1

ITB No. 4796

Reconstruct Lighting 6-24 and Reconstruct Runway Signage 6-24

Bids Due: September 17, 2026 by 11:00 A.M. (Local Time)

The information contained herein shall take precedence over the original documents and all previous addenda (if any) and is appended thereto. **This Addendum includes eighty-three (83) pages.**

Bidder is to acknowledge receipt of this Addendum No. 1, including all attachments (if any) in its Bid by so indicating on page ITB-1 of the Invitation to Bid Form. Bids submitted without acknowledgment of receipt of this addendum may be considered nonconforming.

The following forms provided within the ITB document should be included in submitted bids:

- **City of Ann Arbor Prevailing Wage Declaration of Compliance**
- **City of Ann Arbor Living Wage Ordinance Declaration of Compliance**
- **Vendor Conflict of Interest Disclosure Form**
- **City of Ann Arbor Non-Discrimination Ordinance Declaration of Compliance**

Bids that fail to provide these forms listed above upon bid opening may be rejected as non-responsive and may not be considered for award.

I. QUESTIONS AND ANSWERS

The following Questions have been received by the City. Responses are being provided in accordance with the terms of the ITB. Bidders are directed to take note in their review of the documents of the following questions and City responses as they affect work or details in other areas not specifically referenced here.

Question 1: Signs S-02, S-07, S-11, and S-12 are all specified as 3 modules but the sign legend only requires 2 modules. Is there a reason for specifying 3 modules or will 2 modules be sufficient?

Answer 1: See attached hereto for updates.

Question 2: Is there a construction cost estimate or a construction cost range for the project?

Answer 2: No.

Question 3: Is there a planholders list/bidders list or mandatory prebid list available?

Answer 3: No pre-bid meeting was held and no planholders list is available because the City does not track who picks up bid documents.

Bidders are responsible for any conclusions that they may draw from the information contained in the Addendum.

ADDENDUM NO. 1

TO THE CONTRACT DOCUMENTS
FOR THE CONSTRUCTION OF

**RECONSTRUCT RUNWAY LIGHTING 6-24
AND RECONSTRUCT RUNWAY SIGNAGE 6-24**

AT

**ANN ARBOR MUNICIPAL AIRPORT
ANN ARBOR, MICHIGAN**

TO ALL HOLDERS OF CONTRACT DOCUMENTS:

Your attention is directed to the following interpretations of, changes in, and additions to the Contract Documents for the **RECONSTRUCT RUNWAY LIGHTING 6-24 AND RECONSTRUCT RUNWAY SIGNAGE 6-24** Contract.

IN THE SPEC BOOK/PROPOSAL:

1. **REPLACE:** Attachment “A” to Section 70-08 Construction Safety and Phasing Plan issued with the IFB on August 27, 2026 in its entirety with the **REVISED** Attachment “A” to Section 70-08 Construction Safety and Phasing Plan. **REVISED 9/08/2026** provided with this addendum as an attachment. Attachment “A” to Section 70-08 revisions are as follows:
 - a. **Revise:** Appendix 1 sheets GC101-GC104 to reflect updated pavement closures, barricade placement, and phasing.
2. **REPLACE:** Technical specification Item L-125 Installation of Airport Lighting Systems issued with the IFB on August 27, 2026 in its entirety with the **REVISED** technical specification Item L-125 Installation of Airport Lighting Systems. **REVISED 09/08/2026** provided with this addendum as an attachment. Item L-125 revisions are as follows:
 - a. **Revise:** Basis of payment for the following line items:

~~Item L-125-5.2d Taxiway Guidance Sign and Foundation, 3 Modules —
per each~~

Item L-125-5.2~~d~~**e** Taxiway Guidance Sign and Foundation, 4 Modules —
per each

3. **REPLACE:** Quantities for Canvass of Bids sheets Proposal-1 and Proposal-2 issued with the IFB on August 27, 2026 in its entirety with the **REVISED** Quantities for Canvass of Bids sheets Proposal-1 and Proposal-2. **REVISED 09/08/2026** provided with this addendum as an attachment. Quantities for Canvass of Bids revisions are as follows:
- a. **Revise:** Item numbers were corrected.
 - b. **Revise:** Quantities for item number 9 “(1) 2-INCH SCHEDULE 80 HDPE CONDUIT INSTALLED BY DIRECTIONAL DRILLING” and Item Number 10 ‘ELECTRICAL JUNCTION CAN’ to reflect the updated contract drawings.
 - c. **Remove:** Item number 16 “TAXIWAY GUIDANCE SIGN AND FOUNDATION, 3 MODULES”
 - d. **Revise:** Quantities for item number 15 “TAXIWAY GUIDANCE SIGN AND FOUNDATION, 2 MODULES”
 - e. **Revise:** Item number and spec number for Item “TAXIWAY GUIDANCE SIGN AND FOUNDATION, 4 MODULES”

ON THE CONTRACT DRAWINGS:

REPLACE: Sheets GI002, GC101-GC104, EL101-EL103 and EL503 issued with the IFB on August 27, 2026 in their entirety with the **REVISED** sheets GI002, GC101-GC104, EL101-EL103 and EL504. **REVISED 9/08/2026** provided with this addendum as an attachment.

QUESTIONS / ANSWERS:

Question 1 – Signs S-02, S-07, S-11, and S-12 are all specified as 3 modules but the sign legend only requires 2 modules. Is there a reason for specifying 3 modules or will 2 modules be sufficient?

- i. Signs S-02, S-07, S-11, and S-12 have all been updated to 2 modules. The proposed guidance sign table in sheet EL503 has been updated via this addendum. Quantities for Canvass of Bids have been updated on Sheet GI002. Bid sheets have been updated to reflect the changes. All updated sheets have been attached to this addendum.

END OF ADDENDUM NO. 1

Attachment A

ATTACHMENT "A"

TO

SECTION 70-08

**CONSTRUCTION SAFETY AND
PHASING PLAN (CSPP)**

FOR THE CONSTRUCTION OF

**RECONSTRUCT RUNWAY LIGHTING 6-24 AND
RECONSTRUCT RUNWAY SIGNAGE 6-24**

AT

**ANN ARBOR MUNICIPAL AIRPORT
ANN ARBOR, MI**

**FAA AIP NO. (LIGHTING): B-26-0005-2826, FAA IIA NO. (LIGHTING): 3-26-0005-
XXX27, FAA SIGNAGE: B-26-0005-292X**

MDOT PROJECT NO. (LIGHTING): 213757, MDOT PROJECT NO. (SIGNAGE): 226567

AUGUST 2026

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CONSTRUCTION SAFETY AND PHASING PLAN (CSPP)

1.0 PURPOSE.

Aviation safety is the primary consideration at airports, especially during construction. The Airport Owner's Construction Safety and Phasing Plan (CSPP) and the Contractor's Safety Plan Compliance Document (SPCD) are the primary tools to ensure safety compliance when coordinating construction activities with airport operations. These documents identify all aspects of the construction project that pose a potential safety hazard to airport operations and outline respective mitigation procedures for each hazard.

The CSPP sets forth benchmarks and requirements for the project to help ensure the highest levels of safety, security and efficiency at the airport at the time of construction. Requirements for this CSPP were developed from FAA Advisory Circular (AC) 150/5370-2 Operational Safety on Airports During Construction, latest edition.

The CSPP is a standalone document, written to correspond with the safety and security requirements set forth in the AC, the airport safety and security requirements, and local codes and requirements. The CSPP is to be used by all personnel involved in the project. The CSPP covers the actions of not only the construction personnel and equipment, but also the action of inspection personnel and airport staff.

This document has been developed in order to minimize interruptions to airport operations, reduce construction costs, and maximize the performance and safety of construction activity. Strict adherence to the provisions of the CSPP by all personnel assigned to or visiting the construction site is mandatory.

The Contractor shall submit a Safety Plan Compliance Document (SPCD) to the Airport Owner describing how the Contractor will comply with the requirements set forth in this CSPP. The SPCD must be submitted to the Airport Owner prior to issuance of Notice to Proceed.

In the event the Contractor's activities are found in non-compliance with the provisions of the CSPP or the SPCD, the Airport Owner's Representative will direct the Contractor, in writing, to immediately cease those operations in violation. In addition, a safety meeting will be conducted for the purpose of reviewing those provisions in the CSPP/SPCD which were violated. The Contractor will not be allowed to resume any construction operations until conclusion of the safety meeting and all corrective actions have been implemented.

2.0 SCOPE OF PROJECT AND CSPP.

The proposed project generally includes the removal and replacement of all existing Runway 6-24 edge lights and guidance signs. All new cable in conduit will be installed as part of this project.

Safety, maintaining aircraft operations, and construction costs are all interrelated. Since safety must not be compromised, the Airport Owner must strike a balance between maintaining aircraft operations and construction costs. This balance will vary widely depending on the operational needs and resources of the airport and will require early coordination with airport users and the FAA. As the project design progresses, the necessary construction locations, activities and associated costs will be identified. As they are identified, their impact to airport operations must be assessed. Adjustments are made to the proposed construction

activities, often by phasing the project and/or to airport operations in order to maintain operational safety. This planning effort will ultimately result in a project CSPP. The development of the CSPP takes place through the following five steps:

- a. Identify Affected Areas
- b. Describe Current Operations
- c. Allow for Temporary Changes to Operations
- d. Take Required Measures to Revise Operations
- e. Manage Safety Risk

3.0 PLAN REQUIREMENTS.

3.1 COORDINATION.

The following items shall be coordinated as required:

- a. **Preconstruction Meeting.** A preconstruction meeting will be conducted to discuss operational safety, testing, quality control, quality acceptance, security, safety, labor requirements, environmental factors, and other issues. All parties affected by the construction will be asked to attend including, but not limited to, the Airport Owner, tenants, contractor, subcontractors and RPR.

At the preconstruction meeting, the Contractor shall submit a plan of operation and schedule of work to the RPR for approval. The Contractor's plan of operation shall indicate, in detail, the amount of construction planned and the number of shifts and/or overtime operations proposed for the project. The schedule of work shall clearly indicate the sequence of work to be performed. The Contractor shall conform, at all times, to the requirements of these provisions and with current safety practices, rules, regulations and security requirements of Airport Owner. The preconstruction meeting will be held prior to issuance of a Notice to Proceed.

- b. **Contractor Progress Meetings.** A minimum of one progress meeting to discuss scheduling and coordination shall be held each week unless otherwise directed by the Airport Owner, throughout the duration of the Contract, between the Airport Owner, Contractor, RPR and any other interested parties at a time and place to be designated by the RPR. These meetings shall include a detailed discussion of construction phasing and safety with regard to the Contractor's compliance with the requirements stipulated in the Contract Documents.

In attendance at these meetings shall be a Contractor's representative with the authority to make decisions concerning the scheduling and coordination of work. Progress meetings shall be facilitated by the RPR. Operational safety shall be a standing agenda item during progress meetings throughout the construction project.

- c. **Scope or Schedule Changes.** Changes in the Scope of Work or Project Schedule shall be governed by Section 40 and Section 80 of the Contract Documents. Any proposed change that results in a deviation from the established CSPP as expressed by the Contract Documents must be submitted to the FAA and Airport Owner for review and approval. FAA review and approval can be expected to take sixty business days.

- d. FAA ATO Coordination.** Early coordination with Federal Aviation Administration (FAA) Air Traffic Organization (ATO) required for scheduling Technical Operations shutdowns prior to construction. Coordination is critical to restarts of NAVAID services and to the establishment of any special procedures for the movement of aircraft. All relocation or adjustments to NAVAIDs, or changes to final grades in critical areas, should be coordinated with FAA ATO and may require an FAA flight inspection prior to restarting the facility. Flight inspections must be coordinated and scheduled well in advance of the intended facility restart.

No adjustments to NAVAID, encroachment on facility critical areas, or facility shutdowns are anticipated during construction, so ATO coordination will not be necessary.

3.2 PHASING.

a. Phase Elements (Work Areas)

The sequence of construction and phasing, for this project, was developed in order to maintain the maximum efficiency of aircraft operations while maintaining safety and allowing for the required construction activities for this project. The project phasing and detailed work areas are depicted on the drawings included in Appendix 1.

1. Overall Project Phasing Elements

- (a) Areas Closed to Aircraft Operations:** The drawings included in Appendix 1 indicate which runways, taxiways and taxilanes are closed for each work area to aircraft operations. Aircraft use will be limited to small aircraft with approach speeds of less than 50 knots to reduce the Runway 6-24 ROFZ width to 120 feet during construction.
- (b) Durations of Closures:** The drawings included in Appendix 1 indicate the duration of closures allowed for each work area. The overall construction duration (not including mobilization and final closeout) for the project is 40 calendar days.
- (c) Taxi Routes:** The drawings included in Appendix 1 indicate all active taxiways and taxi routes to runways and aprons to be used by aircraft for each work area.
- (d) ARFF Access Routes:** The Contractor shall be required to maintain emergency ARFF access into, out of, and around the construction site for the duration of the contract. The Contractor shall prominently light and mark open trenches and excavations at all times. Prior to beginning of construction in each work area and/or on a timely manner, the Contractor shall request the ARFF personnel to tour the site so ARFF personnel are aware of the access routes into, out of, and around the work areas and the on-going construction activities of the project.
- (e) Construction Staging Areas:** The drawings included in Appendix 1 indicate the approximate location of the Contractor's Staging and Storage Area. The actual size and exact location of the staging area shall be established prior to construction activities during mobilization and shall be approved by the Airport Owner.
- (f) Construction Access and Haul Routes:** The drawings included in Appendix 1 indicate the proposed locations of the Contractor's Construction Access and Haul Routes for

this project. Any changes to access and haul routes require approval by the Airport Owner.

- (g) Impacts to NAVAIDs:** The NAVAIDs will not be impacted for this project.
- (h) Lighting and Marking Changes:** All changes associated to the lighting and markings due to construction activities of this project are depicted on the contract drawings. These changes incorporate the design criteria as mandated by the FAA.
- (i) Available Runway Length:** The available runway length for the runways will not be altered for this project.
- (j) Declared Distances:** The takeoff run available (TORA), takeoff distance available (TODA), accelerate-stop distance available (ASDA), and landing distance available (LDA) for the runways will not be altered for this project.
- (k) Required Hazard Marking and Lighting:** This project utilizes the following to delineate work areas, hazards, and closed portions of the AOA on the airfield:
 - (1)** Low profile lighted barricades to delineate work areas to delineate access routes, closed AOA areas, and hazardous areas;
 - (2)** Portable Lighted Runway Closure Markers (Lighted X's);
- (l) Work Hours:** The drawings included in Appendix 1 indicate the work hours for each work area.
- (m) Concurrent Work Areas:** Work areas that can be completed concurrently are identified on the drawings included in Appendix 1.

2. Construction Safety Requirements

The Contractor shall obtain approval from the RPR prior to beginning any work in all areas of the airport. No active runway or taxiway shall be crossed, entered, or obstructed at any time. The Contractor shall plan and coordinate his/her work in such a manner as to ensure safety and a minimum of hindrance to airport operations. All Contractor equipment and material stockpiles shall be stored at locations determined during construction or as shown on the Construction Safety and Phasing Plans (Appendix 1). No equipment will be allowed to park within the approach area of an active runway at any time.

During the work under this Contract, the Airport Owner will make such arrangements to coordinate aircraft movements and Airport operations as necessary to conform to the construction procedures as outlined below and as shown on the Contract Drawings. The Contractor shall give adequate notice to the RPR, so as to afford time to coordinate construction with the Airport Owner. No work shall proceed in any area without prior approval.

The Contractor shall always confine construction operations to the Contractor work area and designated haul routes. Contractor personnel, equipment, stored materials, subcontractors and suppliers will not be allowed on any other area within the Air Operations Area and within the Airport boundaries without prior approval of the Airport Owner or RPR.

The RPR will perform a visual site assessment before the Contractor occupies the Contractor work area. The Contractor shall be held responsible for all repairs and cleanup costs incurred as a result of the Contractor's construction operations. Restoration shall be the complete return of all work areas to the original conditions.

Temporary cables in grass areas shall be marked with stakes and flagging. Temporary cables in paved areas shall be marked with barricades.

Prior to the start of construction operations, the Contractor shall perform the following:

- Install barricades, temporary jumpers, closed runway markings, cover airfield signage, disconnect lighting circuits, remove pavement markings, and other measures as indicated on the Construction Safety and Phasing Plans (Appendix 1).
- Coordinate issuing Notices to Airmen (NOTAM) with the Airport Owner and RPR for the construction activities involved at least 48 hours in advance of the work.
- Install necessary measures for soil erosion and sediment control.

At the conclusion of construction operations, the Contractor shall perform the following:

- Test and activate airfield lighting circuits.
- Remove barricades, temporary jumpers, closed runway markings, airfield signage coverings, reconnect lighting circuits, and install pavement markings as indicated on the Construction Safety Drawings.
- Clean all paved surfaces in accordance with Item CX-106, Safety, Security and Maintenance of Traffic.
- Coordinate cancellation of the NOTAMs with the Airport Owner and RPR.

b. Construction Safety and Phasing Plans. Drawings specifically indicating operational safety procedures and methods in affected areas have been developed for each construction phase. Such drawings are included in Appendix 1 and are included in the contract drawing package.

3.3 AREAS AND OPERATIONS AFFECTED BY THE CONSTRUCTION ACTIVITY.

Contractor, subcontractor, and supplier employees or any other unauthorized persons shall be restricted from entering an active airport operating area without previous permission from the Airport Owner and the Aircraft Control Tower.

In an emergency situation, the Airport Owner or other designated airport representative may order the Contractor to suspend operations; move personnel, equipment, and materials to a safe location; and stand by until aircraft use is completed.

The Contractor shall cooperate with the airport users through the RPR, in coordination with airport operations, in scheduling the operations to provide adequate clearance for safe aircraft parking, fueling, maintenance, loading or unloading, maneuvering, taxing operations, or other aircraft operations.

a. Identification of Affected Areas

The impacts to Airport Operations Areas are identified in the drawings included in Appendix 1.

a. Mitigation of effects.

This CSPP has established specific requirements and operational procedures necessary to maintain the safety and efficiency of airport operations during the construction of this project.

All coordination pertaining to airport operations during construction will go through the Airport Owner's Representative and the Airport Operations Manager. Any required NOTAM's to be issued will be sent through the Airport Owner's Representative and issued by Airport Operations.

- 1. Temporary Changes to runway and/or taxiway operations:** Any affected Airport Operations Areas identified in the previous section for reduced access or identified as being closed entirely to aircraft traffic, will be barricaded by the use of low profile, lighted barricades placed as shown in the drawings provided in Appendix 1. In addition, required NOTAM's shall be issued on the various temporary changes to aircraft access through the affected areas including aircraft use will be limited to small aircraft with approach speeds of less than 50 knots to reduce the ROFZ width to 120 feet during construction.
- 2. Detours for ARFF and other airport vehicles:** The project work site shall remain open to all ARFF vehicles in emergency situations. The Contractor is required to maintain access in and around the project work area for all ARFF vehicles. Proper routing of this traffic will be effectively communicated to all supervisory personnel involved in the construction project.
- 3. Maintenance of essential utilities:** Special attention shall be given to preventing unscheduled interruption of utility services and facilities. Where required due to construction purposes, the Airport Owner and FAA shall locate all of their underground utilities. It is the Contractor's responsibility to have the locations of cabling and other underground utilities marked prior to beginning excavation. Any locations provided by the Airport Owner or FAA are approximate locations and the Contractor shall verify all locations prior to beginning excavations. When an underground cable or utility is damaged due to the Contractor's negligence the Contractor shall immediately repair the affected cable or utility at his/her own expense. Full coordination between airport staff, field inspectors, and construction personnel will be exercised to ensure that all airport power and control cables are fully protected prior to any excavation.
- 4. Temporary Changes to air traffic control procedures:** Changes to air traffic control procedures have been coordinated with airport ATO. Any additional requests for changes must be made to the Airport Owner, through the RPR, in writing. These requested changes will be reviewed by the RPR, Airport Owner and ATO. If these changes are acceptable to all the aforementioned parties, the RPR will request a modification to the CSPP previously turned into the FAA. The Contractor shall plan on a minimum 90 days for this process to be completed. No deviation to the original CSPP shall be made without final FAA approval.

3.4 NAVIGATION AID (NAVAID) PROTECTION.

Before commencing construction activity, parking vehicles, or storing construction equipment and materials near a NAVAID, coordinate with the appropriate FAA ATO/Technical Operations office to evaluate the effect of construction activity and the required distance and direction from the NAVAID. Construction activities, materials/equipment storage, and vehicle parking near electronic NAVAIDs require special consideration since they may interfere with signals essential to air navigation.

3.5 CONTRACTOR ACCESS.

This section of the CSPP details the areas to which the Contractor must have access, and how Contractor personnel will access those project work areas.

a. Location of stockpiled construction materials.

The Contractor shall store material and equipment and schedule his operations for work to be done so that no unauthorized interference to normal Airport operations will result there from. Construction operations shall not be conducted in a manner to cause interference with Airport Operations. Stockpiled materials and equipment storage are not permitted within the Runway Safety Area/ Taxiway Safety Area (RSA/TSA), Obstacle Free Zone (OFZ) or Object Free Area (OFA) of an operational runway or taxiway. Stockpiled construction materials must be located inside the Contractor staging area as shown on the Construction Safety and Phasing Plans (Appendix 1) unless otherwise approved by the RPR.

Stockpiled material shall be constrained in a manner to prevent movement resulting from either aircraft jet blast or wind conditions in excess of ten miles per hour. In addition, stockpiled material shall have silt fence located around the material to prevent Foreign Object Debris (FOD) from moving onto the airfield pavements or polluting watercourses.

Open trenches exceeding 3 inches in depth and 5 inches in width or stockpiled material are not permitted within the limits of safety areas of operational runways or taxiways. Stockpiled material shall not be permitted within the protected areas of the runways or allowed to penetrate into any of the protected airspace.

Spoil and Disposal Areas: Spoil shall be disposed of offsite by the Contractor unless otherwise shown or specified. The Contractor shall submit the "Spoils Deposition Release Form" for any spoils which are transported from the project site. A copy of the form can be found in Appendix 4. No direct payment will be made for spoiling and disposal operations. The cost of spoiling material on site, or of spoiling material off-site, shall be considered incidental to this Contract and the costs shall be included in the various pay items involved.

- b. Vehicle and pedestrian operations.** Vehicle and pedestrian access routes for airport construction projects must be controlled to prevent inadvertent or unauthorized entry of persons, vehicles, or animals onto the Air Operations Area (AOA).

The Airport Owner will coordinate requirements for vehicle operations with the affected airport tenants. Specific vehicle and pedestrian requirements for this project are as follows:

All construction vehicles and personnel shall be restricted to the immediate work areas specified by the contract for this project. These areas include the haul routes into the work area, the designated Contractor staging area and the apron area under construction. Use of alternate haul routes or staging areas by the Contractor shall not be permitted without prior notification and approval by the Airport Owner's Representative.

1. Construction Site Parking:

The Contractor's personal vehicle parking area shall be in the Contractor's staging area, as shown on the Construction Safety and Phasing Plans (Appendix 1). Contractor personal vehicles will not be allowed inside the airport fence Air Operations Area (AOA) or secured area.

A staging area, as indicated on the Contract Drawings, will be provided where the Contractor may set up a field office and store equipment and materials. The Contractor shall make his own arrangements for and bear all costs of required utilities. The Contractor shall use and maintain the site in accordance with requirements of the Airport Owner. Upon completion of work, the Contractor's staging area shall be removed and the area cleaned and restored to original or better condition.

2. Construction Equipment Parking:

The Contractor's equipment storage area shall be in the Contractor staging area as shown on the Construction Safety and Phasing Plans (Appendix 1). The Contractor's equipment and construction vehicles shall be restricted to the construction site or storage areas during construction and parked in the equipment storage area during non-working periods. Maximum allowable equipment height in the staging area shall be 25 feet. Maximum allowable equipment height in the work areas shall be 25 feet. Maximum allowable equipment height at the borrow area shall be 25 feet.

Contractor must service all construction vehicles within the limits of the project work area or the Contractor's Staging Area. Parked construction vehicles must be outside the OFA and never in the safety area of an active runway or taxiway. Inactive equipment must not be parked on closed taxiways or runways. If it is necessary to leave specialized equipment on a closed taxiway or runway at night, the equipment must be well lighted. Employees shall also park construction vehicles outside the OFA when not in use by construction personnel (for example, overnight, on weekends, or during other periods when construction is not active). Parking areas must not obstruct the clear line of sight by the ATCT, as applicable, to any taxiways or runways under air traffic control nor obstruct any runway visual aids, signs, or navigation aids.

3. Access and Haul Roads:

The Contractor shall clear, construct and maintain haul routes as required for the prosecution of the work. The haul routes and access points shall only be in the locations approved by the RPR and the Airport Owner or as shown on the Construction Safety and Phasing Plans (Appendix 1).

Access or haul routes used by Contractor vehicles must be clearly marked to prevent inadvertent entry to areas open to airport operations. Construction traffic must remain on the designated haul routes, never straying from the approved paths. Haul and access routes shall be clearly delineated with temporary marking and signage by the Contractor. Signage and marking placement shall be reviewed and approved by the RPR and Airport Owner prior to being put into service. The Contractor shall fully describe the appropriate access routes to all his/her employees, subcontractors and material delivery personnel.

The Contractor shall be responsible for maintaining existing haul routes. At the completion of the project, these areas shall be returned to their original lines and grades and shall be restored to a condition equal to or better than original. All non-paved areas that are disturbed by Contractor's haul roads, staging area, etc., located outside of the seeding limits shown on the plans shall be re-seeded and restored to their original or better condition by the Contractor at no additional cost to the Airport Owner.

The Contractor shall coordinate haul routes, closures and schedules with other projects which may be underway during the same time period as this contract.

The Contractor shall control and coordinate the material (supplies) that are hauled to and from work area. Delivery of equipment and materials to the area of work shall be by way of the access route shown on the Construction Safety and Phasing Plans (Appendix 1) or designated by the Airport Owner or RPR.

The Contractor shall maintain all haul routes and work areas in a dust free condition at all times. The Contractor shall control dust from the construction operations by vacuum type sweeping, watering or other methods as approved by the RPR. Contractor shall have equipment (in operating condition) on site, at all times, to control dust. If the Contractor fails to comply with this requirement, construction will be suspended until a plan for controlling the dust is approved by the RPR. Landside haul routes, boulevards and drives shall be kept clean by use of a vacuum sweeper on a daily basis as required. Application of water on dirt or gravel haul routes must be provided as often as necessary. Haul roads in any airport traffic areas must be especially monitored for dust and debris to prevent any potential Foreign Object Debris (FOD) situations.

Portions of the project area(s) shall be bounded by the low profile barricades identifying Contractor personnel and vehicle area operation limits. The locations of any barricaded

project limits, haul routes, Contractor Staging Areas, and associated safety and security details are also provided graphically in the attached exhibits.

4. Marking and Lighting of Vehicles:

When any vehicle or piece of equipment, other than one that has prior approval from the Airport Owner, must operate on an airport, it shall be escorted and properly identified.

The Contractor shall limit access within the airport security fence to authorized vehicles. All authorized vehicles shall have a vehicle dash board placard permit issued by the Airport Owner or an identification sign on both sides of the vehicle containing the Contractor's company name. Private vehicles of the Contractor's personnel must be parked outside the airport security fence and will not be allowed within the airport security fence at any time.

All vehicles operating on the airport and in the general vicinity of the safety area or in aircraft movement areas must be marked with flashing yellow/amber beacons or orange and white flags during daylight hours. During hours of darkness or low visibility they shall be marked with at least flashing yellow/amber beacons.

Beacons and flags must be maintained to standards and in good working and operational condition. Beacons must be located on the uppermost part of the vehicle structure, visible from any direction, and flash 75 +/- 15 flashes per minute. Flags shall be 3' by 3' with alternating 1' by 1' international orange and white squares and shall be replaced by the Contractor if they become faded, discolored, or ragged as determined by Airport Operations or the Airport Owner's Representative.

5. Description of Proper Vehicle Operations:

The Contractor shall be required to follow guidance on the additional identification and control of construction equipment per the Airport's Security Plan. No Contractor's vehicle or pedestrian crossing of active runways or taxiways will be allowed at any time during the work of this Contract, unless otherwise specified. No deviation from the pedestrian and vehicle routes to and from the Project Areas will be allowed unless specific permission has been granted by the Airport Owner.

The ground movement of aircraft shall have the right-of-way at all times, and the Contractor's vehicles and equipment shall yield to aircraft at all times.

6. Required Escorts:

At no time will vehicles or personnel enter portions of the secure AOA outside the contract area unless permitted and accompanied by an airport approved escort.

All construction-related activity taking place within any airport defined movement area requires the presence of an authorized Airport escort having radio communication with the FAA control tower or UNICOM unless prior approval is obtained from Airport Operations.

Spotters and/or flaggers having radio or telephone contact with the Airport may be used with the approval of the on shift Airport Operations Manager.

At no time shall active taxiways or taxilanes be crossed by construction equipment without notification and proper approval/clearance from radio-trained gate guards or Airport Operations.

7. Situational Awareness:

Aircraft traffic will continue to use existing runways, aprons, and taxiways of the Airport during the time that work under a contract is being performed. The Contractor shall, at all time, conduct the work as to create no hindrance, hazard, or obstacle to aircraft using the Airport.

Vehicle drivers must confirm by personnel observation that no aircraft is approaching their position (either in the air or on the ground) when given clearance to cross a runway, taxiway, or any other area open to airport operations. In addition, it is the responsibility of the escort vehicle driver to verify the movement/position of all escorted vehicles at any given time.

8. Two-way Radio Communication Procedures:

Two-way radio communications are required between Contractors and Airport Traffic Control Tower. Vehicular traffic located in or crossing an active movement area shall be directed by a flag person in radio contact with the Airport Traffic Control Tower. Prior to proceeding into the active movement area, all drivers shall confirm through personal observation that no aircraft is approaching the vehicle position. Construction personnel may operate in movement areas without two-way radio communication provided a NOTAM is issued closing the area, and provided that the area is properly marked to prevent incursions.

The Contractor shall comply with proper radio usage, including read back requirements and proper phraseology including the International Phonetic Alphabet.

Even though radio communication is maintained, escort vehicle drivers must also familiarize themselves with ATCT light gun signals in the event of radio failure. See the FAA safety placard "Ground Vehicle Guide to Airport Signs and Markings." This safety placard may be downloaded through the Runway Safety Program Web site at http://www.faa.gov/airports/runway_safety/publications/ (See "Signs & Markings Vehicle Dashboard Sticker".) or obtained from the FAA Airports Regional Office.

9. Maintenance of the Secured Area of the Airport.

The Contractor shall be responsible for maintaining security at all access gates used during the project and will be held liable by the Airport Owner for any breach of security. The Contractor shall be required to post a guard at the gate to open and close the gate for personnel and equipment. No gate shall be left open. Guard shall be responsible for ensuring that no unauthorized persons or vehicles enter the secure area. Airport Owner

and contractors must take care to maintain security during construction when access points are created in the security fencing to permit the passage of construction vehicles or personnel.

- (a) Fencing and Gates.** Airport Owner and contractors must also maintain a high level of security during construction when access points are created in the security fencing to permit construction vehicle access. Temporary gates shall be equipped and/or manned by construction personnel to prevent unauthorized access by vehicles, animals or people. Procedures conforming to Airport security protocols should be in place to ensure that only authorized persons and vehicles have access to the AOA and to prohibit "piggybacking" behind another person or vehicle. Access shall be made available at all times to all airport emergency vehicles traveling to operations areas within the proximity of the construction work zone.

3.6 WILDLIFE MANAGEMENT.

Construction contractors must carefully control and continuously remove waste or loose materials that might attract wildlife. Contractor personnel must be aware of and avoid construction activities that can create wildlife hazards on airports.

- a. Trash.** Food scraps from construction personnel activity must be collected and disposed of at a proper facility.
- b. Standing water.** Water shall not be allowed to collect and pool for more than any single 24-hour period. Temporary grading may be required to promote drainage during daily operations as well as between work phases.
- c. Tall grass and seeds.** The use of millet seed in turfing and seeding operations shall not be permitted. The Contractor is also responsible for mowing and maintaining the grass areas within the project work areas, while those areas are under the Contractor's control. Mowing shall be performed when the grass height reaches the maximum allowable height per the Owner's requirements.
- d. Poorly maintained fencing and gates.** The Contractor shall maintain a constant secure perimeter to the airfield, including continuous security perimeter fencing and gates (if applicable).
- e. Disruption of existing wildlife habitat.** Not applicable to this project.

Contractor shall take immediate remedial action to remove wildlife attractants should any occurrence be noted. Contractor shall immediately report to the RPR and Airport Owner should any wildlife congregation be noted, and in particular if mammals enter the airport through the construction gate.

3.7 FOREIGN OBJECT DEBRIS (FOD) MANAGEMENT.

Special care and measures shall be taken to prevent Foreign Object Debris (FOD) damage when working in an airport environment. Waste and loose materials, commonly referred to as FOD, are capable of causing damage to aircraft landing gears, propellers, and jet engines. The Contractor shall be responsible for implementing an approved FOD Management Plan prior to the start of construction activities. The FOD Management Plan will have procedures for prevention, regular cleanup, and containment of construction material and debris. The Contractor will ensure all vehicles related to the construction project using paved surfaces in the AOA shall be free of any debris that could create a FOD hazard. Special attention will be given to the cleaning of cracks and pavement joints. All taxiways, aprons, and runways must remain clean. Waste containers with attached lids shall be required on construction sites.

Special attention should be given to securing lightweight construction material (concrete insulating blankets, tarps, insulation, etc.). Specific securing procedures and/or chainlink enclosures may be required.

Contractors will provide their own equipment for vehicle and equipment washing and clean up.

Immediate access to a power sweeper is required when construction occurs on any pavement area inside the AOA, unless an appropriate alternative has been approved by the Airport Owner's Representative and Airport Operations Manager.

3.8 HAZARDOUS MATERIALS (HAZMAT) MANAGEMENT.

Contractors operating construction vehicles and equipment on the airport must be prepared to expeditiously contain and clean-up spills resulting from fuel, hydraulic fluid, or other chemical fluid leaks. Transport and handling of other hazardous materials on an airport also requires special procedures. To that end, the Contractor is required to develop a spill prevention plan and response procedures for vehicle operations prior to the start of construction activities. This includes maintenance of appropriate MSDS data and appropriate prevention and response equipment on-site.

Fueling Procedures and Spill Recovery Procedures shall be in accordance with Michigan Fire Code, latest edition, and the National Fire Protection Association standard procedures for spill response, latest edition. If fueling is to take place in the staging area, it must be away from catch basins. Contractor must have spill containment kits on site.

In the event of a fuel spill or the spill of other hazardous materials, the Contractor shall immediately notify the Airport Owner and the RPR, the Michigan Department of Environment, the Environmental Protection Agency, the Airport Owner and the RPR.

Contractor shall abide by the specific requirements contained in the Technical Specifications of this contract.

3.9 NOTIFICATION OF CONSTRUCTION ACTIVITY.

The following is information and procedures for immediate notification of airport users and the FAA of any conditions adversely affecting the operational safety of the airport.

- a. Maintenance of a list of Responsible Representatives/ Point of contact.** A list of responsible representatives and points of contact shall be created by the RPR, the Airport and the Contractor prior to the start of construction. This list shall be compiled as part of the project pre-construction meeting agenda. Procedures will be established to contact all parties, including after regular work hours. Updates will be made to the list throughout the project duration by the RPR. Contractor points of contact shall be incorporated into the contractor's SPCD.
- b. Notices to Airman (NOTAM).** Only the Airport Owner may initiate or cancel NOTAMs on airport conditions, and is the only entity that can close or open a runway or taxiway. The Airport Owner must coordinate the issuance, maintenance, and cancellation of NOTAMs about airport conditions resulting from construction activities with tenants and the local air traffic facility (control tower, approach control, or air traffic control center), and must provide information on closed or hazardous conditions on airport movement areas to the FAA Flight Service Station (FSS) so it can issue a NOTAM. The Airport Owner must file and maintain a list of authorized representatives with the FSS. Only the FAA may issue or cancel NOTAMs on shutdown or irregular operation of FAA owned facilities. Any person having reason to believe that a NOTAM is missing, incomplete, or inaccurate must notify the Airport Owner. See Section 3.14 regarding issuing NOTAMs for partially closed runways versus runways with displaced thresholds.

Any NOTAMs for planned airfield closures for this project must be coordinated through the airport manager and the airports duly appointed construction management representative. Reference Section 3.2 for planned closures for this project, which require issuance of a NOTAM.

- c. Emergency Notification Procedures.** In the event of an aircraft emergency, severe weather conditions, or any issue as determined by the Airport that may affect aircraft operations, the Contractor's personnel and/or equipment may be required to immediately vacate the area(s) affected. Points of contact for the various parties involved with the project shall be identified and shared at the pre-construction meeting among the various parties. Emergency points of contact shall be incorporated into the contractor's SPCD.
- d. Coordination with ARFF Personnel.** The Contractor shall coordinate, through the duly appointed airport representative, with ARFF personnel, mutual aid providers and other emergency services if construction requires the following:
- The deactivation and subsequent reactivation of water lines or fire hydrants, or
 - The re-routing, blocking and restoration of emergency access routes, or
 - The use of hazardous materials on the airfield.

Procedures and methods for addressing any planned or emergency response actions on the airfield concerning this project shall be established and implemented prior to the start of construction.

- e. Notification to the FAA.**

1. **Part 77.** Any person proposing construction or alteration of objects that affect navigable airspace, as defined in Part 77, must notify the FAA. This includes construction equipment and proposed parking areas for this equipment (i.e. cranes, graders, other equipment) on airports. FAA Form 7460-1, Notice of Proposed Construction or Alteration, is used for this purpose and submitted to the appropriated FAA Airports Regional or District Office. A 7460-1 form for this project has been prepared by the Engineer and submitted to the FAA for using equipment with a maximum height of 25 feet. A new 7460-1 form must be submitted to the FAA for review and comment for any equipment that the Contractor will use which is taller than the equipment used in the above 7460-1 submission. The Airport Owner will be responsible for submitting the new 7460-1 form to the FAA. To that end, the Contractor shall identify the equipment in his SPCD, including the maximum height it will extended to during construction, the area(s) in which the equipment will be used, and the duration the equipment will be used.
2. **Part 157.** It is not anticipated that Part 157 notifications will be required for this project.
3. **NAVAIDS.** For emergency (short-notice) notification about impacts to both airport owned and FAA owned NAVAIDS, contact: 866-432-2622.
 - (a) **Airport owned/FAA Maintained.** If construction operations require a shutdown of more than 24 hours, or more than 4 hours daily on consecutive days, of a NAVAID owned by the airport but maintained by the FAA, provide a 45-day minimum notice to FAA ATO/Technical Operations prior to facility shutdown.
 - (b) **FAA owned.** The Airport Owner must notify the appropriate FAA ATO Service Area Planning and Requirements (P&R) Group a minimum of 45 days prior to implementing an event that causes impacts to NAVAIDS. (Impacts to FAA equipment covered by a Reimbursable Agreement (RA) do not have to be reported by the Airport Owner). Coordinate work for an FAA owned NAVAID shutdown with the local FAA ATO/Technical Operations office, through the RPR, including any necessary reimbursable agreements and flight checks. Detail procedures that address unanticipated utility outages and cable cuts that could impact FAA NAVAIDS. In addition, provide seven days' notice to schedule the actual shutdown.
- f. **Accidents.** The Contractor shall provide at the site such equipment and medical facilities as are necessary to supply first aid service to anyone who may be injured in connection with the work. The Contractor must promptly report in writing to the RPR all accidents whatsoever arising out of, or in connection with, the performance for the work, whether on or adjacent to the site which caused death, personal injury or property damages, giving full details and statements of witnesses. In addition, if death or serious injuries or serious damages are caused, the accident shall be reported immediately by telephone or messenger to both the RPR and the Airport Owner.

If any claim is made by anyone against the Contractor or any Subcontractor on account of any accident, the Contractor shall promptly report the facts in writing to the RPR giving full details of the claims.

3.10 INSPECTION REQUIREMENTS.

- a. **Daily (or more frequent) inspections.** Inspections shall be conducted by the Contractor at least daily, but more frequently if necessary, to ensure conformance with the CSPP. A sample checklist is provided in Appendix 2 of this document. In addition to Contractor's required inspections, airport operations will inspect the construction site to ensure compliance with the CSPP and the SPCD. The Airport Owner's Representative will have full-time inspectors monitoring activity throughout construction. Promptly take all actions necessary to prevent or remedy any unsafe or potentially unsafe conditions as soon as they are discovered.
- b. **Final inspections.** A final inspection with the Airport Owner's Representative, Airport and Contractor will take place prior to allowing airport operations.

3.11 UNDERGROUND UTILITIES.

Special attention shall be given to preventing unscheduled interruption of utility services and facilities. Where required due to construction purposes, the FAA shall locate all of their underground cables. The Contractor shall locate and/or arrange for the location of all the underground cables. When an underground cable is damaged due to the Contractor's negligence the Contractor shall immediately repair the cable affected at his/her own expense. Full coordination between airport staff, field inspectors, and construction personnel will be exercised to ensure that all airport power and control cables are fully protected prior to any excavation. Locations of cabling will be marked prior to beginning excavation.

Prior to opening an excavation, effort shall be made to determine whether underground installation: i.e., sewer, water, fuel, electric lines, etc., will be encountered, and if so, where such underground installations are located. When the excavation approaches the approximate locations of such an installation, the exact locations shall be determined by careful hand probing or hand digging, and/or use of a vacuum truck, and when it is uncovered, adequate protection shall be provided for the existing installation. All known owners of underground facilities in the area concerned shall be advised of proposed work at least 48 hours prior to the start of actual excavation.

The information concerning underground utilities was compiled from information and sketches furnished by or obtained from utility companies and the Airport. The Airport Owner and the RPR do not guarantee their accuracy. The Contractor is advised to determine the exact locations from the available sources of information or provide his own means of detection. The only case in which the RPR will consider redesign or relocation of a proposed facility in the project is when an existing utility is located within the construction limits. In this case, the RPR will work with the Airport Owner to determine the appropriate action to resolve the conflict. If such relocation is impossible, the RPR will consider re-design or relocation of the proposed facilities. In both cases, Contractor shall be responsible for all underground utilities and shall not be separately compensated for delays or extra cost.

Note that most utility location services do not include locating FAA and Airport Owner facilities, and most will not locate services within the AOA.

3.12 PENALTIES.

Failure on the part of the Contractor to adhere to prescribed requirements may have consequences that jeopardize the health, safety or lives of customers and employees at the airport. The Airport may issue warnings on the first offense based upon the circumstances of the incident. Individuals involved in non-compliance violations may be required to surrender their Airport ID badges and/or be prohibited from working at the airport, pending an investigation of the matter.

Penalties for violations related to airport safety and security procedures will be established by the Airport.

Note: project shutdown or misdemeanor citations may be issued on a first offense. When construction operations are suspended, activity shall not resume until all deficiencies are rectified.

3.13 SPECIAL CONDITIONS.

In the event of an aircraft emergency, the Contractor's personnel and/or equipment may be required to immediately vacate the area. The Contractor will receive notification from airport operations when special conditions require the construction site to be vacated. In any event, extreme care should be exercised should construction personnel identify any ARFF (Airport Rescue and Fire-Fighting) or other emergency or rescue vehicle moving toward the Runway with emergency lights displayed. This will generally mean that an emergency situation is imminent.

Special conditions that could require suspension of the construction work include the following: aircraft in distress, aircraft accident, security breach, VIP operation, vehicle/pedestrian deviation, severe weather, or failing to abide by this Construction Safety and Phasing Plan and/or the Safety Plan Compliance Document.

3.14 RUNWAY AND TAXIWAY VISUAL AIDS.

This topic includes marking, lighting, signs, and visual NAVAIDs. Those areas where aircraft will be operating shall be clearly and visibly separated from construction areas, including closed runways. Throughout the duration of the construction project, the Contractor shall inspect and verify that these areas remain clearly marked and visible at all times and that marking, lighting, signs and visual NAVAIDs remain in place and operational.

- a. General.** Airport markings, lighting, signs, and visual NAVAIDs must be clearly visible to pilots, not misleading, confusing, or deceptive. All must be secured in place to prevent movement by prop wash, jet blast, wing vortices, or other wind currents and constructed of materials that would minimize damage to an aircraft in the event of inadvertent contact.

Marking and lighting for a temporary threshold is not required.

Closed runway markings are required. Closed runway markings shall be as shown on the Plans. Barricades, flagging, and flashers are required at the locations and times described in the subsection titled WORK AREA, STORAGE AREA AND SEQUENCE OF OPERATIONS of this Section and shall be supplied by the Contractor. Lighted Closed Runway Markers shall be provided by the Contractor.

- b. Markings.** Markings must be in compliance with the standards of AC 150/5340-1, Standards for Airport Markings, current edition, and the drawings and technical specifications of this project.

1. Closed Runways and Taxiways.

- (a) Permanently Closed Runways.** For permanently closed runways, the threshold marking, runway designation marking, and touchdown zone markings will be removed, and flat yellow closed runway markings (X's) will be placed at each end and at 1,000-foot (300 m) intervals.
- (b) Temporarily Closed Runways.** For temporarily closed runways, a lighted X will be placed at each end of the runway directly on or as near as practicable to the runway designation numbers. For a multiple runway environment, if the lighted X on a designated number will be located in the RSA of an adjacent active runway, the lighted X will be located farther down the closed runway to clear the RSA of the active runway. In addition, the closed runway numbers located in the RSA of an active runway will be marked with a flat yellow X.
- (c) Partially Closed Runways and Displaced Thresholds.** When threshold markings are needed to identify the temporary beginning of the runway that is available for landing, the markings will comply with AC 150/5340-1. An X will not be used on a partially closed runway or a runway with a displaced threshold. Because of the temporary nature of the threshold relocation or displacement due to construction, it will not be necessary to re-adjust the existing runway centerline markings to meet standard spacing for a runway with a visual approach.
 - (1) Partially Closed Runways.** Pavement markings for temporary closed portions of the runway will consist of a runway threshold bar, runway designation, and yellow chevrons to identify pavement areas that are unsuitable for takeoff or landing. Markings prior to the moved threshold will be obliterated or covered. Existing touchdown zone markings beyond the moved threshold may remain in place. Aiming point markings will be obliterated.
 - (2) Displaced Thresholds.** Pavement markings for a displaced threshold will consist of a runway threshold bar, runway designation, and white arrowheads with and without arrow shafts. These markings are required to identify the portion of the runway before the displaced threshold to provide centerline guidance for pilots during approaches, takeoffs, and landing rollouts from the opposite direction. Markings prior to the displaced threshold will be obliterated. Existing touchdown

zone markings beyond the displaced threshold may remain in place. Aiming point markings will be obliterated.

(d) Permanently Closed Taxiways. Permanently closed taxiways will be either be removed, or if pavement will remain, an X will be placed at the entrance to both ends of the closed section. Taxiway centerline markings, including runway leadoff lines, leading to the closed taxiway will be obliterated.

(e) Temporarily Closed Taxiways. Barricades will be placed outside the safety area of intersecting taxiways. For runway/taxiway intersections, an X will be placed at the entrance to the closed taxiway from the runway. Taxiway centerline markings, including runway leadoff lines and taxiway to taxiway turns, leading to the closed section, will be obliterated if the taxiway will be closed for an extended period. Runway lead-off lines for high speed exits will always be obliterated, regardless of the duration of the closure.

(f) Temporarily Closed Airport. When the airport is temporarily closed, mark all runways as closed.

c. Lighting and visual NAVAIDs. This paragraph refers to standard runway and taxiway lighting systems. When runway and taxiway lighting fixtures need to be disconnected, disconnect the associated isolation transformers. Alternately, the light fixture may be covered in such a way as to prevent light leakage. Lamp shall not be removed from energized fixtures. Amu above ground temporary wiring shall be secure, identified, and placed in conduit to prevent electrocution and fire ignition sources. At towered airports certificated under Part 139, holding position signs shall be illuminated on open taxiways crossing to closed or inactive runways. If the holding position sign is installed on the runway circuit for the closed runway, a temporary jumper shall be installed to the taxiway circuit to provide power to the holding position sign for nighttime operations.

1. Permanently Closed Runways and Taxiways. For runways and taxiways that have been permanently closed, the associated lighting circuits shall be disconnected.

2. Temporarily Closed Runways and New Runways Not Yet Open to Air Traffic. A lighted X shall be used, both at night and during the day, placed at each end of the runway on or near the runway designation numbers facing the approach. (Note: the lighted X must be illuminated at all times that it is on a runway.) For runways that have been temporarily closed, but for an extended period, and for those with pilot controlled lighting, the lighting circuits shall be disconnected or switches secured to prevent inadvertent activation. Stop bars shall be activated, if available.

3. Partially Closed Runways and Displaced Thresholds. When a runway is partially closed, a portion of the pavement is unavailable for any aircraft operation, meaning taxiing and landing or taking off in either direction. A displaced threshold, by contrast, is put in place to ensure obstacle clearance by landing aircraft. The pavement prior to the displaced threshold is available for takeoff in the direction of the displacement, and for landing and takeoff in the opposite direction. Misunderstanding this difference and issuance of a

subsequently inaccurate NOTAM can result in a hazardous situation. For both partially closed runways and displaced thresholds, approach lighting systems at the affected end must be placed out of service.

- (a) **Partially Closed Runways.** Runway edge and threshold lights shall be disconnected on that part of the runway at and behind the threshold (that is, the portion of the runway that is closed).
- (b) **Temporary Displaced Thresholds.** Edge lighting in the area of the displacement shall emit red light in the direction of approach and yellow light (white for visual runways) in the opposite direction. If the displacement is 700 feet or less, centerline lights shall be blanked out in the direction of approach or the centerline lights shall be placed out of service. If the displacement is over 700 feet, the centerline lights shall be placed out of service.
- (c) Temporary runway thresholds and runway ends must be lighted if the runway is lighted and it is the intended threshold for night landings or instrument meteorological conditions.
- (d) A temporary threshold on an unlighted runway will be marked by retroreflective, elevated markers. Markers seen by aircraft on approach are green. Markers at the rollout end of the runway are red. At certificated airports, temporary elevated threshold markers must be mounted with a frangible fitting (see 14 CFR Part 139.309). At non-certificated airports, the temporary elevated threshold markings may either be mounted with a frangible fitting or be flexible.
- (e) Temporary threshold lights and runway end lights and related visual NAVAIDs will be installed outboard of the edges of the full-strength pavement only when they cannot be installed on the pavement. They are installed with bases at grade level or as low as possible, but not more than 3 inch (7.6 cm) above ground. (The standard above ground height for airport lighting fixtures is 14 inches (35 cm)). When any portion of a base is above grade, place properly compacted fill around the base to minimize the rate of gradient change so aircraft can, in an emergency, cross at normal landing or takeoff speeds without incurring significant damage.
- (f) Maintain threshold and edge lighting color and spacing standards as described in AC 150/5340-30. Battery powered, solar, or portable lights that meet the criteria in AC 150/5345-50 may be used. These systems are for visual flight rules (VFR) aircraft operations.
- (g) When runway thresholds are temporarily displaced, yellow lenses (caution zone) on runway edge lights shall be reconfigured, as necessary.
- (h) Visual Glide Slope Indicator (VGSI), such as Visual Approach Slope Indicator (VASI) and Precision Approach Path Indicator (PAPI); other airport lights, such as Runway End Identifier Lights (REIL); and approach lights will be relocated to identify the temporary threshold. The VGSI or any equipment that would give misleading indications to pilots

as to the new threshold location may be disabled. Installation of temporary visual aids may be necessary to provide adequate guidance to pilots on approach to the affected runway.

- 4. Temporarily Closed Taxiways.** If possible, the taxiway lighting circuits will be deactivated. When deactivation is not possible (for example other taxiways on the same circuit are to remain open), the closed portion shall be temporarily disconnected, and a temporary jumper will be installed to keep the remaining circuit active. An alternative is to cover the light fixtures in the closed area in a way as to prevent light leakage.
- d. Signs.** Signs must be in conformance with AC 150/5345-44, Specification for Runway and Taxiway Signs and AC 150/5340-18, Standard for Airport Sign Systems, current edition.
- 1. Existing Signs.** Runway exit signs are to be covered for closed runway exits. Outbound destination signs are to be covered for closed runways. Any time a sign does not serve its normal function or would provide conflicting information, it must be covered or removed to prevent misdirecting pilots. Note that information signs identifying a crossing taxiway continue to perform their normal function even if the crossing taxiway is closed. For long term construction projects, consider relocating signs, especially runway distance remaining signs.
 - 2. Temporary Signs.** Orange construction signs comprise a message in black on an orange background. Orange construction signs may help pilots be aware of changed conditions. The airport operator may choose to introduce these signs as part of a movement area construction project to increase situational awareness when needed. Locate signs outside the taxiway safety limits and ahead of construction areas so pilots can take timely action. Use temporary signs judiciously, striking a balance between the need for information and the increase in pilot workload. When there is a concern of pilot "information overload," the applicability of mandatory hold signs must take precedence over orange construction signs recommended during construction. Temporary signs must meet the standards for such signs in Engineering Brief 93, Guidance for the Assembly and Installation of Temporary Orange Construction Signs. Many criteria in AC 150/5345-44, Specification for Runway and Taxiway Signs, are referenced in the Engineering Brief. Permissible sign legends are:
 1. CONSTRUCTION AHEAD,
 2. CONSTRUCTION ON RAMP, and
 3. RWY XX TAKEOFF RUN AVAILABLE XXX FT.

Phasing, supported by drawings and sign schedule, for the installation of orange construction signs must be included in the CSPP or SPCD.
 - 3. Takeoff Run Available (TORA) signs (Recommended):** Where a runway has been shortened for takeoff, install orange TORA signs well before the hold lines, such as on a parallel taxiway prior to a turn to a runway hold position.
- e. Testing of Airport Lighting Circuits.** See technical specification Item L-108, Underground Power Cable for Airports for testing requirements.

3.15 MARKING AND SIGNS FOR ACCESS ROUTES.

Location of haul routes on the airport site shall be as specified in the project drawing set and as provided graphically in the attached exhibits, reference Appendix 1. It shall be the Contractor's responsibility to coordinate off-site haul routes with the appropriate owner who has jurisdiction over the affected route. The haul routes, to the extent possible, shall be marked and signed in accordance with FAA airfield signage requirements, the Federal Highway Administration Manual on Uniform Traffic Control Devices (MUTCD) and/or state highway specifications, as applicable.

3.16 HAZARD MARKING, LIGHTING AND SIGNING.

a. **Purpose.** Hazard marking, lighting, and signing prevent pilots from entering areas closed to aircraft and prevent construction personnel from entering areas open to aircraft. The CSPP specifies prominent, comprehensible warning indicators for any area affected by construction that is normally accessible to aircraft, personnel, or vehicles. Hazard marking and lighting is also be specified to identify open manholes, small areas under repair, stockpiled material, waste areas, and areas subject to jet blast. Also included are markings to identify FAA, airport, and National Weather Service facilities cables and power lines; instrument landing system (ILS) critical areas; airport surfaces, such as RSA, OFA, and OFZ; and other sensitive areas to make it easier for contractor personnel to avoid these areas.

b. **Equipment.**

1. **Barricades.** Low profile barricades, including traffic cones, (weighted or sturdily attached to the surface) are acceptable methods used to identify and define the limits of construction and hazardous areas on airports. Careful consideration must be given to selecting equipment that poses the least danger to aircraft but is sturdy enough to remain in place when subjected to typical winds, prop wash and jet blast. The spacing of barricades must be such that a breach is physically prevented barring a deliberate act. Gaps between barricades must be smaller than the width of the excluded vehicles, generally 4 feet (1.2 meters). Provision must be made for ARFF access if necessary. Barricades intended to exclude pedestrians must be continuously linked.
2. **Lights.** Lights must be red, either steady burning or flashing, and must meet the luminance requirements of the State Highway Department. Batteries powering lights will last longer if lights flash. Lights must be mounted on barricades and spaced at no more than 10 feet (3 meters). Lights must be operated between sunset and sunrise and during periods of low visibility whenever the airport is open for operations. They may be operated by photocell, but this may require that the contractor turn them on manually during periods of low visibility during daytime hours.
3. **Supplement Barricades with Signs (for example) As Necessary.** Examples are "No Entry" and "No Vehicles."

4. **Air Operations Area – General.** Barricades are not permitted in any active safety area or on the runway side of a runway hold line. Within a runway or taxiway object free area, and on aprons, use flashing or steady burning red lights as noted above, highly reflective collapsible barricades marked with diagonal, alternating orange and white stripes; and/or signs to separate all construction/maintenance areas from the movement area. Barricades may be supplemented with alternating orange and white flags at least 20 by 20 inch (50 by 50 cm) square and securely fastened to eliminate FOD. All barricades adjacent to any open runway or taxiway/taxilane safety area, or apron must be no more than 18 inches high, exclusive of supplementary lights and flags. Barricades must be of low mass; easily collapsible upon contact with an aircraft or any of its components; and weighted or sturdily attached to the surface to prevent displacement from prop wash, jet blast, wing vortex, and other surface wind currents. If affixed to the surface, they must be frangible at grade level or as low as possible, but not to exceed 3 inch (7.6 cm) above the ground.
5. **Air Operations Area – Runway/Taxiway Intersections.** Use highly reflective barricades with lights to close taxiways leading to closed runways. Close all taxiway/runway intersections with barricades. The use of traffic cones is appropriate for short duration closures.
6. **Air Operations Area – Other.** Beyond runway and taxiway object free areas and aprons, barricades intended for construction vehicles and personnel may be many different shapes and made from various materials, including railroad ties, sawhorses, jersey barriers, or barrels.
7. **Maintenance.** The contractor is required to maintain the hazard markings, lighting and signing and to have a person on call 24 hours a day for emergency maintenance of airport hazard lighting and barricades. The contractor must file the contact person's information with the airport operator. Lighting should be checked for proper operation at least once per day, preferably at dusk.

3.17 WORK ZONE LIGHTING FOR NIGHTTIME CONSTRUCTION.

Lighting equipment must adequately illuminate the work area if the construction is to be performed during nighttime hours. All support equipment, except haul trucks, should be equipped with artificial illumination to safely illuminate the area immediately surrounding their work areas. The lights should be positioned to provide the most natural color illumination and contrast with a minimum of shadows. The spacing must be determined by trial. Light towers should be positioned and adjusted to aim away from ATCT cabs and active runways to prevent blinding effects. Shielding may be necessary. Light towers should be removed from the construction site when the area is reopened to aircraft operations. Construction lighting units should be identified and generally located on the construction phasing plans in relationship to the ATCT and active runways and taxiways. The Owner and the ATCT shall approve the location of and aiming of lighting equipment before it is used.

3.18 PROTECTION OF AIRFIELD AREAS.

Safety area encroachments, improper ground vehicle operations and unmarked or uncovered holes and trenches in the vicinity of aircraft operation surfaces and construction areas are the three most recurring threats to safety during construction. Protection of runway and taxiway safety areas, object free areas, obstacle free zones, and approach/departure surfaces shall be a standing requirement for the duration of construction operations.

- a. Runway Safety Area (RSA).** A runway safety area is the defined surface surrounding the runway prepared or suitable for reducing the risk of damage to airplanes in the event of an undershoot, overshoot, or excursion from the runway by aircraft.

Runway	Aircraft Design Group	RSA Distance from Centerline		RSA Width	RSA Length from End of Runway
		RSA	Holdline		
6-24	B-II	75 ft.	125 ft.	150 ft.	300 ft.
12-30	B-I	60 ft.	200 ft.	120 ft.	240 ft.

No construction may occur within the existing RSA while the runway is open. Any construction between RSA and Holdline must be approved with Airport Operations prior to starting work.

The Airport Owner must coordinate any adjustment of RSA dimensions, to meet the above requirement, with the appropriate FAA Airports Regional or District Office and the local FAA air traffic manager and issue a NOTAM.

Open trenches or excavations are not permitted within the RSA while the runway is open. The Contractor must backfill trenches before the runway is opened. Coverings are not allowed in runway safety areas. There shall be no stockpiled materials or equipment stored within the limits of the RSA.

After the Runway has been closed, Contractors must prominently mark open trenches and excavations at the construction site with red or orange flags, as approved by the Airport Owner, and light them with red lights during hours of restricted visibility or darkness.

Soil erosion must be controlled to maintain RSA standards, that is, the RSA must be cleared and graded and have no potentially hazardous ruts, humps, depressions, or other surface variations, and capable, under dry conditions, of supporting snow removal equipment, aircraft rescue and firefighting equipment, and the occasional passage of aircraft without causing structural damage to the aircraft.

- b. Runway Object Free Area (ROFA).** Construction, including excavations, may be permitted in the ROFA. However, equipment must be removed from the ROFA when not in use, and material should not be stockpiled in the ROFA if not necessary. Stockpiling material in the OFA requires submittal of a 7460-1 form and justification provided to the appropriate FAA Airports Regional or District Office for approval.

Runway	Aircraft Design Group	ROFA Distance from Centerline	ROFA Width	ROFA Length from End of Runway
6-24	B-II	250 ft.	500 ft.	300 ft.

12-30	B-I	200 ft.	400 ft.	240 ft.
-------	-----	---------	---------	---------

- c. **Taxiway Safety Area (TSA).** The taxiway safety area is a defined surface alongside the taxiway prepared or suitable for reducing the risk of damage to an airplane unintentionally departing the taxiway. No construction may occur within the TSA while the taxiway is open for aircraft operations.

Taxiway	Aircraft Design Group	TSA Distance from Centerline	TSA Width
All	B-II	39.5 ft.	75 ft.

Open trenches or excavations are not permitted within the TSA while the taxiway is open. The Contractor must backfill trenches before the taxiway is opened. If backfilling excavations before the taxiway must be opened is impracticable, cover the excavations appropriately. Covering for open trenches must be designed to allow the safe operation of the heaviest aircraft operating on the taxiway across the trench without damage to the aircraft.

The Airport Owner must coordinate any adjustment of TSA dimensions, to meet the above requirement, with the appropriate FAA Airports Regional or District Office and the local FAA air traffic manager and issue a NOTAM.

After the Taxiway has been closed, Contractors must prominently mark open trenches and excavations at the construction site with red or orange flags, as approved by the Airport Owner, and light them with red lights during hours of restricted visibility or darkness.

Soil erosion must be controlled to maintain TSA standards, that is, the TSA must be cleared and graded and have no potentially hazardous ruts, humps, depressions, or other surface variations, and capable, under dry conditions, of supporting snow removal equipment, aircraft rescue and firefighting equipment, and the occasional passage of aircraft without causing structural damage to the aircraft.

- d. **Taxiway Object Free Area (TOFA).** Unlike the Runway Object Free Area, aircraft wings regularly penetrate the taxiway/taxilane object free area during normal operations. Thus the restrictions are more stringent. No construction equipment may be parked within the TOFA while the taxiway/taxilane is open for aircraft operations.

Construction activity may be accomplished without adjusting the width of the taxiway object free area, subject to the following restrictions:

1. Taxiing speed is limited to 10 mph.
2. Appropriate NOTAMs are issued.
3. Marking and lighting meeting the provisions above are implemented.
4. Five-foot clearance is maintained between equipment and materials and any part of an aircraft (includes wingtip overhang). If such clearance can only be maintained if an aircraft

does not have full use of the entire taxiway width (with its main landing gear at the edge of the pavement), then it will be necessary to move personnel and equipment for the passage of that aircraft.

5. Flaggers furnished by the contractor must be used to direct and control construction equipment and personnel to a pre-established setback distance for safe passage of aircraft, and airline and/or airport personnel.

Taxiway	Aircraft Design Group	TOFA Distance from Centerline	TOFA Width
All	B-II	62 ft.	124 ft.

- e. **Obstacle Free Zone (OFZ).** Construction personnel, material, and/or equipment may not penetrate the OFZ while the runway is open for aircraft operations. The OFZ is a defined volume of airspace centered about and above the runway centerline. Aircraft use will be limited to small aircraft with approach speeds of less than 50 knots to reduce the OFZ width to 120 feet during construction.
- f. **Runway approach/departure surfaces.** All personnel, materials, and/or equipment must remain clear of the applicable threshold siting surfaces. Objects that do not penetrate these surfaces may still be obstructions to air navigation and may affect standard instrument approach procedures. Coordinate with the FAA through the appropriate FAA Airports Regional or District Office.

Construction activity in a runway approach/departure area may result in the need to partially close a runway or displace the existing runway threshold. Partial runway closure, displacement of the runway threshold, as well as closure of the complete runway and other portions of the movement area also require coordination through the Airport Owner with the appropriate FAA air traffic manager (FSS if non-towered) and ATO/Technical Operations (for affected NAVAIDS) and airport users.

Runway End	Aircraft Approach Category	Airplane Design Group	Minimum Safety Area Behind Threshold	Minimum Unobstructed Approach Slope
6-24	B	II	300 ft.	20:1 to 200 feet behind threshold
12-30	B	I	240 ft.	20:1 to threshold

3.19 OTHER LIMITATIONS ON CONSTRUCTION.

- a. **Prohibitions.** The following prohibitions are in effect for the duration of this project:

1. No use of tall equipment (cranes, concrete pumps, and so on) unless a 7460-1 determination letter is issued for such equipment.
2. No use of open flame welding or torches unless fire safety precautions are provided and the Airport Owner has approved their use.
3. No use of electrical blasting caps or explosives of any kind on or within 1,000 ft (300 m) of the airport property.

b. Restrictions.

1. Construction suspension required during specific airport operations: Not Applicable
2. Areas that cannot be worked on simultaneously: See Appendix 1 for work area requirements.
3. Day or night construction restrictions: Not Applicable
4. Seasonal Construction Restrictions: Not Applicable
5. Temporary signs not approved by the airport operator
6. Grade changes that could result in unplanned effects on NAVAIDs.

APPENDIX 1

LOCATION MAP

(Sheet GI001 of the Contract Drawings)

GENERAL PLAN

(Sheet GI100 of the Contract Drawings)

CONSTRUCTION SAFETY AND PHASING PLANS

(Sheets GC101-GC104 of the Contract Drawings)

CONSTRUCTION SAFETY AND PHASING DETAILS

(Sheet GC501 of the Contract Drawings)



RECONSTRUCT RUNWAY LIGHTING 6-24 AND RECONSTRUCT RUNWAY SIGNAGE 6-24

ANN ARBOR MUNICIPAL AIRPORT

CITY OF ANN ARBOR
ANN ARBOR, MICHIGAN

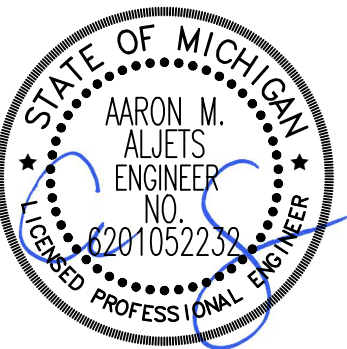
FAA FEDERAL PROJECT NO. LIGHTING:3-26-0005-XXX27 (IIJA)
B-26-0005-2826 (AIP)

FAA FEDERAL PROJECT NO. SIGNAGE: B-26-0005-292X

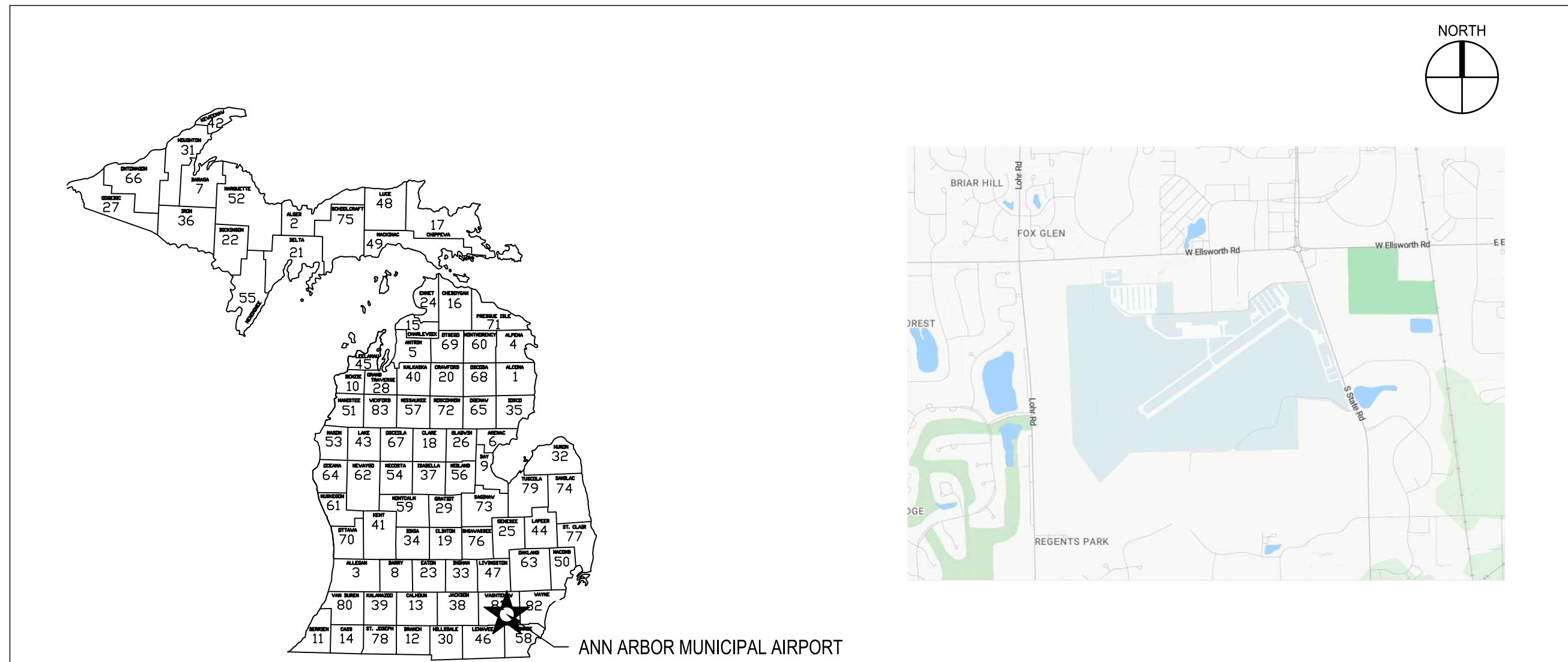
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MDOT PROJECT SIGNAGE: 226567

C&S PROJECT: N75.007.001

AUGUST 2026
BID DOCUMENTS



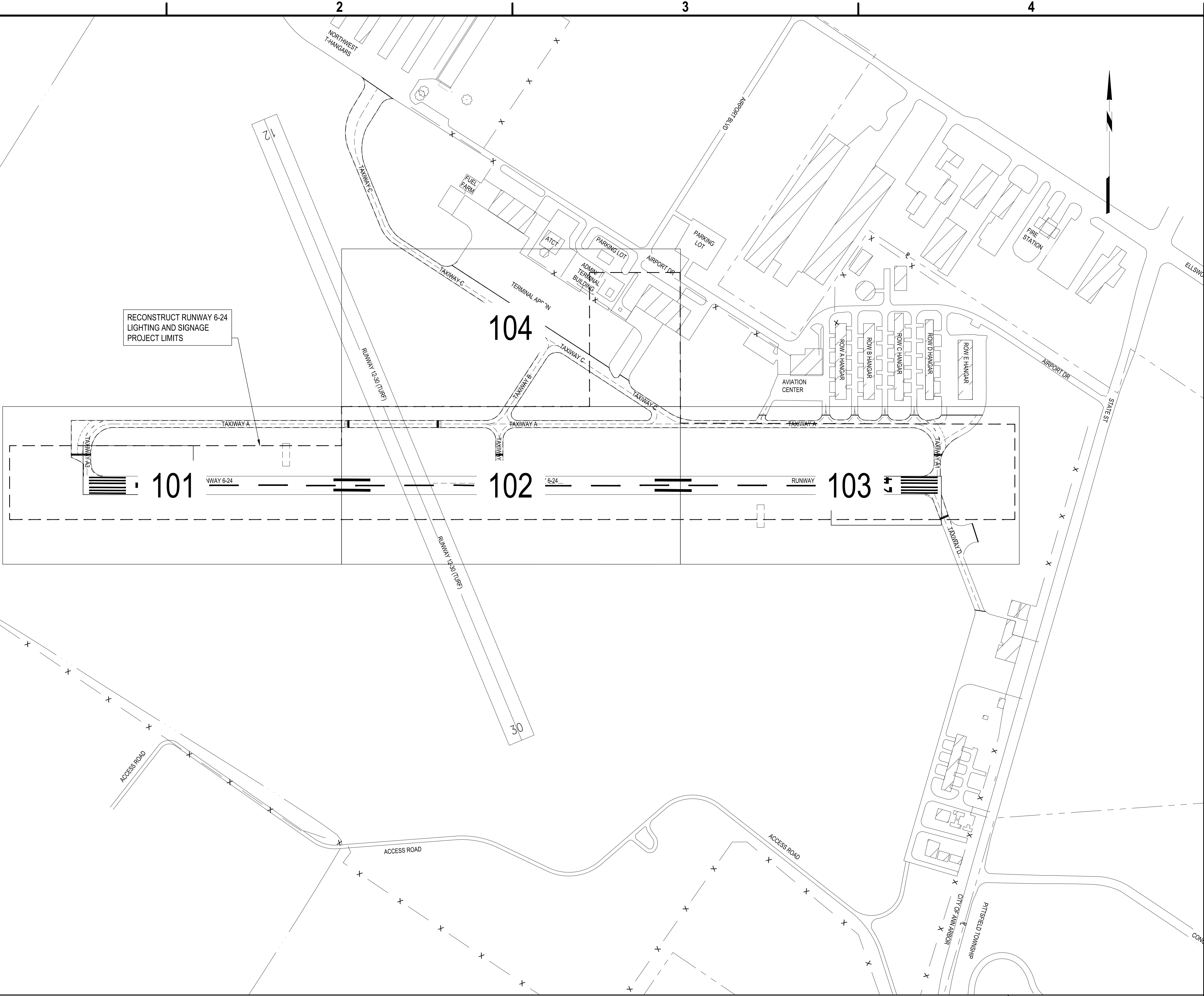
GI001



LOCATION MAP

Aug 25, 2025 - 2:09pm
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A1 GENERAL PLAN
SCALE: 1" = 200'



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**RECONSTRUCT RUNWAY
LIGHTING 6-24 AND RECONSTRUCT
RUNWAY SIGNAGE 6-24
ANN ARBOR MUNICIPAL AIRPORT
CITY OF ANN ARBOR**

MARK	DATE	DESCRIPTION
REVISIONS		
PROJECT NO: N75.007.001		
DATE: AUGUST 2026		
DRAWN BY: E.A. JANKOWSKI		
DESIGNED BY: E.A. JANKOWSKI		
CHECKED BY: S.L. MAKHLOUF		
CONTRACTOR SHALL VERIFY ALL CONDITIONS ON JOB SITE & NOTIFY THE OWNER OF ANY VARIATIONS FROM DIMENSIONS SHOWN ON THESE DRAWINGS BEFORE PROCEEDING WITH ANY CONSTRUCTION.		

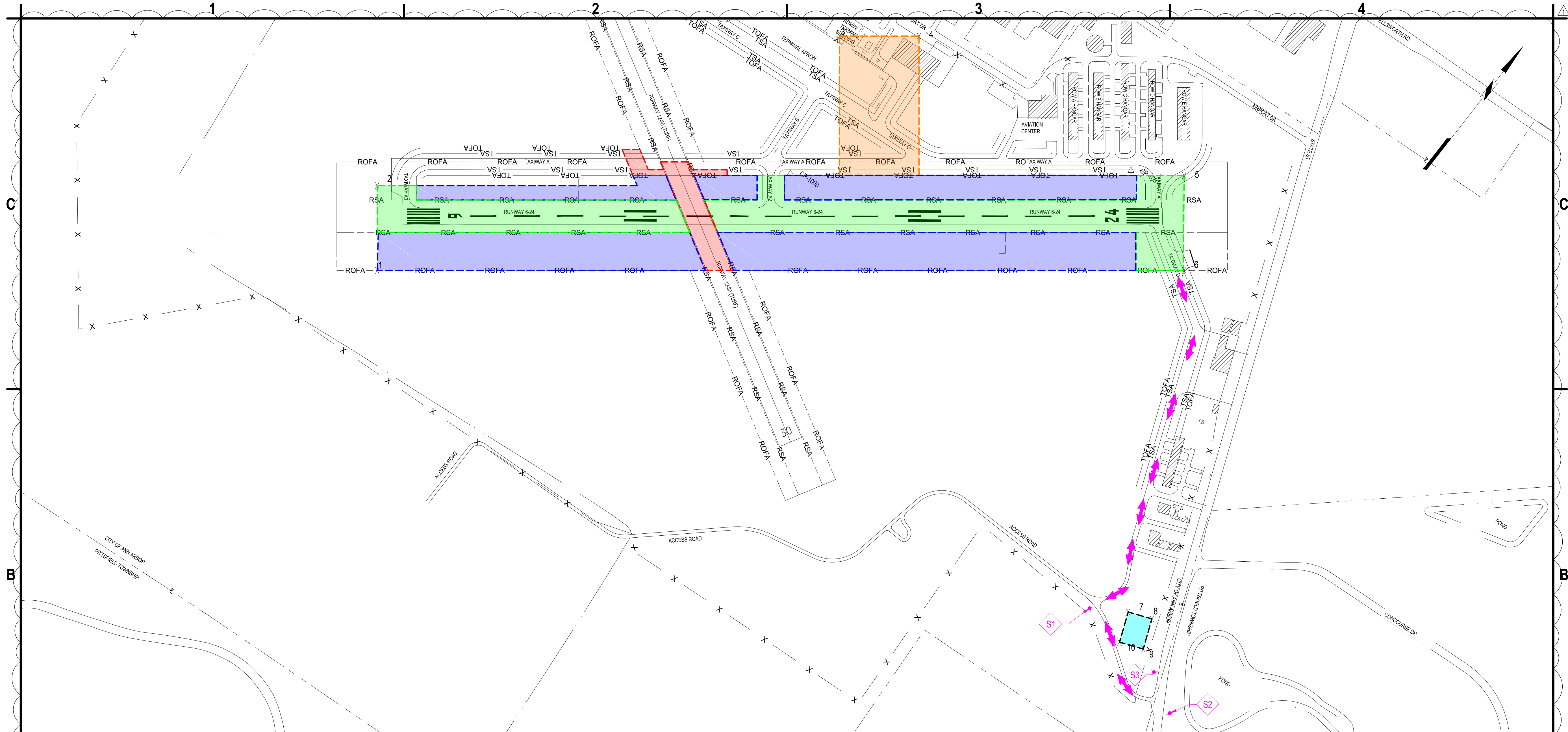
GENERAL PLAN

GI100

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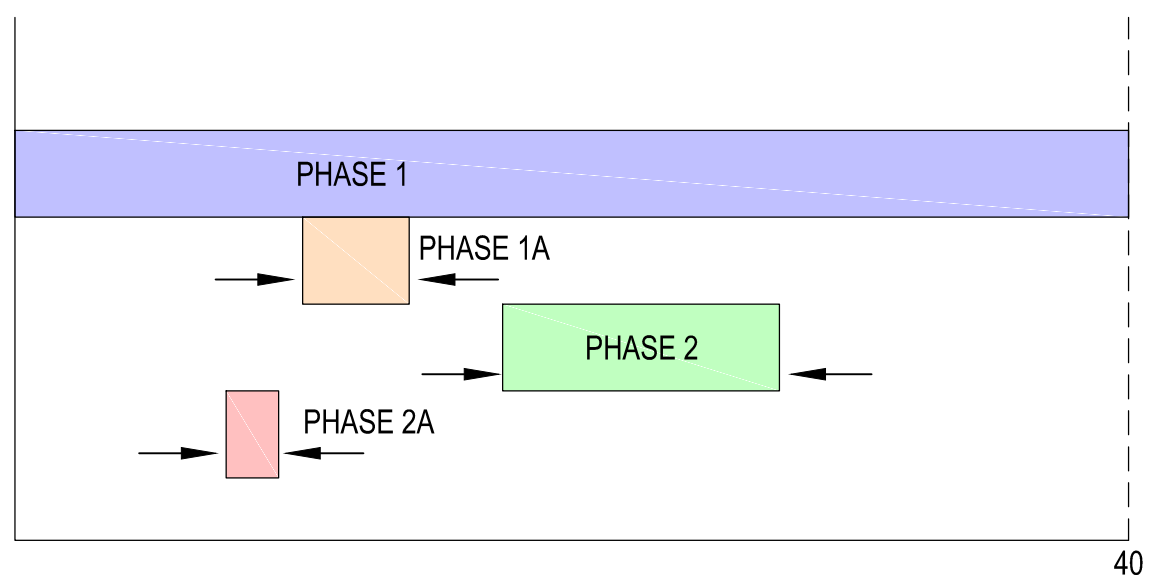


B1 OVERALL CONSTRUCTION SAFETY AND PHASING PLAN
SCALE: 1" = 250'

- LEGEND**
- PHASE 1
 - PHASE 1A
 - PHASE 2
 - PHASE 2A
 - CONTRACTOR'S STAGING AREA
 - TEMPORARY CONSTRUCTION SIGN, ITEM CX-106. SEE DETAIL C3/GC501
 - CONTRACTOR'S ACCESS ROUTE

NOTES:

- PRIOR TO CONSTRUCTION, CONTRACTOR SHALL, IN THE PRESENCE OF THE RPR, VIDEOTAPE/PHOTOGRAPH ALL HAUL ROADS TO BE USED DURING THE PROJECT. THE INFORMATION SHALL BE PROVIDED TO THE OWNER PRIOR TO NTP. ANY DAMAGE TO THE PAVEMENT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR, AS DIRECTED BY THE RPR. ALL COSTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- THE CONTRACTOR SHALL HAVE AT LEAST ONE FULLY OPERATIONAL VACUUM SWEEPER TRUCK AVAILABLE AT ALL TIMES TO CLEAN PAVEMENTS, INCLUDING THE HAUL ROUTE AND PAVEMENT ADJACENT TO THE WORK AREAS. ALL PAVEMENT IS TO BE CLEANED AND FREE OF DIRT AND DEBRIS PRIOR TO OPENING TO AIRCRAFT TRAFFIC.
- CONTRACTOR SHALL HAVE A FULL TIME PROJECT SUPERINTENDENT FOR THE PROJECT. THE PROJECT SUPERINTENDENT SHALL BE REQUIRED TO BE ONSITE AT ALL TIMES WHERE WORK IS UNDERWAY (INCLUDING SUBCONTRACTOR WORK). AN ALTERNATE BACK-UP PROJECT SUPERINTENDENT SHALL BE IDENTIFIED FOR PERIODS WHERE THE PRIMARY SUPERINTENDENT IS NOT AVAILABLE.
- CONTRACTOR SHALL NOT STOCKPILE MATERIAL OR LEAVE EQUIPMENT WITHIN THE RUNWAY OBJECT FREE AREA (ROFA) OVERNIGHT OR DURING NON-WORKING HOURS.
- CONTRACTOR SHALL DELINEATE THE RUNWAY SAFETY AREA (RSA) ALONG THE WORK AREA USING LOW-PROFILE BARRICADES SPACED 8FT APART, OR AS DIRECTED BY THE RPR.
- ANY WORK WITHIN THE RUNWAY SAFETY AREA, INCLUDING MAINTENANCE OF TRAFFIC ITEMS SHALL BE COORDINATED WITH THE AIRPORT, ATCT, AND RPR A MINIMUM OF 7 DAYS IN ADVANCE OF THE WORK COMMENCING.
- CONTRACTOR TO PROVIDE OWN LOCK FOR GATE ACCESS



CALENDAR DAYS:

PHASE 1: 40 CALENDAR DAYS
PHASE 1A: 2 CALENDAR DAYS
PHASE 2: 7 CALENDAR DAYS
PHASE 2A: 1 CALENDAR DAYS

THE TOTAL CONTRACT TIME FOR THE RECONSTRUCT RUNWAY 6-24 LIGHTING PROJECT IS 40 CALENDAR DAYS. THE CONSTRUCTION START DATE IS ANTICIPATED TO BE FALL 2027. THE CONTRACTOR SHALL TAKE THIS INTO CONSIDERATION WHEN PREPARING UNIT PRICES FOR BID.

PHASE 1A, 2, AND 2A SHALL BE CONCURRENT WITH PHASE 1. CONTRACTOR SHALL COORDINATE CLOSURE OF PHASE 1A, 2 AND 2A WORK AREAS WITH THE AIRPORT, ATCT, AND RPR A MINIMUM OF 7 DAYS PRIOR TO THE BEGINNING OF WORK.

POINT TABLE				
POINT NO.	LONGITUDE	LATITUDE	ELEV.	DESCRIPTION
1	W83° 44' 59.69"	N42° 13' 10.22"	831.20	WORK AREA
2	W83° 45' 02.70"	N42° 13' 13.36"	831.00	WORK AREA
3	W83° 44' 44.96"	N42° 13' 31.11"	833.00	WORK AREA
5	W83° 44' 22.81"	N42° 13' 35.05"	824.00	WORK AREA
6	W83° 44' 19.44"	N42° 13' 31.53"	831.20	WORK AREA
7	W83° 44' 10.08"	N42° 13' 17.39"	825.00	STAGING AREA
8	W83° 44' 08.66"	N42° 13' 17.76"	825.00	STAGING AREA
9	W83° 44' 08.02"	N42° 13' 16.41"	826.00	STAGING AREA
10	W83° 44' 09.45"	N42° 13' 16.04"	824.00	STAGING AREA

A1 LEGEND
SCALE: NOT TO SCALE

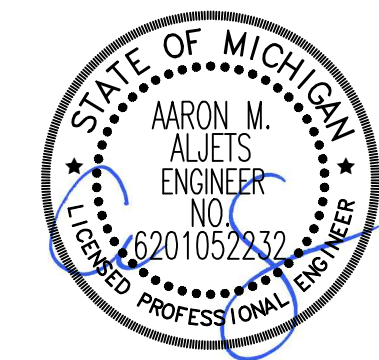
A2 SHEET NOTES
SCALE: NOT TO SCALE

A3 PROJECT SCHEDULE
SCALE: NOT TO SCALE

A4 POINT TABLE
SCALE: NOT TO SCALE



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**RECONSTRUCT RUNWAY
LIGHTING 6-24 AND RECONSTRUCT
RUNWAY SIGNAGE 6-24
ANN ARBOR MUNICIPAL AIRPORT
CITY OF ANN ARBOR**

MARK	DATE	ADDENDUM NO. 1	DESCRIPTION
REVISIONS			
PROJECT NO: N75.007.001			
DATE: AUGUST 2026			
DRAWN BY: E.J. SLEDZ			
DESIGNED BY: E.J. SLEDZ			
CHECKED BY: S.L. MAKHLOUF			
CONTRACTOR SHALL VERIFY ALL CONDITIONS ON JOB SITE & NOTIFY THE OWNER OF ANY VARIATIONS FROM DIMENSIONS SHOWN ON THESE DRAWINGS BEFORE PROCEEDING WITH ANY CONSTRUCTION.			

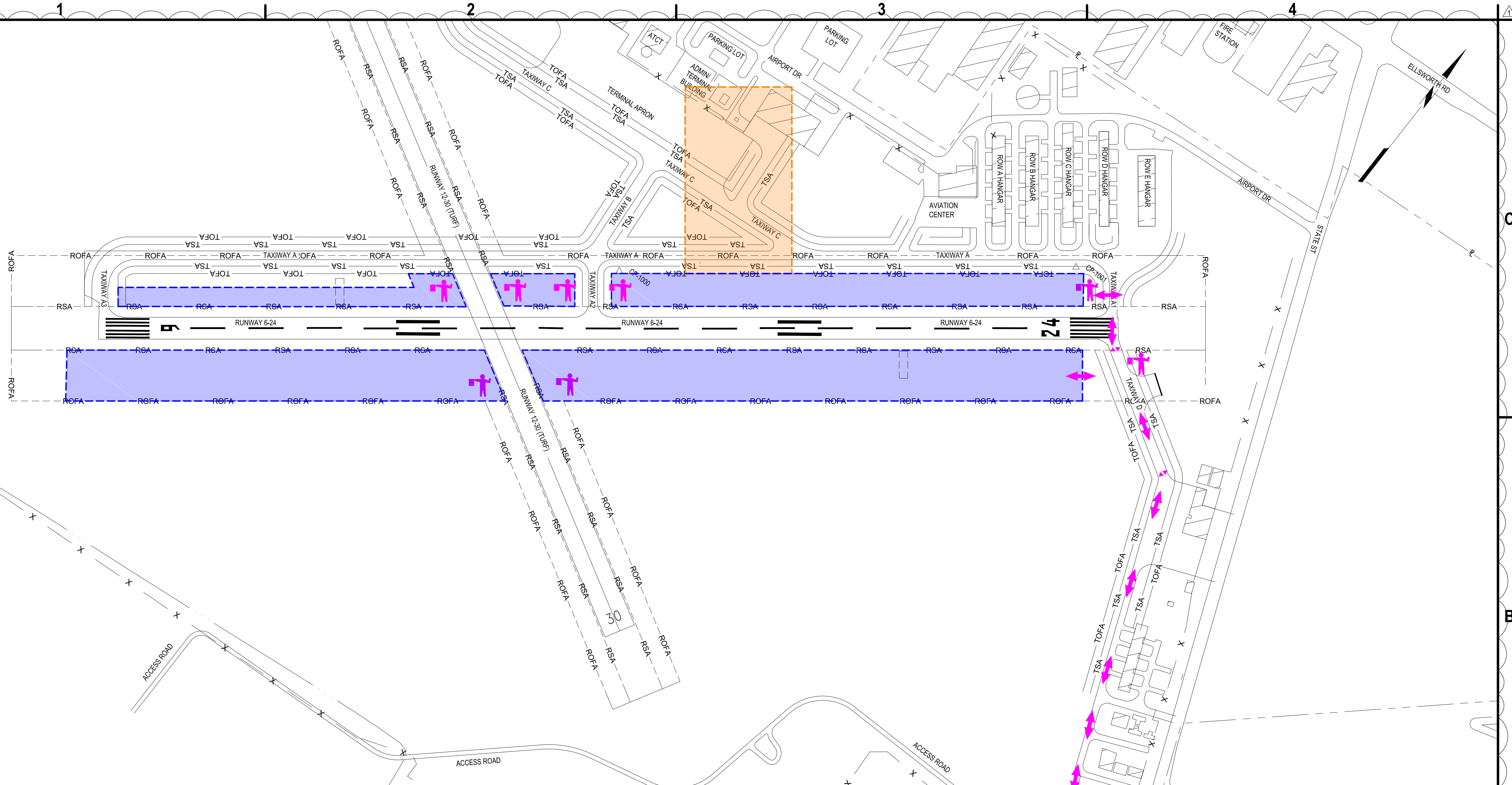
**OVERALL
CONSTRUCTION
SAFETY AND
PHASING PLAN**

GC101

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B1 CONSTRUCTION SAFETY PHASING PLAN - PHASE 1

SCALE: 1" = 200'



- PHASE 1
- PHASE 1A
- CONTRACTOR PROVIDED FLAGGER WITH RADIO
TO MONITOR CROSSING AT RUNWAY 6-24
- CONTRACTOR'S ACCESS ROUTE
- LOW PROFILE BARRICADES, ITEM CX-106.
SEE DETAIL A4/GC501

PHASE 1 - 40 CALENDAR DAYS

CONSTRUCTION:

- ELECTRICAL DEMOLITION AND INSTALLATION OUTSIDE OF RUNWAY 6-24 AND RUNWAY 12-30 RUNWAY SAFETY AREA (RSA).
- ELECTRICAL DEMOLITION AND INSTALLATION OUTSIDE OF TAXIWAY A OBJECT FREE AREA (TOFA).

PHASE 1A - 2 CALENDAR DAYS

CONSTRUCTION:

- RUNWAY 6-24 HOMERUN TO THE ELECTRICAL VAULT.
- WORK SHALL BE CONCURRENT WITH PHASE 1.

PHASE 1 OPERATIONAL CLOSURES AND RESTRICTIONS TABLE

LOCATION	STATUS
RUNWAY 6/24	OPEN
RUNWAY 12/30	OPEN
TAXIWAY A	OPEN
TAXIWAY A1	OPEN
TAXIWAY A2	OPEN
TAXIWAY A3	OPEN
TAXIWAY B	OPEN
TAXIWAY C	OPEN
TAXIWAY D	CLOSED
TERMINAL APRON	OPEN

NOTES:

- ONE OF TAXIWAY A1 OR TAXIWAY A2 SHALL REMAIN OPEN FOR THE DURATION OF THIS PHASE TO ALLOW AIRCRAFT ACCESS TO RUNWAY 6-24

GENERAL PHASING NOTES:

- REFER TO ATTACHMENT A - CSPP OF THE GENERAL PROVISIONS FOR SPECIFIC OPERATING REQUIREMENTS DURING WORK ON THE AIRFIELD.
- THE CONTRACTOR WILL BE GIVEN THE SPECIFIC NUMBER OF CALENDAR DAYS TO COMPLETE THE WORK AS SHOWN. LIQUIDATED DAMAGES SHALL BE ASSESSED AFTER THE CONTRACT TIME HAS EXPIRED UNLESS THE CONTRACTOR CAN SHOW JUST CAUSE FOR DELAYS. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE JUSTIFICATION FOR WAIVING ANY LIQUIDATED DAMAGES CHARGED.
- PRIOR TO CONSTRUCTION, CONTRACTOR AND ENGINEER SHALL VIDEOTAPE/PHOTOGRAPH ALL HAUL ROADS TO BE USED DURING THE PROJECT. THE INFORMATION SHALL BE PROVIDED TO THE OWNER PRIOR TO NOTICE TO PROCEED. ANY DAMAGE TO THE PAVEMENT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR, PER THE RPR. ALL COSTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- CONTRACTOR SHALL COORDINATE SCHEDULE, RAMP CLOSURES, AND NOTAMS WITH THE RPR AND AIRPORT PRIOR TO STARTING WORK.
- CONTRACTOR SHALL DELINEATE THE RUNWAY SAFETY AREA (RSA) ALONG THE WORK AREA USING LOW-PROFILE BARRICADES SPACED 8FT APART, OR AS DIRECTED BY THE RPR.
- THE CONTRACTOR SHALL HAVE AT LEAST ONE FULLY OPERATIONAL VACUUM SWEEPER TRUCK AVAILABLE AT ALL TIMES TO CLEAN PAVEMENTS, INCLUDING THE HAUL ROUTE AND PAVEMENT ADJACENT TO THE WORK AREAS. ALL PAVEMENT IS TO BE CLEANED AND FREE OF DIRT AND DEBRIS PRIOR TO OPENING TO AIRCRAFT TRAFFIC.
- ANN ARBOR MUNICIPAL AIRPORT IS A TOWERED AIRPORT. PRIOR TO CONSTRUCTION, CONTRACTOR MUST MEET WITH THE FAA AIR TRAFFIC CONTROL TOWER (ATCT) FOR RADIO TRAINING FOR FLAGGING.
- CONTRACTOR SHALL NOT CLOSE MORE THAN ONE TAXIWAY AT A TIME.

A1 LEGEND

SCALE: NOT TO SCALE

A2 SHEET NOTES

SCALE: NOT TO SCALE

A3 AIRFIELD OPERATIONAL REQUIREMENTS

SCALE: NOT TO SCALE

A4 GENERAL PHASING NOTES

SCALE: NOT TO SCALE



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RECONSTRUCT RUNWAY LIGHTING 6-24 AND RECONSTRUCT RUNWAY SIGNAGE 6-24 ANN ARBOR MUNICIPAL AIRPORT CITY OF ANN ARBOR

	09/08/26	ADDENDUM NO. 1
MARK	DATE	DESCRIPTION
REVISIONS		
PROJECT NO: N75.007.001		
DATE: AUGUST 2026		
DRAWN BY: E.J. SLEDZ		
DESIGNED BY: E.J. SLEDZ		
CHECKED BY: S.L. MAKHLOUF		
CONTRACTOR SHALL VERIFY ALL CONDITIONS ON JOB SITE & NOTIFY THE OWNER OF ANY VARIATIONS FROM DIMENSIONS SHOWN ON THESE DRAWINGS BEFORE PROCEEDING WITH ANY CONSTRUCTION.		

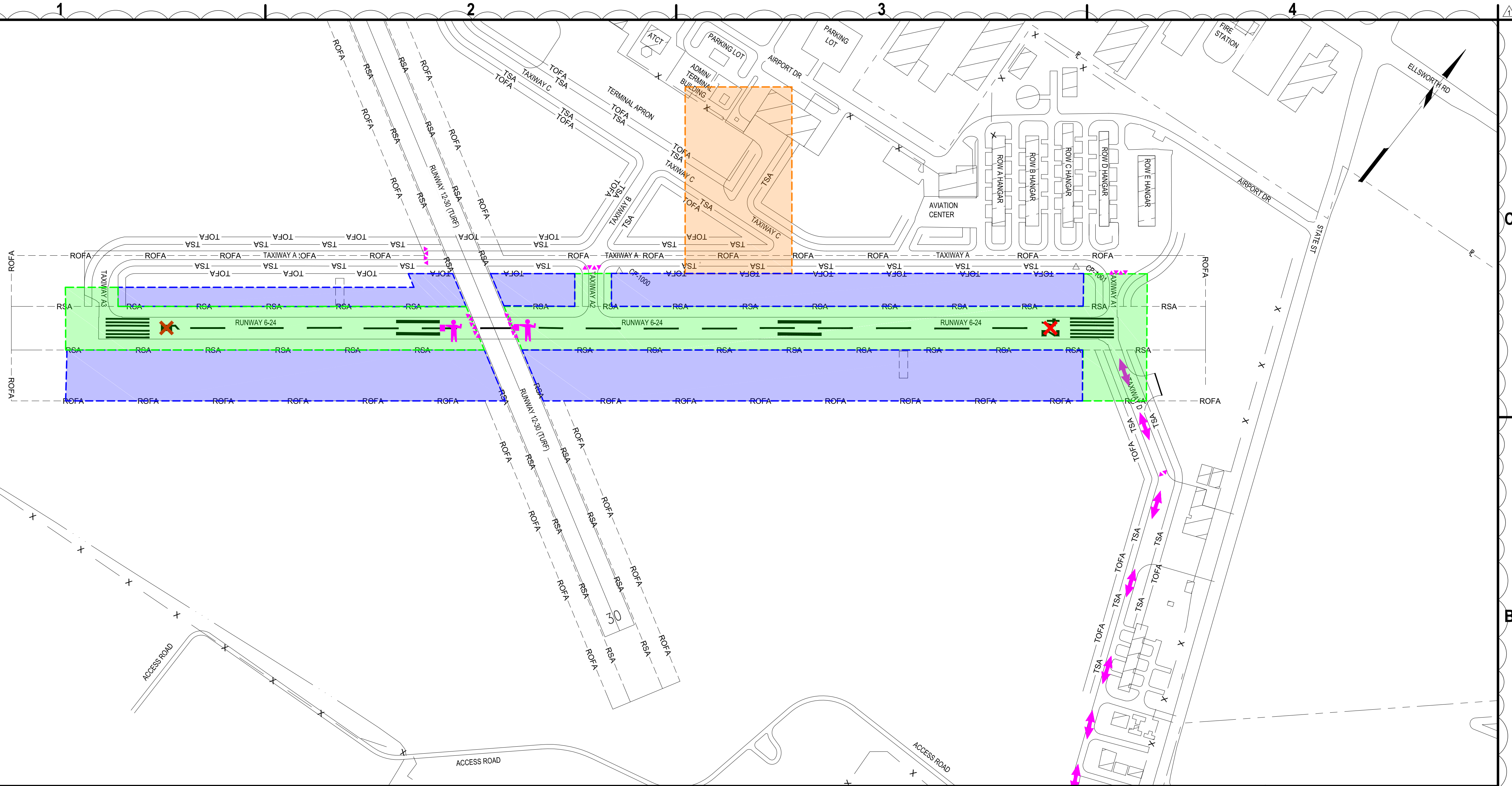
CONSTRUCTION SAFETY PHASING PLAN - PHASE 1

GC102

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B1 CONSTRUCTION SAFETY PHASING PLAN - PHASE 2
SCALE: 1" = 200'

- PHASE 1** (Blue dashed box) **PHASE 1A** (Orange dashed box)
- PHASE 2** (Green dashed box)
- CONTRACTOR PROVIDED FLAGGER WITH RADIO TO MONITOR CROSSING AT RUNWAY 12-30
- CONTRACTOR'S ACCESS ROUTE
- LOW PROFILE BARRICADES, ITEM CX-106. SEE DETAIL A4/GC501
- TEMPORARY CLOSED RUNWAY MARKING, ITEM CX-106. SEE DETAIL B1/GC501

PHASE 2 - 7 CALENDAR DAYS

- CONSTRUCTION:**
- ELECTRICAL DEMOLITION AND INSTALLATION WITHIN THE RUNWAY 6-24 RUNWAY SAFETY AREA (RSA)
 - WORK SHALL BE CONCURRENT WITH PHASE 1.

PHASE 2 OPERATIONAL CLOSURES AND RESTRICTIONS TABLE

LOCATION	STATUS
RUNWAY 6/24	CLOSED
RUNWAY 12/30	OPEN
TAXIWAY A	CLOSED WEST OF RUNWAY 12-30
TAXIWAY A1	CLOSED
TAXIWAY A2	CLOSED
TAXIWAY A3	CLOSED
TAXIWAY B	OPEN
TAXIWAY C	OPEN
TAXIWAY D	CLOSED
TERMINAL APRON	OPEN

NOTES:

- CONTRACTOR SHALL COORDINATE HOMERUN WORK WITH THE RPR AND THE ATCT. AT NO POINT SHALL THE CONTRACTOR CROSS ACTIVE PAVEMENT WITHOUT PRIOR APPROVAL FROM THE ATCT.

GENERAL PHASING NOTES:

- REFER TO ATTACHMENT A - CSPP OF THE GENERAL PROVISIONS FOR SPECIFIC OPERATING REQUIREMENTS DURING WORK ON THE AIRFIELD.
- THE CONTRACTOR WILL BE GIVEN THE SPECIFIC NUMBER OF CALENDAR DAYS TO COMPLETE THE WORK AS SHOWN. LIQUIDATED DAMAGES SHALL BE ASSESSED AFTER THE CONTRACT TIME HAS EXPIRED UNLESS THE CONTRACTOR CAN SHOW JUST CAUSE FOR DELAYS. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE JUSTIFICATION FOR WAIVING ANY LIQUIDATED DAMAGES CHARGED.
- PRIOR TO CONSTRUCTION, CONTRACTOR AND ENGINEER SHALL VIDEOTAPE/PHOTOGRAPH ALL HAUL ROADS TO BE USED DURING THE PROJECT. THE INFORMATION SHALL BE PROVIDED TO THE OWNER PRIOR TO NOTICE TO PROCEED. ANY DAMAGE TO THE PAVEMENT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR, PER THE RPR. ALL COSTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- CONTRACTOR SHALL COORDINATE SCHEDULE, RAMP CLOSURES, AND NOTAMS WITH THE RPR AND AIRPORT PRIOR TO STARTING WORK.
- CONTRACTOR SHALL DELINEATE THE RUNWAY SAFETY AREA (RSA) ALONG THE WORK AREA USING LOW-PROFILE BARRICADES SPACED 8FT APART, OR AS DIRECTED BY THE RPR.
- THE CONTRACTOR SHALL HAVE AT LEAST ONE FULLY OPERATIONAL VACUUM SWEEPER TRUCK AVAILABLE AT ALL TIMES TO CLEAN PAVEMENTS, INCLUDING THE HAUL ROUTE AND PAVEMENT ADJACENT TO THE WORK AREAS. ALL PAVEMENT IS TO BE CLEANED AND FREE OF DIRT AND DEBRIS PRIOR TO OPENING TO AIRCRAFT TRAFFIC.
- ANN ARBOR MUNICIPAL AIRPORT IS A TOWERED AIRPORT. PRIOR TO CONSTRUCTION, CONTRACTOR MUST MEET WITH THE FAA AIR TRAFFIC CONTROL TOWER (ATCT) FOR RADIO TRAINING FOR FLAGGING.

A1 LEGEND
SCALE: NOT TO SCALE

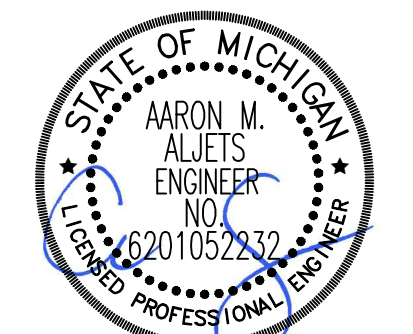
A2 SHEET NOTES
SCALE: NOT TO SCALE

A3 AIRFIELD OPERATIONAL REQUIREMENTS
SCALE: NOT TO SCALE

A4 GENERAL PHASING NOTES
SCALE: NOT TO SCALE



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**RECONSTRUCT RUNWAY
LIGHTING 6-24 AND RECONSTRUCT
RUNWAY SIGNAGE 6-24
ANN ARBOR MUNICIPAL AIRPORT
CITY OF ANN ARBOR**

	09/08/26	ADDENDUM NO. 1
MARK	DATE	DESCRIPTION
REVISIONS		
PROJECT NO: N75.007.001		
DATE: AUGUST 2026		
DRAWN BY: E.J. SLEDZ		
DESIGNED BY: E.J. SLEDZ		
CHECKED BY: S.L. MAKHLOUF		
CONTRACTOR SHALL VERIFY ALL CONDITIONS ON JOB SITE & NOTIFY THE OWNER OF ANY VARIATIONS FROM DIMENSIONS SHOWN ON THESE DRAWINGS BEFORE PROCEEDING WITH ANY CONSTRUCTION.		

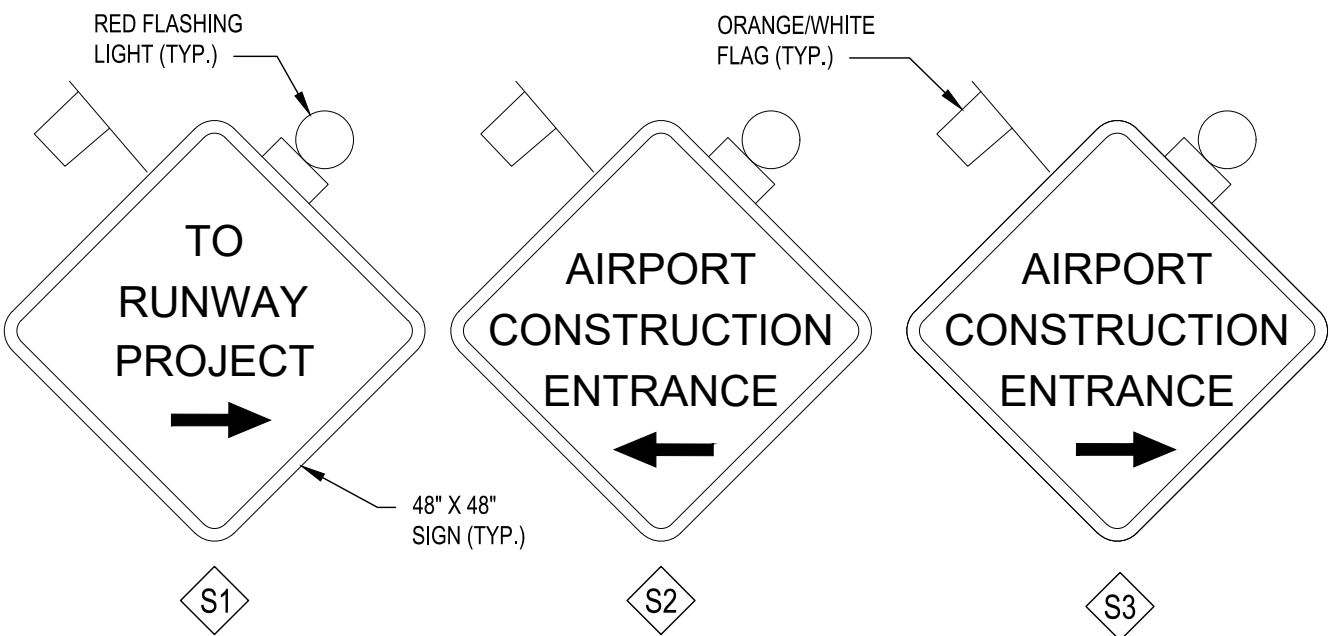
**CONSTRUCTION
SAFETY PHASING
PLAN - PHASE 2**

GC103

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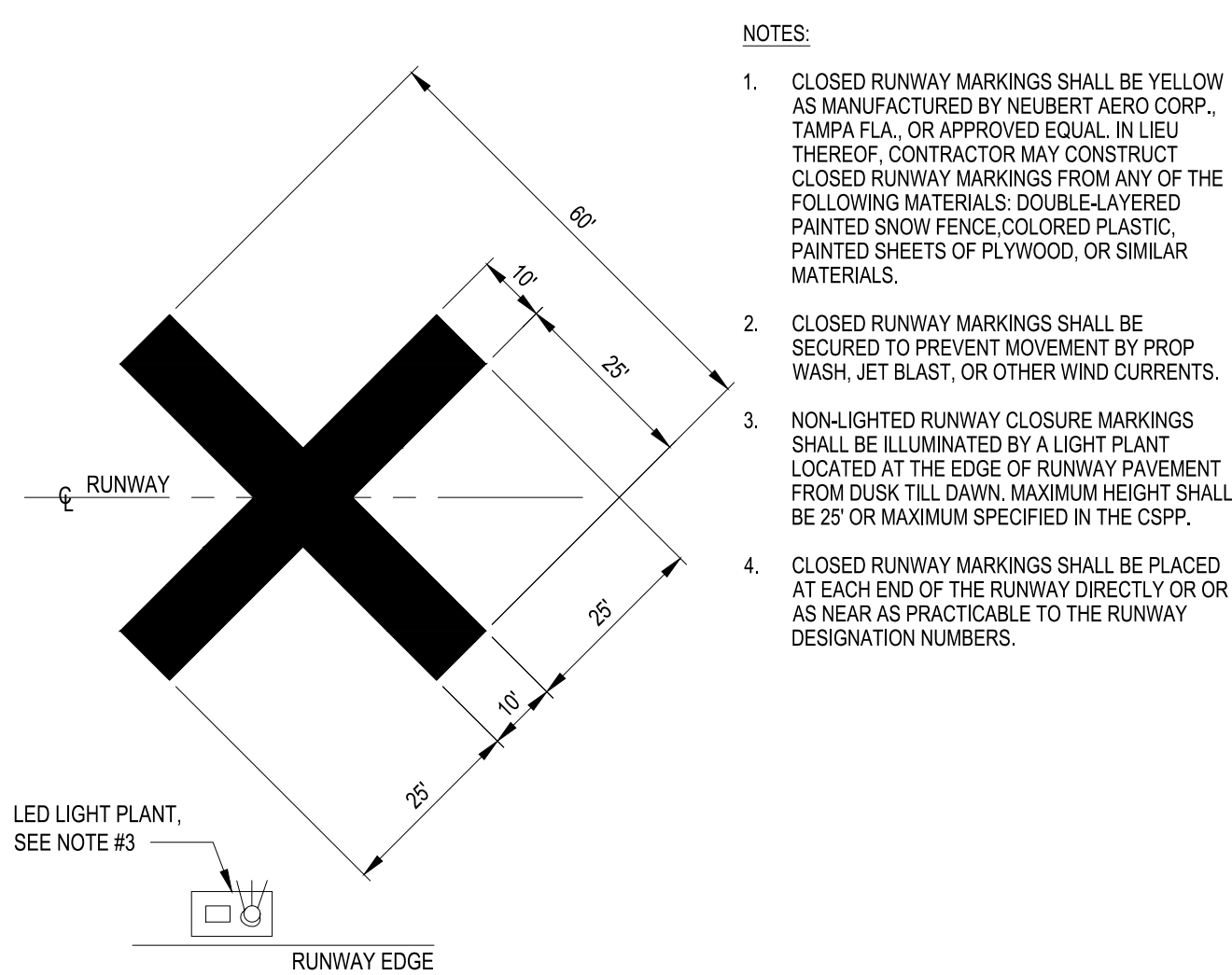


- SIGN NOTES:
1. SIGN BACKGROUND IS TO BE ORANGE. SIGN LETTERING IS TO BE BLACK, MINIMUM HEIGHT OF 3", AND BE A BOLD LETTERING STYLE SIMILAR TO DETAIL SHOWN ON THIS SHEET.
 2. SIGN SHALL BE LOCATED HIGH ENOUGH TO ALLOW EASY VIEWING FROM ALL CONSTRUCTION VEHICLES ENTERING THE CONSTRUCTION SITE.
 3. SEE CONSTRUCTION SAFETY PHASING PLANS FOR GENERAL LOCATIONS. THE CONTRACTOR SHALL COORDINATE THE EXACT PLACEMENT AND LOCATION OF ALL CONSTRUCTION TRAFFIC SIGNS WITH THE AIRPORT AND RPR.
 4. SEE DETAIL B3/EL501, FOR SIGN MOUNTING/ASSEMBLY AND STOP SIGN REQUIREMENTS.
 5. ALL COSTS FOR PROVIDING INSTALLING, MAINTAINING, AND REMOVAL OF TEMPORARY SIGNS SHALL BE INCLUDED UNDER ITEM CX-106.

C3 TEMPORARY CONSTRUCTION SIGN DETAIL

SCALE: NOT TO SCALE

B

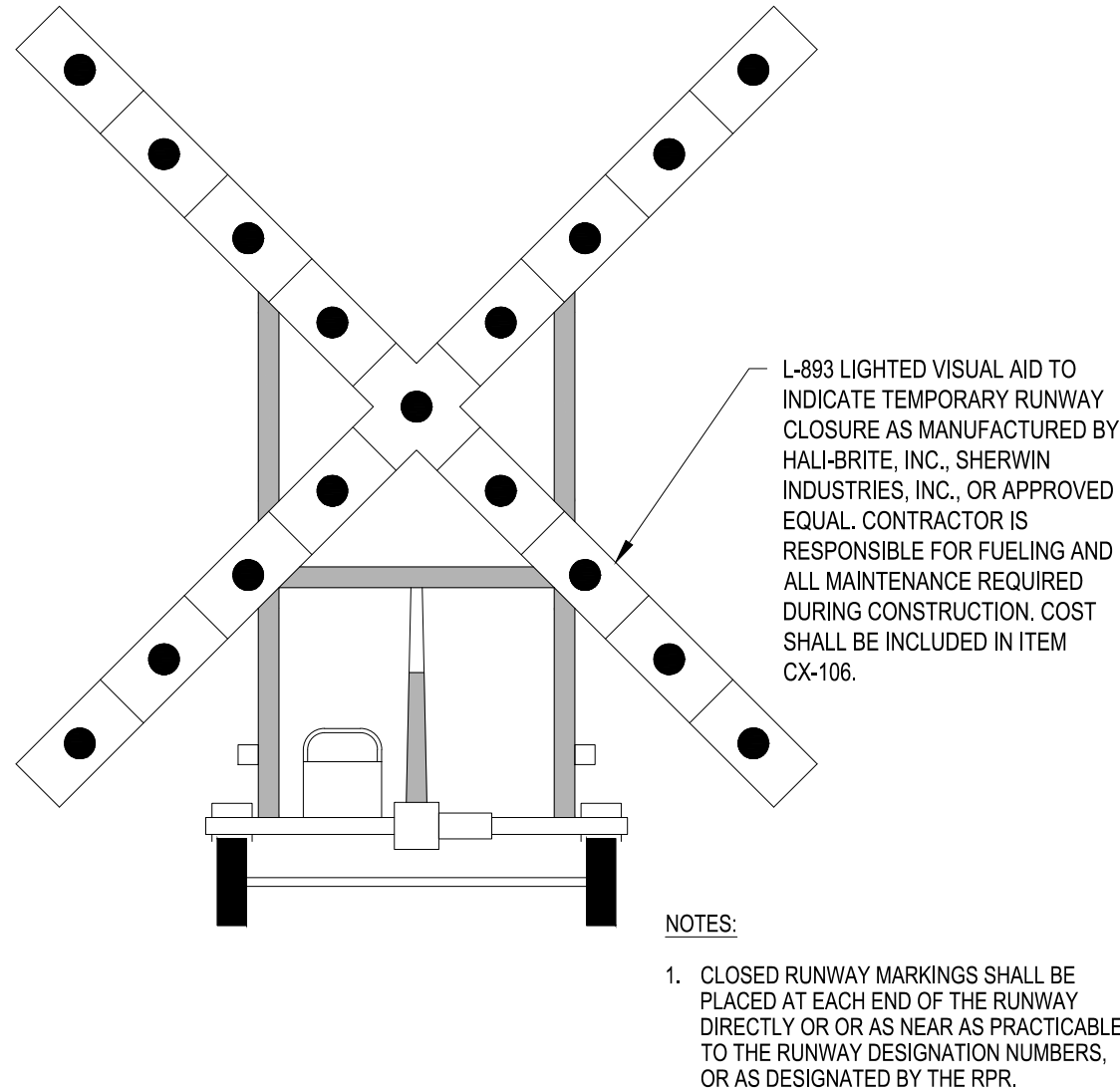


- NOTES:
1. CLOSED RUNWAY MARKINGS SHALL BE YELLOW AS MANUFACTURED BY NEUBERT AERO CORP., TAMPA FLA, OR APPROVED EQUAL. IN LIEU THEREOF, CONTRACTOR MAY CONSTRUCT CLOSED RUNWAY MARKINGS FROM ANY OF THE FOLLOWING MATERIALS: DOUBLE-LAYERED PAINTED SNOW FENCE, COLORED PLASTIC, PAINTED SHEETS OF PLYWOOD, OR SIMILAR MATERIALS.
 2. CLOSED RUNWAY MARKINGS SHALL BE SECURED TO PREVENT MOVEMENT BY PROP WASH, JET BLAST, OR OTHER WIND CURRENTS.
 3. NON-LIGHTED RUNWAY CLOSURE MARKINGS SHALL BE ILLUMINATED BY A LIGHT PLANT LOCATED AT THE EDGE OF RUNWAY PAVEMENT FROM DUSK TILL DAWN. MAXIMUM HEIGHT SHALL BE 25' OR MAXIMUM SPECIFIED IN THE CSPP.
 4. CLOSED RUNWAY MARKINGS SHALL BE PLACED AT EACH END OF THE RUNWAY DIRECTLY OR OR AS NEAR AS PRACTICABLE TO THE RUNWAY DESIGNATION NUMBERS.

B1 CLOSED RUNWAY MARKING DETAIL

SCALE: NOT TO SCALE

B2



- NOTES:
1. CLOSED RUNWAY MARKINGS SHALL BE PLACED AT EACH END OF THE RUNWAY DIRECTLY OR OR AS NEAR AS PRACTICABLE TO THE RUNWAY DESIGNATION NUMBERS, OR AS DESIGNATED BY THE RPR.

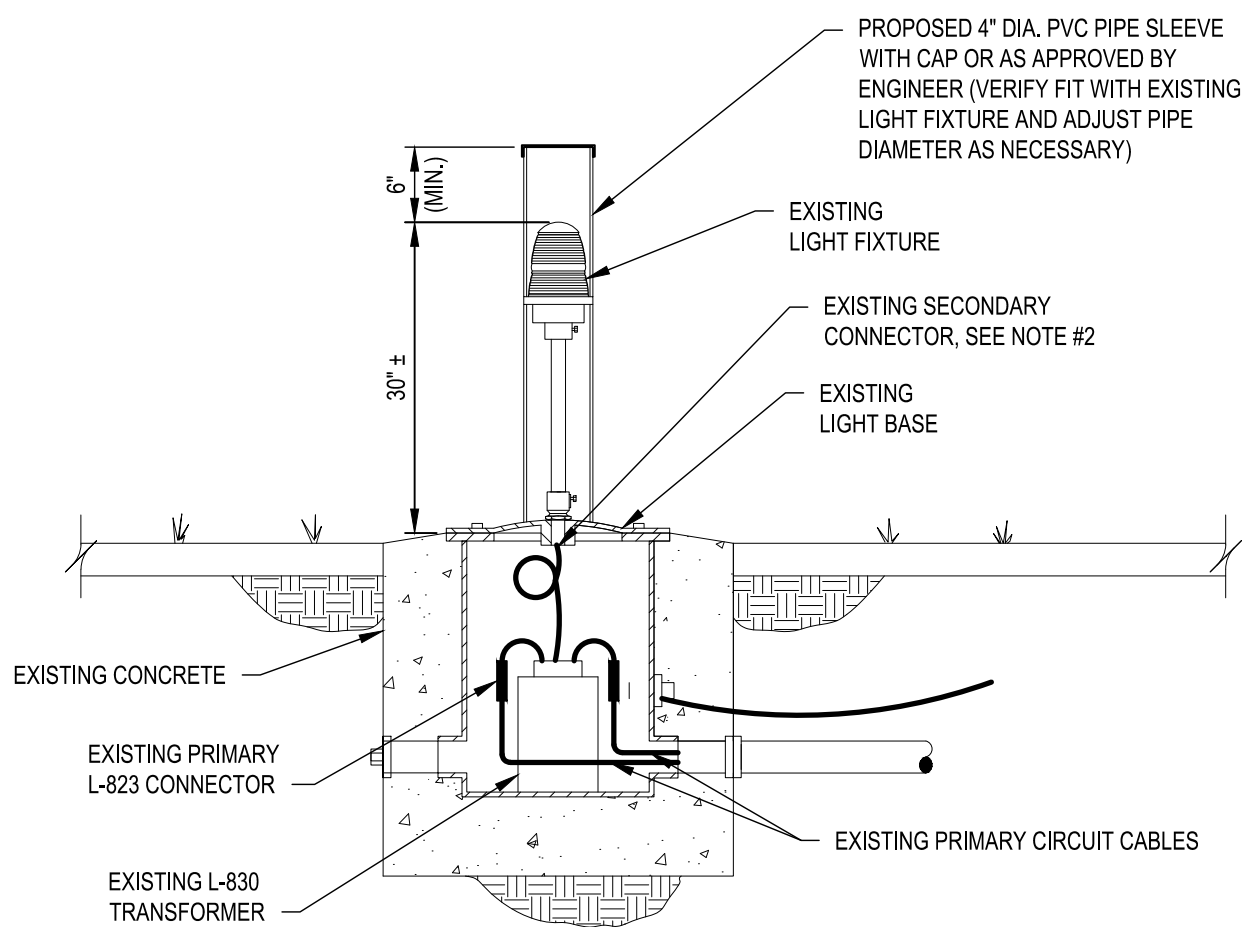
B2 LIGHTED CLOSED RUNWAY MARKING DETAIL

SCALE: NOT TO SCALE

B3

TEMPORARY CONSTRUCTION SIGN ASSEMBLY DETAIL

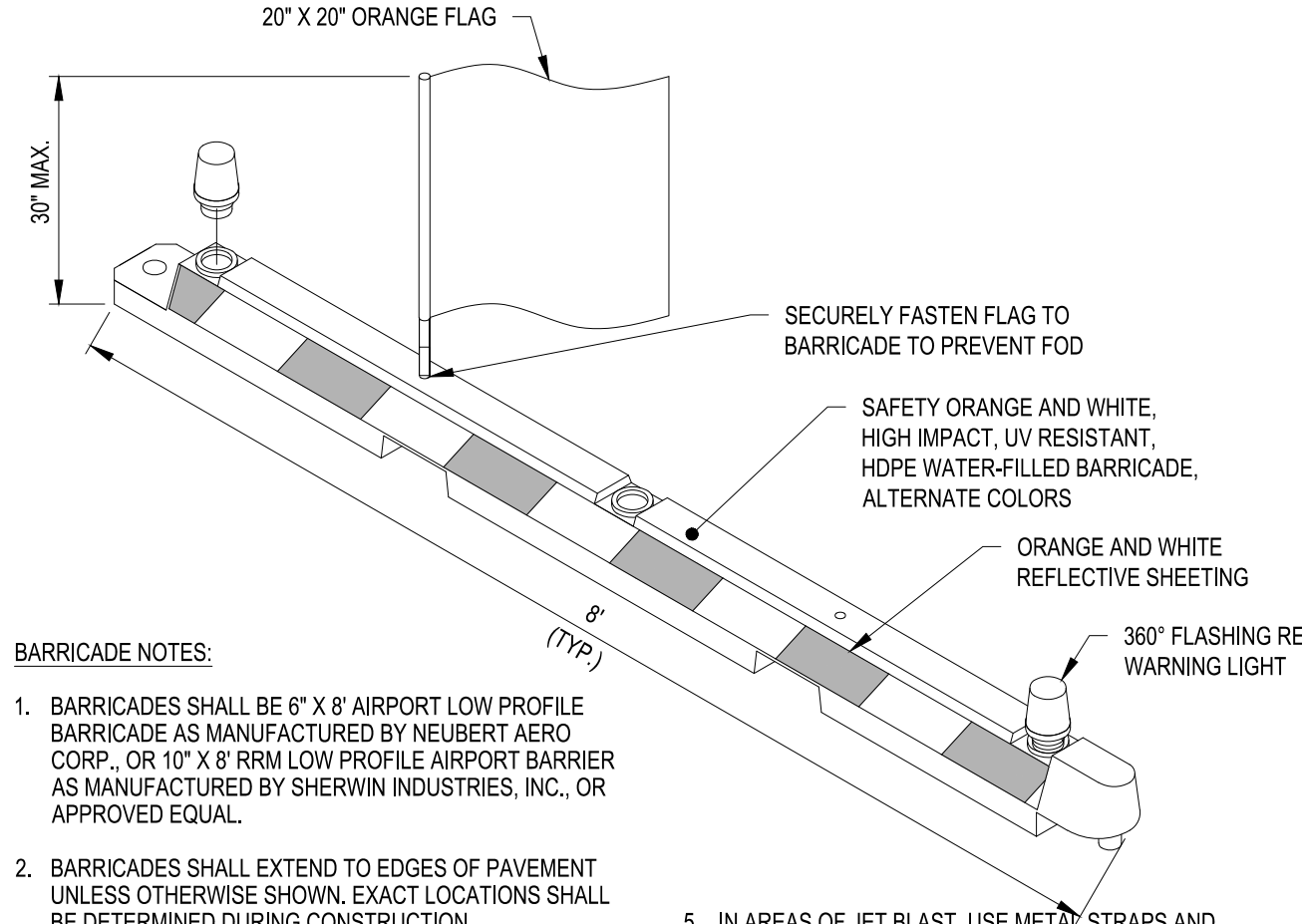
SCALE: NOT TO SCALE



- NOTES:
1. ALL COSTS ASSOCIATED WITH EDGE LIGHT COVERS SHALL BE INCLUDED IN ITEM CX-106.
 2. THE CONTRACTOR MAY ELECT TO DISCONNECT THE LIGHT AT THE TRANSFORMER SECONDARY L-823 CONNECTION AT NO ADDITIONAL COST. CIRCUIT CONNECTIVITY MUST BE MAINTAINED FOR THOSE SECTIONS OF TAXIWAY / RUNWAY NOT CLOSED TO AIRCRAFT TRAFFIC.

A3 TEMPORARY EDGE LIGHT COVER DETAIL

SCALE: NOT TO SCALE



- BARRICADE NOTES:
1. BARRICADES SHALL BE 6" X 8' AIRPORT LOW PROFILE BARRICADE AS MANUFACTURED BY NEUBERT AERO CORP., OR 10" X 8' RRM LOW PROFILE AIRPORT BARRIER AS MANUFACTURED BY SHERWIN INDUSTRIES, INC., OR APPROVED EQUAL.
 2. BARRICADES SHALL EXTEND TO EDGES OF PAVEMENT UNLESS OTHERWISE SHOWN. EXACT LOCATIONS SHALL BE DETERMINED DURING CONSTRUCTION.
 3. BARRICADES SHALL BE FILLED WITH WATER AND INTERLOCKED WITH EACH OTHER. BARRICADES WHICH HAVE TO BE MOVED DAILY MAY BE ANCHORED TO THE PAVEMENT BY AN ALTERNATE METHOD APPROVED BY AIRPORT OPERATIONS OR THE RPR.
 4. COORDINATE ARFF ACCESS WITH OPERATIONS.
 5. IN AREAS OF JET BLAST, USE METAL STRAPS AND EXPANSION ANCHORS OR OTHER METHOD APPROVED BY RPR TO SECURE BARRICADES TO THE PAVEMENT.
 6. ONE FLAG AND TWO WARNING LIGHTS SHALL BE ATTACHED TO EACH BARRICADE.
 7. ALL COSTS ASSOCIATED WITH THIS ITEM SHALL BE INCLUDED IN ITEM CX-106.

A4 INTERLOCKING AIRFIELD BARRICADE DETAIL

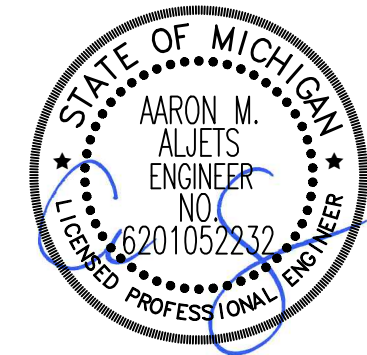
SCALE: NOT TO SCALE

4

C

C&S
COMPANIES®

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www.cscos.com



**RECONSTRUCT RUNWAY
LIGHTING 6-24 AND RECONSTRUCT
RUNWAY SIGNAGE 6-24
ANN ARBOR MUNICIPAL AIRPORT
CITY OF ANN ARBOR**

MARK	DATE	DESCRIPTION
REVISIONS		
PROJECT NO: N75.007.001		
DATE: AUGUST 2026		
DRAWN BY: E.J. SLEDZ		
DESIGNED BY: E.J. SLEDZ		
CHECKED BY: S.L. MAKHLOUF		
CONTRACTOR SHALL VERIFY ALL CONDITIONS ON JOB SITE & NOTIFY THE OWNER OF ANY VARIATIONS FROM DIMENSIONS SHOWN ON THESE DRAWINGS BEFORE PROCEEDING WITH ANY CONSTRUCTION.		

**CONSTRUCTION
SAFETY AND
PHASING DETAILS**

GC501

SHEET NO. 9 OF 21

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APPENDIX 2

CONSTRUCTION PROJECT DAILY SAFETY INSPECTION CHECKLIST

Construction Project Daily Safety Inspection Checklist

The situations identified below are potentially hazardous conditions that may occur during airport construction projects. Safety Area encroachments, unauthorized and improper ground vehicle operations, and unmarked or uncovers holes and trenches near aircraft operating surfaces pose the most prevalent threats to airport operational safety during airport construction projects. The list below is one tool that the Contractor may use to aid in identifying and correcting potentially hazardous conditions.

Potentially Hazardous Conditions

Item	Action Required	or	None
Excavation adjacent to runways, taxiways, and aprons improperly backfilled.			☐
Mounds of earth, construction materials, temporary structures, and other obstacles near any open runway, taxiway, or taxi lane; in the related Object Free area and aircraft approach or departure areas/zones; or obstructing any sign or marking.			☐
Runway resurfacing projects resulting in lips exceeding 3 inches from pavement edges and ends.			☐
Heavy equipment (stationary or mobile) operating or idle near AOA, in runway approaches and departures areas, or in OFZ.			☐
Equipment or material near NAVAIDs that may degrade or impair radiated signals and/or the monitoring of navigation and visual aids. Unauthorized or improper vehicle operations in localizer or glide slope critical areas, resulting in electronic interference and/or facility shutdown.			☐
Tall and especially relatively low visibility units (that is, equipment with slim profiles) –cranes, drills, and similar objects—located in critical areas, such as OFZ and approach zones.			☐

Item	Action Required	or	None
Improperly positioned or malfunctioning lights or unlighted airport hazards, such as holes or excavations, on an apron, open taxiway, or open taxi lane or in related safety, approach, or departure area.			☐
Obstacles, loose pavement, trash, and other debris on or near AOA. Construction debris (gravel, sand, mud, paving materials) on airport pavements may result in aircraft propeller, turbine engine, or tire damage. Also, loose materials may blow about, potentially causing personal injury or equipment damage.			☐
Inappropriate or poorly maintained fencing during construction intended to deter human and animal intrusions into the AOA. Fencing and other markings that are inadequate to separate construction areas from open AOA create aviation hazards.			☐
Improper or inadequate marking or lighting of runways (especially thresholds that have been displaced or runways that have been closed) and taxiways that could cause pilot confusion and provide a potential for a runway incursion. Inadequate or improper methods of marking, barricading, and lighting of temporarily closed portions of AOA create aviation hazards.			☐
Wildlife attractants — such as trash (food scraps not collected from construction personnel activity), grass seeds, tall grass, or standing water — on or near airports.			
Obliterated or faded temporary markings on active operational areas.			☐
Misleading or malfunctioning obstruction lights. Unlighted or unmarked obstructions in the approach to any open runway pose aviation hazards.			☐

Item	Action Required	or	None
Failure to issue, update, or cancel NOTAMs about airport or runway closures or other construction related airport conditions.			☐
Failure to mark and identify utilities or power cables. Damage to utilities and power cables during construction activity can result in the loss of runway / taxiway lighting; loss of navigation, visual, or approach aids; disruption of weather reporting services; and/or loss of communications.			☐
Restrictions on ARFF access from fire stations to the runway / taxiway system or airport buildings.			
Lack of radio communications with construction vehicles in airport movement areas.			☐
Objects, regardless of whether they are marked or flagged, or activities anywhere on or near an airport that could be distracting, confusing, or alarming to pilots during aircraft operations.			☐
Water, snow, dirt, debris, or other contaminants that temporarily obscure or derogate the visibility of runway/taxiway marking, lighting, and pavement edges. Any condition or factor that obscures or diminishes the visibility of areas under construction.			☐
Spillage from vehicles (gasoline, diesel fuel, oil) on active pavement areas, such as runways, taxiways, aprons, and airport roadways.			☐
Failure to maintain drainage system integrity during construction (for example, no temporary drainage provided when working on a drainage system).			

Item	Action Required	or	None
Failure to provide for proper electrical lockout and tagging procedures. At larger airports with multiple maintenance shifts/workers, construction contractors should make provisions for coordinating work on circuits.			☐
Failure to control dust. Consider limiting the amount of area from which the Contractor is allowed to strip turf.			☐
Exposed wiring that creates an electrocution or fire ignition hazard. Identify and secure wiring, and place it in conduit or bury it.			☐
Site burning, which can cause possible obscuration.			☐
Construction work taking place outside of designated work areas and out of phase.			☐

APPENDIX 3

CONTRACTORS SAFETY PLAN COMPLIANCE DOCUMENT (SPCD)

(The SPCD Certification is located in the Proposal Section)

SAFETY PLAN COMPLIANCE DOCUMENT (SPCD)

Project Location: Ann Arbor Municipal Airport

Project Name: Reconstruct Runway Lighting 6-24 and Reconstruct Runway Signage 6-24

General Statement:

The Construction Safety and Phasing Plan (CSPP), identified as Attachment "A" to Section 70-08, has been prepared in accordance with FAA Advisory Circular 150/5370-2G, *Operational Safety on Airports During Construction and the requirements of the Airport Owner*. The CSPP has been submitted to the FAA for review and comment. Any comments from the FAA which were received prior to bid opening have been incorporated into the CSPP.

In the event that the FAA transmits comments which require that the CSPP be revised after bid opening, I understand that I am obligated to abide by the conditions and statements contained in the revised CSPP. I further understand that I will be given the opportunity to evaluate the revised CSPP as it relates to my contract and request appropriate compensation in accordance with the provisions of the contract.

Supplemental Information:

Where the CSPP covers a subject and no additional information is needed, the statement below reads, "No supplemental information required". Where additional information is required by the Contractor, the information shall be provided in the spaces below.

The section numbers below correspond with the section numbers in the CSPP.

3.1 Coordination

Statement: [Explain how you will distribute information and details of meetings to employees and subcontractors.]

3.2 Phasing

Statement: [List the number of days each Work Area will take. State the time day work will start and finish for each work area.]

3.3 Areas and operations affected by the construction activity

Statement: Information is provided in the CSPP. No supplemental information is required.

3.4 Protection of NAVAIDs

Statement: Information is provided in the CSPP. No supplemental information is required.

3.5 Contractor Access

Security Statement: [Explain how you will maintain integrity of the airport security fence at the access gate, e.g.: Gate guards, closed and locked gates, temporary fencing, etc.]

Training Statement: [List individuals who will receive driver training (for certificated airports and as requested.)]

Communication Statement: [Identify types of radios, if any, you will use to communicate with drivers and personnel. Identify who will be monitoring radios. Identify a contact person and phone number if ATCT cannot reach the contractor's designated person by radio.]

Escort Statement: [Identify who will escort material delivery vehicles.]

3.6 Wildlife Management

Statement: [Identify who will be monitoring wildlife in the construction area. Identify who will be monitoring wildlife at the construction gate.]

3.7 Foreign Object Debris (FOD) Management

Statement: [Identify who will be preparing a FOD Management Plan. (Plan must be approved prior to the start of construction activities.)]

3.8 Hazardous material (HAZMAT) management

Statement: [Identify who will be preparing a Spill Prevention Plan. (Plan must be approved prior to the start of construction activities.)]

3.9 Notification of construction activities. Provide the following:

Key Personnel Statement: [Identify your key personnel points of contact with phone numbers.]

Emergency Contacts Statement: [Identify your emergency contacts with 24 hour phone numbers.]

Equipment Statement: [Part 77: Identify equipment you will be using that is taller than feet, including on-site batch plants. Identify the maximum height it will be extended to during construction for each Work Area and the expected duration. Identify when during the day it will be used.]

3.10 Inspection requirements.

Statement: [Identify the person who will be responsible for daily inspections to ensure conformance with the CSPP. Describe additional inspections you will employ, if any, to ensure conformance.]

3.11 Underground utilities.

Statement: [Discuss proposed methods of identifying and protecting underground utilities.]

3.12 Penalties

Statement: Information is provided in the CSPP. No supplemental information is required.

3.13 Special conditions.

Statement: [Identify who will be responsible for moving equipment and personnel from the work area and vacating the area in the event of a special condition listed in the CSPP.]

3.14 Runway and taxiway visual aids. Including marking, lighting, signs, and visual NAVAIDs.

Statement: Information is provided in the CSPP. No supplemental information is required.

3.15 Marking and signs for access routes. Discuss proposed methods of demarcating access routes for vehicle drivers.

Statement: Information is provided in the CSPP. No supplemental information is required.

3.16 Hazard marking and lighting.

Statement: [Identify who will be responsible for maintaining hazard marking and lighting. Include a 24 hour phone number.]

3.17 Protection of taxiway and runway safety areas. Include object free areas, obstacle free zones, approach/departure surfaces and safety areas as required. Discuss proposed methods of identifying, demarcating, and protecting airport surfaces including:

Equipment and methods for maintaining Taxiway/Taxilane Safety Area standards.

Statement: Information is provided in the CSPP. No supplemental information is required.

Equipment and methods for separation of construction operations from aircraft operations, including details of barricades.

Statement: Information is provided in the CSPP. No supplemental information is required.

3.18 Other limitations on construction.

Other limitations are identified in the CSPP and do not require an entry in this document.

APPENDIX 4

SPOIL DEPOSITION RELEASE FORM

SPOILS DEPOSITION RELEASE FORM

To: _____ (AIRPORT OWNER), and

C&S Engineers, Inc., _____ (RPR).

Project: Reconstruct Runway Lighting 6-24 and Reconstruct Runway Signage 6-24

This SPOILS DEPOSITION RELEASE FORM is being forwarded to the above referenced AIRPORT OWNER and RPR to satisfy the Contract Documents governing the above referenced project. Pursuant to the Contract Documents, LANDOWNER has granted permission to CONTRACTOR to deposit spoils at LANDOWNER'S property located at _____

_____ (give specific location).

Further, CONTRACTOR hereby agrees to the greatest extent of the law, to release, indemnify, hold harmless, and defend the AIRPORT OWNER and RPR from any and all damage, liability, or cost (including reasonable attorney's fees and cost of defense) to the extent caused by or arising out of the deposition of the spoils on LANDOWNER'S property.

CONTRACTOR:

LANDOWNER:

Signature

Signature

Written Name & Title

Written Name & Title

Company Name

Company Name

Mailing Address (Street Name and Number)

Mailing Address (Street Name and Number)

City, State, Zip Code

City, State, Zip Code

Daytime Phone Number (Include Area Code)

Daytime Phone Number (Include Area Code)

Date

Date

APPENDIX 5

SAFETY PLAN COMPLIANCE DOCUMENT (SPCD) CERTIFICATION

SAFETY PLAN COMPLIANCE DOCUMENT (SPCD) CERTIFICATION

Project Location: Ann Arbor Municipal Airport

Project Name: Reconstruct Runway Lighting 6-24 and Reconstruct Runway Signage 6-24

Contractor's Official Name: _____

Contact Person: _____ Telephone: _____

Street Address: _____

City: _____ State: _____ Zip: _____

Certification Statement:

I certify that I have read the Construction Safety and Phasing Plan (CSPP) included in the Contract Documents and if awarded this Contract, I will abide by its requirements as written.

I certify that I have read the Safety Plan Compliance Document (SCPD) included in the Contract Documents and if awarded this Contract, I will abide by its requirements as written;

I certify that I will provide the information required in the SCPD prior to the start of construction work, if awarded this Contract, and that I will provide any additional information requested by the Airport Owner.

Printed Name of Signer

Signature

Title

Date

Attachment B

Item L-125 Installation of Airport Lighting Systems

DESCRIPTION

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

EQUIPMENT AND MATERIALS

125-2.1 General.

- a.** Airport lighting equipment and materials covered by Federal Aviation Administration (FAA) specifications shall be certified under the Airport Lighting Equipment Certification Program in accordance with AC 150/5345-53, current version. FAA certified airfield lighting shall be compatible with each other to perform in compliance with FAA criteria and the intended operation. If the Contractor provides equipment that does not perform as intended because of incompatibility with the system, the Contractor assumes all costs to correct the system for to operate properly.
- b.** Manufacturer's certifications shall not relieve the Contractor of their responsibility to provide materials in accordance with these specifications and acceptable to the RPR. Materials supplied and/or installed that do not comply with these specifications shall be removed, when directed by the RPR and replaced with materials, which do comply with these specifications, at the sole cost of the Contractor.
- c.** All materials and equipment used shall be submitted to the RPR for approval prior to ordering the equipment. Submittals consisting of marked catalog sheets or shop drawings shall be provided. Clearly mark each copy to identify pertinent products or models applicable to this project. Indicate all optional equipment and delete non-pertinent data. Submittals for components of electrical equipment and systems shall identify the equipment for which they apply on each submittal sheet. Markings shall be clearly made with arrows or circles (highlighting is not acceptable). The Contractor shall be responsible for delays in the project accruing directly or indirectly from late submissions or resubmissions of submittals.
- d.** The data submitted shall be sufficient, in the opinion of the RPR, to determine compliance with the plans and specifications. The Contractor's submittals shall be submitted in electronic PDF format, tabbed by specification section. The RPR reserves the right to reject any or all equipment, materials or procedures, which, in the RPR's opinion, does not meet the system design and the standards and codes, specified herein.
- e.** All equipment and materials furnished and installed under this section shall be guaranteed against defects in materials and workmanship for a period of at least twelve (12) months from final acceptance by the Owner. The defective materials and/or equipment shall be repaired or replaced, at the Owner's discretion, with no additional cost to the Owner.

EQUIPMENT AND MATERIALS

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

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

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

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

125-2.6 Retroreflective Markers. Not required.

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

Lights

Type	Class	Mode	Style	Option	Base	Filter	Transformer	Notes
L-861	2	1	N/A	4-Base Plate	L-867B	W/Y	L-830	Bidirectional Height = 30" Bulb Type: LED
L-861E	2	1	N/A	4-Base Plate	L-867B	R/G	L-830	Bidirectional Height = 30" Bulb Type: LED

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

Signs

Type	Size	Style	Class	Mode	Notes
L-858Y	1	2	2	1	See Plans for Legend
L-858R	1	2	2	1	See Plans for Legend
L-858L	1	2	2	1	See Plans for Legend

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

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

125-2.11 Circuit Selector Cabinet. Not required.

125-2.12 Light Base and Transformer Housings. Light Base and Transformer Housings should conform to the requirements of AC 150/5345-42. Light bases shall be Type L-867, Class 1A, Size B shall be provided as indicated or as required to accommodate the fixture or device installed thereon. Base plates, cover plates, and adapter plates shall be provided to accommodate various sizes of fixtures.

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

INSTALLATION

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

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

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

125-3.1.1 Excerpts from AC 150/5340-30J, Appendix E

E.1 Electrical Notes.

E.1.1 General.

1. The electrical installation, at a minimum, must meet the NEC and local regulations.
2. The contractor must ascertain that all lighting system components furnished (including FAA approved equipment) are compatible in all respects with each other and the remainder of the new/existing system. Any non-compatible components furnished by the contractor must be replaced at no additional cost to the airport sponsor with a similar unit that is approved by the RPR and compatible with the remainder of the airport lighting system.
3. In case the contractor elects to furnish and install airport lighting equipment requiring additional wiring, transformers, adapters, mountings, etc., to those shown on the drawings and/or listed in the specifications, any cost for these items must be incidental to the equipment cost.
4. The contractor-installed equipment (including FAA approved) must not generate any EMI in the existing and/or new communications, weather, air navigation, and ATC equipment. Any equipment generating such interference must be replaced by the contractor at no additional cost with equipment meeting the applicable specifications.
5. When a specific type, style, class, etc., of FAA approved equipment is specified only that type, style, class, etc., will be acceptable, though equipment of other types, style, class, etc., may be FAA approved.

6. Any and all instructions from the RPR to the contractor regarding changes in, or deviations from, the plans and specifications must be in writing with copies sent to the airport sponsor and the FAA field office (Airports District Office (ADO)/Airports Field Office (AFO)). The contractor must not accept any verbal instructions from the RPR regarding any changes from the plans and specifications.
7. A minimum of three copies of instruction books must be supplied with each type of equipment. For more sophisticated types of equipment, such as regulators, PAPI, REIL, etc., the instruction book must contain the following:
 - a. A detailed description of the overall equipment and its individual components.
 - b. Theory of operation including the function of each component.
 - c. Installation instructions.
 - d. Start-up instructions.
 - e. Preventative maintenance requirements.
 - f. Chart for troubleshooting.
 - g. Complete power and control detailed wiring diagram(s), showing each conductor/connection/component; “black” boxes are not acceptable. The diagram or the narrative must show voltages/currents/wave shapes at strategic locations to be used when checking and/or troubleshooting the equipment. When the equipment has several brightness steps, these parameters must be indicated for all the different modes.
 - h. Parts list will include all major and minor components, such as resistors, diodes, etc. It must include a complete nomenclature of each component and, if applicable, the name of its manufacturer and the catalog number.
 - i. Safety instructions.

E.1.2 Power and Control.

1. Stencil all electrical equipment to identify function, circuit voltage and phase. Where the equipment contains fuses, also stencil the fuse or fuse link ampere rating. Where the equipment does not have sufficient stenciling area, the stenciling must be done on the wall next to the unit. The letters must be one inch (25 mm) high and painted in white or black paint to provide the highest contrast with the background. Engraved plastic nameplates may also be used with one inch (25 mm) white (black background) or black (white background) characters. All markings must be of sufficient durability to withstand the environment.
2. Color code all phase wiring by the use of colored wire insulation and/or colored tape. Where tape is used, the wire insulation must be black. Black and red must be used for single-phase, three wire systems and black, red and blue must be used for three-phase systems. Neutral conductors, size No. 6 AWG or smaller, must be identified by a continuous white or natural outer finish. Conductors larger than No. 6 AWG must be identified either by a continuous white or natural

gray outer finish along its entire length or by the use of white tape at its terminations and inside accessible wireways.

3. All branch circuit conductors connected to a particular phase must be identified with the same color. The color coding must extend to the point of utilization.
4. In control wiring, the same color must be used throughout the system for the same function, such as 10%, 30%, 100% brightness control, etc.
5. All power and control circuit conductors must be copper; aluminum must not be accepted. This includes wire, cable, busses, terminals, switch/panel components, etc.
6. Low voltage (600 V) and high voltage (5000 V) conductors must be installed in separate wireways.
7. Neatly lace wiring in distribution panels, wireways, switches and pull/junction boxes.
8. The minimum size of pull/junction boxes, regardless of the quantity and the size of the conductors shown, must be as follows:
 - a. In straight pulls, the length of the box must not be less than eight times the trade diameter of the larger conduit. The total area (including the conduit cross-sectional area) of a box end must be at least three times greater than the total trade cross-sectional area of the conduits terminating at the end.
 - b. In angle or u-pulls, the distance between each conduit entry inside the box and the opposite wall of the box must not be less than six times the trade diameter of the largest conduit. This distance must be increased for additional entries by the amount of the sum of the diameters of all other conduit entries on the same wall of the box. The distance between conduit entries enclosing the same conductor must not be less than six times the trade diameter of the largest conduit.
9. A run of conduit between terminations at equipment enclosures, square ducts and pull/junction boxes, must not contain more than the equivalent of four quarter bends (360 degrees total), including bends located immediately at the terminations. Cast, conduit type outlets must not be treated as pull/junction boxes.
10. Equipment cabinets must not be used as pull/junction boxes. Only wiring terminating at the equipment must be brought into these enclosures.
11. Splices and junction points must be permitted only in junction boxes, ducts equipped with removable covers, and at easily accessible locations.
12. Circuit breakers in power distribution panel(s) must be thermal-magnetic, molded case, permanent trip with 100-ampere, minimum, frame.
13. Dual lugs must be used where two wires, size No. 6 or larger, are to be connected to the same terminal.
14. All wall mounted equipment enclosures must be mounted on wooden mounting boards.

15. Wooden equipment mounting boards must be plywood, exterior type, 3/4 inch (19 mm) minimum thickness, both sides painted with one coat of primer and two coats of gray, oil-based paint.
16. Rigid steel conduit must be used throughout the installation unless otherwise specified. The minimum trade size must be 3/4 inch (19 mm).
17. All rigid conduit must be terminated at CCRs with a section (10 inch (254 mm) minimum) of flexible conduit.
18. Unless otherwise shown all exposed conduits must be run parallel to, or at right angles with, the lines of the structure.
19. All steel conduits, fittings, nuts, bolts, etc., must be galvanized.
20. Use conduit bushings at each conduit termination. Where No. 4 AWG or larger ungrounded wire is installed, use insulated bushings.
21. Use double lock nuts at each conduit termination. Use weather tight hubs in damp and wet locations. Sealing locknuts must not be used.
22. Wrap all primary and secondary power transformer connections with sufficient layers of insulating tape and cover with insulating varnish for full value of cable insulation voltage.
23. Unless otherwise noted, all indoor single conductor control wiring must be No. 12 AWG.
24. Both ends of each control conductor must be terminated at a terminal block. The terminal block must be of proper rating and size for the function intended and must be located in equipment enclosures or special terminal cabinets.
25. All control conductor terminators must be of the open-eye connector/screw type. Soldered, closed-eyed terminators, or terminators without connectors are not acceptable.
26. In terminal block cabinets, the minimum spacing between parallel terminal blocks must be 6 inches (152 mm). The minimum spacing between terminal block sides/ends and cabinet sides/bottom/top must be 5 inches (127 mm). The minimum spacing will be increased as required by the number of conductors. Additional spacing must be provided at conductor entrances.
27. Both ends of all control conductors must be identified as to the circuit, terminal, block, and terminal number. Only stick-on labels must be used.
28. A separate and continuous neutral conductor must be installed and connected for each breaker circuit in the power panel(s) from the neutral bar to each power/control circuit.
29. The following must apply to relay/contactors panel/enclosures:
 - a. All components must be mounted in dust proof enclosures with vertically hinged covers.
 - b. The enclosures must have ample space for the circuit components, terminal blocks, and incoming internal wiring.
 - c. All incoming/outgoing wiring must be terminated at terminal blocks.

- d. Each terminal on terminal blocks and on circuit components must be clearly identified.
- e. All control conductor terminations must be of the open-eye connector/screw type. Soldered, closed-eye connectors, or terminations without connectors are not acceptable.
- f. When the enclosure cover is opened, all circuit components, wiring, and terminals must be exposed and accessible without any removal of any panels, covers, etc., except those covering high voltage components.
- g. Access to, or removal of, a circuit component or terminal block will not require the removal of any other circuit component or terminal block.
- h. Each circuit component must be clearly identified indicating its corresponding number shown on the drawing and its function.
- i. A complete wiring diagram (not a block or schematic diagram) must be mounted on the inside of the cover. The diagram must represent each conductor by a separate line.
- j. The diagram must identify each circuit component and the number and color of each internal conductor and terminal.
- k. All wiring must be neatly trained and laced.
- l. Minimum wire size must be No. 12 AWG.

E.1.3 Field Lighting.

1. Unless otherwise stated, all underground field power multiple and series circuit conductors (whether direct earth burial (DEB) or in duct/conduit) must be FAA approved Type L-824. Insulation voltage and size must be as specified.
2. No components of the primary circuit such as cable, connectors and transformers must be brought above ground at edge lights, signs, REIL, etc.
3. There must be no exposed power/control cables between the point where they leave the underground (DEB or L-867 bases) and where they enter the equipment (such as taxiway signs, PAPI, REIL, etc.). Enclosures. These cables must be enclosed in rigid conduit or in flexible water-tight conduit with frangible coupling(s) at the grade or the housing cover, as shown in applicable details.
4. The joints of the L-823 primary connectors must be wrapped with one layer of rubber or synthetic rubber tape and one layer of plastic tape, one half lapped, extending at least 1-1/2 inches (38 mm) on each side of the joint, as shown in Figure E-9.
5. The cable entrance into the field attached L-823 connectors must be enclosed by heat-shrinkable tubing with continuous internal adhesive as shown in Figure E-9.
6. The ID of the primary L-823 field attached connectors must match the cable OD to provide a watertight cable entrance. The entrance must be encapsulated in heat shrinkable tubing with continuous factory applied internal adhesive, as shown in Figure E-9.

7. L-823 type 11, two-conductor secondary connector must be class "A" (factory molded).
8. There must be no splices in the secondary cable(s) within the stems of a runway/taxiway edge/threshold lighting fixtures and the wireways leading to taxiway signs and PAPI/REIL equipment.
9. Electrical insulating grease must be applied within the L-823, secondary, two conductor connectors to prevent water entrance. The connectors must not be taped.
10. DEB isolation transformers must be buried at a depth of 10 inches (254 mm) on a line crossing the light and perpendicular to the runway/taxiway centerline at a location 12 inches (305 mm) from the light opposite from the runway/taxiway.
11. DEB primary connectors must be buried at a depth of 10 inches (254 mm) near the isolation transformer. They must be orientated parallel with the runway/taxiway centerline. There must be no bends in the primary cable 6 inches (152 mm), minimum, from the entrance into the field-attached primary connection.
12. A slack of 3 ft. (0.9 m), minimum, must be provided in the primary cable at each transformer/connector termination. At stake-mounted lights, the slack must be loosely coiled immediately below the isolation transformer.
13. Direction of primary cables must be identified by color coding as follows when facing light with back facing pavement: cable to the left is coded red and cable to the right is coded blue, this applies to the stake-mounted lights and base-mounted lights where the base has only one entrance.
14. L-867 bases must be size B, 24" (610 mm) deep Class 1 unless otherwise noted.
15. Base-mounted frangible couplings must not have weep holes to the outside. Plugged holes are not acceptable. The coupling must have a 1/4" (6 mm) diameter minimum or equivalent opening for drainage from the space around the secondary connector into the L-867 base.
16. The elevation of the frangible coupling groove must not exceed 1-1/2" (38 mm) above the edge of the cover for base-mounted couplings or the top of the stake for stake-mounted couplings.
17. Where the frangible coupling is not an integral part of the light fixture stem or mounting leg, a bead of silicone rubber seal must be applied completely around the light stem or wireway at the frangible coupling to provide a watertight seal.
18. Tops of the stakes supporting light fixtures must be flush with the surrounding grade.
19. Plastic lighting fixture components, such as lamp heads, stems, frangible couplings, base covers, brackets, stakes, are not acceptable. L-867 plastic transformer housings are acceptable. A metal threaded fitting must be set in flange during casting process. Base cover bolts must be fabricated from 18-8 stainless steel.
20. The tolerance for the height of runway/taxiway edge lights must be ± 1 inch (25 mm). For stake-mounted lights, the specified lighting fixture height must be measured between the top of the stake and the top of the lens. For base-mounted lights, the specified lighting fixture height must

be measured between the top of the base flange and the top of the lens, and includes the base cover, the frangible coupling, the stem, the lamp housing and the lens.

21. The tolerance for the lateral spacing (light lane to runway/taxiway centerline) of runway/taxiway edge lights must be ± 1 inch (25.4 mm). This also applies at intersections to lateral spacing between lights of a runway/taxiway and the intersecting runway/taxiway.
22. L-867 bases may be precast. Entrances into L-867 bases must be plugged from the inside with duct seal.
23. Galvanized/painted equipment/component surfaces must not be damaged by drilling, filing, etc. – this includes drain holes in metal transformer housings.
24. Edge light numbering tags must be facing the pavement.
25. Cable/splice/duct markers must be pre-cast concrete of the size shown. Letters/numbers/arrows for the legend to be impressed into the tops of the markers must be pre-assembled and secured in the mold before the concrete is poured. Legends inscribed by hand in wet concrete are not acceptable.
26. All underground cable runs must be identified by cable markers at 200 ft (61 m) maximum spacing with an additional marker at each change of direction of the cable run. Cable markers must be installed above the cable.
27. Locations of all DEB underground cable splice/connections, except those at isolation transformers, must be identified by splice markers. Splice markers must be placed above the splice/connections.
28. The cable and splice markers must identify the circuits to which the cables belong. For example: RWY 4-22, PAPI-4, PAPI-22.
29. Locations of ends of all underground ducts must be identified by duct markers.
30. The preferred mounting method of runway and taxiway signs is by the use of single row of legs. However, two rows will be acceptable.
31. Reference Figure E-13 and Figure E-14 for an example of a lighted sign installation.
 - a. Power to the sign must be provided through breakaway cable connectors installed within the frangible point portion of the sign's mounting legs.
 - b. There must be no above ground electrical connection between signs in a sign array.
32. Stencil horizontal and vertical aiming angles on each REIL flash head or equipment enclosure. The numerals must be black and one inch (25 mm) minimum height.
33. Stencil vertical aiming angles on the outside of each PAPI lamp housing. The numerals must be black and one inch (25 mm) minimum height.
34. All power and control cables in man/hand holes must be tagged. Use embossed stainless steel strips or tags attached at both ends to the cable by the use of UV resistant plastic straps. A

minimum of two tags must be provided on each cable in a man/hand hole - one at the cable entrance, and one at the cable exit.

35. Apply a corrosion inhibiting, anti-seize compound to all screws, nuts and frangible coupling threads. If coated bolts are used per EB #83, do not apply anti-seize compound.
36. There must be no splices between the isolation transformers. L-823 connectors are allowed at transformer connections only, unless shown otherwise.
37. DEB splices in home runs must be of the cast type, unless shown otherwise.
38. Where a parallel, constant voltage PAPI system is provided, the "T" splices must be of the cast type.
39. Concrete used for slabs, footing, backfill around transformer housings, markers, etc., must be 3000 PSI, min., air-entrained.

E.1.4 Equipment Grounding.

1. Ground all non-current-carrying metal parts of electrical equipment by using conductors sized and routed per NEC Handbook, Article 250.
2. All ground connections to ground rods, busses, panels, etc., must be made with pressure type solderless lugs and ground clamps. Soldered or bolt and washer type connections are not acceptable. Clean all metal surfaces before making ground connections. Exothermic welds are the preferred method of connection to a ground rod
3. Tops of ground rods must be 6 inches (152 mm) below grade.
4. The resistance to ground of the vault grounding system with the commercial power line neutral disconnected must not exceed 10 ohms.
5. The resistance to ground of the counterpoise system, or at isolation locations, such as airport beacon must not exceed 10 ohms.

125-3.2 Testing. All lights shall be fully tested by continuous operation for not less than 24 hours as a completed system prior to acceptance. The test shall include operating the constant current regulator in each step not less than 10 times at the beginning and end of the 24-hour test. The fixtures shall illuminate properly during each portion of the test.

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

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

A jig or holding device shall be used when installing each light fixture to ensure positioning to the proper elevation, alignment, level control, and azimuth control. Light fixtures shall be oriented with the light beams parallel to the runway or taxiway centerline and facing in the required direction. The outermost

edge of fixture shall be level with the surrounding pavement. Surplus sealant or flexible embedding material shall be removed. The holding device shall remain in place until sealant has reached its initial set.

METHOD OF MEASUREMENT

125-4.1 Runway lights, taxiway lights, and guidance signs will be measured by the number of each type removed and accepted by the RPR.

125-4.2 Runway and taxiway lights will be measured by the number of each type installed as completed units in place, ready for operation, and accepted by the RPR. Guidance signs will be measured by the number of each type and size installed as completed units, in place, ready for operation, and accepted by the RPR.

BASIS OF PAYMENT

125-5.1 Payment will be made at the contract unit price for each runway light, taxiway light, or guidance sign removed and accepted by the RPR.

125-5.2 Payment will be made at the Contract unit price for each complete runway or taxiway light, guidance sign, reflective marker, runway end identification light, precision approach path indicator, or abbreviated precision approach path indicator installed by the Contractor and accepted by the RPR. This payment will be full compensation for furnishing all materials and for all preparation, assembly, and installation of these materials, and for all labor, equipment, tools and incidentals necessary to complete this item.

Payment will be made under:

Item L-125-5.1a	Removal of Existing Edge Light, Light Base and Appurtenances – per each
Item L-125-5.1b	Removal of Existing Guidance Sign and Foundation – per each
Item L-125-5.2a	Medium Intensity Runway Edge Light, Base Mounted, Elevated, LED, In Turf – per each
Item L-125-5.2b	Medium Intensity Runway Threshold Light, Base Mounted, Elevated, LED, In Turf – per each
Item L-125-5.2c	Taxiway Guidance Sign and Foundation, 2 Modules – per each
Item L-125-5.2d	Taxiway Guidance Sign and Foundation, 3 Modules – per each
Item L-125-5.2 d e	Taxiway Guidance Sign and Foundation, 4 Modules – per each

REFERENCES

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

Advisory Circulars (AC)

AC 150/5340-18	Standards for Airport Sign Systems
AC 150/5340-26	Maintenance of Airport Visual Aid Facilities
AC 150/5340-30	Design and Installation Details for Airport Visual Aids

AC 150/5345-5	Circuit Selector Switch
AC 150/5345-7	Specification for L-824 Underground Electrical Cable for Airport Lighting Circuits
AC 150/5345-26	Specification for L-823 Plug and Receptacle, Cable Connectors
AC 150/5345-28	Precision Approach Path Indicator (PAPI) Systems
AC 150/5345-39	Specification for L-853, Runway and Taxiway Retroreflective Markers
AC 150/5345-42	Specification for Airport Light Bases, Transformer Housings, Junction Boxes, and Accessories
AC 150/5345-44	Specification for Runway and Taxiway Signs
AC 150/5345-46	Specification for Runway and Taxiway Light Fixtures
AC 150/5345-47	Specification for Series to Series Isolation Transformers for Airport Lighting Systems
AC 150/5345-51	Specification for Discharge-Type Flashing Light Equipment
AC 150/5345-53	Airport Lighting Equipment Certification Program
Engineering Brief (EB)	
EB No. 67	Light Sources Other than Incandescent and Xenon for Airport and Obstruction Lighting Fixtures

END OF ITEM L-125

Attachment C

ANN ARBOR MUNICIPAL AIRPORT						
RECONSTRUCT RUNWAY LIGHTING 6-24 AND RECONSTRUCT RUNWAY SIGNAGE 6-24						
BIDDERS ARE REQUIRED TO COMPLETE ALL FIELDS SHADED. ALL OTHER FIELDS WILL BE AUTOMATICALLY CALCULATED. AN EXCEL FILE WILL BE PROVIDED AND THESE SHEETS CAN BE FILLED OUT IN EXCEL OR HARD COPY. ONLY HARD COPIES SHALL BE RETURNED WITH YOUR PROPOSAL.						
ITEM NO	SPEC	DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	TOTAL
BASE BID						
1	C-105-6.1	MOBILIZATION (10% MAX.)	1	LS		
2	CX-106-3.1	SAFETY, SECURITY AND MAINTENANCE OF TRAFFIC	1	LS		
3	DX-800-4.1	SOFT DIG	1	DAYS		
4	L-108-5.1	NO. 6 AWG, SOLID, BARE COPPER COUNTERPOISE WIRE	9,860	LF		
5	L-108-5.2	NO. 8 AWG, 5KV, L-824, TYPE C CABLE, INSTALLED IN TRENCH, DUCT BANK OR CONDUIT	15,350	LF		
6	L-109-7.1	INSTALLATION OF EQUIPMENT WITH IN EXISTING VAULT OR PREFABRICATED METAL HOUSING IN PLACE	1	LS		
7	L-110-5.1	NON-ENCASED ELECTRICAL CONDUIT, 1-WAY, 2-INCH, SCH. 40 PVC CONDUIT, IN TURF	10,730	LF		
8	L-110-5.2	NON-ENCASED ELECTRICAL DRAINAGE CONDUIT, 1-WAY, 2-INCH, SCH. 40 PVC CONDUIT, IN TURF	45	LF		
9	LX-113-5.1	(1) 2-INCH SCHEDULE 80 HDPE CONDUIT INSTALLED BY DIRECTIONAL DRILLING	680	LF		

ANN ARBOR MUNICIPAL AIRPORT**RECONSTRUCT RUNWAY LIGHTING 6-24 AND RECONSTRUCT RUNWAY SIGNAGE 6-24**

BIDDERS ARE REQUIRED TO COMPLETE ALL FIELDS SHADED.
ALL OTHER FIELDS WILL BE AUTOMATICALLY CALCULATED.
AN EXCEL FILE WILL BE PROVIDED AND THESE SHEETS CAN BE FILLED OUT IN EXCEL OR HARD COPY.
ONLY HARD COPIES SHALL BE RETURNED WITH YOUR PROPOSAL.

ITEM NO	SPEC	DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	TOTAL
10	L-115-5.1	ELECTRICAL JUNCTION CAN	8	EA		
11	L-125-5.1a	REMOVAL OF EXISTING EDGE LIGHT, LIGHT BASE AND APPURTENANCES	59	EA		
12	L-125-5.1b	REMOVAL OF EXISTING GUIDANCE SIGN AND FOUNDATION	11	EA		
13	L-125-5.2a	MEDIUM INTENSITY RUNWAY EDGE LIGHT, BASE MOUNTED, ELEVATED, LED, IN TURF	44	EA		
14	L-125-5.2b	MEDIUM INTENSITY RUNWAY THRESHOLD LIGHT, BASE MOUNTED, ELEVATED, LED, IN TURF	16	EA		
15	L-125-5.2c	TAXIWAY GUIDANCE SIGN AND FOUNDATION, 2 MODULES	11	EA		
16	L-125-5.2d	TAXIWAY GUIDANCE SIGN AND FOUNDATION, 4 MODULES	1	EA		
TOTAL CONTRACT - BASE BID						

Attachment D

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1			2		
Sheet List Table			Sheet List Table		
Sheet Number	Sheet Title	Sheet Description	Sheet Number	Sheet Title	Sheet Description
1	GI001	COVER PAGE	16	EL103	ELECTRICAL PLAN
2	GI002	QUANTITIES FOR CANVASS OF BIDS AND SHEET INDEX	17	EL104	ELECTRICAL PLAN
3	GI003	GENERAL NOTES	18	EL501	AIRFIELD LIGHT AND ELECTRICAL DETAILS
4	GI100	GENERAL PLAN	19	EL502	ELECTRICAL DUCT BANK AND CONDUIT DETAILS
5	GC101	OVERALL CONSTRUCTION SAFETY AND PHASING PLAN	20	EL503	AIRFIELD GUIDANCE SIGN DETAILS
6	GC102	CONSTRUCTION SAFETY PHASING PLAN - PHASE 1	21	EL504	AIRFIELD ELECTRICAL VAULT FLOOR PLAN
7	GC103	CONSTRUCTION SAFETY PHASING PLAN - PHASE 2			
8	GC104	CONSTRUCTION SAFETY PHASING PLAN - PHASE 2A			
9	GC501	CONSTRUCTION SAFETY AND PHASING DETAILS			
10	ED101	ELECTRICAL DEMOLITION PLAN			
11	ED102	ELECTRICAL DEMOLITION PLAN			
12	ED103	ELECTRICAL DEMOLITION PLAN			
13	ED104	ELECTRICAL DEMOLITION PLAN			
14	EL101	ELECTRICAL PLAN			
15	EL102	ELECTRICAL PLAN			

BASE BID				
ITEM NO	FAA SPEC	DESCRIPTION	QUANTITY	UNITS
1	C-105-6.1	MOBILIZATION (10% MAX.)	1	LS
2	CX-106-3.1	SAFETY, SECURITY AND MAINTENANCE OF TRAFFIC	1	LS
3	DX-800-4.1	SOFT DIG	1	DAYS
4	L-108-5.1	NO. 6 AWG. SOLID, BARE COPPER COUNTERPOISE WIRE	9,860	LF
5	L-108-5.2	NO. 8 AWG, 5KV, L-824, TYPE C CABLE, INSTALLED IN TRENCH, DUCT BANK OR CONDUIT	15,350	LF
6	L-109-7.1	INSTALLATION OF EQUIPMENT WITH IN EXISTING VAULT OR PREFABRICATED METAL HOUSING IN PLACE	1	LS
7	L-110-5.1	NON-ENCASED ELECTRICAL CONDUIT, 1-WAY, 2-INCH, SCH. 40 PVC CONDUIT, IN TURF	10,730	LF
8	L-110-5.2	NON-ENCASED ELECTRICAL DRAINAGE CONDUIT, 1-WAY, 2-INCH, SCH. 40 PVC CONDUIT, IN TURF	45	LF
9	LX-113-5.1	(1) 2-INCH SCHEDULE 80 HDPE CONDUIT INSTALLED BY DIRECTIONAL DRILLING	680	LF
10	L-115-5.1	ELECTRICAL JUNCTION CAN	8	EA
11	L-125-5.1a	REMOVAL OF EXISTING EDGE LIGHT, LIGHT BASE AND APPURTENANCES	59	EA
12	L-125-5.1b	REMOVAL OF EXISTING GUIDANCE SIGN AND FOUNDATION	11	EA
13	L-125-5.2a	MEDIUM INTENSITY RUNWAY EDGE LIGHT, BASE MOUNTED, ELEVATED, LED, IN TURF	44	EA
14	L-125-5.2b	MEDIUM INTENSITY RUNWAY THRESHOLD LIGHT, BASE MOUNTED, ELEVATED, LED, IN TURF	16	EA
15	L-125-5.2c	TAXIWAY GUIDANCE SIGN AND FOUNDATION, 2 MODULES	11	EA
16	L-125-5.2d	TAXIWAY GUIDANCE SIGN AND FOUNDATION, 4 MODULES	1	EA

3			4		
KEYED NOTE REFERENCE					
	EXISTING AIRPORT PROPERTY LINE		EXISTING RUNWAY OR TAXIWAY EDGE LIGHT TO BE REMOVED		
	EXISTING AVIGATION EASEMENT BOUNDARY		EXISTING AIRFIELD GUIDANCE SIGN TO BE REMOVED		
	EXISTING ROADWAY BOUNDARY		EXISTING ELECTRICAL MANHOLE TO BE REMOVED		
	EXISTING RUNWAY OBJECT FREE AREA		EXISTING PULLBOX TO BE REMOVED		
	EXISTING RUNWAY SAFETY AREA		EXISTING JUNCTION CAN TO BE REMOVED		
	EXISTING TAXIWAY OBJECT FREE AREA		EXISTING AIRFIELD LIGHTING CABLE IN TRENCH TO BE REMOVED		
	EXISTING TAXIWAY SAFETY AREA		EXISTING AIRFIELD LIGHTING CABLE IN CONDUIT TO BE REMOVED		
	EXISTING EDGE OF WOODS		EXISTING DUCT BANK TO BE REMOVED		
	EXISTING CONIFEROUS TREE		EXISTING AIRFIELD GUIDANCE SIGN TO BE MODIFIED		
	EXISTING DECIDUOUS TREE		EXISTING AIRFIELD GUIDANCE SIGN TO BE REFURBISHED		
	EXISTING CONTOUR LINE		EXISTING MARKING TO BE REMOVED		
	EXISTING SWALE CENTERLINE		PROPOSED UNDERGROUND ELECTRIC		
	EXISTING FENCE LINE		PROPOSED REIL UNIT		
	EXISTING SINGLE SWING GATE		PROPOSED PAPI UNIT		
	EXISTING DOUBLE SWING GATE		PROPOSED ELECTRICAL MANHOLE		
	EXISTING CANTILEVER GATE		PROPOSED JUNCTION CAN		
	EXISTING GUIDE RAIL		PROPOSED BASE MOUNTED RUNWAY EDGE LIGHT AND LENS COLOR		
	EXISTING DRAINAGE LINE		PROPOSED BASE MOUNTED RUNWAY THRESHOLD LIGHT AND LENS COLOR		
	EXISTING UNDERDRAIN		PROPOSED GUIDANCE SIGN AND FOUNDATION		
	EXISTING UNDERDRAIN CLEANOUT		PROPOSED AIRFIELD LIGHTING CABLE IN CONDUIT WITH CIRCUIT NUMBER AND NUMBER OF CABLES		
	EXISTING CATCH BASIN		PROPOSED DUCT BANK		
	EXISTING DRAINAGE MANHOLE		PROPOSED DIRECTIONAL DRILL DUCT BANK		
	EXISTING SANITARY LINE		PROPOSED SILT FENCE LOCATION		
	EXISTING SANITARY MANHOLE		PROPOSED STORM DRAIN INLET PROTECTION		
	EXISTING UNDERGROUND TELEPHONE LINE		BARRICADE LOCATION		
	EXISTING FIBER OPTIC LINE		WORK AREA LIMITS		
	EXISTING OVERHEAD TELEPHONE LINE		FLAGPERSON LOCATION		
	EXISTING TELEPHONE JUNCTION BOX				
	EXISTING TELEPHONE MANHOLE				
	EXISTING UNDERGROUND ELECTRIC LINE				
	EXISTING OVERHEAD ELECTRIC LINE				
	EXISTING LIGHT POLE				
	EXISTING UTILITY POLE				
	EXISTING CONCRETE MARKER				
	EXISTING CONCRETE DUCT MARKER				
	EXISTING CONCRETE CABLE MARKER				
	EXISTING CONCRETE SPLICE MARKER				
	EXISTING BOLLARD OR POST				
	EXISTING TIE-DOWN				
	EXISTING MONITORING WELL				
	EXISTING RUNWAY OR TAXIWAY EDGE LIGHT				
	EXISTING IN-PAVEMENT EDGE LIGHT				
	EXISTING AIRFIELD GUIDANCE SIGN				
	EXISTING REIL UNIT				
	EXISTING ELECTRICAL POWER CONTROL SWITCH				
	EXISTING TRANSFORMER				
	EXISTING WIND CONE				
	EXISTING PAPI / VASI UNIT				
	EXISTING ELECTRICAL MANHOLE				
	EXISTING PULLBOX				
	EXISTING JUNCTION CAN				
	EXISTING JUNCTION CAN PLAZA				
	EXISTING CIRCUIT LABEL				
	EXISTING AIRFIELD LIGHTING CABLE IN TRENCH				
	EXISTING AIRFIELD LIGHTING CABLE IN CONDUIT				
	EXISTING DUCT BANK				
	EXISTING SURVEY BASELINE				
	EXISTING SURVEY BASELINE POINT				
	EXISTING SURVEY CONTROL POINT				
	EXISTING BENCHMARK LOCATION				
	EXISTING DRAINAGE LINE TO BE REMOVED				
	EXISTING UNDERDRAIN TO BE REMOVED				
	EXISTING UNDERDRAIN CLEANOUT TO BE REMOVED				
	EXISTING CATCH BASIN TO BE REMOVED				
	EXISTING DRAINAGE MANHOLE TO BE REMOVED				

C&S Engineers, Inc.
38777 Six Mile Road, Suite 202
Livonia, Michigan 48152
Phone: 734-953-2571
Fax: 734-206-7973
www.cscos.com

RECONSTRUCT RUNWAY
LIGHTING 6-24 AND RECONSTRUCT
RUNWAY SIGNAGE 6-24
ANN ARBOR MUNICIPAL AIRPORT
CITY OF ANN ARBOR

	09/08/26	ADDENDUM NO. 1
MARK	DATE	DESCRIPTION
REVISIONS		
PROJECT NO: N75.007.001		
DATE: AUGUST 2026		
DRAWN BY: E. A. JANKOWSKI		
DESIGNED BY: E. A. JANKOWSKI		
CHECKED BY: S.L. MAKHLOUF		
CONTRACTOR SHALL VERIFY ALL CONDITIONS ON JOB SITE & NOTIFY THE OWNER OF ANY VARIATIONS FROM DIMENSIONS SHOWN ON THESE DRAWINGS BEFORE PROCEEDING WITH ANY CONSTRUCTION.		

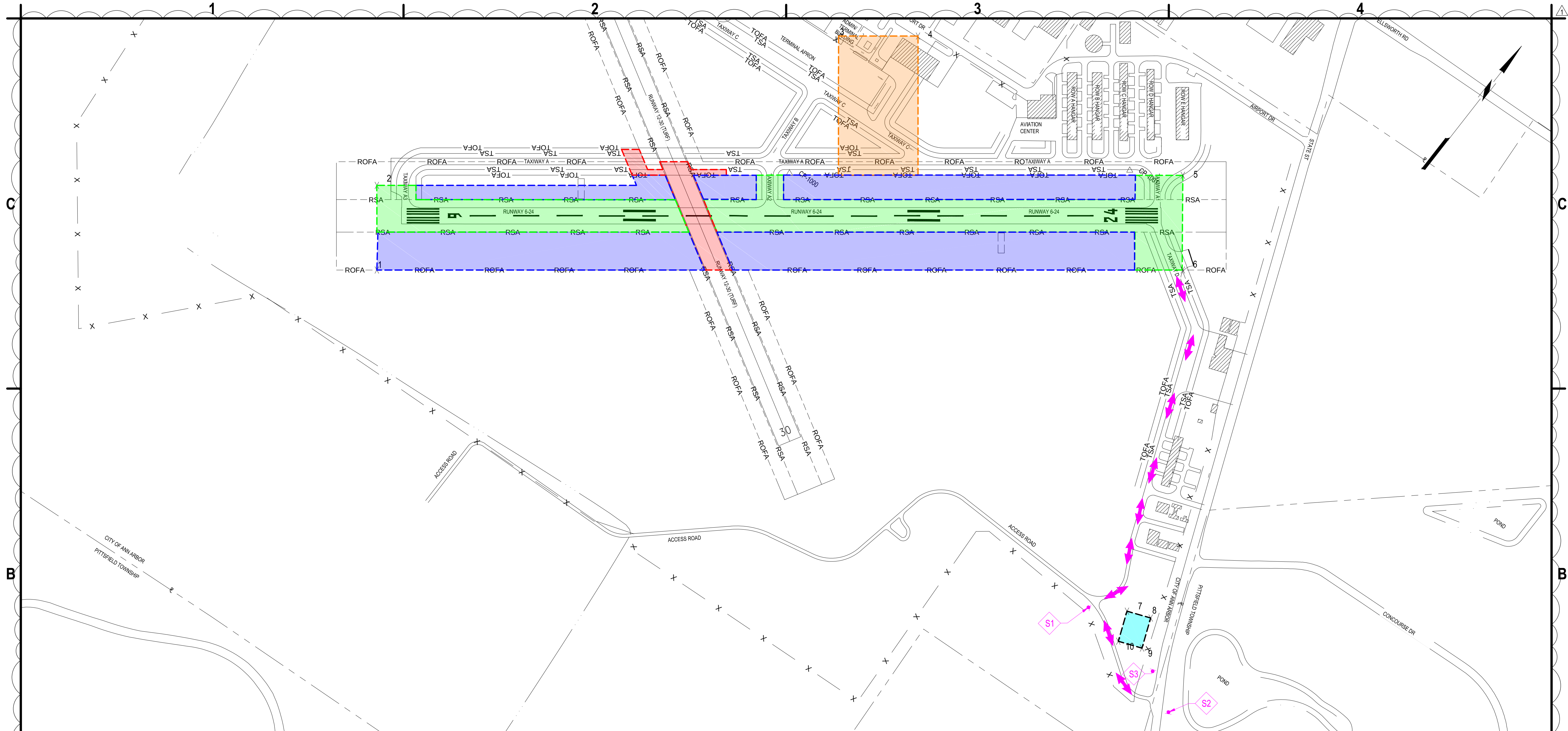
QUANTITIES FOR
CANVASS OF BIDS
AND SHEET INDEX

GI002

SHEET NO. 2 OF 21

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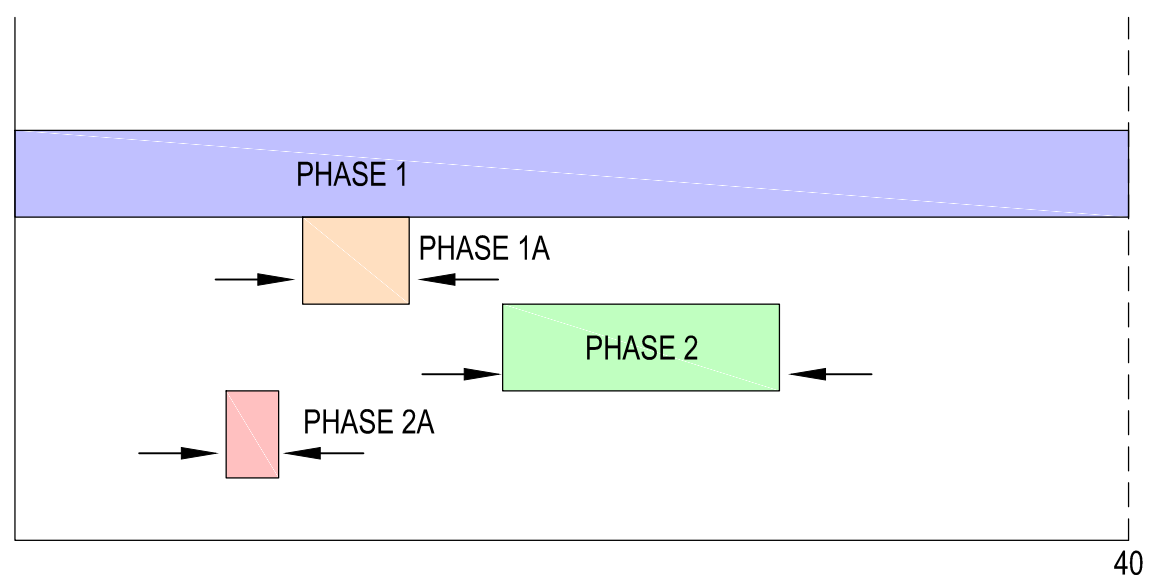


B1 OVERALL CONSTRUCTION SAFETY AND PHASING PLAN
SCALE: 1" = 250'

- LEGEND**
- PHASE 1
 - PHASE 1A
 - PHASE 2
 - PHASE 2A
 - CONTRACTOR'S STAGING AREA
 - TEMPORARY CONSTRUCTION SIGN, ITEM CX-106. SEE DETAIL C3/GC501
 - CONTRACTOR'S ACCESS ROUTE

NOTES:

- PRIOR TO CONSTRUCTION, CONTRACTOR SHALL, IN THE PRESENCE OF THE RPR, VIDEOTAPE/PHOTOGRAPH ALL HAUL ROADS TO BE USED DURING THE PROJECT. THE INFORMATION SHALL BE PROVIDED TO THE OWNER PRIOR TO NTP. ANY DAMAGE TO THE PAVEMENT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR, AS DIRECTED BY THE RPR. ALL COSTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- THE CONTRACTOR SHALL HAVE AT LEAST ONE FULLY OPERATIONAL VACUUM SWEEPER TRUCK AVAILABLE AT ALL TIMES TO CLEAN PAVEMENTS, INCLUDING THE HAUL ROUTE AND PAVEMENT ADJACENT TO THE WORK AREAS. ALL PAVEMENT IS TO BE CLEANED AND FREE OF DIRT AND DEBRIS PRIOR TO OPENING TO AIRCRAFT TRAFFIC.
- CONTRACTOR SHALL HAVE A FULL TIME PROJECT SUPERINTENDENT FOR THE PROJECT. THE PROJECT SUPERINTENDENT SHALL BE REQUIRED TO BE ONSITE AT ALL TIMES WHERE WORK IS UNDERWAY (INCLUDING SUBCONTRACTOR WORK). AN ALTERNATE BACK-UP PROJECT SUPERINTENDENT SHALL BE IDENTIFIED FOR PERIODS WHERE THE PRIMARY SUPERINTENDENT IS NOT AVAILABLE.
- CONTRACTOR SHALL NOT STOCKPILE MATERIAL OR LEAVE EQUIPMENT WITHIN THE RUNWAY OBJECT FREE AREA (ROFA) OVERNIGHT OR DURING NON-WORKING HOURS.
- CONTRACTOR SHALL DELINEATE THE RUNWAY SAFETY AREA (RSA) ALONG THE WORK AREA USING LOW-PROFILE BARRICADES SPACED 8FT APART, OR AS DIRECTED BY THE RPR.
- ANY WORK WITHIN THE RUNWAY SAFETY AREA, INCLUDING MAINTENANCE OF TRAFFIC ITEMS SHALL BE COORDINATED WITH THE AIRPORT, ATCT, AND RPR A MINIMUM OF 7 DAYS IN ADVANCE OF THE WORK COMMENCING.
- CONTRACTOR TO PROVIDE OWN LOCK FOR GATE ACCESS



CALENDAR DAYS:

PHASE 1: 40 CALENDAR DAYS
PHASE 1A: 2 CALENDAR DAYS
PHASE 2: 7 CALENDAR DAYS
PHASE 2A: 1 CALENDAR DAYS

THE TOTAL CONTRACT TIME FOR THE RECONSTRUCT RUNWAY 6-24 LIGHTING PROJECT IS 40 CALENDAR DAYS. THE CONSTRUCTION START DATE IS ANTICIPATED TO BE FALL 2027. THE CONTRACTOR SHALL TAKE THIS INTO CONSIDERATION WHEN PREPARING UNIT PRICES FOR BID.

PHASE 1A, 2, AND 2A SHALL BE CONCURRENT WITH PHASE 1. CONTRACTOR SHALL COORDINATE CLOSURE OF PHASE 1A, 2 AND 2A WORK AREAS WITH THE AIRPORT, ATCT, AND RPR A MINIMUM OF 7 DAYS PRIOR TO THE BEGINNING OF WORK.

POINT TABLE				
POINT NO.	LONGITUDE	LATITUDE	ELEV.	DESCRIPTION
1	W83° 44' 59.69"	N42° 13' 10.22"	831.20	WORK AREA
2	W83° 45' 02.70"	N42° 13' 13.36"	831.00	WORK AREA
3	W83° 44' 44.96"	N42° 13' 31.11"	833.00	WORK AREA
5	W83° 44' 22.81"	N42° 13' 35.05"	824.00	WORK AREA
6	W83° 44' 19.44"	N42° 13' 31.53"	831.20	WORK AREA
7	W83° 44' 10.08"	N42° 13' 17.39"	825.00	STAGING AREA
8	W83° 44' 08.66"	N42° 13' 17.76"	825.00	STAGING AREA
9	W83° 44' 08.02"	N42° 13' 16.41"	826.00	STAGING AREA
10	W83° 44' 09.45"	N42° 13' 16.04"	824.00	STAGING AREA

A1 LEGEND
SCALE: NOT TO SCALE

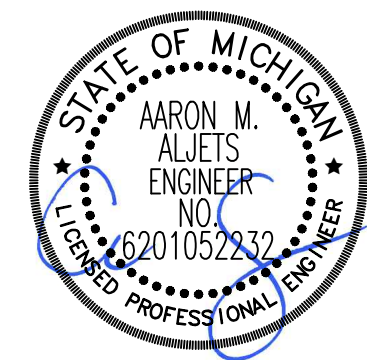
A2 SHEET NOTES
SCALE: NOT TO SCALE

A3 PROJECT SCHEDULE
SCALE: NOT TO SCALE

A4 POINT TABLE
SCALE: NOT TO SCALE



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**RECONSTRUCT RUNWAY
LIGHTING 6-24 AND RECONSTRUCT
RUNWAY SIGNAGE 6-24
ANN ARBOR MUNICIPAL AIRPORT
CITY OF ANN ARBOR**

MARK	DATE	ADDENDUM NO. 1	DESCRIPTION
REVISIONS			
PROJECT NO: N75.007.001			
DATE: AUGUST 2026			
DRAWN BY: E.J. SLEDZ			
DESIGNED BY: E.J. SLEDZ			
CHECKED BY: S.L. MAKHLOUF			
CONTRACTOR SHALL VERIFY ALL CONDITIONS ON JOB SITE & NOTIFY THE OWNER OF ANY VARIATIONS FROM DIMENSIONS SHOWN ON THESE DRAWINGS BEFORE PROCEEDING WITH ANY CONSTRUCTION.			

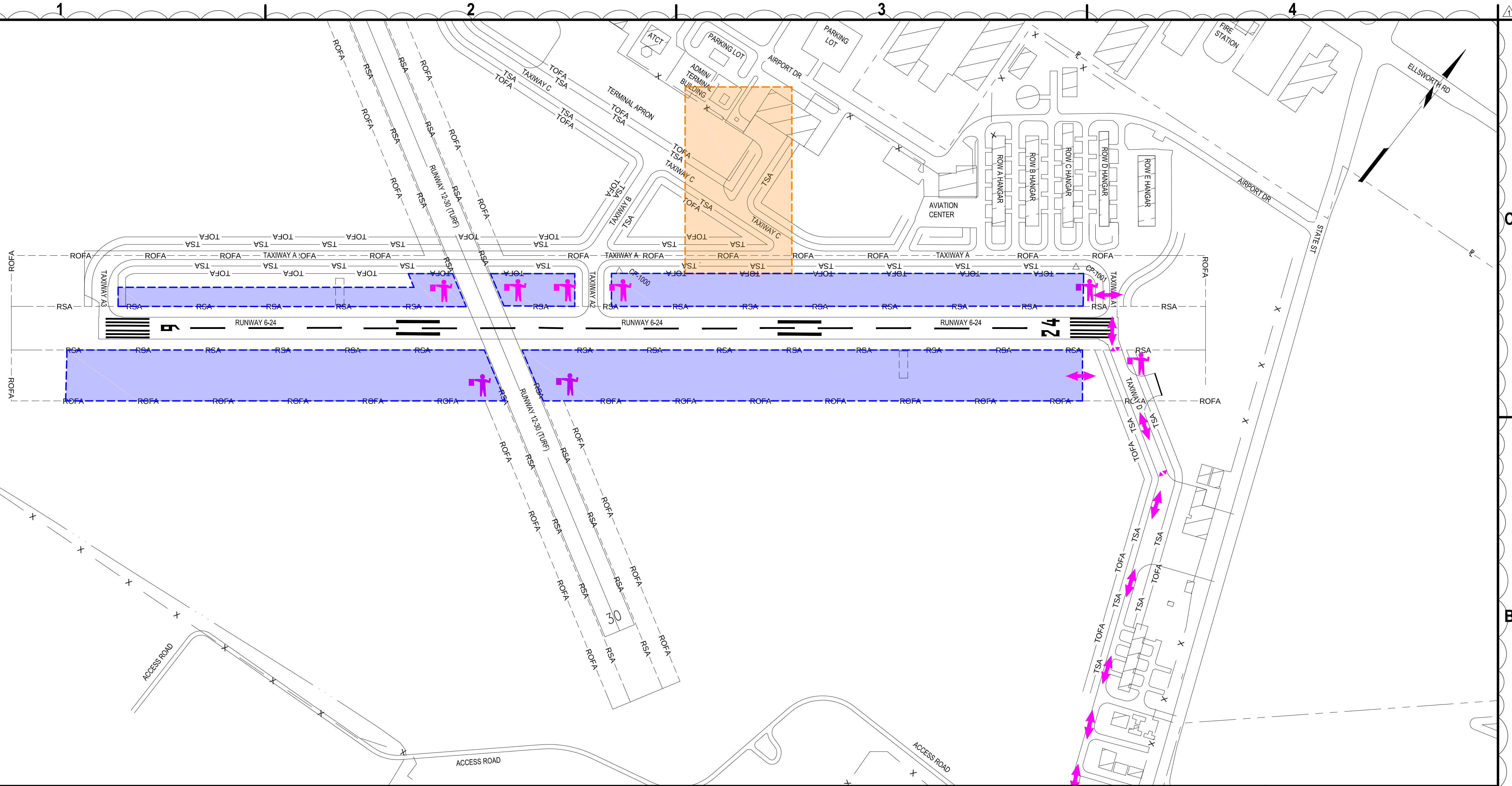
**OVERALL
CONSTRUCTION
SAFETY AND
PHASING PLAN**

GC101

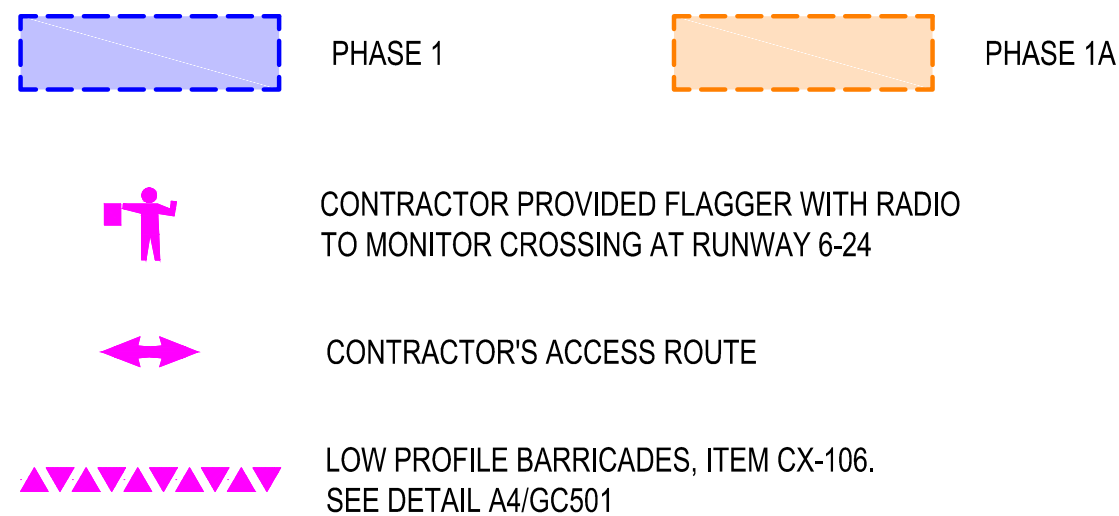
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B1 CONSTRUCTION SAFETY PHASING PLAN - PHASE 1
SCALE: 1" = 200'



PHASE 1 - 40 CALENDAR DAYS

- CONSTRUCTION:
- ELECTRICAL DEMOLITION AND INSTALLATION OUTSIDE OF RUNWAY 6-24 AND RUNWAY 12-30 RUNWAY SAFETY AREA (RSA).
 - ELECTRICAL DEMOLITION AND INSTALLATION OUTSIDE OF TAXIWAY A OBJECT FREE AREA (TOFA).

PHASE 1A - 2 CALENDAR DAYS

- CONSTRUCTION:
- RUNWAY 6-24 HOMERUN TO THE ELECTRICAL VAULT.
 - WORK SHALL BE CONCURRENT WITH PHASE 1.

PHASE 1 OPERATIONAL CLOSURES AND RESTRICTIONS TABLE

LOCATION	STATUS
RUNWAY 6/24	OPEN
RUNWAY 12/30	OPEN
TAXIWAY A	OPEN
TAXIWAY A1	OPEN
TAXIWAY A2	OPEN
TAXIWAY A3	OPEN
TAXIWAY B	OPEN
TAXIWAY C	OPEN
TAXIWAY D	CLOSED
TERMINAL APRON	OPEN

NOTES:

- ONE OF TAXIWAY A1 OR TAXIWAY A2 SHALL REMAIN OPEN FOR THE DURATION OF THIS PHASE TO ALLOW AIRCRAFT ACCESS TO RUNWAY 6-24

GENERAL PHASING NOTES:

- REFER TO ATTACHMENT A - CSPP OF THE GENERAL PROVISIONS FOR SPECIFIC OPERATING REQUIREMENTS DURING WORK ON THE AIRFIELD.
- THE CONTRACTOR WILL BE GIVEN THE SPECIFIC NUMBER OF CALENDAR DAYS TO COMPLETE THE WORK AS SHOWN. LIQUIDATED DAMAGES SHALL BE ASSESSED AFTER THE CONTRACT TIME HAS EXPIRED UNLESS THE CONTRACTOR CAN SHOW JUST CAUSE FOR DELAYS. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE JUSTIFICATION FOR WAIVING ANY LIQUIDATED DAMAGES CHARGED.
- PRIOR TO CONSTRUCTION, CONTRACTOR AND ENGINEER SHALL VIDEOTAPE/PHOTOGRAPH ALL HAUL ROADS TO BE USED DURING THE PROJECT. THE INFORMATION SHALL BE PROVIDED TO THE OWNER PRIOR TO NOTICE TO PROCEED. ANY DAMAGE TO THE PAVEMENT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR, PER THE RPR. ALL COSTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- CONTRACTOR SHALL COORDINATE SCHEDULE, RAMP CLOSURES, AND NOTAMS WITH THE RPR AND AIRPORT PRIOR TO STARTING WORK.
- CONTRACTOR SHALL DELINEATE THE RUNWAY SAFETY AREA (RSA) ALONG THE WORK AREA USING LOW-PROFILE BARRICADES SPACED 8FT APART, OR AS DIRECTED BY THE RPR.
- THE CONTRACTOR SHALL HAVE AT LEAST ONE FULLY OPERATIONAL VACUUM SWEEPER TRUCK AVAILABLE AT ALL TIMES TO CLEAN PAVEMENTS, INCLUDING THE HAUL ROUTE AND PAVEMENT ADJACENT TO THE WORK AREAS. ALL PAVEMENT IS TO BE CLEANED AND FREE OF DIRT AND DEBRIS PRIOR TO OPENING TO AIRCRAFT TRAFFIC.
- ANN ARBOR MUNICIPAL AIRPORT IS A TOWERED AIRPORT. PRIOR TO CONSTRUCTION, CONTRACTOR MUST MEET WITH THE FAA AIR TRAFFIC CONTROL TOWER (ATCT) FOR RADIO TRAINING FOR FLAGGING.
- CONTRACTOR SHALL NOT CLOSE MORE THAN ONE TAXIWAY AT A TIME.

A1 LEGEND
SCALE: NOT TO SCALE

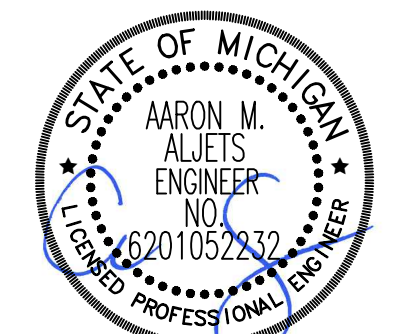
A2 SHEET NOTES
SCALE: NOT TO SCALE

A3 AIRFIELD OPERATIONAL REQUIREMENTS
SCALE: NOT TO SCALE

A4 GENERAL PHASING NOTES
SCALE: NOT TO SCALE



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LIGHTING 6-24 AND RECONSTRUCT
RUNWAY SIGNAGE 6-24
ANN ARBOR MUNICIPAL AIRPORT
CITY OF ANN ARBOR**

	09/08/26	ADDENDUM NO. 1
MARK	DATE	DESCRIPTION
REVISIONS		
PROJECT NO:		N75.007.001
DATE:		AUGUST 2026
DRAWN BY:		E.J. SLEDZ
DESIGNED BY:		E.J. SLEDZ
CHECKED BY:		S.L. MAKHLOUF
CONTRACTOR SHALL VERIFY ALL CONDITIONS ON JOB SITE & NOTIFY THE OWNER OF ANY VARIATIONS FROM DIMENSIONS SHOWN ON THESE DRAWINGS BEFORE PROCEEDING WITH ANY CONSTRUCTION.		

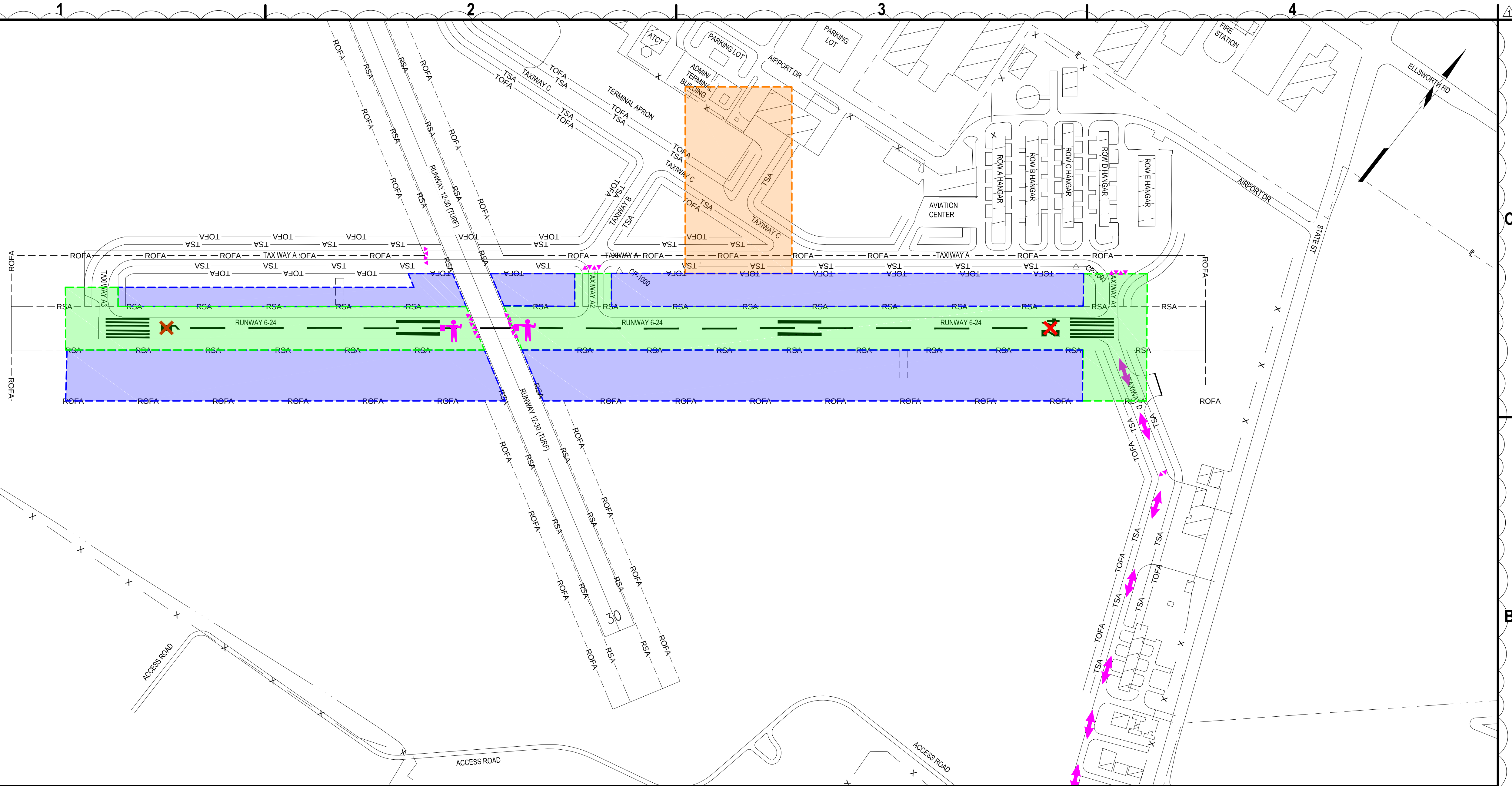
**CONSTRUCTION
SAFETY PHASING
PLAN - PHASE 1**

GC102

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B1 CONSTRUCTION SAFETY PHASING PLAN - PHASE 2
SCALE: 1" = 200'

- LEGEND**
- PHASE 1** (Blue dashed box) **PHASE 1A** (Orange dashed box)
- PHASE 2** (Green dashed box)
- CONTRACTOR PROVIDED FLAGGER WITH RADIO TO MONITOR CROSSING AT RUNWAY 12-30
- CONTRACTOR'S ACCESS ROUTE
- LOW PROFILE BARRICADES, ITEM CX-106. SEE DETAIL A4/GC501
- TEMPORARY CLOSED RUNWAY MARKING, ITEM CX-106. SEE DETAIL B1/GC501

- PHASE 2 - 7 CALENDAR DAYS**
- CONSTRUCTION:**
- ELECTRICAL DEMOLITION AND INSTALLATION WITHIN THE RUNWAY 6-24 RUNWAY SAFETY AREA (RSA)
 - WORK SHALL BE CONCURRENT WITH PHASE 1.

PHASE 2 OPERATIONAL CLOSURES AND RESTRICTIONS TABLE

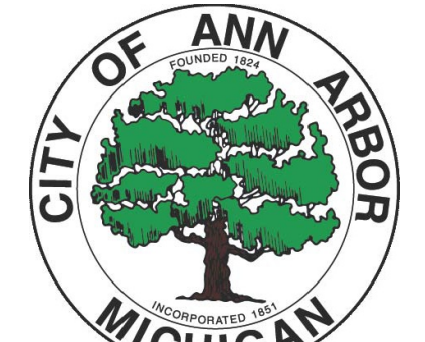
LOCATION	STATUS
RUNWAY 6/24	CLOSED
RUNWAY 12/30	OPEN
TAXIWAY A	CLOSED WEST OF RUNWAY 12-30
TAXIWAY A1	CLOSED
TAXIWAY A2	CLOSED
TAXIWAY A3	CLOSED
TAXIWAY B	OPEN
TAXIWAY C	OPEN
TAXIWAY D	CLOSED
TERMINAL APRON	OPEN

- NOTES:**
- CONTRACTOR SHALL COORDINATE HOMERUN WORK WITH THE RPR AND THE ATCT. AT NO POINT SHALL THE CONTRACTOR CROSS ACTIVE PAVEMENT WITHOUT PRIOR APPROVAL FROM THE ATCT.

- GENERAL PHASING NOTES:**
- REFER TO ATTACHMENT A - CSPP OF THE GENERAL PROVISIONS FOR SPECIFIC OPERATING REQUIREMENTS DURING WORK ON THE AIRFIELD.
 - THE CONTRACTOR WILL BE GIVEN THE SPECIFIC NUMBER OF CALENDAR DAYS TO COMPLETE THE WORK AS SHOWN. LIQUIDATED DAMAGES SHALL BE ASSESSED AFTER THE CONTRACT TIME HAS EXPIRED UNLESS THE CONTRACTOR CAN SHOW JUST CAUSE FOR DELAYS. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE JUSTIFICATION FOR WAIVING ANY LIQUIDATED DAMAGES CHARGED.
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 - CONTRACTOR SHALL COORDINATE SCHEDULE, RAMP CLOSURES, AND NOTAMS WITH THE RPR AND AIRPORT PRIOR TO STARTING WORK.
 - CONTRACTOR SHALL DELINEATE THE RUNWAY SAFETY AREA (RSA) ALONG THE WORK AREA USING LOW-PROFILE BARRICADES SPACED 8FT APART, OR AS DIRECTED BY THE RPR.
 - THE CONTRACTOR SHALL HAVE AT LEAST ONE FULLY OPERATIONAL VACUUM SWEEPER TRUCK AVAILABLE AT ALL TIMES TO CLEAN PAVEMENTS, INCLUDING THE HAUL ROUTE AND PAVEMENT ADJACENT TO THE WORK AREAS. ALL PAVEMENT IS TO BE CLEANED AND FREE OF DIRT AND DEBRIS PRIOR TO OPENING TO AIRCRAFT TRAFFIC.
 - ANN ARBOR MUNICIPAL AIRPORT IS A TOWERED AIRPORT. PRIOR TO CONSTRUCTION, CONTRACTOR MUST MEET WITH THE FAA AIR TRAFFIC CONTROL TOWER (ATCT) FOR RADIO TRAINING FOR FLAGGING.



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**RECONSTRUCT RUNWAY
LIGHTING 6-24 AND RECONSTRUCT
RUNWAY SIGNAGE 6-24
ANN ARBOR MUNICIPAL AIRPORT
CITY OF ANN ARBOR**

MARK	DATE	ADDENDUM NO. 1	DESCRIPTION
REVISIONS			
PROJECT NO: N75.007.001			
DATE: AUGUST 2026			
DRAWN BY: E.J. SLEDZ			
DESIGNED BY: E.J. SLEDZ			
CHECKED BY: S.L. MAKHLOUF			
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**CONSTRUCTION
SAFETY PHASING
PLAN - PHASE 2**

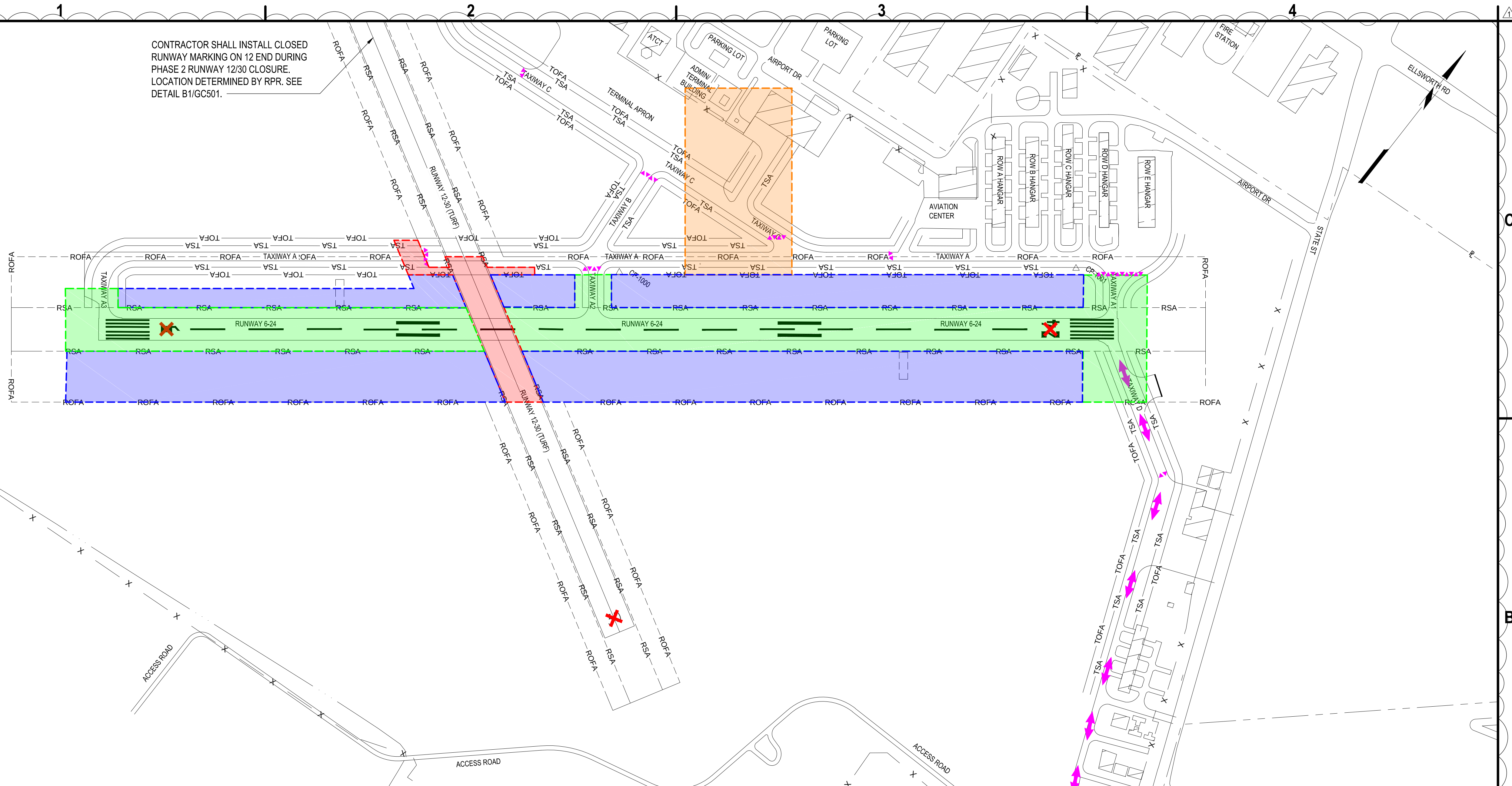
GC103

SHEET NO. 7 OF 21

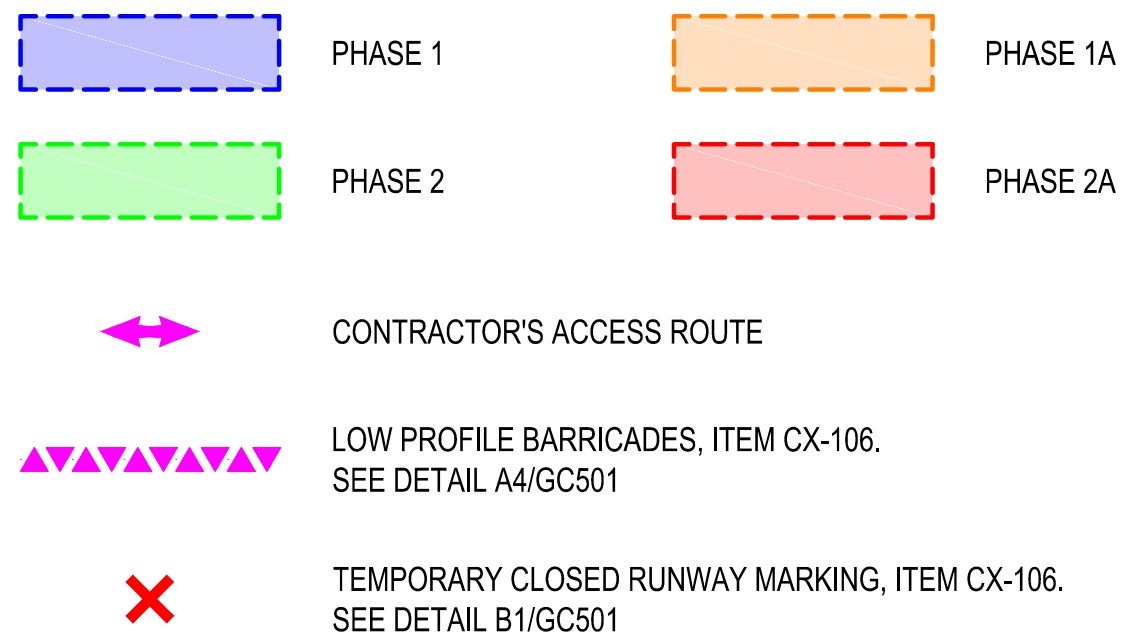
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CONTRACTOR SHALL INSTALL CLOSED RUNWAY MARKING ON 12 END DURING PHASE 2 RUNWAY 12/30 CLOSURE. LOCATION DETERMINED BY RPR. SEE DETAIL B1/GC501.



B1 CONSTRUCTION SAFETY PHASING PLAN - PHASE 2A
SCALE: 1" = 200'



PHASE 2A - 1 CALENDAR DAYS

- CONSTRUCTION:
- ELECTRICAL DEMOLITION AND INSTALLATION WITHIN THE RUNWAY 6-24 AND RUNWAY 12-30 RUNWAY SAFETY AREA (RSA)
 - WORK SHALL BE CONCURRENT WITH PHASE 2.

PHASE 2A OPERATIONAL CLOSURES AND RESTRICTIONS TABLE

LOCATION	STATUS
RUNWAY 6/24	CLOSED
RUNWAY 12/30	CLOSED
TAXIWAY A	CLOSED
TAXIWAY A1	CLOSED
TAXIWAY A2	CLOSED
TAXIWAY A3	CLOSED
TAXIWAY B	CLOSED
TAXIWAY C	CLOSED
TAXIWAY D	CLOSED
TERMINAL APRON	CLOSED

NOTES:

- IF CONCURRENT WITH PHASE 2, RUNWAY 6-24 SHALL ONLY BE CLOSED FOR A MAXIMUM OF SEVEN DAYS.

GENERAL PHASING NOTES:

- REFER TO ATTACHMENT A - CSPP OF THE GENERAL PROVISIONS FOR SPECIFIC OPERATING REQUIREMENTS DURING WORK ON THE AIRFIELD.
- THE CONTRACTOR WILL BE GIVEN THE SPECIFIC NUMBER OF CALENDAR DAYS TO COMPLETE THE WORK AS SHOWN. LIQUIDATED DAMAGES SHALL BE ASSESSED AFTER THE CONTRACT TIME HAS EXPIRED UNLESS THE CONTRACTOR CAN SHOW JUST CAUSE FOR DELAYS. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE JUSTIFICATION FOR WAIVING ANY LIQUIDATED DAMAGES CHARGED.
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- ANN ARBOR MUNICIPAL AIRPORT IS A TOWERED AIRPORT. PRIOR TO CONSTRUCTION, CONTRACTOR MUST MEET WITH THE FAA AIR TRAFFIC CONTROL TOWER (ATCT) FOR RADIO TRAINING FOR FLAGGING.

A1 LEGEND
SCALE: NOT TO SCALE

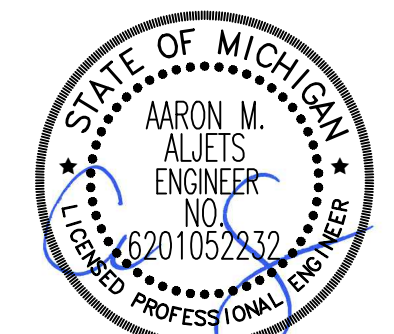
A2 SHEET NOTES
SCALE: NOT TO SCALE

A3 AIRFIELD OPERATIONAL REQUIREMENTS
SCALE: NOT TO SCALE

A4 GENERAL PHASING NOTES
SCALE: NOT TO SCALE



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**RECONSTRUCT RUNWAY
LIGHTING 6-24 AND RECONSTRUCT
RUNWAY SIGNAGE 6-24
ANN ARBOR MUNICIPAL AIRPORT
CITY OF ANN ARBOR**

MARK	DATE	ADDENDUM NO. 1
DESCRIPTION		
REVISIONS		
PROJECT NO: N75.007.001		
DATE: AUGUST 2026		
DRAWN BY: E.J. SLEDZ		
DESIGNED BY: E.J. SLEDZ		
CHECKED BY: S.L. MAKHLOUF		
CONTRACTOR SHALL VERIFY ALL CONDITIONS ON JOB SITE & NOTIFY THE OWNER OF ANY VARIATIONS FROM DIMENSIONS SHOWN ON THESE DRAWINGS BEFORE PROCEEDING WITH ANY CONSTRUCTION.		

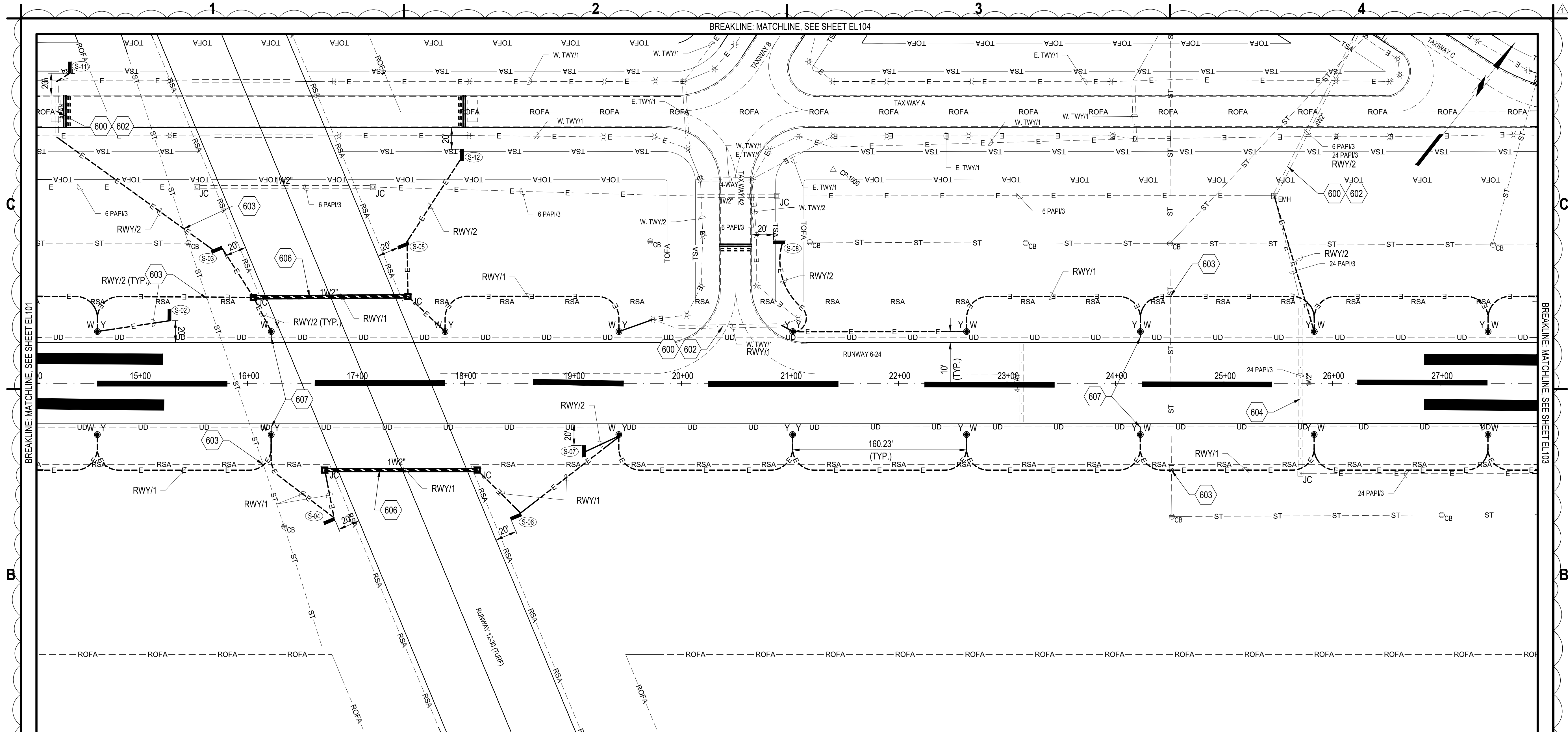
**CONSTRUCTION
SAFETY PHASING
PLAN - PHASE 2A**

GC104

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B1 ELECTRICAL PLAN
SCALE: 1"=50'

600. 1/C #8 AWG 5KV AIRFIELD LIGHTING CABLE(S), ITEM L-108. IN EXISTING CONDUIT OR DUCTBANK.
602. EXISTING DUCT BANK TO REMAIN AND BE PROTECTED IN PLACE. PROPOSED AIRFIELD LIGHTING CABLES TO BE ADDED TO THE EXISTING CONDUITS.
603. PROTECT EXISTING DRAINAGE INFRASTRUCTURE IN PLACE. ANY DAMAGE SHALL BE REPAIRED AS DETERMINED BY THE RPR AT THE CONTRACTOR'S EXPENSE.
604. PROTECT EXISTING AIRFIELD LIGHTING CIRCUIT IN PLACE. ANY DAMAGE SHALL BE REPAIRED AS DETERMINED BY THE RPR AT THE CONTRACTOR'S EXPENSE.
606. 1/C #8 AWG 5KV AIRFIELD LIGHTING CABLE(S), ITEM L-108. IN (1) 2" DIA. SCH. 80 HDPE CONDUIT BUNDLE INSTALLED BY HORIZONTAL DRILLING, ITEM LX-113. SEE DETAIL A3/EL502.
607. ELECTRICAL SYSTEM DRAIN, ITEM L-110. SEE DETAIL B1/EL502.

- W Y
● S-01
■ JC
---E---
2" DIA. SCH. 80 HDPE CONDUIT INSTALLED BY DIRECTIONAL DRILLING, ITEM LX-113. SEE DETAIL A3/EL502.
- PROPOSED BASE MOUNTED RUNWAY EDGE LIGHT (TYP.), ITEM L-125. SEE DETAIL B3/EL502.
- PROPOSED GUIDANCE SIGN AND FOUNDATION (TYP.), ITEM L-125. SEE DETAILS ON SHEET EL503.
- PROPOSED ELECTRICAL JUNCTION CAN (TYP.), ITEM L-115. SEE DETAIL C1/EL501.
- NO. 8 AWG, 5KV, 1/C AIRFIELD LIGHTING CABLE(S), ITEM L-108. INSTALLED IN 2" DIA. PVC CONDUIT, ITEM L-110. INSTALL COUNTERPOISE OVER CONDUIT, ITEM L-108. SEE CONDUIT TRENCHING DETAIL A1/EL502.

NOTES:

- PROPOSED COUNTERPOSE WIRE NOT SHOWN ON PLANS FOR CLARITY PURPOSES. INSTALL PROPOSED COUNTERPOISE WIRE, IN TRENCH, ITEM L-108. SEE DETAIL A1/EL502.
- RUNWAY EDGE LIGHTS SHALL BE LOCATED 10' OFF THE EDGE OF THE FULL STRENGTH RUNWAY PAVEMENT. RUNWAY EDGE LIGHTS SHALL BE UNIFORMLY SPACED AND SYMMETRICAL ABOUT THE RUNWAY CENTERLINE. LONGITUDINAL SPACING SHALL BEGIN AT THE RUNWAY THRESHOLD LIGHTS. RUNWAY EDGE LIGHTS WERE DESIGNED IN ACCORDANCE WITH FAA AC 150/5340-30J. CONTRACTOR SHALL VERIFY RUNWAY EDGE LIGHT SPACING PRIOR TO INSTALLATION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL OTHER AIRFIELD ELECTRICAL CIRCUITS THROUGHOUT THE DURATION OF CONSTRUCTION. ANY DAMAGE TO EXISTING CIRCUITS SHALL BE REPAIRED IN ACCORDANCE WITH SPECIFICATION L-108 AT NO ADDITIONAL COST TO THE OWNER.

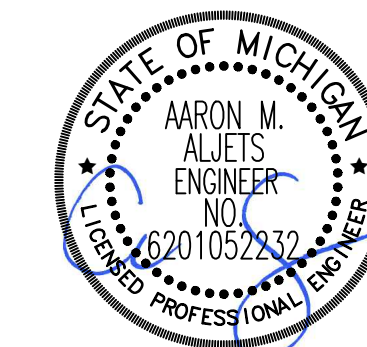
A1 KEYED NOTES
SCALE: NOT TO SCALE

A2 KEYED LEGEND
SCALE: NOT TO SCALE

A3 SHEET NOTES
SCALE: NOT TO SCALE



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RUNWAY SIGNAGE 6-24
ANN ARBOR MUNICIPAL AIRPORT
CITY OF ANN ARBOR**

MARK	DATE	DESCRIPTION
REVISIONS		
PROJECT NO: N75.007.001		
DATE: AUGUST 2026		
DRAWN BY: E.A. JANKOWSKI		
DESIGNED BY: E.A. JANKOWSKI		
CHECKED BY: S.L. MAKHLOUF		
CONTRACTOR SHALL VERIFY ALL CONDITIONS ON JOB SITE & NOTIFY THE OWNER OF ANY VARIATIONS FROM DIMENSIONS SHOWN ON THESE DRAWINGS BEFORE PROCEEDING WITH ANY CONSTRUCTION.		

ELECTRICAL PLAN

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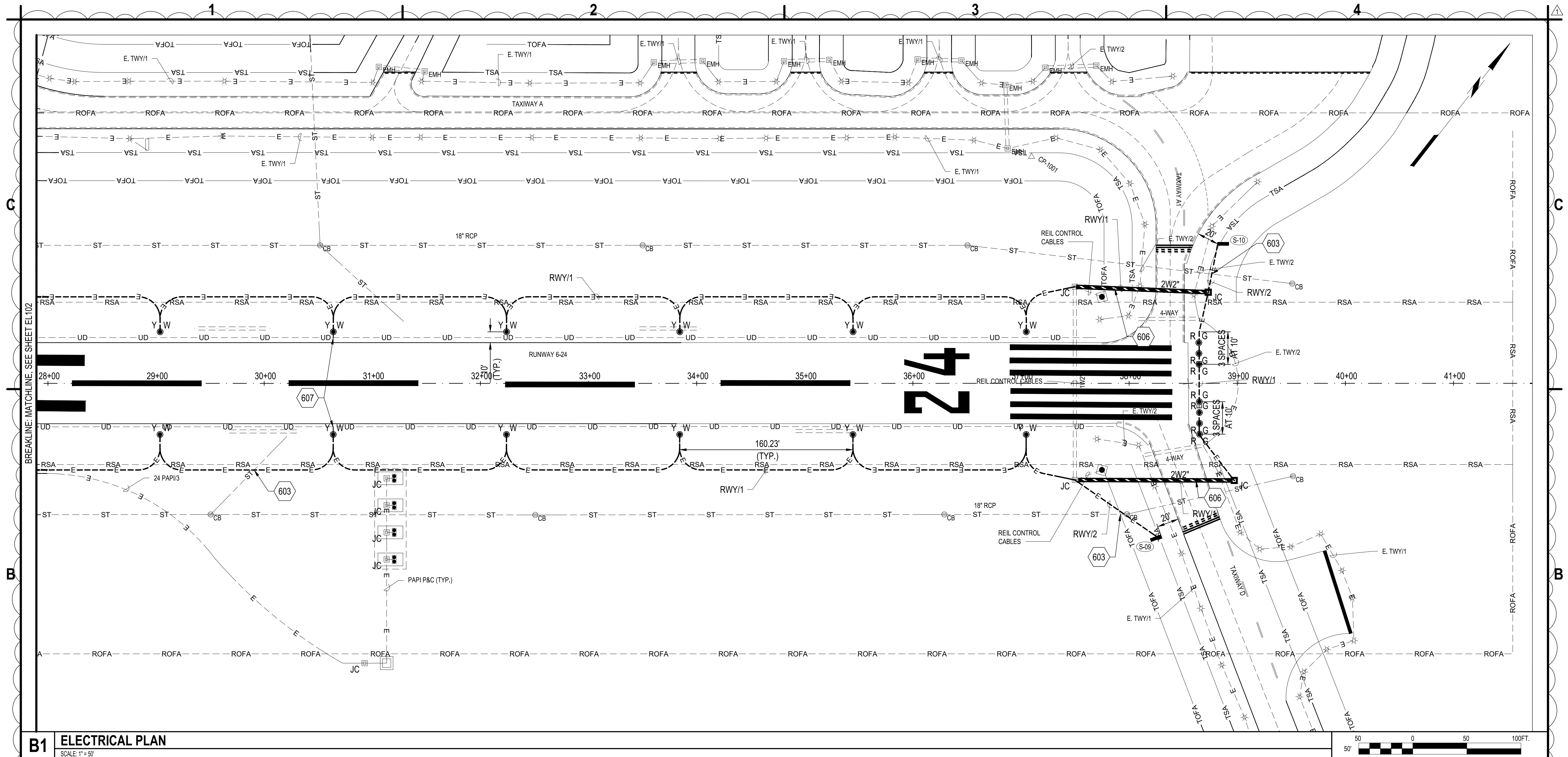
**RECONSTRUCT RUNWAY
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RUNWAY SIGNAGE 6-24
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CITY OF ANN ARBOR**

	09/08/26	ADDENDUM NO. 1
MARK	DATE	DESCRIPTION
REVISIONS		
PROJECT NO: N75.007.001		
DATE: AUGUST 2026		
DRAWN BY: E.A. JANKOWSKI		
DESIGNED BY: E.A. JANKOWSKI		
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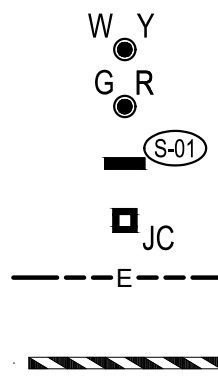
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B1 ELECTRICAL PLAN

SCALE: 1" = 50'

603. PROTECT EXISTING DRAINAGE INFRASTRUCTURE IN PLACE. ANY DAMAGE SHALL BE REPAIRED AS DETERMINED BY THE RPR AT THE CONTRACTOR'S EXPENSE.
606. 1/C #8 AWG 5KV AIRFIELD LIGHTING CABLE(S), ITEM L-108. IN (1) 2" DIA. SCH. 80 HDPE CONDUIT BUNDLE INSTALLED BY HORIZONTAL DRILLING, ITEM LX-113. SEE DETAIL A3/EL502.
607. ELECTRICAL SYSTEM DRAIN, ITEM L-110. SEE DETAIL B1/EL502.



PROPOSED BASE MOUNTED RUNWAY EDGE LIGHT (TYP.), ITEM L-125. SEE DETAIL B3/EL502.

PROPOSED BASE MOUNTED RUNWAY THRESHOLD LIGHT (TYP.), ITEM L-125. SEE DETAIL B1/EL501.

PROPOSED GUIDANCE SIGN AND FOUNDATION (TYP.), ITEM L-125. SEE DETAILS ON SHEET EL503.

PROPOSED ELECTRICAL JUNCTION CAN (TYP.), ITEM L-115. SEE DETAIL C1/EL501.

NO. 8 AWG, SWG, 1/C AIRFIELD LIGHTING CABLE(S), ITEM L-108. INSTALLED IN 2" DIA. PVC CONDUIT, ITEM L-110. THIS CONDUIT COUNTERPOISE OVER CONDUIT, ITEM L-108. SEE DETAIL TRENCHING DETAIL A1/EL502

2" DIA. SCH. 80 HDPE CONDUIT INSTALLED BY DIRECTIONAL DRILLING, ITEM LX-113. SEE DETAIL A3/EL502.

NOTES:

1. PROPOSED COUNTERPOISE WIRE NOT SHOWN ON PLANS FOR CLARITY PURPOSES. INSTALL PROPOSED COUNTERPOISE WIRE, IN TRENCH, ITEM L-108. SEE DETAIL A1/EL502.
2. RUNWAY EDGE LIGHTS SHALL BE LOCATED 10' OFF THE EDGE OF THE FULL STRENGTH RUNWAY PAVEMENT. RUNWAY EDGE LIGHTS SHALL BE UNIFORMLY SPACED AND SYMMETRICAL ABOUT THE RUNWAY CENTERLINE. LONGITUDINAL SPACING SHALL BEGIN AT THE RUNWAY THRESHOLD LIGHTS. RUNWAY EDGE LIGHTS WERE DESIGNED IN ACCORDANCE WITH FAA AC 150/5340-30J. CONTRACTOR SHALL VERIFY RUNWAY EDGE LIGHT SPACING PRIOR TO INSTALLATION.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL OTHER AIRFIELD ELECTRICAL CIRCUITS THROUGHOUT THE DURATION OF CONSTRUCTION. ANY DAMAGE TO EXISTING CIRCUITS SHALL BE REPAIRED IN ACCORDANCE WITH SPECIFICATION L-108 AT NO ADDITIONAL COST TO THE OWNER.

A1 KEYED NOTES

SCALE: NOT TO SCALE

A2 KEYED LEGEND

SCALE: NOT TO SCALE

A3 SHEET NOTES

SCALE: NOT TO SCALE

