

PROJECT MANUAL (I-1)

VOLUME 1: (Div. xx – WCAA Requirements)

Solicitation Number: 26-04173
WCAA Project Number (Ticketing): MT914



**Detroit Metro * Willow Run
Wayne County Airport Authority**

**Ticketing Family Restrooms
Detroit Metropolitan Airport: McNamara Terminal**

Issue For Bid, July 16, 2025

Owner	Prepared by
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VOLUME 1

(SECTION) = Issued at this time

{xxx}= Consultant Responsible for section authorship

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DOCUMENT C-105 - MOBILIZATION

PART 105 - GENERAL

105.1 DESCRIPTION

- A. This item of work shall consist of, but is not limited to, work and operations necessary for the movement of personnel, equipment, material and supplies to and from the project site for work on the project except as provided in the contract as separate pay items

105.2 MOBILIZATION LIMIT

- A. Not applicable.

105.3 POSTED NOTICES

- A. Prior to commencement of construction activities, the Contractor must post the following documents in a prominent and accessible place where they may be easily viewed by all employees of the prime Contractor and by all employees of subcontractors engaged by the prime Contractor: Equal Employment Opportunity (EEO) Poster "Equal Employment Opportunity is the Law" in accordance with the Office of Federal Contract Compliance Programs Executive Order 11246, as amended; Davis Bacon Wage Poster (WH 1321) - DOL "Notice to All Employees" Poster; and Applicable Davis-Bacon Wage Rate Determination. These notices must remain posted until final acceptance of the work by the Owner.

105.4 ENGINEER/RPR FIELD OFFICE

- A. An Engineer/RPR field office is not required.

105.5 METHOD OF MEASUREMENT

- A. No direct payment.

105.6 BASIS OF PAYMENT

- A. No direct payment.

105.7 REFERENCES

- A. 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.
- B. Office of Federal Contract Compliance Programs (OFCCP) Executive Order 11246, as amended
- C. EEOC-P/E-1 – Equal Employment Opportunity is the Law Poster United States Department of Labor, Wage and Hour Division (WHD)
- D. WH 1321 – Employee Rights under the Davis-Bacon Act Poster

END OF DOCUMENT C-105



Wayne County Airport Authority

Safety Standards

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1.0 General Requirements

This document is specifically intended for the use of Construction Managers, Vendors, Contractors and Subcontractors who perform work on or at (Airport Authority) Detroit Metropolitan Airport (DTW) or Willow Run Airports (YIP) and facilities. It is made available to amplify your Safety Program. All or parts of the contents will apply to your contract depending upon the type of contract and the sequence in which the phases are conducted. ***BE ADVISED you will still be subjected to a Construction and Alteration Permit for work to be performed (if C/A permit project).***

The following information is provided as an example in which to determine what items to include in the safety program for work performed and does not constitute the requirements of a complete, comprehensive safety policy or Safety Program. It shall be the Contractors responsibility to provide a safe and healthful work environment for their workers on-site during the performance of the contract or work performed from a purchase order or work order. This shall include the Contractor and all its Subcontractors, all trades and supervision, suppliers, Airport Authority personnel, visitors and additional parties having access to the designated project work areas at the Airport Authority's facility. The safety goal of Airport Authority construction projects is to achieve zero fatalities, zero permanent disabilities, and zero lost time accidents.

The generalized overviews presented in this document are statements of expectations that the Contractor will be measured against. Failure to meet these requirements may be grounds for the removal of the individual employee from the worksite and also could lead to grounds for termination of the Contract by the Airport Authority.

The Contractor must not interfere with or make more difficult or expensive Airport Authority's compliance with any law, statute, code, ordinance or regulation. Airport Authority will notify the Contractor, orally or in writing, and the Contractor shall within forty-eight hours of receiving Airport Authority's notification make whatever changes are necessary to remedy the situation, including, without limitation, changes in the work schedule, installation of safety devices. Airport Authority's exercise of its rights under this guideline will not be grounds for an increase in the Contract Sum under the Contract.

The Airport Authority has the right to monitor (Contractor shall still be responsible for assuring safe work practices) the Contractors' operations for safety performance, workmanship, protection of operations, work progress, housekeeping, and compliance to design specifications. It is a general practice that the Airport Authority will work through the Contractor's supervision and not directly with the employee. The Airport Authority has the right to participate with and investigate any accident or incident.

Contractor shall develop and implement a system for assessing appropriate requirements applicable to its employees, including removal from Airport Authority property, for violation of safety laws statutes, codes, ordinances and regulations, safety requirements specified by Job Hazard Analysis; safety requirements specified by the Contract, including, without limitation, any other condition that presents a safety hazard to the employee or others. Contractor shall prepare and maintain a detailed written report of each instance where it has assessed discipline for a safety related infraction including identification of the employee, the nature of the infraction and their discipline assessed.

Prior to beginning any work, the Contractor shall conclusively demonstrate to the Airport Authority that the Contractor has in place and actively maintains a comprehensive random and post accident drug and alcohol testing program that meets or exceeds the standards for post accident and random testing in accordance with Department of Transportation (DOT) Drug and Alcohol Testing - 49 Code of Federal Regulations (CFR) Part 40 (hereinafter "Drug Testing"). Written proof of Drug Testing shall be submitted to the Airport Authority simultaneously with the required Payment and Performance Bonds

and Insurance. The Drug Testing requirement shall apply to all subcontractors of the Contractor and Insurance. The Drug Testing requirement shall apply to all subcontractors of the Contractor as well as the Contractor.

All persons entering the project area designated as the construction site shall strictly follow Michigan OSHA, EGLE, FAA, DOT, and TSA regulations.

These established safety requirements shall govern Contractors and all persons within the designated construction site and are outlined to avoid infractions of common accepted safety practices. Safety Program – The Contractor shall submit its Safety Program to the Airport Authority and obtain approval prior to issuance of the Notice to Proceed. The Safety Program includes, but is not limited to the following:

- Contractor's Corporate Safety Policy and/or
- Contractor's Site Specific Safety Plan;
- Construction Safety and Phasing Plan (CSPP) – The Contractor shall abide by the CSPP, approved by the FAA and provided by the Airport Authority (for all Airfield, PFC, and AIP funded projects only).
- Safety Plan Compliance Document (SPCD) – The SPCD details how the contractor will comply with the CSPP. The Contractor shall prepare the SPCD and obtain approval by the Airport Authority prior to issuance of the Notice to Proceed (for all Airfield, PFC, and AIP funded projects only).

Regular progress meetings will be conducted during construction. Part of the meeting will be dedicated to safety. During these meetings, the Contractor shall submit to WCAA on a monthly basis the following safety information (Attachment #1):

- Estimated man-hours worked from the previous period;
- Number of near misses from the previous period;
- Number of accidents from the previous periods;
- Number of recordable injuries from the previous period; and
- Summarization of any accident that took place from the previous period.

The Contractor shall carry out its operations in a manner that will cause a minimum of interference with air traffic, and shall be required to cooperate with the Federal Aviation Administration (FAA), Wayne County Airport Authority (Airport Authority) the airlines, and other contractors working in the area. All work shall be completed in accordance with the Contract Documents including the Safety Program and FAA Advisory Circular 150/5370-2F, Operational Safety on Airports During Construction or current edition as of bid date.

If the Contractor uses resources from any union halls for staffing, those individuals shall have a current OSHA 10 hour certification as well as go thru safety orientation with the Contractor. Copies of any names of individuals who are used from the local halls shall be submitted with a copy of the certification to the Airport Authority or the Airport Authority's representative one week prior to allowing the individual onsite.

The Contractor shall supply, place, maintain, move and store the items listed herein, as appropriate, to facilitate construction and protect air traffic. The Contractor shall maintain an adequate extra supply of these items on site.

The following information is provided as an example in which to determine what items to include in the safety program for work performed and does not constitute the requirements of a complete, comprehensive

safety policy or Safety Program. It shall be the Contractors responsibility to provide a safe and healthful work environment for their workers on-site during the performance of the contract or work performed from a purchase order or work order. This shall include the Contractor and all its Subcontractors, all trades and supervision, suppliers, Airport Authority personnel, visitors and additional parties having access to the designated project work areas at the Airport Authority's facility. The safety goal of Airport Authority construction projects is to achieve zero fatalities, zero permanent disabilities, and zero lost time accidents.

These established safety requirements shall govern Contractors and all persons within the designated construction site and are outlined to avoid infractions of common accepted safety practices. These safety requirements shall not be construed as complete and any requirements of the guidelines in conflict with Michigan OSHA and FAA shall be superseded by Michigan OSHA or FAA regulations.

Tools, equipment or materials shall not be left or placed on beams, overhead walkways, or places where they may fall, causing injury.

To prevent possible explosive or incendiary devices from being hidden in areas close to Airport Facilities, equipment, aircraft, or vehicles, no containers (tool boxes, storage containers, materials trailers shall be left unsecured or unattended in public areas.

The Contractor shall not bring any tool through passenger screening. No tools shall be left unsecured in public areas. Any temporary doors that lead to construction areas that are accessible by the public shall be equipped with a push button cipher lock (installed at the contractor's expense). The access number to the door shall be provided to Airport Authority designees.

The Contractor is not permitted to carry liquids (except drinking water), gels, or aerosols into sterile areas except for those liquids, gels, or aerosol necessary for operational or medical needs, all of which shall be subject to inspection.

Eye protection shall be worn at all times.

While working on the airfield hearing protection is mandatory. It is up to each contractor and subcontractor to determine if a hearing conservation program is necessary. The Contractor will comply with industry standards for hearing protection of personnel and visitors as appropriate.

Upon request the Airport Authority will submit any historical noise surveys to the Contractor.

Contractor shall verify and assure that every employee who operates any mobile equipment on Airport Authority properties shall have a current valid driver's license.

The Contractor shall comply with the National Electric Code (NEC) requirements regarding ground fault circuit interrupters for construction field tools and equipment.

In matters concerning interpretation of the foregoing requirements, the decision of the Airport Authority will be final and binding.

Onsite vehicles are to have no more passengers than seats available on the vehicle. Personnel carts, golf carts or similar vehicles, where permitted, shall only have as many riders as seats available. Failure to follow this requirement will lead to removal of personnel from the project.

The Contractor shall maintain a Safety Program, for the purpose of safety, security, orientation, education, training, enforcement, and distribution.

If a fire line or any type of fire suppression service is going to be taken out of service, the Contractor must coordinate with the Airport Authority's Public Safety Fire Marshal or a designated representative from the Airport Authority's Fire Division at least three days in advance. In addition, the contractor shall complete an impairment notification to the insurance carrier. Impairment kits can be obtained by contacting the Airport Authority building operator, Airport Authority Maintenance Division, or Airport Authority Risk Management Unit.

If a security system (cameras, gates, lifts, doors, etc) is going to be taken out of service, the Contractor shall coordinate with the Airport Authority Security Division at least three days in advance. Pending certain security threat levels, permission may not be granted to take down a security system.

Potable water line installation will require coordination with the Airport Authority. In addition, a permit application may have to be completed and submitted to the Airport Authority.

The Contractor shall follow Detroit Water and Sewer Department guidelines for the installation and storage of potable water lines. Installation, storage, and testing results shall be coordinated with the Airport Authority.

Employees shall not operate any equipment or vehicles more than 16 hours consecutively.

Any individual failing to follow these safety requirements will be directed by the Contractor to immediately abate the unsafe act, behavior, or equipment.

All Contractor equipment brought onsite for use on or during the construction project shall be kept in a safe operating condition. Worn or damaged equipment shall be repaired, replaced or taken out of service (locked out) and removed from the job site.

Contractor shall keep its work area in a clean and safe condition.

The use of makeshift, defective or inadequate scaffolding, rigging, or staging is prohibited.

The Contractor shall provide barriers, railings or coverings for all areas including, but not limited to, elevated work platforms, holes, excavations, roof openings, along roof edges, manholes, and/or unfinished work causing floor obstructions. Outside excavations, barriers, and safety signs shall be adequately illuminated during darkness.

No Contractor is permitted to use any powered industrial moving equipment, trucks, tools, or ladders owned or rented by, the Airport Authority unless it is an emergency and the request form is executed.

The Contractor shall provide physical barriers along the perimeter of its work site and place signs identifying the area as a construction site. In some cases where the general public or open airfield is to be protected, additional and/or specialty barriers might be required and will need to be determined by Airport Authority.

All individuals in the designated construction areas are required to wear hardhats, safety glasses, protective footwear, and any other protective clothing or gear as required by safety codes and regulations or as deemed necessary by the Contractor.

Contractors shall not perform work overhead of any member of the general public. The Contractor shall use physical barriers to prevent access by non-construction personnel to areas with overhead construction work. If the Contractor cannot restrict access to the overhead work area, work will cease until a method of restricting access is developed and implemented.

Welding screens and/or curtains will be used in areas where cutting or welding operations are being performed where non-construction personnel may be exposed to weld flash or sparks. Refer to Airport Authority Hot Work permit requirements.

Non-Airport Operations Areas (Non-AOA) road closures shall be coordinated with Airport Authority Facilities, Design, and Construction Division. If road closures are required at YIP, then YIP Management shall be involved as well. Coordination shall take place at a minimum of five days prior to closure. Public roadways will be closed following the Michigan Uniform Traffic Code procedures.

Prior to mobilization the Contractor shall complete Contractor Employee Review, Contractor Safety Guidelines (Attachment 2). This document shall be kept on site and updated for every new employee who will work on the project.

Regular progress meetings will be conducted during construction. Part of the meeting will be dedicated to safety.

2.0 General Airfield Safety

This section is instead to be used to assist those Contractors who have access to the airfield. Warning lights shall meet the requirements of FAA Advisory Circular 150/5370-2G, or current edition as of bid date, Operational Safety on Airport during Construction. The Contractor's vehicles shall meet the requirements of FAA Advisory Circular 150/5210-5D or current edition as of bid date, Painting, Marking, and Lighting of Vehicles Used on an Airport.

Low profile barricades shall be in accordance with the details in the Contract Documents and meet the requirements of FAA Advisory Circular 150/5370-2G, or current edition as of bid date. The barricades shall be furnished, maintained and relocated during each phase by the Contractor. At the completion of the Contract (based on the contract language), the entire quantity of barricades shall be delivered to the Airport Authority complete and in good working order and shall become property of the Airport Authority. Barricades shall be as detailed and installed per the Drawings along the affected pavement edge or access to a closed runway, taxiway or apron.

Safety fence shall be furnished and installed at the locations as indicated on the Contract Documents and/or directed by the Designer.

The power vacuum sweepers shall be Tymco, Model HSP-600 or Elgin Model Crosswind or an approved equal. Depending on the size of the project and construction activity on aircraft operations area, a broom type sweeper may be allowed by the Designer. The Contractor shall provide a minimum of one sweeper per taxiway intersection at all times.

Taxiway ending marker shall be furnished and installed at the locations as indicated on the Contract Documents and/or directed by the Designer. Taxiway ending marker shall meet the requirements of FAA Advisory Circular 150/5345-44K, Type L-858C, or current edition as of bid date.

Airfield Rescue and Firefighter (ARFF) roads cannot be taken out of service unless approved by the WCAA.

Equipment that is used for material handling on the airfield shall have working headlights and brake lights. Any equipment that exits the AOA onto public roadways is subject to MDOT regulations.

Contractor to coordinate jet fuel line work with Airport Authority Operations prior to disturbance

The Contractor shall not pull any associated airfield lighting electrical cables through existing

If working on the AOA, the Contractor will be required to prepare an FAA Safety Plan Compliance Document (SPCD) that is a part of the Safety Program.

Airport Operations Area (AOA) zipper road closure shall be coordinated with the DTW or YIP Airfield Operation Units. Coordination shall take place at a minimum of five days prior to closure.

The Contractor shall submit an FAA Form 7460-1 at least 90 days prior to any crane erections. All construction involving cranes shall further be coordinated at least 72 hours in advance, excluding weekends, with the applicable DTW and YIP Airfield Operation Division or Airport Authority Facilities, Design, and Construction Division. This does not include the time required for airspacing. The following information and actions are required:

1. Location of the Crane.
2. Maximum extendable height.
3. Hours of operation.

4. The top of each crane boom shall be marked by a 3' x 3' orange and white checkered flag — each box being 1' square.
5. Each crane shall be lowered at night and during periods of poor visibility as directed by Airport Authority Airfield Operation Units or Airport Authority Facilities, Design, and Construction Division. In the event the crane is approved to remain extended during the hours from sunset to sunrise, the highest point of the crane boom will be lit with a red obstruction light in accordance with AC 70/7460-1, and the Michigan Tall Structures Act.

3.0 Specific Airfield Safety

Taxiway ending marker shall be furnished and installed at the locations as indicated on the Contract Documents and/or directed by the Designer. Taxiway ending marker shall meet the requirements of FAA Advisory Circular 150/5345-44K, Type L-858C, or current edition as of bid date.

Runway Closure Marker (lighted X) shall meet the latest edition of FAA AC 150/5345-55A, or current edition as of bid date, Lighted Visual Aid to Indicated Temporary Runway Closure. Runway Closure Marker shall be approved in accordance with the details shown on the Contract Documents and as approved by the Designer. At the completion of the project the Runway Closure Markers and all associated equipment shall become the property of the Airport Authority. The following are requirements for the Runway Closure marker:

- A. Be a portable, towable unit that can be quickly removed from the runway. Includes a two inch ball hitch on the trailer tongue and second hitch mounted on the rear of the trailer.
- B. Consist of clear incandescent lamps or transmit a white color, arranged in the shape of a letter "X" with arms crossed at an appropriate angle to make the "X" discernible. The arms shall be painted aviation yellow on all sides so that the unit will be clearly visible when it is in position.
- C. Be energized by a portable power supply, water-cooled diesel engine or by outlets on the airfield as available.
- D. Be controlled so that the lighted signal will flash all lights simultaneously at an approximate rate of 2.5 seconds "on" (+/- 20%) and 2.5 seconds "off" (+/- 20%).
- E. Provide the following daytime and nighttime visual reference during Visual Flight Rule (VFR) conditions when placed on centerline and within 250 feet of the runway end:
- F. Visible to the pilot at a range of at least 5 nautical miles.
- G. Recognizable as a letter "X" from a range of at least 1-1/2 nautical miles.
- H. Provide lamp dimming capability for nighttime operations.
- I. Produce a signal that provides a horizontal coverage to at least 15 degrees on each side of the runway centerline, and a vertical coverage from 0 degrees to 10 degrees above horizontal, both day and night, at a range of 1-1/2 nautical miles.
- J. Adjustable aiming and leveling to allow tilting to an optimum angle of three degrees from vertical.
- K. Withstand a minimum wind speed of at least 40 mph without affecting aiming or operation.
- L. Include an illuminated failure indicator that is visible from the back (runway side) of the unit.
- M. Include an operations placard in a conspicuous location that instructs operators to visually check the operation of the device every two hours.
- N. One person set up in less than 5 minutes.

- O. Diesel portable power with adapter to run directly from electrical outlets.
- P. Trailer hitch options including tandem towing for on-airport operations.
- Q. Ability to provide up to 120 hours of continuous operation.
- R. Fail safe protection to ensure that the unit stays on as continuous light if the flasher unit should fail.
- S. Dimensioning and lights arrangement shall follow FAA recommendations of AC 150/5345-55A, or current edition as of bid date.

The power vacuum sweepers shall that meet requirements of dust control that will assure air emissions will comply with MIOSHA standards. Depending on the size of the project and construction activity on aircraft operations area, a broom type sweeper may be allowed by the Designer. If a broom type sweeper is used it must be used water or a vacuum system for dust control. The Contractor shall provide a minimum of one sweeper per taxiway intersection at all times.

In compliance with FAA AC 150/5370-2G, or current edition as of bid date, the Contractor shall prepare a Safety Plan Compliance Document (SPCD). This document shall include a general statement by the Contractor that he/she has read and will abide by the CSPP. Any details not identifiable for the CSPP should be included within the SPCD. The SPCD is similar to the CSPP but shall not contain duplicate information. The contractor must submit the SPCD to the Airport Authority for approval prior to the issuance of the NTP. The SPCD shall include but not be limited to the following Checklist as applicable to the scope of the project:

Coordination. Discuss details of proposed safety meetings with the Airport operator and with contractor employees and subcontractors.

Phasing. Discuss proposed construction schedule elements, including:

- Duration of each phase.
- Daily start and finish of construction, including “night only” construction.
- Duration of construction activities during:
 - o Normal runway operations.
 - o Closed runway operations.
 - o Modified runway “Aircraft Reference Code” usage.

Areas and operations affected by the construction activity. These areas and operations should be identified in the CSPP and should not require an entry in the SPCD.

Protection of NAVAIDS. Discuss specific methods proposed to protect operating NAVAIDS.

Contractor access. Provide the following:

- Details on how the Contractor will maintain the integrity of the Airport security fence (contract security officers, daily log of construction personnel, and other).
- Listing of individual requiring driver training (for certificated airports and as requested).
- Radio communications.
 - o Types of radios and backup capabilities.
 - o Who will be monitoring radios.
 - o Whom to contact if the Air Traffic Control Tower (ATCT) cannot reach the Contractor’s designated person by radio.
 - o Details on how the contractor will escort material delivery vehicles.

Wildlife management. Discuss the following:

- Methods and procedures to prevent wildlife attraction.
- Wildlife reporting procedures.

Foreign Object Debris (FOD) management. Discuss equipment and methods for control of FOD, including construction debris and dust.

Hazardous material (HAZMAT) management. Discuss equipment and methods for responding to hazardous spills.

Notification of construction activities. Provide the following:

- Contractor points of contact.
- Contractor emergency contact.
- Listing of tall or other requested equipment proposed for use on the airport and the time frame for submitting 7460-1 forms not previously submitted by the Airport operator.
- Batch plant details, including 7460-1 submittal.

Inspection requirements. Discuss daily (or more frequent) inspections and special inspection procedures.

Underground utilities. Discuss proposed methods of identifying and protecting underground utilities.

Penalties. Penalties should be identified in the CSPP and should not require an entry in the SPCD.

Special conditions. Discuss proposed actions for each special condition identified in the CSPP.

Runway and taxiway visual aids. Including marking, lighting, signs and visual NAVAIDs. Discuss proposed visual aids including the following:

- Equipment and methods for covering signage and airfield lights.
- Equipment and methods for temporary closure markings (paint, fabric, other).
- Types of temporary Visual Guidance Slope Indicators (VGSI).

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

Hazard marking and lighting. Discuss proposed equipment and methods for identifying excavation areas.

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

- Equipment and methods for maintaining Taxiway Safety Area standards.
- Equipment and methods for separation of construction operations from aircraft operations, including details of barricades.
- Other limitations on construction should be identified in the CSPP and should not require an entry in the SPCD.

The Safety Program, including the SPCD, shall be submitted to the Airport Authority for review.

Contractor shall be familiar with all existing and limiting conditions that will or may have a bearing on the performance of the Contract with regard to safety. Any limiting conditions shall be identified in writing.

Throughout the duration of the Contract, any practice or situation that the Designer determines to be unsafe or a hindrance to regular Airport operations shall be immediately rectified.

The following publications contain definitions/descriptions of critical Airport operating areas. The areas defined below pertain to airfield safety requirements and are referenced throughout the Contract Documents. Copies of these publications are available from the FAA at www.faa.gov. Advisory Circular 150/5370-2G, or current edition as of bid date, "Operational Safety on Airports During Construction": Sets forth guidelines to assist Airport operators in complying with FAR Part 139, "Certification and Operation/Land Airports Serving Certain Air Carriers" and with the requirements of federally funded construction projects.

FAR Part 77, "Objects Affecting Navigable Airspace," Current Edition: Establishes standards for determining obstructions to navigable airspace. Civil Airport imaginary surfaces are defined in the publication. It also sets forth requirements for notice of certain proposed construction or alteration. Notice of construction provides a basis for recommendations for identifying the construction or alteration in accordance with AC 70/7460-1, "Obstruction Marking and Lighting," or current edition as of bid date. AC 150/5300-13, "Airport Design" or current edition as of bid date: Establishes design, operational and maintenance standards for Airports. Standard terms used in the Contract Documents are defined below:

Runway Safety Area (RSA) - The defined surface surrounding the runway over which aircraft should, in dry weather, be able to cross at normal operating speeds without incurring significant damage. A safety area is graded, drained and compacted. It is free of any holes, trenches, humps or other significant surface variations or objects, other than those which must be there because of their essential aeronautical function. The safety area requires the capability of supporting maintenance, firefighting, and rescue vehicles under normal (dry) conditions.

Object Free Area (OFA) – An area on the ground centered on a runway, taxiway, or taxilane centerline provided to enhance the safety of aircraft operations by having the area free of objects, except for objects that need to be located in the OFA for air navigations or aircraft ground maneuvering purposes.

Obstacle Free Zone (OFZ) – The OFZ is the airspace below 150 feet above the established Airport elevation and along the runway and extended runway centerline that is required to be clear of all objects, except for frangible visual NAVAIDs that need to be located in the OFZ because of their function, in order to provide clearance protection for aircraft landing or taking off from the runway, and for missed approaches. The OFZ is subdivided as follows:

Runway OFZ. The airspace above a surface centered on the runway centerline.

Inner-approach OFZ. The airspace above a surface centered on the extended runway centerline. It applies to runways with an approach lighting system.

Outer-approach OFZ. The airspace above the surfaces located on the outer edges of the runway OFZ and the inner-approach OFZ. It applies to runways with approach visibility minimums lower than $\frac{3}{4}$ -statute mile.

Taxiway Safety Area (TSA) – A defined surface alongside the taxiway prepared or suitable for reducing the risk of damage to an airplane unintentionally departing the taxiway.

The work shall proceed in such a manner as to provide safe conditions for all workers and personnel. The sequence of operations shall be such that maximum protection is afforded to ensure that personnel and workers in the work area are not subject to any dangerous conditions.

Prior to commencement of construction activity, the Contractor shall notify in writing, at least 72 hours in advance, Airport Authority Operations and the Designer of its intentions to begin construction, stating the proposed time, date, and area of which construction is to occur in order for the appropriate Notice-to-Airmen (NOTAM) to be issued. During the performance of this Contract, the Airport facility shall remain in use to the maximum extent possible. The Contractor shall not allow employees, subcontractors, suppliers, or any other unauthorized persons to enter in any Airport area which may be open for aircraft use.

Should any of the following problems or hazards arise during construction, the Contractor shall immediately rectify/correct the problem or hazard to the satisfaction of the Designer and the Airport Authority: Trenches, holes, or excavations at or adjacent to any active runway or in safety areas. Unmarked/unlighted holes or excavation at any active apron, taxiway, taxilane, or related safety area. Mounds or piles of earth, construction materials, temporary structures, or other objects in the vicinity of any active taxiway, taxilane, or in a related safety, approach, or departure area.

Vehicles or equipment (whether operating or idle) on any active runway, taxiway, taxilane, or in any related safety, approach, or departure area. Vehicles, equipment, excavations, stockpiles, or other materials which could degrade or otherwise interfere with electronic signals from radios or navigational aids (NAVAIDS). Runway surfacing projects resulting in excessive lips greater than 1 inch for runways and exceeding 3 inches for edges between the old shoulder and new surfaces at runway edges and ends.

Unmarked utility, NAVAID, weather service, runway lighting, or other power or signal cables that could be damaged during construction. Objects (whether or not marked or flagged) or activities anywhere on or in the vicinity of the Airport which could be distracting, confusing, or alarming to pilots during aircraft operations.

Unflagged/unlighted low visibility items (such as tall cranes, drills, and the like) anywhere in the vicinity of active runways, or in any approach or departure area. Misleading or malfunctioning obstruction lights or unlighted/unmarked obstructions in an approach to any active runway.

Inadequate approach/departure surfaces needed to assure adequate landing/takeoff clearance over obstructions or work or storage areas. Inadequate, confusing or misleading (to user pilots) marking/lighting of runways, taxiways, or taxilanes, including displaced or relocated thresholds. Water, dirt, debris, or other transient accumulation which temporarily obscures pavement marking, pavement edges, or derogates visibility of runway/taxiway marking or lighting. Inadequate or improper methods of marking, barricading, and lighting of temporarily closed portions of Airport operations areas. Trash or other materials with foreign object damage (FOD) potential, whether on runways, taxiways, or aprons, or in related safety areas. Inadequate barricading or other marking which is placed to separate construction or maintenance areas from active aircraft operating areas.

Failure to control vehicle and human access to active aircraft operating areas. Construction/maintenance activities or materials which could hamper the response of aircraft rescue and firefighting (ARFF) equipment from reaching all aircraft or any part of the runway/taxiway system, runway approach and departure areas, and aircraft parking locations. Bird attractants on Airport, such as edibles (food scraps, etc.), miscellaneous trash, or ponded water.

4.0 Underground Work – Excavation, Shoring, Sheet Piling, Trenching, Saw Cutting, and Drilling

The Contractor shall identify any known underground interferences or discrepancies on all available drawings that can be provided by contacting the Airport Authority Project Representative. The Contractor must coordinate a meeting a Utility Review meeting prior to any underground work to discuss the project approach as it relates to this section.

Prior to commencing any excavation (on or off AOA), drilling (on or off the AOA), driving fence posts (along the AOA), trenching (on or off the AOA), saw cutting (AOA only), the Contractor shall review drawings with Airport Authority personnel to insure that all underground obstructions and utilities are identified. In addition the contractor shall contact MISS DIG, other stakeholders, and coordinate with the Airport Authority Project Representative to assign the resources for marking the utilities. The Contractor will be completely responsible for all damage to underground utilities. The Contractor shall coordinate request of marking the utilities by completing the Utility Marking Request form (Attachment #3) at least ten business days prior to any excavations. If the subject area of interest encompasses more than 5,000 linear feet or one acre, the request shall be made at least two weeks prior to the scheduled work. Airport Authority will notify the Contractor a minimum with 24 hours after receiving notice.

After the subjected area has been reviewed by MISS DIG, the Airport Authority, and other stakeholders the Contractor shall complete the Utility Field Acknowledgment form (Attachment #5). The Contractor shall **not** proceed until the Field Acknowledgment form has been executed by the Contractor. A Field Acknowledgment Form (ticket) is valid for 21 days from the start date of the excavation on the ticket, except that a ticket is valid for 180 days from the start date if the notice indicates that the proposed excavation will not be completed within 21 days of the start date. The Contractor shall catalog the marked utilities by means approved by the Airport Authority. The Contractor could be subjected to additional fees and penalties for mismanaging and not proper planning the coordination of this portion of the work

The Contractor shall assure and has a right to assure each utility shall be swept in the following manner. In addition for any reason the Contractor is the marking they must conform to this standard as well:

- Flags can be used but shall be color coordinated as suggested below. In addition the “acronym” for that utility shall be written on one side of the flag with a permanent marker.
- Stakes can be used. The top two inches of the stake shall be painted in color as suggested below. In addition the “acronym” for that utility shall be written on one side of the stake with a permanent marker.
- Painting is only authorized on asphalt, concrete, and metal surfaces. Markings shall be color coordinated as suggested below. The acronym for the utility shall be used for each utility. A line that shows the direction of the utility shall emanate from the acronym in each direction.
- All marking of utilities shall be every 50 feet. Use of stakes and flags on the AOA could be limited subjected to the work area:

	Acronym	Color
Electrical Loops (non AOA)	Use “Elec”	Red
Airfield Electrical	Use “Elec”	Red
Natural Gas	Use “Nat Gas”	Yellow
Sanitary	Use “Sanit”	Green
Storm	Use “Storm”	Green
Combined Sewers	Use “Combo”	Green
Water (potable and fire)	Use “Water”	Blue
Irrigation	Use “IRR”	Purple

FAA Fiber	Use "FAA Fib"	Orange
WCAA Fiber	Use "Fiber"	Orange
Telephone	Use "Tele"	Orange
Jet Fuel	Use "Jet Fuel"	Yellow
Glycol	Use "Glycol"	Blue
Oil	Use "Oil"	Yellow
Gasoline	Use "Gas"	Yellow
Diesel	Use "Diesel"	Yellow
Steam	Use "Steam"	Yellow
Condensate	Use "Conden"	Green
Temporary Mark	None	Pink
Proposed Excavation/Blasting	None	White

*if abandoned still shall stake, mark, or flag but write down "aband" before the abbreviated prefix indicated above.

The individual marking, staking, or flagging shall mark the utilities in a way that coincides with the drawings that are referenced on the Request for Sweep Form.

If a utility or any underground obstruction is found it shall be reported immediately to the Designer or the Airport Authority Project Supervisor.

Contractor employees in an excavation shall be protected from cave-ins by an adequate protective system unless the excavation is:

- Made entirely of stable rock, or
- Less than 5 feet deep and determination has been made that there is no potential for a cave-in.

Excavation shall be protected using proper barricading materials which shall be installed a minimum of 6 feet back from excavation (unless in conflict with airfield requirements). Barricade material can be wood, steel cables, or chain supported at intervals so that the barricade does not sag or drop below the required height. Caution tape is not an approved barricade material. Guardrail/jersey barriers may be required and shall provide a top rail, mid rail, and toe board at proper elevations and be able to withstand a minimum 200 pound of force without collapsing.

The Contractor is responsible for documenting utility information for use during construction and preparation of as-builts.

The Contractor, as needed, will conform to the Miss Dig Facility Damage & Safety Prevention Act.

5.0 Fall Protection Control

Fall Hazard Control requires that Contractors comply with fall prevention and protection procedures in accordance with Michigan Occupational Safety and Health Administration (MIOSHA) Part 45.

Fall Protection will be required on specific mobile equipment and platforms.

Installation of fall protection systems on the ground:

- As much as practicable, fall protection such as nets, and lifelines, are installed on material and equipment on the ground.

Reducing fall hazards in the construction process:

- As much as practicable, permanent stairs, floors, decking, handrails, and walls are installed as the structures are being built. Also, material and equipment such as structural steel and tanks are erected in sections and painted on the ground to reduce fall exposures.

Safe access:

- Methods to provide safe access to work areas are included in the JHA. Safe access includes ladders, scaffold, stairways, and ramps. Climbing structural steel and equipment is not allowed.

Training:

- Before employees are allowed to use a particular fall protection method or system, they are properly trained on proper use and limitations of the system. The training is the responsibility of their supervisor.

When not protected by any other means of fall protection such as safety nets or scaffold with proper guardrails, employees shall use full body harnesses, shock absorbing lanyards with double locking snap hooks, and an adequate anchorage (fall arrest equipment). To achieve 100 percent fall protection, employees may need to use a double lanyard system and/or vertical or horizontal lifelines, retractable lifelines, or other such approved devices.

Employees shall rig fall arrest equipment so that they can neither free fall more than 6 feet nor contact any lower object. Anchorage points for fall arrest equipment shall be capable of supporting 5,000 pounds per employee and located above the employee's body harness attachment point where practicable. Anchorage points shall be independent of any anchorage being used to support or suspend scaffolds or other platforms.

When vertical lifelines are used, each employee shall be protected by a separate lifeline. The lifeline shall be properly weighted at the bottom and terminated to preclude a device such as a rope grab from falling off the line. Horizontal lifelines should be limited to two persons at one time between supports. Horizontal lifelines shall be designed, installed, and used under the supervision of a qualified person. The horizontal lifeline shall be designed to maintain a safety factor of at least two.

Prior to each use, employees shall visually inspect all fall arrest equipment for cuts, cracks, tears or abrasions, undue stretching, overall deterioration, mildew, operational defects, heat damage, or acid or other corrosion. Equipment showing any defect shall be withdrawn from service.

All fall arrest equipment subjected to impacts caused by a free fall or by testing shall be removed from service. Employees should store all fall arrest equipment in a cool dry place not subjected to direct sunlight. Employees shall not use fall arrest equipment until they have been properly trained in its use.

Foremen shall ensure fall protection is available and used as required for all employees they are responsible for. Fall arrest equipment shall not be used for any other purpose such as tow ropes or hoist lines. Proper guardrails shall be installed on open sides of all walkways and runways where the fall distance exceeds 4 feet.

Proper guardrails shall be installed on all open sided floors where the fall distance exceeds 4 feet.

All floor openings or floor holes shall be protected by guardrails or hole covers. If hole covers are used, they shall be strong enough to support the maximum intended load, secured against displacement, and properly labeled. If the cover is subject to vehicular traffic, it shall be capable of supporting at least two times the axle load of the largest vehicle expected to cross over it. When operating a scissor lift work platform, the lift shall have guardrails on all open sides and the door access chains or rails in place.

Employees operating aerial lifts shall wear a body harness and lanyard attached to the aerial lift. Employees shall not attach the lanyard to an independent structure. Employees riding in a crane suspended work platform shall wear a body harness and lanyard attached to the grab rail of the platform.

Employees working on wall forms or rebar shall wear a body harness and lanyard in addition to a positioning device when exposed to a fall in excess of 6 feet. Position devices shall be rigged to prevent a free fall greater than 24 inches.

Stairs, ladders, or ramps shall be provided for all access ways where there is a change in elevation greater than 19 inches.

When guardrails are used for fall protection, they shall consist of a top rail, intermediate rail, and toeboard. The top rail shall have a vertical height of 42 inches, the midrail shall be at 21 inches, and the toeboard 4 inches. Guardrail systems shall be constructed so that there are no openings greater than 19 inches. When wood railings are used, the post shall be of at least 2 inch by 4 inch stock spaced not to exceed 8 feet, the top rail shall be of at least 2 inch by 4 inch stock, and the intermediate rail shall be of at least 1 inch by 6 inch stock. If pipe is used, it shall be at least 1-1/2 inch nominal diameter. If structural steel is used, it shall be of 2 inch by 2 inch by 3/8 inch angles or equivalent. If wire rope is used for railings, it shall have a diameter of at least 1/2 inch and be stretched taut to allow no more than a 3 inch deflection. Guardrail systems shall be capable of supporting a force of at least 200 pounds applied within 2 inches of the top edge.

Guardrail systems shall be constructed so that when a 200 pound force is applied in a downward direction, it will not deflect to a height less than 39 inches.

If wire rope is used for top rails, it shall be flagged at no more than 6 foot intervals with high visibility material. Manila or synthetic rope shall not be used as guardrails. Employees shall not stand or sit on guardrails.

If an employee ever feels that any piece of his or her fall protection equipment is unacceptable or unsafe, he/she must contact his/her super-visor, who will immediately turn the equipment in for replacement. Harnesses, lanyards, hooks, etc., shall be visually inspected for the condition of rivets, buckles, stitching, D-rings, tabs, frayed or broken strands, cuts and abrasions, burns, rot, soundness of latching and locking mechanisms, and general appearance. Any piece of fall protection equipment that does not pass inspection will be immediately destroyed and replaced. Any piece that is subjected to loading will be immediately destroyed and replaced.

6.0 Fire Prevention

The Contractor shall provide appropriate fire extinguishers for its employees.

The Contractor shall not shut down or in any way interfere with the normal operation of the Airport Authority's sprinkler or fire control system. In all cases where the Contractor requires draining of a sprinkler system, a request shall be made with the Airport Authority Fire Division.

The Contractor shall not attach any tooling, equipment, rigging or any other device to a sprinkler pipe. Ladders shall not be placed against sprinkler pipes.

Contractor shall field verify location at sprinkler heads prior to performing cutting, burning, and/or welding operations. If in doubt, contact the Airport Authority Fire Marshall. Any damage to a sprinkler system shall be reported and repaired immediately.

Materials, trucks, ladders, racks and all other equipment shall be kept clear of aisles, exits, and firefighting equipment, sprinkler risers, fire alarm boxes, electrical lighting, power panels, and valves.

No burning, cutting, welding, or heat generating operation shall be allowed in any area on Airport Authority property without first obtaining a Wayne County Airport Authority - Hot Work permit from the Airport Authority Fire Division (Attachment #4).

Only the Airport Authority Fire Division will issue welding and burning permits. An inspection of the work area will be conducted prior to issuance of the permit. Issuance of the permit will allow heat generating operations to be performed in the areas stated on the permit only. Permits are good for the shift they are issued on. If work is going to continue on the next shift, a new permit is required unless approved by the Airport Authority Fire Division.

Oxygen and acetylene cylinders not in use, shall be properly stored and capped, and secured by a chain or rope. All flammable liquids shall be stored in approved safety containers. Airport Authority Fire Division shall give permission before any quantity in excess of 5 gallons is brought onto the Airport Authority's property. Oily rags and/or rags soaked with flammable liquids shall be stored in approved safety containers only. Paint and painter's equipment, drop sheets, cleaning materials, shall be stored in a clear area away from any heat generating operation.

Lids shall be replaced on all opened paint and/or solvent containers. All solvents are to be stored in approved safety containers.

7.0 Crane/Derricks/Lifting Equipment/Rigging

All crane operators shall be thoroughly knowledgeable in the operations of the crane, rigging equipment, and other MISOHA requirements relating to lifting.

NOTAMS may be required depending upon the location and height of the lift. Contractor shall contact Airport Authority Airfield Operations (734) 942-3685 prior to any crane activity. Lifting shall not be done over any employees. Tag lines shall be used for all lifts greater than 20 feet. No lifts shall be made when winds are sustained over 25 mph. Outrigger shall be shored so they do not damage property. Contractor will be responsible for any property damage to paved or concrete surfaces.

A prelift review shall be performed by the Contractor for every critical lift. A Critical lift shall be defined as a lift with a hoisted load that is within 15% of the maximum load limits (normal) of the equipment that is being used. Before a critical lift is performed the Contractor shall submit a Critical Lift Plan that is prepared and approved by a Professional Engineer that is registered with the State of Michigan. The Critical lift Plan will include the following:

- Description of the lift
- Crane Position
- Lift Height
- Load Radius
- Boom and angle
- Size and weight of load
- Percent of cranes capacity
- Personnel involved
- Rigging plan
- Communications methods
- Ground Conditions
- Inspection Procedures
- Procedures for hosting (if applicable)
- The critical lift plan will also document the source (i.e. weight, crane and rigging capacities, inspections, and wind speeds).

8.0 Hazardous Energy Control

Examples of energy sources that are required to be locked out and tagged regardless of who has custody are:

Any time repairs or modifications are made to electrical systems, either temporary or permanent, they shall be locked out. Locks shall be applied to the main disconnect switch whenever possible. A tag shall accompany all locks.

Electrical systems that provide electrical power to equipment, such as pumps and electrical motors, shall be locked out by the Contractor until such time that system is released. Depending upon the location of the work, the disconnects may have to be coordinated with the Airport Authority Electrical Unit or an Airport Authority Building Operator.

Electrical systems that provide electrical power to the airfield signage and lighting.

Lines, valves and similar systems that are being tested pneumatically or with Inert gases, such as oxygen, shall be tagged and locked out to prevent an accidental discharge of the pressure within the line. In addition, areas affected by the pneumatic test shall be barricaded against entry and inspected by the Contractor prior to commencement of the test.

Any steam, natural gas, refrigeration, chemical feed, glycol, water, fuel oil, diesel, and jet fuel lines that could be inadvertently activated or discharged causing a hazardous condition, shall be locked out, blanked or otherwise neutralized to prevent accidental activation and or a hazardous condition. In some cases double block and bleed maybe required.

Access to all electrical systems will be coordinated by the Airport Authority Electrical Unit. This includes access to all panels, breakers, switches, relays, substations, and all relevant switch gear. All initial desegregation and reenergizing will be coordinated through the Airport Authority Electrical Unit.

Access to all utilities and equipment not including electrical systems can be coordinated with the Airport Authority Maintenance and the Facilities and Infrastructure Divisions.

In some cases a "system" may be turned over to a Contractor or Vendor for repairs and testing. If a system is turned over to a Contractor or Vendor for testing and repairs, the lock-out rules below in this Part still apply.

To get a system energized or de-energized, the Contractor will get approval from the Airport Authority Project Representative. This will require coordination with various Airport Authority departments. If a system is de-energized, back-up utility service may be necessary (i.e. electrical generator) pending the details of the work and proposed outage.

Shutting down systems will be conducted in a manner that will minimize interruption. The Contractor shall complete the Utility Interruption Form (Attachment #6) and submit it to the Airport Authority Project Representative at least five business days in advance prior the shutdown. The Airport Authority Project Representative will coordinate with those tenants/lease holders who will be affected by the shutdown. All outages will be conducted on midnights unless authorized by the Airport Authority Project Representative.

To take overall control and custody of a system for a period of time, the contractor shall complete and execute the Airport Authority Utility System Custody Form (Attachment #7) five business days in advance prior to work with all the proper notifications

Systems that are 480 volts or more will not be turned over to Contractors, unless authorized by the Airport Authority Electrical Department.

If more than one employee is required to lockout and tag a circuit or piece of equipment, a multiple padlock device (hasp) shall be used.

Depending upon the location of the work, some disconnects may have to be coordinated with the Airport Authority Building Operator/Tenant.

This procedure establishes a lockout practice for securing machinery and equipment during periods of construction and maintenance. It is essential that all Contractors are consistent with their lockout procedure to ensure the safety of all employees. A lockout procedure is to render inoperative electrical systems, air lines, hydraulic lines, mechanical devices, pumps, conveyors, fuel, glycol, water, gasoline, jet fuel, pipelines, valves and all other such energy and stored energy systems that may accidentally be energized or discharged while employees are working on them before they are ready and released for service.

Contractors shall administer their own lockout program where not identified by this document. The Contractor shall issue all locks and applicable tags to their foreman, general foreman, superintendents and employees as necessary. The Contractor shall maintain a lock and tag log. Tags are required to have the Contractor's name, phone number, employee name, and supervisor name easily identified on each tag. Contractors shall use lock boxes in all areas except:

- Airport Lighting Vaults at Willow Run and Detroit Metro
- North Terminal Substation #1
- North Terminal Substation #2
- North Terminal Substation #3
- North Terminal Substation #4
- Wayne County Airport Authority Boiler Plant/Powerhouse (Building 611).
- Metro Energy Center
- McNamara Terminal Substation #1
- McNamara Terminal Substation #2
- McNamara Terminal Substation #3
- McNamara Terminal Substation #4
- McNamara Terminal Substation #5
- McNamara Terminal Substation #6
- McNamara Terminal Substation #7
- McNamara Terminal Substation #8
- Building Substations – Willow Run
-

Areas above (1-15) are locations that have pre-designed lock out tag out boards, podiums, and/or Airport Authority provided lock boxes that will be utilized. After equipment has been locally de-energized (i.e. regulator or switch gear) by Airport Authority Electricians, Airport Authority Electricians will lock out the device with an Airport Authority administrative lock and HASP. The Contractor will be required to place their HASP on the Airport Authority HASP at the local disconnect. Afterwards the contractor will be required to hang their personal locks and tags at the local disconnect on their HASP. The Airport Authority will lock all the administrative keys inside the podium or the Airport Authority provided lock box. During work activities the equipment will be locked out and under control of the Airport Authority Electrical Unit. If a Contractor needs to access the electrical room or vault to remove locks and tags they shall coordinate with the Airport Authority Electrical Unit.

All other areas where lock out tag outs are to be completed and not specified above in item K will be considered as remote locations. At remote locations the Contractor and the Airport Authority will follow the same procedures as listed above, but will keep the administrative keys in a lock box at a designated location.

When Airport Authority employees are to work on equipment that contractors are also working on, WCAA employees will place their personal locks and tags on the Airport Authority HASP.

All energy sources shall be locked out and a “DANGER” tag affixed to the equipment or System indicating who installed the lock, Contractor’s name, phone number (24-hour contact), and the reason the system was locked out. Each employee shall be responsible for hanging his or her own lock and tag on the proper piece of equipment before starting work. No employee or other Contractor may work on a lock and tag belonging to another employee. Contractor supervision shall be responsible for assisting employees in locating the proper piece of equipment to be locked out and tagged. Each employee involved with “lockout” shall have a lock with an individual key. No locks with duplicate or master keys shall be used. Contractors are required to identify locks by either tags, paint or die markings. Unidentified locks are subject to removal by using the “lock removal procedure.”

After locking out and tagging a circuit, an attempt to energize the equipment shall be made by depressing or turning “on” all starting stations before work begins. In no case shall work begin before circuits and equipment are tested to ensure that they are, in fact, de-energized.

Any employee who removes a tag or lock belonging to another employee or person, or overrides a tag or lock in any way, may be removed from the Airport property. Written authorization has to be obtained from the foreman, general foreman, superintendent and Project Manager of the responsible Contractor when a lock has been left on a piece of equipment and the originator is not available for removal.

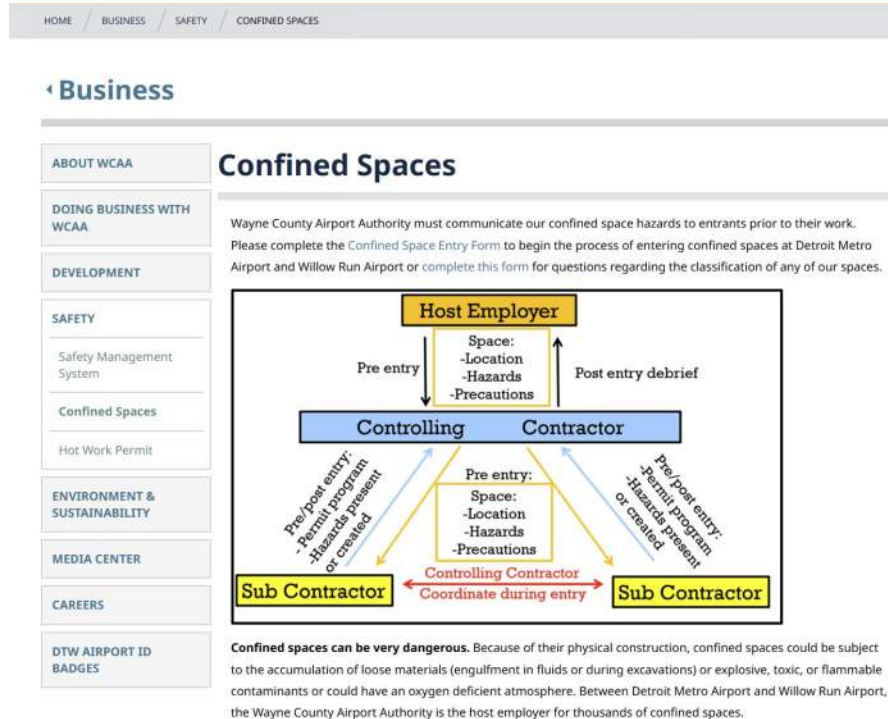
When locks and tags are required, Contractors employees working on that system shall notify their appropriate supervisor. The supervisor, or his designee, shall see that appropriate locks and tags are provided. When work is completed, the appropriate supervisor is also to be notified when locks and tags are removed.

After equipment or systems are turned over to the Airport Authority, no work or Airport Authority modifications will be performed without compliance to Airport Authority’s Lockout/Tagout Program.

There may be some equipment that cannot be physically locked out using any type of device. If a situation exists where equipment cannot be locked out the contractor shall notify the Airport Authority and a Job Hazard Analysis is to be prepared.

9.0 Confined Space Entries

The Airport Authority has several “confined spaces” which will require a written permit prior to entry in accordance with the MIOSHA standard for permit required confined spaces Part 90 and Part 490. The Airport Authority’s confined space procedures can be obtained by visiting: <https://www.metroairport.com/business/safety/confined-spaces>.



After reviewing the Airport Authority Confined Space Procedures, the contractor shall evaluate and follow their confined space entry guideline. It is up to each contractor to perform a pre-entry inspection and to classify the confined space. If a classification cannot be achieved the contractor is to work with the Airport Authority Environmental and Risk Management Units.

Airport Authority Fire Division will not act as “Standby” for confined space services.

Any Contractor involved in a confined space entry shall meet all State, Federal, and Airport Authority standards, relative to confined spaces, including:

- MIOSHA requirements.
- Demonstration of proof that their employees who enter, act as standby attendants, issue permits, or perform rescue team functions have been properly trained.
- Issuance and posting of their confined space entry permits by qualified permit issuers.
- Providing appropriate confined space instrumentation to measure oxygen levels, explosive atmospheres, or the presence of toxic gases.
- Providing rescue equipment.

Airport Authority personnel will not perform the above confined space entry procedures for Contractors or provide any instrumentation or equipment. However, the Airport Authority will provide the necessary equipment where Airport Authority personnel will also be entering the confined space.

When Airport Authority employees are also entering the same confined space as the Contractors, Airport Authority employees will control the confined space entry.

10.0 Hazardous Materials/Environmental

Work on Airport Authority projects may involve hazardous materials. If working in buildings with suspect materials please contact the Airport Authority Environmental unit for clarification on those suspected material.

Hazardous materials can be easily identified using the U.S. Department of Transportation (DOT) labeling and identification system. All hazardous materials arriving on site shall be properly labeled, stored, and managed as required by the Safety Data Sheet (SDS) for that material, or as directed by Airport Authority Fire, Airport Authority Environmental and Airport Authority Risk Management. If shipments are being shipped to Willow Run, then Willow Run Maintenance (734-485-6672) shall be notified separately as well as Airport Authority Environmental, Airport Authority Fire, and Airport Authority Risk Management.

All wastes shall be properly stored, labeled, managed, and disposed of in accordance with the Airport Authority project specifications and by the State of Michigan Environment, Great Lakes & Energy (EGLE) regulations, or as otherwise directed by the Airport Authority Environmental personnel.

Contractors and Subcontractors are required to have copies of all SDS's for all materials brought on site. If suspect unknown hazardous materials are identified, then the job should stop until further direction by the Airport Authority Environmental and Risk Management Departments.

If potentially hazardous waste/materials have been indicated in the bid documents and could be foreseen in a project, proposal, or work order, then the contractor is expected to have onsite the proper personal protective equipment and instruments for detection and safety.

Contractor shall provide mitigation plans for projects that include abatement or remediation.

If required, the Contractor must submit a Storm Water Pollution Prevention Plan (SWPPP) and a Spill Prevention, Control, and Countermeasures Plan (SPCCP).

Contractor to immediately report spills to Airport Authority Operations and EGLE. Reports are to conform to EGLE requirements.

Transports and handlers of hazardous materials will be pre-approved by the Airport Authority or their representative.

Waste sites for recycling and disposing of materials will be pre-approved by the Airport authority or their representative.

All bill of ladings and manifests will be submitted to the Airport Authority.

11.0 Roofing Operations

Access to the rooftops shall be coordinated with the Airport Authority Project Representative.

Bitumen kettles will not be permitted on the Airport Authority's property until the Airport Authority Fire Division has inspected them. Once approved, the Airport Authority Fire Division will designate the location of the kettle. The Contractor or Subcontractor shall provide fire extinguishing equipment suitable for the operation. Propane tank shall be properly protected.

Smoking, cutting, burning, or welding will not be permitted on any roof where roofing operations are being performed.

Where large quantities of bitumen are required for roofing operations, the material will be mechanically pumped to the roof.

Reduce the possibility of fires by keeping work areas clean. This shall be done on daily basis.

Fall protection requirements shall be adhered to including perimeter protection, harnesses with lifelines, warning line system within 6 feet of roof edge.

Access to the roof and ladders shall be cleared by Airport Authority Security and the Building operator.

12.0 Removal of Existing Equipment

This section does not pertain to large-scale demolition work. Removal of abandoned or existing equipment, hangers, piping, conduit, etc. is a major safety concern at the construction site throughout the duration of the contract. When reviewing the scope of work, a site hazard assessment will be completed by the Contractor, with all safety and environmental concerns addressed, including methods of removal. Mechanical means of removal will be used versus oxy-gas cutting, whenever possible.

Special consideration should be given for the use of mechanical shearing where removing of building structure will be involved and the structure is contaminated with lead paint. Hydraulic lines can be cut easily. Residual hydraulic oil in lines can cause dangerous flashback if cut with a torch. Even though the lines are drained, not all of the hydraulic fluid can be removed. Galvanized conduit and raceways filled with wires can be cut with the shear. This eliminates potentially hazardous vapors, gases, and fumes coming from the galvanizing and wiring.

Selection of the mechanical equipment will be the responsibility of the Contractor, but shall meet the approval of the Airport Authority. To avoid nuisance odors and possible disruptions to adjacent populated work areas and the general public, work may have to be performed during low peak periods. All rented equipment will be equipped with suitable audio and/or visual back up alarms and shall meet applicable government requirements.

13.0 Vehicle Operation on the AOA

All vehicles accessing the AOA shall be placarded with a company name and logo or some other form of identification. All vehicles shall be limited to the Airport zipper road, paved leasehold areas and/or construction areas unless specifically authorized by the DTW or YIP Airfield Operations Unit.

All construction vehicles/mechanized equipment authorized within the Movement Area or related safety areas shall be marked with a flag on a staff attached to the uppermost portion of the vehicle/motorized equipment so that the flag will be readily visible. The flag shall be at least a 3' x 3' square having a checkered pattern of international orange and white squares at least 1' on each side in accordance with FAA Advisory Circular 150/5210-5D, or current edition as of bid date.

During nighttime hours, all equipment operating on the Airport exceeding 15 feet in height shall be lit with a red obstruction light in accordance with FAA Advisory Circular 70/7460-1, or current edition as of bid date. This light is to be located on the uppermost portion of the equipment.

All construction equipment that exceeds 20 feet in height are required to be "airspaced" as determined by the FAA Form 7460-1. This will require the contractor to notify the DTW or YIP Operations Units so that may have to issues a NOTAM.

Contractor utilized bicycles, motorcycles and two-wheeled scooters are prohibited on the AOA. Vehicle(s)/equipment shall be operated in a manner that does not interfere with aircraft operations. All vehicle(s)/equipment shall yield right of way to all aircraft and emergency vehicles. Vehicles/mechanized equipment operators shall obey all traffic signs and markings.

Vehicles/equipment shall not stop or be parked so as to block a driveway, AOA access gate, fire lane or aircraft. Vehicles/equipment shall not stop or be parked in areas other than those prearranged and approved by the DTW or YIP Airfield Operation Units.

No equipment or vehicles may be parked within six feet of an AOA fence. The established speed limit on the Ramp and AOA is 15 mph. Vehicle(s)/equipment shall not be operated by individuals under the influence of any substance which impairs the ability to do so in a safe manner

If an incident occurs on the AOA the incident shall be reported immediately to the DTW or YIP Airfield Operation Units by contacting (734) 942-3685. Airport Authority DTW and YIP Airfield Operations and Airport Authority Public Safety have the right to investigate all incidents and issue citations. The Contractor is still obligated to produce their own incident report to be submitted to the Airport Authority upon request. The Contractor is required to submit an incident report no later than 24 hours after the incident.

Vehicle/mechanized equipment operators are not permitted to move about the Airport, outside the designated construction area, at night unless the vehicle has operating head lights, tail lights and brake lights, or is under the escort of a properly lighted vehicle. Head lights shall not be set on high beam when moving about the Airport at night.

Vehicles/mechanized equipment authorized on the Movement Area (runways, taxiways, and ramps) and/or associated safety areas shall be equipped with an electrically powered, amber color, 360-degree omni-direction light, mounted on the vehicle such that it is conspicuous from any direction.

At no time shall a vehicle enter the Movement Area and/or associated safety areas unless it is authorized by the DTW or YIP Airfield Operation Units and is in continuous radio communication with the Control Tower. If a vehicle is not radio equipped to communicate with the Control Tower, an escort vehicle equipped with such a radio

shall lead or direct the movement of this vehicle while operating on the Movement Area unless the construction area is completely closed to Airport movement and cordoned off. Coordination of escorts shall be prearranged with the DTW or YIP Airfield Operation Units. Any individual authorized unescorted access to the Movement Area or associated safety areas shall have completed the driver training program administered by the DTW or YIP Airfield Operations Department.

Seat belts shall be utilized on equipment/vehicles that are designed for usage.

The Airport Authority may remove and impound, at the owner's expense, any vehicle/equipment which is disabled, abandoned, improperly parked, or represents an operational hazard

All vehicles/equipment shall be appropriately secured such that neither aircraft blast nor wind will result in their movement.

14.0 AOA Contractor Escorts

As required the Contractor shall provide an adequate number of escorts/flaggers for material deliveries along haul routes and the movements of the Contractor's vehicles/mechanized equipment and personnel within the Movement Area and Non-Movement Areas as authorized by the DTW or YIP Airfield Operation Units. To arrange for employees to become an escort the contractor shall complete the following:

For DTW Projects: those selected Non-Movement Area escort employees are required to be badged by Airport Security, go through Security Identification Display Area (SIDA) training program, and pass the computerized test. Office hours for Credentials are Monday thru Friday from 8:30 am until 4:00 pm (closed 11:30-12:30 for lunch). Be advised that in some cases training will take at least two hours. Training shall not be requested after 2:00 p.m. The office can be contacted at (734) 932-3606 or visit the Airport Authority's website at www.metroairport.com and click on the "Badging" link on the top tool bar for additional information on Badge processing. Upon successfully completing the security requirements, those employees who have been selected as escorts shall contact the Airport Authority Airfield Operations Access and Permits office to coordinate finalization of the permit and to coordinate training on the AOA with an DTW or YIP Airfield Operations agent. Training is performed at 10:00 am and 1:00 pm each day Monday thru Friday. The DTW Operations and Permits office can be reached at 734-942-3823.

Movement Area escort/flagging employees are required to complete and pass an additional eight hour class on Ground Vehicle Operations. For scheduling contact Airfield Operations Training Unit at (734) 942-3595. For YIP Projects: All employees are encouraged, but only Supervisory personnel (Foreman, Site Superintendents, Project Managers, etc.) are required to be trained and badged. These badged individuals will be responsible for escorting their employees and Subcontractors in closed and cordoned construction sites. The YIP Operations Unit, or designee, will perform any escorts in open AOA Movement Areas. Badge applicants are to complete the required badge paperwork. Employees attend a 1.5 hour Airport Security/AOA Driver's Safety Training Class at the Operations/Security Office (734) 485-6675. Training is provided at 10:00 am and 1:30 pm Tuesdays and Thursdays, by appointment only. A \$20 non-refundable badge processing fee, payable in cash or money order only, will be charged for each badge. Escort processions will be limited to a maximum of three (3) trucks or less. Those performing the escorts will be trained by WCAA Airside Operations. If requested, variance to the procession procedure can be modified only upon written approval by the Airport Authority. An approved flagger plan maybe required.

During any absence of the approved escort(s)/flagger(s) or for periods that they are unable to perform their specified duties, all work within the Movement Area and associated safety areas for projects shall stop. Additionally, all personnel and equipment shall be escorted to approved locations outside the Movement Area and related safety areas. NO contract time extension will be granted for time lost due to the absence of escort(s). Work shall resume only with the return of the approved escort(s).

The escort/flagger shall ensure that all equipment maintains proper clearances from moving aircraft.

For flaggers/escorts contracted through the Airport Authority, the Contractor shall be responsible for the cost of each required flagger/escort at the hourly rate identified on the Wayne County Airport Authority Flagging/Escorting Service Request Authorization Form (See WCAA Airside Operations). The Contractor shall also be responsible for completing and submitting this form.

Contractor provided flagging services must be approved by the Airport Authority. Flaggers will be trained by Airport Authority staff and be equipped with approved hazard communication devices (red/green flags, radios etc.). The area where the flaggers are staged must be approved and will be properly illuminated.

15.0 Special Construction Rules on the AOA

When airfield construction is being performed on the AOA the following rules will apply unless modified in writing by the DTW or YIP Airfield Operation Units. All construction activities on the AOA shall include a specific Construction Safety Phasing Plan (CSPP) and a Safety Plan Compliance Document (SPCD) as required by the FAA. The SPCD will address compliance to and details required by the CSPP and include any other topics of discussion that might be mentioned during the safety phase planning meeting.

The safety phase planning meeting shall be held prior to mobilization to the AOA. Any Airport construction and/or alteration requires the Contractor to complete and submit FAA Form 7460-1 Notice of Proposed Construction or Alteration (available from the FAA Air Traffic Division Regional Office), and www.FAA.gov at least 60 days prior to the start of the project.

The Contractor shall complete and submit FAA Form 7460-1 for all equipment and/or temporary structures, utilized during any Airport construction and/or alteration that exceeds a height of 20 feet above ground level. This includes

- Cranes;
- Derricks;
- Stockpiles of materials or equipment; and
- Earthmoving equipment.

A copy of all completed FAA Form 7460-1's and the FAA's determination(s) shall be on file with the Department of Aviation prior to commencing the erection or construction of the item(s) proposed by the Contractor. The Contractor will provide the DTW or Yip Airfield Operation Units with the FAA determination number, for internet review, or paper copy of the full determination. The Contractor shall erect and maintain fencing, barricades, signs and warning devices used to delineate the perimeter of all construction areas, as approved by the Airport Authority Airfield Operation Units.

All escorts performed within the Movement Area and/or associated safety areas, shall be provided by an authorized Escort. The Airport Authority Airfield Operation Units and the Airport Authority Security Division shall designate all access points into the AOA. All points of entry into the AOA, which are under the Contractor's control, shall be secured and/or guarded and should be coordinated with the Airport Authority Security Division or YIP Airfield Operations/Security Division. Deliveries are to be strictly controlled (by the Contractor) using personnel specifically acquainted with these rules. The Contractor shall provide properly manned escort vehicles as required to guide and escort all deliveries to the work area(s).

All work outside an approved construction area shall be submitted, in writing, 72 hours in advance, excluding weekends

Unless otherwise specified by the DTW or YIP Airfield Operation Units or Airport Authority Facilities, Design, and Construction Division, all work outside an approved construction area shall be marked in accordance with Barricade Details Checklist included at the end of this document. All barricades, lighting and warning devices used to delineate any construction or hazardous area(s) are to be provided by the Contractor.

At no time shall personnel, vehicles or equipment be located or enter any of the following areas unless authorized by DTW or YIP Airfield Operation Units or Airport Authority Facilities, Design, and Construction Division.

- Within 250 feet parallel to an active runway centerline (to be indicated on the CSPP and/or SPCD).
- Within 400 feet parallel to an active runway centerline without equipment and stockpile removal.

- Within 1,000 feet of the end of active runways (each end to be indicated in the CSPP and/or SPCD).
- Within 160 feet parallel to an active taxiway centerline operating with Group V aircraft without proper approval.
- Active NAVAID Critical Areas.
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On the Movement Area and/or associated safety areas during times of inclement weather or unusual events as determined by the DTW or YIP Airfield Operation Units. During such times all work is to be suspended. All equipment shall be removed to approved staging areas

Trenches and/or Excavations Trenches and/or excavations shall not be allowed in the following areas without closure or restriction of the adjacent Movement Area:

- Within 250 feet parallel to a runway centerline.
- Within 400 feet parallel to a runway centerline, without proper trench and excavation cover.
- Within 160 feet parallel to a taxiway centerline operating with Group V aircraft without proper approval.
- Within 1,000 feet of the end of a runway.
- Active NAVAID Critical Areas.

Barricading/plating of trenches and/or excavations shall be in accordance with the requirements contained in Barricade Details Checklist. No trenching is allowed under AOA fence without prior approval and coordination by the Airport Authority Security Division. All stockpiled material(s)/supplies shall be constrained in a manner to prevent movement resulting from aircraft blast or wind conditions. Material(s)/supplies shall not be stored within 500 feet of aircraft turning areas or movement areas. Stockpiled material(s)/supplies shall not exceed 15 feet in height unless the Contractor has complied with all requirements for airspacing and secured approval from the DTW or YIP Airfield Operation Units or Airport Authority Facilities, Design, and Construction Division. All material(s)/supplies shall be positioned so it will not obstruct the line of sight from the Control Tower to the Movement Area. Marking and lighting shall be in accordance with the requirements contained in Barricade Details Checklist.

Stockpile material may not be within 6 feet of an AOA fence. Nighttime work, not covered by the Contract Documents, requires 72 hours advanced approval, excluding weekends, by the DTW or YIP Airfield Operation Units. Lighting for nighttime work shall be shielded and positioned downward so as not to hinder the vision of the air traffic controllers in the control Tower or the pilots of moving aircraft.

Debris, waste, and loose materials shall not be allowed on the Movement Area. If debris and/or loose materials are observed to be on active portions of the Movement Area, the Contractor will be responsible for correcting the discrepancy immediately. At the direction of the DTW or YIP Airfield Operation Units, debris problems occurring during construction, NOT corrected by the Contractor in a timely manner, will be corrected by the Airport at the Contractor's expense. The Contractor is responsible for controlling dust problems resulting from construction and clean-up processes, as defined by the DTW or YIP Airfield Operation Units or WCAA Facilities, Design, and Construction Division, resulting from construction and clean up processes. The Contractor may be working in an air operations area in which a high degree of care is necessary to control debris and dust. Spilled material on active roadways, runways, taxiways and aprons will be swept up immediately. The Contractor will be aware that the construction area may be subject to jet blast and significant wind velocities. Dust control measures will be required to prevent loose material from blowing within or outside the air operations area.

If the Contractor uses or if a haul road crosses any area used by aircraft, service or emergency vehicles, a vacuum power broom and/or hand sweeping will be used to keep this area clean of debris which could damage aircraft engines or propellers. The Contractor will be liable for any damages that occur. Power brooms and sweepers shall be vacuum capable. Prior to opening any Runway, Taxiway, Ramp, Apron or Associated Safety Area, that has been

closed for construction; the Contractor shall arrange for an inspection by the DTW or YIP Airfield operations director or his/her designee.

All barricades used by the Contractor to designate an unusable or hazardous area on the AOA, shall be secured in place against movement or jet blast. The Contractor shall ensure that all barricades and hazard lighting are operational prior to departing the construction area at the end of each workday.

In accordance with FAR Part 139, The DTW or YIP Airfield Operation Units shall, prior to the release of work crews, inspect all areas to ensure that:

- Paved areas are free of surface variations in accordance with FAR Part 139.
- All unpaved safety areas are cleared and graded and have no potentially hazardous ruts, humps, depressions or other surface variations.
- All trenches or excavations within active Runway and/or Taxiway safety areas are backfilled to support the weight of an aircraft or Aircraft Rescue and Fire Fighting (ARFF) equipment.
- If the trenches, excavations or hazardous areas have been authorized to remain in place, they are to be adequately plated and marked and lighted in accordance with Barricades Detail Checklist.

Location of haul routes on the Airport site shall be approved by the DTW or YIP Airfield Operation Units or Airport Authority Facilities, Design and Construction Division. All haul routes on the Airport shall be marked, when necessary, and maintained by the Contractor. These routes shall be restored to their original condition upon completion of the construction project. Markings, if required, shall be provided by the Contractor, in accordance with specifications established by the DTW or YIP Airfield Operation Units or Airport Authority Facilities, Design, and Construction Division, and Airport Authority Security. Construction equipment shall not be permitted to operate upon paved areas unless the equipment has pneumatic tires or special means, approved by the Airport Authority Facilities, Design, and Construction Division, provided to protect the pavement.

Construction equipment shall not exceed a height of 20 feet above the Airport surface without approval by the Airport Authority Airfield Operation Units. All construction involving cranes shall be coordinated at least 72 hours in advance, excluding weekends, with the Airport Authority Airfield Operation Units or Airport Authority Facilities, Design, and Construction Division. This does not include the time required for airspacing. The following information is required:

- Location of the Crane.
- Maximum extendable height.
- Hours of operation.
- The top of each crane boom shall be marked by a 3' x 3' orange and white checkered flag — each box being 1' square.
- Each crane shall be lowered at night and during periods of poor visibility as directed by Airport Authority Airfield Operation Units or Airport Authority Facilities, Design, and Construction Division. In the event the crane is approved to remain extended during the hours from sunset to sunrise, the highest point of the crane boom will be lit with a red obstruction light in accordance with AC 70/7460-1

16.0 Job Hazard Analysis

Construction is a dynamic process; it is ever changing in physical and environmental forms until the construction process is completed. At the Airport Authority all contractors who are required to perform construction work shall use the job hazards analysis process. Its purpose is to develop a preliminary hazard analysis on proposed work operations as to their potential for injury, property damage, or both. Once potential hazards have been identified, identify procedures to eliminate or mitigate their potential for occurrence.

Direct benefits of the hazard analysis are as follows:

- Potential for injury or property damaged is eliminated;
- Identifies hazards;
- Improves safety;
- Defines job procedures;
- Provides training;
- Increases awareness;
- Provides improvement in job methods;

During the planning stages of the project work, activities are flagged that require job hazard analysis. Further work operations requiring job hazards analysis may be identified by weekly workarounds, responses to accidents or audits, safety meetings, or committee meetings, or if work activities change that have not been addressed.

17.0 Housekeeping

Leads, hoses, and extension cords shall be hung up with a nonconductive material, off all floors, stairways, and walkways. Trash such as drinking cups, cans, and scraps from lunch are not to be thrown down, but disposed of properly in marked containers.

Available material, equipment, concrete forms, pipe, etc., are to be orderly, stacked out of walkways, and from in front of doors, stairways, and ladders.

Oil, grease, and other such liquid spills shall be cleaned up at the time of spill and are not to be left unattended. Each craft is responsible for housekeeping in its respective work areas.

Where such items as protruding rebar and anchor bolts create an impalement hazard or tripping hazard they shall be properly protected and conspicuously marked.

Trash barrels and 55 gallon drums shall not be hoisted by holes cut in the sides; adequate means of support shall be used.

Site/FOD walks will be required on a weekly basis

18.0 Site Sanitation

Potable water:

- An adequate supply of potable water shall be provided on all projects.
- Portable containers used to dispense drinking water shall be capable of being tightly closed, and equipped with a tap. Water shall not be dipped from containers.
- Any container used to distribute drinking water shall be clearly marked as to the nature of its contents and not be used for any other purpose.
- The common drinking cup is prohibited.
- Where single service cups (to be used but once) are supplied, both a sanitary container for the unused cups and a receptacle for disposing of the used cups shall be provided.

Non potable water:

- Outlets for nonpotable water, such as for industrial or firefighting purposes only, shall be identified by signs to clearly indicate that the water is unsafe and is not to be used for drinking or washing purposes.
- There shall be no cross-connection, open or potential, between a system furnishing potable water and a system furnishing non-potable water. Toilets at construction sites:

Washing facilities:

Employees can use public restroom expects when projects engaged in activities where employees are exposed to sludge, chemicals, or other harmful contaminants must provide adequate washing facilities onsite. This can be accomplished by receiving permission to use the WCAA non-public facilities or constructing a temporary wash station. This would require a potable water holding tank, soap, towels, and weather protection. Such facilities should be mobile and maintained in close proximity to work locations and along the route of travel to the parking area.

Food consumption:

—In an attempt to prevent the possibility of contracting a hand-to-mouth disease, all employees must wash their hands before breaks, lunch, and going home. All consumables such as food, candy, dip tobacco, cigarettes, coffee, sodas, etc., should be not stored or consumed in the work area. These items should not leave the personal car parking lot unless sanitary lunch areas are designated for that purpose.

19.0 Compressed Gasses

Care shall be exercised in handling all compressed gas cylinders. They shall not be dropped, jarred, or exposed to temperature extremes. Cylinders shall have the valve cap or valve protection device in place at all times, except when in actual use or connected to a welding set. Cylinders shall not be rolled and shall not be lifted by the valve or valve cap; a suitable cradle or other device shall be used. Cylinders shall have their contents properly identified.

Cylinders not having fixed hand wheels shall have keys, handles, or non-adjustable wrenches on the valve stems while the cylinders are in service. Compressed gas cylinders, whether full or empty, shall be stored and transported in an upright position and chained or otherwise secured so they cannot fall or be upset. Oxygen cylinders in storage shall be separated from fuel-gas cylinders or combustible materials (especially oil or grease) a minimum distance of 20 feet or by a 5 foot high noncombustible barrier. Cylinders shall not be placed where they might become part of an electric circuit or within 5 feet of an electrical outlet. Employees shall never force connections which do not fit nor shall they tamper with the safety relief devices of cylinder valves.

Before the regulator is removed from a cylinder, the valve shall be closed and all pressure released from the regulator. A leaking cylinder shall not be used. Such cylinders shall be taken outdoors away from sources of ignition. The supervisor shall be notified. A flame shall never be used to detect gas leaks. The recessed top of cylinders shall not be used as a place for tools.

Oxygen--Oil, grease, or similar materials shall not be allowed to come in contact with any valve, fitting, regulator, or gauge of oxygen cylinders:

- Oxygen shall never be used as a substitute for compressed air.
- When an oxygen cylinder is in use, the valve should be opened fully in order to prevent leakage around the valve stem.

Acetylene--Acetylene cylinders shall be properly secured and always used, transported, or stored in a vertical position. Cylinders shall be protected from sparks, flames, and contact with energized electrical equipment:

- An acetylene cylinder valve shall not be opened more than one and one-half turns of the spindle and preferably no more than three-fourths of a turn.
- Employees shall not use acetylene in a free state at pressures higher than 15 psi.

20.0 Safe Supports and Scaffolds

Each project shall designate at least one competent person to oversee scaffold operations. Operations shall include scaffold erection, moving, dismantling, altering, repairing, etc. The competent person shall ensure the proper type of scaffolding is selected for each task, and that only experienced and properly trained employees erect, move, dismantle, alter, or repair scaffolds. The competent person shall ensure each scaffold is erected in accordance with Contractors requirements, manufacturer's specifications, and applicable OSHA standards.

The competent person shall inspect each scaffold prior to employees accessing the scaffold, before each shift, and after any occurrence that could affect the scaffold's structural integrity and shall tag or ensure the scaffold is tagged according to the scaffold tagging procedure.

Scaffold Tagging Procedure

Prior to assigning an employee or crew to work off of a scaffold, the foreman responsible for the employee or crew shall interface with a scaffold competent person to ensure the scaffold is complete and properly tagged. The foreman shall then visually inspect the scaffold to verify it is complete and properly tagged according to the following:

- Green Tag--This scaffold was built to meet OSHA regulations; it is safe to use.
- Yellow Tag--This scaffold does not meet OSHA regulations; personal fall arrest systems are required. This tag is used in situations where guardrails cannot be constructed on all open sides of a scaffold platform because of an interference or obstruction.
- Red Tag--This scaffold is not complete; DO NOT USE.

Employees shall not use a scaffold unless it is properly tagged according to the scaffold tagging procedure.

Scaffold Requirements No employee, or any material or equipment, shall be supported or permitted to be supported on any portion of a pole structure, scaffold, ladder, walkway, or other elevated structure, crane or derrick, etc., without it first being determined that such support is adequately strong and properly secured in place.

Employees shall check all scaffolding prior to use to ensure it is of sufficient strength and rigidity to safely support the weight of persons and material to which it will be subjected. Employees shall not use a scaffold from 4 to 6 feet in height, having a minimum horizontal dimension of less than 45 inches, unless there is present a standard guardrail, with midrail and toe board, to provide adequate employee protection. Employees shall not use a scaffold over 6 feet in height unless there is present a standard guardrail, with midrail and toeboard to provide adequate employee protection.

Scaffold planks shall be secured in place and extend over their end supports by not less than 6 inches (unless cleated) nor more than 12 inches. Scaffolds shall not be moved without first removing all loose tools, materials, and equipment resting on the scaffold deck.

The footing or anchorage points for scaffolds shall be sound, rigid, and capable of carrying the maximum intended load without settling or displacement. Unstable objects such as barrels, boxes, loose brick, or concrete blocks shall not be used to support scaffolds or planks. Scaffolds shall be erected level and plum and rigidly braced to prevent swaying and displacement. Scaffolds shall not be altered or moved horizontally while being used or occupied except when specifically designed for such use. Movable scaffolds shall have the casters or wheels locked to prevent movement.

The width of all scaffolds, ramps, and platforms shall be sufficient to prevent congestion of persons, materials, or equipment, and in no case shall they be less than 18 inches wide. They shall extend to the entire platform depth.

Synthetic or natural fiber rope shall not be used as guardrails. Employees working on suspended scaffolds shall be protected by an independent lifeline, body harness, and lanyard. Safe access shall be provided for all scaffolds. Structural members should not be used as a means of access.

Employees shall not use a scaffold unless it is properly tagged according to the project scaffold tagging procedure. Only competent persons may erect, dismantle, or alter a scaffold. Only scaffold grade planks (appropriately marked) shall be used for work platforms. Scaffold planks shall not be painted with non-transparent materials which could obscure defects. Scaffold foundations shall utilize the manufacturer's footer plates.

Mobile Scaffolds:

Platforms shall be tightly planked for the full width of the scaffold except for necessary entrance opening. Platforms shall be secured in place. All tools and equipment shall be removed from the scaffold before it is moved or repositioned. The rollers shall be secured to the scaffold frame by using a manufactured pin or by No. 9 wire to prevent displacement. Standard guardrail systems shall be used on all open sides of the scaffold.

Swinging Scaffolds:

On suspension scaffolds designed for working load of 500 pounds, no more than two workers shall be permitted to work at one time. On suspension scaffolds with a working load of 750 pounds, no more than three workers shall be permitted to work at one time. Each employee shall be protected by an approved full body harness attached to an independent lifeline.

The lifeline shall be securely attached to substantial members of the structure (not scaffold), or to securely rigged lines, which will safely suspend the employee in case of a fall.

21.0 Ladders

Wooden ladders shall not be painted so as to obscure a defect in the wood; only a clear, nonconductive finish shall be used. All ladders shall be inspected frequently and regularly. Ladders with weakened, broken, or missing steps; broken side rails; or other defects shall be tagged and removed from service.

Ladders and scaffolds shall be sufficiently strong for their intended use. Portable metal ladders shall not be used in the vicinity of energized electrical circuits. (Exception: Such ladders may be used in specialized work, such as high voltage substations, where nonconductive ladders might present a greater hazard. These ladders shall be properly marked.)

Ladders shall not be placed in front of a door that opens toward the ladder, unless the door is open, locked, or guarded. When ascending or descending ladders, employees shall have both hands free and shall face the ladder. Only one employee shall work from a ladder at one time (except for hook type ladders). If two employees are required, a second ladder shall be used. Ladders shall not be used as scaffold platforms. Boxes, chairs, etc., shall not be used as ladders. Employees shall not use a ladder until they have been properly trained in its use.

Each quarter, a formal ladder inspection must be performed by a competent person designated by the Project Manager. If the ladder passes the inspection, it shall be tagged with a colored tie-wrap for the respective quarter. If it fails, it shall be tagged with a "DO NOT OPERATE" tag until repairs are made. When the ladders are being inspected, the Quarterly Ladder Inspection form must be filled out by the competent person.

Straight Ladders:

Portable straight ladders shall not be used without nonskid bases. The ladder shall be placed so that the distance between the bottom of the ladder and the supporting point is approximately one fourth of the ladder length between supports. Straight ladders shall not be climbed beyond the third step from the top.

When working from a portable ladder, the ladder must be securely placed, held, tied, or otherwise made secure to prevent slipping or falling. When dismounting from a ladder at an elevated position (as at a roof), the employee shall ensure that the ladder side rails extend at least 3 feet above the dismount position, or that grab bars are present.

Two Step Ladders:

Employees shall wear a body harness and lanyard, and tie off to a secure anchor whenever both hands must be used for the job or are exposed to a fall in excess of 6 feet. Ladders shall not be spliced together to form a longer ladder. A ladder shall not be placed against an unsafe support. Employees climbing a ladder with a fall exposure greater than 24 feet shall be protected by an approved cage, ladder climbing device, or by the use of a body harness, lanyard, lifeline step Ladders. The top two steps shall not be used. Step ladder legs shall be fully spread and the spreading bars locked in place. Step ladders shall not be used as straight ladders. When an employee is working on a step ladder over 6 feet high, the employee shall use a body harness and lanyard attached to a substantial anchor.

22.0 Material Handling/Ergonomics

An employee shall obtain assistance in lifting heavy objects or power equipment shall be used.

When two or more persons carry a heavy object that is to be lowered or dropped, there shall be a prearranged signal for releasing the load.

When two or more persons are carrying an object, each employee, if possible, should face the direction in which the object is being carried (The right way to lift is easiest and safest. Crouch or squat with the feet close to the object to be lifted, secure good footing, take a firm grip, bend the knees, keep the back vertical, and lift by bending at the knees and using the leg and thigh muscles. Employees shall not attempt to lift beyond their capacity. Caution shall be taken when lifting or pulling in an awkward position.)

Employees should avoid twisting or excessive bending when lifting or setting down loads. When moving a load horizontally, employees should push the load rather than pull it. When performing a task that requires repetitive lifting, the load should be positioned to limit bending and twisting. The use of lift tables, pallets, and mechanical devices shall be used in these instances. When using such tools as screwdrivers and wrenches, employees should avoid using their wrists in a bent (flexed), extended, or twisted position for long periods of time. Employees should maintain their wrists in a neutral (straight) position.

When gripping, grasping, or lifting an object such as a pipe or board, the whole hand and all the fingers should be used. Gripping, grasping, and lifting with just the thumb and index finger should be avoided.

23.0 Hand Tools

All tools, regardless of ownership, shall be of an approved type and maintained in good condition. (Tools are subject to inspection at any time. A foreman has the authority and responsibility to condemn unserviceable tools, regardless of ownership.) Defective tools shall be tagged to prevent their use and shall be returned to the tool room for repairs.

Employees shall always use the proper tool for the job performed. Hammers with metal handles, screwdrivers, knives with metal continuing through the handle, and metallic measuring tapes shall not be used on or near energized electrical circuits or equipment. Tools shall not be thrown from place to place or from person to person; tools that must be raised or lowered from one elevation to another shall be placed in tool buckets or firmly attached to hand lines.

Tools shall never be placed unsecured on elevated places. As impact tools such as chisels, punches, drift pins, etc., become mush-roomed or cracked, they shall be dressed, repaired, or replaced before further use. Chisels, drills, punches, ground rods, and pipes shall be held with suitable holders or tongs (not with the hands) while being struck by another employee. Shims shall not be used to make a wrench fit. Wrenches with sprung or damaged jaws shall not be used.

Pipe shall not be used to extend a wrench handle for added leverage unless the wrench was designed for such use. Tools with sharp edges shall be stored and handled so that they will not cause injury or damage. They shall not be carried in pockets. Wooden handles that are loose, cracked, or splintered shall be replaced. The handle shall not be taped or lashed with wire. All cutting tools such as saws, wood chisels, drawknives, or axes shall be kept in suitable guards or in special compartments.

Tools shall not be left lying around where they may cause a person to trip or stumble. When working on or above open grating, a canvas or other suitable covering shall be used to cover the grating to prevent tools or parts from dropping to a lower level where others are present or the danger area shall be barricaded or guarded. The insulation on hand tools shall not be depended upon to protect users from shock.

The noncurrent carrying metal parts of portable electric tools such as drills, saws, and grinders shall be effectively grounded when connected to a power source unless:

- The tool is an approved double-insulated type.
- The tool is connected to the power supply by means of an isolating transformer or other isolated power supply, such as a 24 volt dc system.

All powered tools shall be examined prior to use to ensure general service-ability and the presence of all applicable safety devices. The electric cord and electric components shall be given an especially thorough examination and documented on the Electrical Inspection Log. Powered tools shall be used only within their capability and shall be operated in accordance with the instructions of the manufacturer.

All tools shall be kept in good repair and shall be disconnected from the power source while repairs are being made. Electrical tools shall not be used where there is a hazard of flammable vapors, gases, or dusts.

All power tools and cord sets shall be protected by ground fault circuit interrupters.

25.0 Heaters

UL approved salamanders, radiant heaters, and space heaters are the only approved heaters on the jobsite. Heaters shall be kept at least 20 feet from buildings and other combustible items or as approved by the WCAA Fire Marshal. Job-made heaters, solid fuel salamanders, and open fires are prohibited on the jobsite.

26.0 Barrier Tape Identification System

In order to uniformly identify particular hazards, a barrier tape identification system has been developed for use by all employees working on the construction site. It has been developed so that any employee working on the jobsite, regardless of craft, can recognize and avoid a hazard when properly marked.

The following barrier tape identification system shall be used:

- General Purpose--Yellow tape (may have black in it). Used for low hazard areas where access should be monitored and controlled. "Use caution when crossing."
- General--Red tape (may have black in it). "Do not cross."
- Logistics--Multicolor triangular flagging. Used to identify lay-down areas, walkways, etc. "Use caution when crossing."
- Radiation--Yellow with magenta (purple) tape. Possible radiation hazard, X-ray, etc. "Do not cross."

The supervisor erecting the barrier tape shall hang a tag on the tape that indicates the hazard, name of employer, name of person erecting the tape, and date erected. The barriers shall be erected far enough back from the hazard to allow for adequate warning and protection from the hazard. The barrier shall be constructed so that it will stand against adverse weather conditions and construction traffic. If the hazard is of a magnitude which requires additional protection (hard barricades, lights, etc.), the supervisor responsible for erecting the barricade shall see that additional protection is provided. It is the erector's responsibility to maintain the barrier as long as the hazard is present. It is also his or her responsibility to take down and dispose of the barrier when its use is not needed.

27.0 General Electric Rules

All electrical work shall be in compliance with the latest edition of the National Electrical Code, unless otherwise provided by MIOSHA regulations. Electrical installations and maintenance shall be performed only by qualified electricians.

Extension cords used with portable electric tools shall be the 3 wire type, shall be protected from damage, and shall not be fastened with staples, hung from nails, or suspended from wires. Splices shall have soldered wire connections with insulation equal to the cable. Worn or frayed cables shall not be used.

Except where bulbs are deeply recessed in the reflector, bulbs on temporary lights shall be equipped with guards. Temporary lights shall not be suspended by their electric cords unless designed for suspension.

Receptacles for attachment plugs shall be of approved, concealed contact type. Where different voltages, frequencies, or types of current are supplied, receptacles shall be of such designs that attachment plugs are not interchangeable.

Cable passing through work areas shall be covered or elevated at least 7 feet off the ground. Unprotected cables, extension cords, etc., shall NEVER be run over by vehicles, heavy equipment, JLGs, scissor lifts, etc.

Boxes for disconnecting means shall be securely and rigidly fastened to the surface upon which they are mounted and fitted with covers.

Employees shall not be permitted to work in such proximity to any part of an electric power circuit that he or she may contact the same in the course of his or her work unless the employee is protected against electric shock by de-energizing the circuit and grounding it or by guarding it by effective insulation or other means. In work areas where the exact location of underground electric power lines is not known, workers using jackhammers, bars, or other hand tools which may contact an energized line shall be provided with insulated protective gloves.

For 15 and 20 ampere receptacle outlets on single-phase, 120 volt circuits for construction sites which are not a part of the permanent wiring of the building or structure, ground fault circuit interrupters (GFCIs) shall be used for employee protection.

Employees shall test GFCIs before they are used on a daily basis and, if there is a malfunction, shall report the problem to his or her supervisor. Each month, the Project Manager shall designate a competent person in electrical safety to test the GFCIs and report the results on the GFCI Monthly Test form. All outlets, "bang-boxes," etc., shall be tagged with a monthly inspection tag. When the competent person checks the GFCIs, the month and day they were tested shall be marked.

All electrical circuits, equipment, and conductor enclosures shall have a grounding system, which is permanent and continuous, of such capacity to conduct safely any fault current likely to be imposed on it, and has sufficiently low resistance to limit the voltage to ground and facilitate the operation of the circuit breaker in the circuit. The continuity and resistance of grounding systems shall be tested immediately after installation, after any repair or modification, and annually thereafter.

All electrical powered equipment and machinery shall be de-energized and locked out before any maintenance or repair work is performed. Where overhead power lines are encountered on a jobsite and equipment has the potential to contact the lines, the safe minimum clearances shall be followed. The lines shall be either relocated in cooperation with the utility or Owner, or safe clearance barriers shall be erected. Example: install poles and wire rope that has reflective tape or other acceptable attention getting markings at safe minimum clearance locations away from the power lines. Ground level signs shall also be constructed to make operators aware of the hazard above. The safe minimum clearances are as follows.

All employees who face the risk of electric shock from working on, near, or with electrical circuits, which is not reduced to a safe level by electrical installation, shall be trained in the recognition, avoidance, and control of specific electrical hazards.

28.0 Disposal Chutes

Whenever materials are dropped more than 20 feet to any exterior point of a building, an enclosed chute shall be used. When debris is dropped through holes in the floor without the use of chutes, that area where the material is dropped shall be enclosed with barricades not less than 42 inches high and not less than 6 feet back from the projected edges of the opening above. Warning signs of the hazards of falling material shall be posted at each level.

29.0 Non-AOA Motor Vehicles and Mechanized Equipment

All vehicles in use shall be checked at the beginning of each shift to assure that all parts, equipment, and accessories that affect safe operation are in proper operating condition and free from defects. All defects shall be corrected before the vehicle is placed in service.

No person shall use any motor vehicle, earth moving, or compacting equipment having an obstructed view to the rear unless:

- The vehicle has a reverse signal alarm distinguishable from the surrounding noise level, or
- The vehicle is backed up only when an observer signals that it is safe to do so.

Heavy machinery, equipment, or parts thereof which are suspended or held aloft shall be substantially blocked to prevent falling or shifting before employees are permitted to work under or between them.

30.0 Silica Exposure Plan

The contractor must have a written silica exposure plan for the work to be performed. The plan shall be a separate document or part of the Site Specific or Corporate plans.

31.0 Investigation, Documentation, and Reporting of Incident and Accidents

Accidents are an unexpected event which results in injury, illness of a person, or property damage. Incidents do not result in serious injury but could include a near-miss or result in a violation (unsafe act) of a procedure or policy.

Incidents and Accidents include, but are not limited to:

- Property Damage;
- Environmental Release;
- FAA Excursion;
- Illness/Exposures;
- FAA Incursion;
- Injury;
- FAA Surface Incident; and
- Unsafe Act or Condition.

All Accidents and Incidents must be reported immediately to the WCAA. When the Contractor or sub-contractor is aware of an incident or accident, they must notify the Wayne County Airport Authority as soon as possible. Names of those WCAA employees who need to be notified will be agreed during the pre-construction meeting. Notification contacts can only be changed as approved by the WCAA. As required by law, other entities such as Michigan EGLE, EPA, FAA, and MIOSHA shall be notified of the incident as necessary by the Contractor.

In the event there is immediate danger to life and health contact 911. The Contractor shall assure they identify that they work on behalf of the Airport Authority. Explain what happened and give details as to the location of the events.

If an incident occurs on the AOA the incident /accident shall be reported immediately to the DTW or YIP Airfield Operation Units by contacting (734) 942-3685.

After every incident or accident, regardless of the location, an investigation shall be conducted by a qualified person. Contractor shall be responsible for all sub-contractors and will work with the sub-contractor as it relates to the investigation, documentation, and reporting of accidents and incidents. The Contractor shall have a system for investigation which shall include the following:

- The primary purpose of the investigation is to determine the cause of the incident/accident and eliminate them so that the same or similar events will not occur. Corrective actions shall be produced and implemented. In some cases this may involve interaction with the WCAA, other Contractors, Tenants, and Airlines.
- The WCAA, WCAA designees, FAA, MIOSHA, Michigan EGLE, and other entities may be involved in the investigation process.
- Protect and preserve the incident/accident scene so as not to alter information of evidence while the investigation is conducted.
- Collect photos;
- Collect statement from witnesses; and
- Documentation of the investigation.

Attachment #1 – Loss Management Monthly Review



Wayne County Airport Authority Loss Management Monthly Summary

Contact Name: _____

Month/Year: _____

Contract # _____

Number of
Contractors: _____

Statistics:

	Current Period	Calendar YTD	Project to Date
Total Work Hours:			
Contractors			
Total			

First Aid Cases:			
Contractors			
Total			

Near Miss Incidents:			
Contractors			
Total			

All Skilled Medical Treatment Cases:

	#	Rate	#	Rate	#	Rate
Contractors						
Total						

All Skilled Medical Treatment Cases Which Require Days Off from Work:

	#	Rate	#	Rate	#	Rate
Contractors						
Total						

Total Number of Days Away from Work:

	#	#	#
Contractors			
Total			



Wayne County Airport Authority Loss Management Monthly Summary

Description of Skilled Medical Treatment Injuries/Illnesses:
(Specify Contractor name. List body part and one-line description of incident.)

(Insert text here)

Near Miss Incidents (Specify Contractor name.)

(Insert text here)

Property Damage Incidents (Specify Contractor name.)

(Insert text here)

First Aid Only Cases.

(Insert text here)

Attachment #2 – Contractor Employee Review

**Attachment 2 – Contractor Employee Review
Contractor Safety Guidelines**

**THIS DOCUMENT MUST BE KEPT ONSITE AND
UP TO DATE**

Date: _____

Project Number: _____

From: _____

Prime Contractor

Sub-Contractor #1

Sub-Contractor #3

Sub-Contractor #2

Sub-Contractor #4

After reviewing general safety, emergency response, and specific area safety requirements with all of your on-site assigned employees and sub-contractors, please have them sign and indicate their badge ID number or the last five numbers of their social security number on this sheet. If the employee or sub-contractor refuses to sign, the superintendent shall print the employee's name and write "employee has been read the requirements but refuses to sign."

"My Superintendent/Foreman/Supervisor has been explained to me the Wayne County Airport Authority Contractor Safety Guidelines. I understand the requirements. I understand that my deviation from these requirements could be cause for my dismissal from this project."

Signature	Date	Badge ID or Last 5 SSN:	Company Name:



DETROIT METRO • WILLOW RUN
WAYNE COUNTY AIRPORT AUTHORITY

[illegible]



DETROIT METRO • WILLOW RUN
WAYNE COUNTY AIRPORT AUTHORITY

[illegible]

Attachment #3 – Request for Marking



Request For Marking Utilities

Company Name or WCAA

Requesting the Marking: _____
Company/WCAA Division Name Project/Permit/Contract Number

Date and Time Submitted: _____
Print Date Print Time

Name/Contact of the Individual Requesting Marks: _____
Print Name Phone Number

Name of the WCAA Representative/Engineer Submitted to: _____
Print Name Phone Number

Drawing Numbers Reviewed: _____

Utilities will not be marked unless a drawing showing the limits of the marking are attached. Markings will only be valid for Twenty-one days. Underground work shall not be carried out beyond the 21 days of this request unless the Contractor documents the locations of the marking via survey at their own expense. The locations of the markings must be submitted back to the WCAA Representative.

	Responsible Party (b)	Contact Numbers
☐ Electrical DTE	DTE	Call WCAA Project Rep. / 811 (a)
☐ Electrical WCAA	WCAA	Call WCAA Project Rep. / 811 (a)
☐ Natural Gas	WCAA and/or Michcon	Call WCAA Project Rep. / 811 (a)
☐ Water	WCAA	Call WCAA Project Rep. / 811 (a)
☐ Sanitary/Storm	WCAA	Call WCAA Project Rep. / 811 (a)
☐ WCAA Fiber (Sec./Comm.)	WCAA	Call WCAA Project Rep. / 811 (a)
☐ FAA Electrical/Fiber	FAA	(734) 955-5100
☐ Telephone	ATT	(734) 778-1215 or (734) 731-3270
☐ Jet Fuel Systems	Swissport	(734) 732-5748 or (734) 941-5510
☐ Glycol	WCAA and or Miss Dig	Call WCAA Project Rep. / 811 (a)
☐ All Other (list below)	Varies – See Drawings	Call WCAA Project Rep. / 811

Notes:

- (a) WCAA Project representative may vary from project to project. The Project Representative might also be a company that represents the WCAA.
- (b) It is the Contractors responsibly to mark and locate other utilities not listed on this form.

How will you document the locations? _____

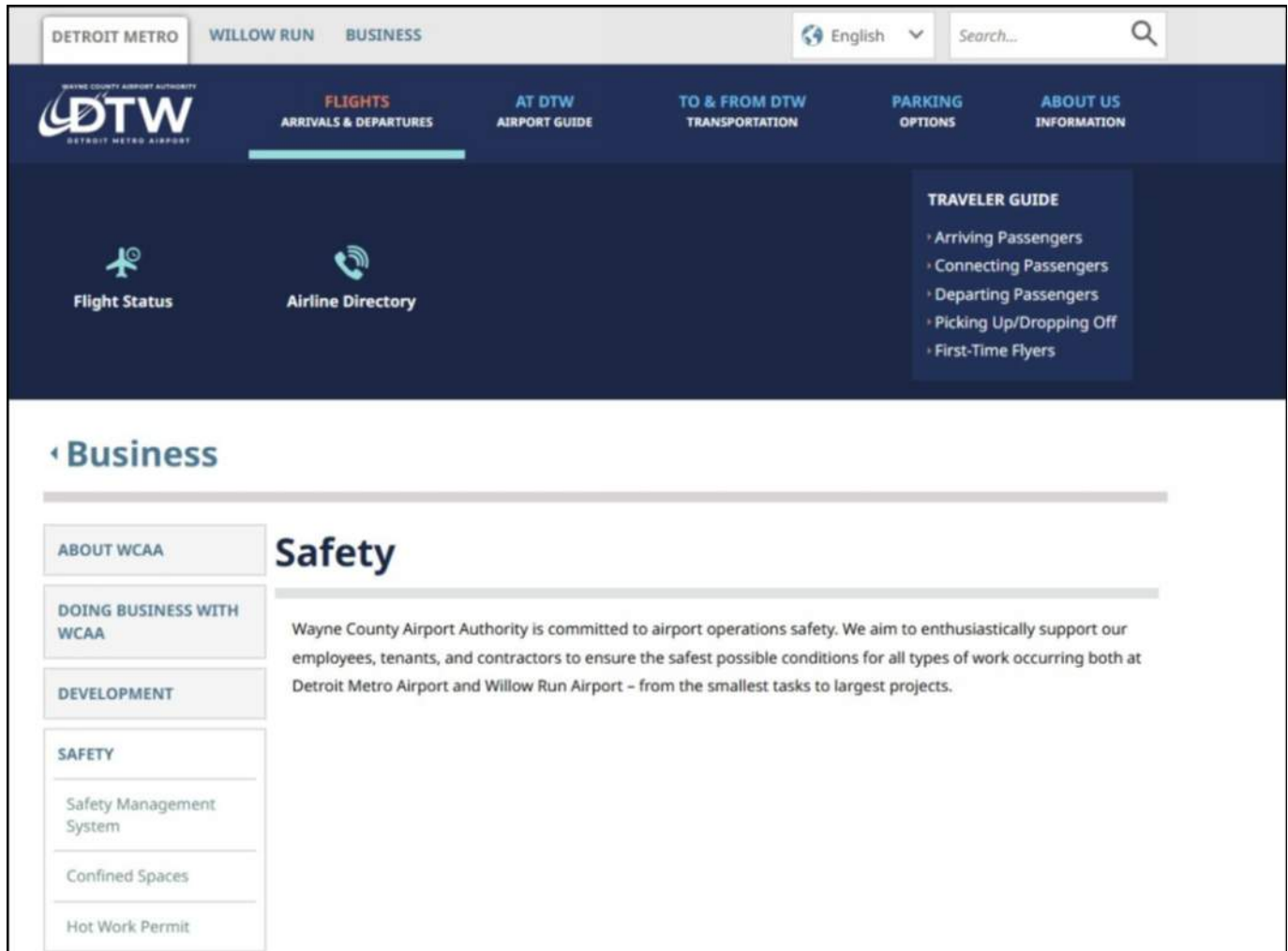
I understand that I am asking WCAA and outside agencies to conduct onsite markings if they have the resources to do so and if not I will be contacted by WCAA and must coordinate to perform the markings as outlined in the WCAA Safety Standards. I understand that I must also attach a sketch to indicate the limits of the area I am requesting to be swept. If I require additional markings outside the limits or require other utilities to be marked I understand a new form must be completed. The Contractor is not to proceed without an executed Field Acknowledgments form.

Signature of the Individual Requesting the Markings

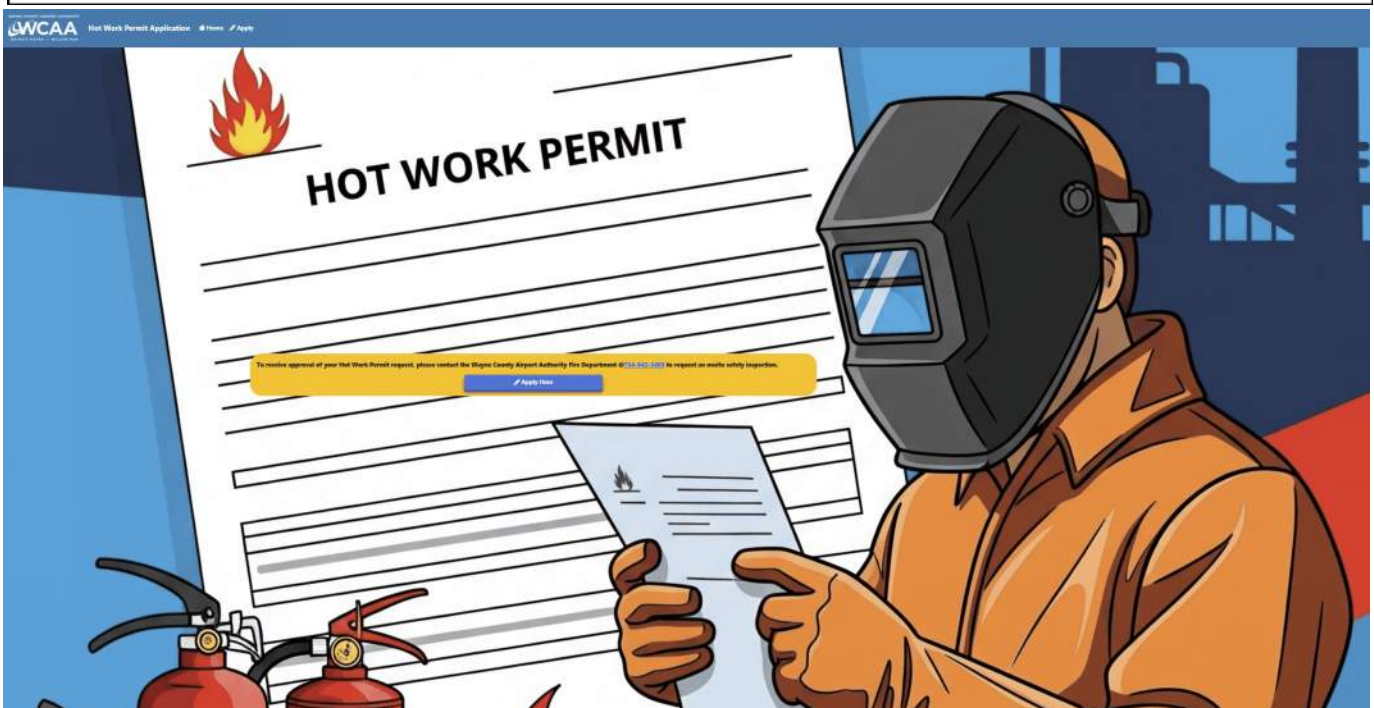
Date

Attachment #4 – Hot Work Permit

Hot Work hazards refer to the potential risks and dangers associated with tasks or processes that generate heat and sparks. The hazards associated with Hot Work can lead to fires, explosions, burns or other serious accidents if not properly managed. The Wayne County Airport Authority is committed to airport operations safety and requires all Hot Work requests to be submitted and approved prior to performing work at Detroit Metro Airport or Willow Run Airport. To begin the process, please complete the Hot Work Permit Request Form available at: <https://apps.metroairport.com/hotworkpermit>



The screenshot shows the Wayne County Airport Authority website. The top navigation bar includes links for DETROIT METRO, WILLOW RUN, and BUSINESS. Below this is a dark blue header with the DTW logo and links for FLIGHTS, AT DTW, TO & FROM DTW, PARKING, and ABOUT US. A TRAVELER GUIDE section lists links for Arriving Passengers, Connecting Passengers, Departing Passengers, Picking Up/Dropping Off, and First-Time Flyers. The main content area is titled 'Business' and features a sidebar with links for ABOUT WCAA, DOING BUSINESS WITH WCAA, DEVELOPMENT, and SAFETY. The SAFETY section is expanded, showing links for Safety Management System, Confined Spaces, and Hot Work Permit. The main content area is titled 'Safety' and contains a paragraph stating: 'Wayne County Airport Authority is committed to airport operations safety. We aim to enthusiastically support our employees, tenants, and contractors to ensure the safest possible conditions for all types of work occurring both at Detroit Metro Airport and Willow Run Airport - from the smallest tasks to largest projects.'



Attachment #5 – Utility Field Acknowledgment



FIELD ACKNOWLEDGEMENT FORM

	Utility	Date Req.	Date Completed
1.	_____		
2.	_____		
3.	_____		
4.	_____		
5.	_____		
6.	_____		
7.	_____		
8.	_____		
9.	_____		
10.	_____		
11.	_____		
12.	_____		

Project/Contract #: _____

Name of Contractor : _____

Limits of Work Included:

☐

Yes

or

☐

No

PLEASE ATTACH SUBSEQUENT FORMS THAT HAVE BEEN COMPLETED FOR PROPER VERIFICATION

Contractor will list out those utilities that were marked, cleared, or could not be located below:

Marked

Cleared

Not in Scoped Area or
could not locate

Notes

(a) WORK SHALL NOT COMMENCE IF THE UTILITY NOT LOCATED. CONTRACTOR SHALL REQUEST A MEETING WITH THE WCAA TO CLAIRIFY PRIOR TO PROCEEDING.

Marking documentation attached?

☐

Yes

or

☐

No

The above data has been checked with the Contract Drawings. When close clearances are indicated, hand excavation must be used to determine the exact location, existing lines, and interferences in the vicinity of work must be marked indicating locations and depth prior to excavation.

Printed Name

Date

Contractor Signature

Attachment #6 – Utility Interruption



DETROIT METRO • WILLOW RUN
WAYNE COUNTY AIRPORT AUTHORITY

Attachment 6 - Utility Interruption Form

Permit # or Contract # _____

Circle Airport: DTW or YIP

Utility System – List System(s) to be taken out of Service (Gas, Water, Electrical) and General Location	Buildings/Systems/Equipment to be effected	Maximo Work Order #	Shut Down Date and Time	Start Up Date and Time	Contractor Rep Initials	WCAA Rep Initials
1.						
2.						
3,						
4.						
5						
6						
7						

Contractor Representative Signature and Date

WCAA Representative Signature and Date

This document is to be forwarded to the WCAA Project Representative and the WCAA Facilities & Infrastructure Divisions at least five (5) business days prior to work. The shutdowns will not be authorized unless this form signed and received in advance as specified. Please use additional forms as needed. WCAA Project Representative will be required to notify those affected by the shut down. In some cases a back-up utility source may be necessary – PLEASE SEE PROJECT REPRESENTATIVE TO DETERMINE IF BACK-UP UTILITY SOURCES ARE REQUIRED. Upon authorization of the document a copy will must forwarded to the Maintenance Call Center located at Building 703. The Call Center Representative will assure it gets forwarded to the correct departments.

Attachment #7 – Utility Custody



Attachment 7 - Utility System Custody Form

This form serves as authorization for the Contractor to take full custody of a Utility System during their Project Work. All WCAA Safety Rules and Regulations still apply while the system is under the custody by the undersigned (Contractor). Contractors will be in full control of the entire system while under their custody. The Contractor will be required to coordinate with WCAA for this request. If custody times need to be extended than a new form must be completed and approved.

Permit # or Contract # _____

Circle Airport: DTW or YIP

Requested System	Maximo Work Order #	Area of Isolation (i.e. list panel#, breaker # , transformer #, regulator # of where custody begins and ends)	Requested Day and Time to be turned over	Time and Day System to be turned back to WCAA
1.				
2.				
3,				
4.				
5				

Contractor Representative Signature and Date

WCAA Representative Signature and Date

This document is to be forwarded to the all the WCAA Department affected listed below five (5) business days prior to work. Upon authorization of the document a copy will must forwarded to the Maintenance Call Center located at Building 703. The Call Center Representative will assure it gets forwarded to the correct departments that are effected. Call Center Fax:

Attachment #8 – Barricades Detail



Wayne County Airport Authority Barricades Detail Checklist

This Barricades Detail Checklist shall be used as a guidance document for bidding purposes. Actual barricades to utilized shall be submitted with the bid. Alternates shall be proposed prior to the award of a contract.

Class A Barricades

Twelve inch (12") by twelve inch (12") timber or equivalent (minimum 8 feet long) with lights. Maximum height of eighteen inches high as follows:

- 12" High Board
- Shall not weigh less than 300 lbs
- Some applications may require steady burn red-lenses as directed by WCAA Airfield Operations
- Maximum spacing between warning lights on adjacent barricades shall be seven feet (7') unless other specified.
- Four inch dome light shall meet the following requirements:
 - o 12v – 300 MZ
 - o 65 Flashed per minute
 - o 150 Candelas

Class B Barricades

Eight inch (8") by eight inch (8") timber or equivalent (minimum 8 feet long) with lights. Maximum eighteen inches high as follows:

- Eight inch (8") High Board
- Shall not weigh less than two-hundred (200 lbs)
- Some applications may require steady burn red-lenses as directed by WCAA Airfield Operations
- Maximum spacing between warning lights on adjacent barricades shall be six feet (6') unless other specified.

Class C Barricades

Four inch (4") by four inch (4") timber or equivalent (minimum 8 feet long) with lights. Maximum seventeen inches high as follows:

- Eight inch (8") High Board
- Shall not weigh less than ninety (90 lbs)
- Some applications may require steady burn red-lenses as directed by WCAA Airfield Operations
- Maximum spacing between warning lights on adjacent barricades shall be six feet (6') unless other specified.

Wayne County Airport Authority
Barricades Detail Checklist

Plates

The use of plates on an airport construction project requires WCAA Airside Operations approval. If plates are allowed, the following criteria will apply:

1. Plates shall be provided by the Contractor.
2. Plates shall be 3/4 to 1 inch in thickness, as required by traffic, of 60 KSI yield strength steel.
3. Plates shall have 45 degree beveled edges.
4. Plates shall be sized such that not more than 1/3 of the plate area covers a trench or excavation.
5. Plates shall not cover trenches or excavations that exceed 24 inches in width.
6. No more than 3 plates will be used on any one trench or excavation.
7. No more than 6 plates will be used on the project at any one time.
8. All plates shall be secured in such manner that movement does not occur during use by aircraft or vehicular traffic.

Attachment #9 – Daily Construction Checklist - AOA

Daily Construction Checklist – AOA Construction

	Item	Compliant (Y/N)	Action Required
1	Excavation adjacent to runways, taxiways, and aprons improperly backfilled.		
2	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		
3	Runway resurfacing projects resulting in lips exceeding 3 in (7.6 cm) from pavement edges and ends.		
4	Heavy equipment (stationary or mobile) operating or idle near AOA, in runway approaches and departures areas, or in OFZ.		
5	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.		
6	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.		
7	Improperly positioned or malfunctioning lights or unlighted airport hazards, such as holes or excavations, on any apron, open taxiway, or open taxi lane or in a related safety, approach, or departure area.		
8	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.		
9	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.		
10	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.		
11	Wildlife attractants — such as trash (food scraps not collected from construction personnel activity), grass seeds, tall grass, or standing water — on or near airports.		
12	Obliterated or faded temporary markings on active operational areas.		
13	Misleading or malfunctioning obstruction lights. Unlighted or unmarked obstructions in the approach to any open runway pose aviation hazards.		
14	Misleading or malfunctioning obstruction lights. Unlighted or unmarked obstructions in the approach to any open runway pose aviation hazards.		
15	Failure to issue, update, or cancel NOTAMs about airport or runway closures or other construction related airport conditions.		
16	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.		
17	Restrictions on ARFF access from fire stations to the runway / taxiway system or airport buildings.		
18	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.		
19	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.		
20	Spillage from vehicles (gasoline, diesel fuel, oil) on active pavement areas, such as runways, taxiways, aprons, and airport roadways.		
21	Failure to maintain drainage system integrity during construction (for example, no temporary drainage provided when working on a drainage system).		
22	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.		
23	Failure to control dust. Consider limiting the amount of area from which the contractor is allowed to strip turf.		
24	Exposed wiring that creates an electrocution or fire ignition hazard. Identify and secure wiring, and place it in conduit or bury it.		
25	Site burning, which can cause possible obscuration.		
26	Construction work taking place outside of designated work areas and out of phase.		

Project: _____ Name of Contractor: _____

Date of Inspection: _____ Signature of Inspector: _____

A draft incident report shall be submitted to the WCAA with 24 hours. A final report shall be submitted to the WCAA within five days. Documentation of the investigation can be completed on Attachment 11 - Incident Documentation Template Supplemental reports and documentation can be submitted with the Incident Template.

If the incident/accident includes a Utility Strike, the the Contractor shall submit Attachment #12 – Supplemental Utility Strike Incident Form.

The contractor shall keep documentation of the following:

- Final incident/accident report with all supplemental documents.
- Copies of any citation or violation as a result of the events.
- Any notification to MIOSHA, FAA, Michigan EGLE, DOT, and EPA that involve results, and and remedial action schedules.

Gensler
010.6464.020

07/16/2026
Issue For Bid

DTW McNamara Terminal
Ticketing Family Restrooms
Romulus, Michigan

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SP-20 - AIRPORT SECURITY REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. The Prime Contractor is required to obtain a copy of the Security Requirements and to disseminate them to the appropriate sub-contractors.
- B. At a minimum, SP-20 applies to the work being performed. Additional requirements may be incorporated due to Local, State or Federal Regulations or increased security levels at the Airport.
- C. At a minimum, the following guidelines should be used and followed – TSA Airport Security design guidelines, RTCA, Inc – Standards for Airport Security Access Control Systems (RTCA-DO 230 in latest version) and any National Safe Skies Alliance, Inc. PARAS reports.
- D. The Contractor shall be required to supply, place, maintain, move and store the items listed herein, as appropriate, to facilitate construction and protect air traffic. The Contractor shall maintain an adequate extra supply of these items on site.

PART 2 - EXECUTION

2.1 GENERAL REQUIREMENTS AND CONTRACTOR RULES

- A. Any construction, alteration or modification that would modify the Airport's TSA-approved Airport Security Program (ASP) requires sixty (60) days' notice to Airport Security Management. Failure to comply with this requirement may delay the project. The lead time is required for the Airport to seek and receive TSA approval for the changed condition.
- B. The Contractor is responsible for submitting a Site Security Plan which describes measures for the control and accountability of Airport ID badges, tools and site security.
- C. Per Federal Regulation 49 CFR 1520, all construction documents shall be controlled. The documents shall either be identified as 'Security Sensitive Information' or 'For Official Use Only'. Documents that identify critical infrastructure and/or security systems shall be marked with the following statement:

'WARNING: This record contains Sensitive Security Information that is controlled in 49 CFR Part 1520. No part of this record may be disclosed to persons without a "need to know", as directed in 49 CFR part 1520, except with the written permission of the Administrator or the Transportation Security Administration or the Secretary of Transportation. Unauthorized release may result in civil penalty or other action. For US government agencies, public disclosure is governed by 5 USC 552 and 49 CFR Part 1520.' All other documents shall be marked Official Use Only – Public availability to be determined under 5 USC 552."

- 1. Contact an Airport Security Manager if you require clarification on proper document.

- D. All individuals working inside or traversing Security Sensitive Areas shall possess Airport Identification Badges obtained from the Airport's Credentials Office (734) 942-3606. All forms and information are available at www.metroairport.com - click the 'badging' link.
1. Unescorted access requires a DTW photo ID Badge. Contractors should contact the Airport's Credentials Office for specific Badge processing procedures or refer to the Airport's website.
 2. Contractor access is restricted to the construction site only; access to any other area(s) is not permitted.
 3. Access through security doors and gates can be granted by submitting a written request to an Airport Security Manager.
 - i. Access requests must specify the door(s) or gate(s) where access is being requested, along with justification for need/use.
 - ii. If access is required to other tenant or airline locations, written permission of the leaseholder is required.
 4. Lost or Stolen ID Badges shall be immediately reported to the Airport Security Credentials Office 734-942-3606 or to the 24/7 Airport Response Center (ARC) at 734-942-5304.
 5. All Airport ID Badges must be returned to the Airport upon completion of the project. The ID Badges are valid for approved construction projects only; this does not include warranty work. If warranty work is to be provided, the Contractor shall coordinate with the Credentials Office to have their paperwork and badges updated to reflect the change in status.
 6. Fines may be imposed for not notifying the Airport when an individual no longer requires access at the Airport.
 7. Badge deposits will be forfeited for Badges not returned within ninety (90) days of deactivation/completion of the project.
- E. The Contractor shall not paint over, damage, alter or tamper with any component of the Electronic Security System (ESS), including associated signage and labels, unless authorized by a Security Manager in advance. The work is subject to inspection by Airport Security to ensure it meets our requirements. The Contractor will be required to restore any altered items to their previous or better condition than before alteration. All costs associated with the above work will be at the expense of the Contractor.
- F. Shop drawings and submittals for any Security equipment must be pre-approved by a Security Manager prior to purchase and installation.
- G. Any security equipment that is removed as part of this project is the property of Airport Security and shall be inventoried and returned to the Airport. The Airport, at its discretion, may decide to have the Contractor dispose of select items that are no longer needed or of value according to the Airport's current policies.
- H. To prevent possible explosive or incendiary devices from being hidden in areas close to Airport facilities, equipment, aircraft, or vehicles, no containers (toolboxes, storage containers, material trailers) shall be left unsecured or unattended in any Security Sensitive Area.

- I. The Contractor shall not park any vehicles, or store any construction materials, within ten (10) feet of the AOA perimeter fence. Lay down areas for materials must be pre-approved by an Airport Security Manager.
- J. Due to the potential for damage and to meet security regulations, Contractors shall coordinate and receive pre-approval from an Airport Security Manager, prior to lifting any equipment, persons or material over the Airport's AOA Fence or perimeter building.
 - 1. The Contractor may be required to have an Airport Contract Security Officer on site during this work. The Contractor shall be responsible for all costs associated with the Contract Security Officer coverage. The Contractor shall complete a Security Services Request Form to schedule these services.
- K. Contractors shall not excavate under, or around, the AOA fence without prior approval from an Airport Security Manager.
 - 1. Depending on the duration and extent of the excavation, the Contractor may be required to have an Airport Contract Security Officer at the site during this work. The Contractor shall be responsible for all costs associated with the Contract Security Officer coverage and vehicle, if required. The Contractor shall complete a Security Services Request Form to schedule those services.
 - 2. To prevent AOA access, all excavations that traverse the AOA line shall be adequately enclosed or covered prior to the end of each workday and should never be left unattended. Prior to completion of work for the day, the Contractor shall contact Airport Security to have the site inspected and approved before the Contractor leaves the site and the Security Officer is released
 - 3. Any damage to the AOA fence should be reported immediately.
- L. All other requirements in the Airport Security Program, Security Rules for Contractors, Badging Procedures, and all local, state, and Federal laws and regulations also apply.
- M. Failure to comply with the Security Rules and Procedures may result in an Administrative Penalty, work stoppage and/or removal from the site.
 - 1. Any TSA Civil Penalty issued to the Airport because of a Contractor's security violation will be passed onto the Contractor.

2.2 PUBLIC – TERMINAL REQUIREMENTS

- A. The Contractor and/or his employees shall not prop open any gates or doors that allow access to any Security Sensitive Area; this includes any temporary wall(s) separating the public from any construction area.
 - 1. Temporary walls shall meet Security access requirements (fence standards or ESS system) to prevent access to persons or prohibited items. A Contract Security Officer(s) is required (at the cost of the Contractor) at any unsecured opening leading to a Security Sensitive Area.

2. If a temporary opening is made that would allow access into a Security Sensitive Area, the Contractor shall erect a partition to prevent access until the area is inspected by Airport Security and approved by an Airport Security Manager.
 - i. The partition shall be sufficient to prevent access of persons or prohibited items. The requirements may change depending on the location of the partition.
- B. The installation of an active shooter detection and notification system may be required. The system at a minimum should be integrated with the ESS.
- C. The Contractor shall not install any openings/doors that would allow access to the Security Sensitive Area unless approved in advance and tested by Airport Security. The Contractor may be required to have an Airport Contract Security Officer at the site during this work.
 1. All new Security doors or gates shall have the appropriate signs and be numbered using the Airport Security's numbering system. The signs shall match (look and material) of the existing security signs and shall be provided by the Contractor at their expense. Security shall approve all signs prior to production. Signs must be in place prior to door or gate activation.
- D. All contractors accessing the terminal may be required to go through employee screening. Tools will be allowed on a case-by-case basis.
- E. Prior to any area being opened to the public, Airport Security shall conduct a security sweep of the area. A Sweep request must be submitted to Airport Security with a minimum 48 hours in advance to schedule the sweep.
- F. Bollards shall remain secured in front of the terminal buildings at established locations, always. Temporary movement of the bollards to accommodate the movement of equipment or material shall be coordinated in advance (at least 24 hours) with an Airport Security Manager. The type of bollards and spacing will be coordinated and approved by Airport Security.
- G. Dumpsters are not permitted within 300' (three hundred feet) of the public areas of the terminal buildings.

2.3 STERILE AREA REQUIREMENTS

- A. The Contractor and/or his employees shall not prop open any gates or doors that allow access to any Security Sensitive Area. This includes doors installed in temporary walls to keep the public from any construction area.
 1. Temporary walls shall meet Security access requirements (fence standards or ESS system) to prevent persons and prohibited items from entering the Security Sensitive Areas. Contract Security Officers are required (at the cost of the Contractor) for any security sensitive access opening.
 2. If a temporary opening is made that would allow access into a Security Sensitive Area, the Contractor shall erect a partition to

prevent access until the area is inspected and approved by Airport Security.

3. Any access points within the temporary walls must be secured with a combination lock with the code provided to public safety.
 4. The Contractor is responsible for ensuring the construction area is either manned or secured always. Any prohibited items discovered left unattended and/or accessible to the public may result in; the removal of the prohibited items, administrative penalty, badge suspension, and/or termination.
 5. If an access point is found unsecured and unattended, it should be reported immediately to the Airport Response Center (ARC) by calling the number on the back of the Airport ID Badge and staying in the area to prevent unauthorized access until Airport Police arrive to complete a detailed report of the incident.
- B. The Contractor shall prevent unauthorized pedestrian or vehicular access to the Security Sensitive Areas from the construction site.
- C. The Contractor shall not install any openings/doors that would allow access to the Security Sensitive Area unless approved in advance and tested by Airport Security. The Contractor may be required to have an Airport Contract Security Officer at the site during this work.
1. All new Security doors or gates shall have the appropriate signs and be numbered using Airport Security's numbering system. The signs shall match (look and material) the existing security related signs and shall be provided by the Contractor at their expense. Security shall approve all signs prior to production. Signs must be in place prior to door or gate activation.
- D. Bollards shall remain secured in front of the terminal buildings at established locations, always. Temporary movement of the bollards to accommodate the movement of equipment or material shall be coordinated in advance (at least 24 hours) with an Airport Security Manager.
- E. Staging of equipment, storage of materials or dumpsters are not allowed within 300' (three hundred feet) of the public areas of terminal buildings.
- F. The Contractor shall coordinate equipment or personnel access through passenger screening with Airport Security in advance.
- G. The Contractor is not permitted to carry any prohibited items (see TSA website www.tsa.gov for current list of prohibited items) that are not necessary for operational or medical needs. These items may be subject to inspection.
1. No prohibited items (including tools) shall be left unsecured or unattended in a Security Sensitive Area at any time.
- H. Any temporary door(s) that lead to a construction area that is accessible to the traveling public shall be equipped with a coded lock or the Airport's Intellikey Lock (purchased and installed at the Contractor's expense).

1. The access number to the door shall be provided to a WCAA Security Manager and Inspectors. These areas must remain secured always.
 2. Removal of any temporary structure requires a Security sweep and must be coordinated with Airport Security with 48-hour advance notice.
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- I. Prior to any area being opened to the public, Airport Security shall conduct a security sweep of the area. A Sweep request must be submitted to Airport Security with a minimum 48 hours in advance to schedule the sweep.
 - J. Prior to any area that was closed for construction being opened to the public all prohibited items that are to remain in the area must be audited by the Concession Department. Go to www.tsa.gov for a complete list of TSAs prohibited items.

2.4 AIR OPERATIONS AREA (AOA) REQUIREMENTS

- A. The Contractor and/or his employees shall not prop open any gates or doors that allow access to any Security Sensitive Area. This may include temporary walls to keep the public from any construction area.
 1. Temporary walls shall meet Security access requirements (fence standards or ESS system) to prevent persons and prohibited items. Contract Security Officers are required (at the cost of the Contractor) for any security sensitive access opening.
 2. If a temporary opening is made that would allow access into a Security Sensitive Area, the Contractor shall erect a partition to prevent access until the area is inspected and approved by an Airport Security Manager.
 - i. The partition shall be sufficient to prevent access of persons or prohibited items. The requirements may change depending on the location of the partition.
- B. The Contractor shall prevent unauthorized pedestrian or vehicular access to the Security Sensitive Areas from the construction site.
- C. The Contractor shall not install any openings/doors that would allow access to the Security Sensitive area unless approved and tested by Airport Security.
 1. The Contractor may be required to have an Airport Contract Security Officer at the site during this work.
- D. All new Security doors or gates shall have the appropriate signs and be numbered using Airport Security's numbering system.
 1. The signs shall match (look and material) the existing security related signs and shall be provided by the Contractor at their expense. Security shall approve all signs prior to production. Signs must be in place prior to door or gate activation.

2. All jet way stair doors are required to have 'restricted area' & "sterile area subject to search, liquid gels" signs installed on the door.
 3. The signs shall match (look and material) the existing security related signs and shall be provided by the Contractor at their expense.
- E. At the Contractor's expense, a double-sided cipher lock must be installed on jet way stair doors, preventing access from both the sterile area to the AOA and the AOA to the sterile area.
- F. Entry and exit to job sites shall be through approved vehicle checkpoints, only.
1. If the Contractor requires access after the regularly scheduled hours at manned vehicle checkpoint locations, the Contractor shall submit a Security Officer Request form and the Contractor will be responsible for the cost of the additional hours
 2. For locations that are not currently being manned, the Contractor will be required to pay for the contract security officer. In addition, a temporary booth may be required (see Temporary Booth).
 3. At locations other than one of the established vehicle checkpoints, the contractor must meet all security requirements for "vehicle checkpoints". Installation of any additional required equipment will be at the cost of the Contractor.
 4. All construction/installation vehicles, while on the AOA, shall have a DTW vehicle pass displayed on the dashboard. In addition, any persons that are required to drive on the Air Operations Area (AOA) will be required to undergo ramp drivers training. DTW vehicle passes may be obtained from the Airport Credentials Office.
 5. All construction/installation vehicles shall display company logo affixed to the drivers' and passengers' door.
 - i. Logos shall be no less than 12" x 12" and can be magnetic, printed or pasted on, but shall be commercially made.
 6. All drivers must have valid company proof of insurance maintained in their vehicles always.

2.5 SECURED AREA REQUIREMENTS

- A. The Contractor and/or his employees shall not prop open any gates or doors that allow access to any Security Sensitive Area. This may include temporary walls to keep the public from any construction area.
1. Temporary walls shall meet Security access requirements (fence standards or ESS system) to prevent persons and prohibited items. Contract Security Officers are required (at the cost of the Contractor) for any security sensitive access opening.
 2. If a temporary opening is made that would allow access into a Security Sensitive Area, the Contractor shall erect a partition to prevent access until the area is inspected and approved by the Airport Security.

- i. The partition shall be sufficient to prevent access of persons or prohibited items. The requirements may change depending on the location of the partition.
- B. The Contractor shall prevent unauthorized pedestrian or vehicular access to all the Security Sensitive Areas from the construction site.
- C. Entry and exit to job sites shall be through approved vehicle checkpoints, only.
 - 1. If the Contractor requires access after the regularly scheduled hours at manned vehicle checkpoint locations, the Contractor shall submit a Security Officer Request, at least 48 hours notification is required, and the Contractor will be responsible for the cost of the additional hours.
 - 2. For locations that are not currently manned, the Contractor will be required to pay for the contract security officer. In addition, a temporary booth may be required (see Temporary Booth).
 - 3. At locations other than one of the established vehicle checkpoints, the contractor must meet all security requirements for "vehicle checkpoints". Installation of any additional requirements will be the cost of the Contractor.
 - 4. All construction/installation vehicles, while on the AOA, shall have a DTW vehicle pass displayed on the dashboard. In addition, any persons that require driving on the Air Operations Area (AOA) will be required to undergo ramp drivers training. DTW vehicle passes may be obtained from the Airport Credentials Office.
 - 5. All construction/installation vehicles shall display company logo affixed to the drivers' and passengers' door or side window.
 - i. Logos shall be no less than 12" x 12" and can be magnetic, printed or pasted on, but shall be commercially made.
 - 6. All drivers must have valid company proof of insurance maintained in their vehicle always.

2.6 CONTRACT SECURITY SERVICES

- A. The Contractor shall utilize the Airport's Contract Security Service for any work that affects the security of the Airport (i.e., access points, fencing, doors, gates, etc.).
 - 1. Note: The Airport's Contract Security Service cannot be used for escorting services.
- B. The Contract Security Service shall be provided at the Contractor's expense. The Contractor shall complete the Contract Security Service Request Authorization Form at least 48 hours prior to service being provided. Less than 48 hours advance notice will result in additional hourly charges.
- C. The Request Forms should be submitted to Airport Security at security@wcaa.us at least forty-eight (48) hours in advance. A cancellation fee may apply without proper cancellation notice.

- D. Depending on the location and the operational impact, the Contractor may be required to pay for an additional Contract Security Officer to perform vehicle inspections, relief duties and/or act as a physical barrier for any open perimeter access points. This may require the use of a Contract Security vehicle, which will be provided at the expense of the Contractor making the request.
- E. For AOA access, the Airport has several existing vehicle checkpoint locations that contain guard booths and ESS. These locations should be utilized as the preferred access locations. If Contract Security Services are required at other perimeter locations, it must be first approved by an Airport Security Manager and the Contractor must supply a temporary booth (see Temporary Booth Requirements). The Airport may (if available, if approved by a Security Manager and with advance notice) provide the Airport's portable booth for temporary use by the Contractor. It will be the responsibility of the Contractor to provide maintenance of the checkpoint booth (interior and exterior) for the duration of the requested service. Maintenance may consist of, but not limited to; wiping down interior and exterior walls and windows, window screens, sweeping and washing the floor, and cleaning or changing the HVAC filters as needed. The contractor will be responsible for ensuring the checkpoint traffic lanes are kept clear of snow, ice and mud.
- F. Rates and requirements are subject to change. The Contractor should always utilize the most current Request Form available on the Airport's website.

2.7 FENCE

- A. The Contractor shall submit plans for any fence installation or relocation (temporary or permanent) which shall include fence layout and a phasing plan to Airport Security sixty (60) days in advance for approval. Failure to comply with this requirement may delay the project. The lead time is required for the Airport to seek and receive TSA approval for the changed condition.
- B. The Contractor or his employees shall not cut, remove, alter or displace any AOA perimeter fencing, ESS or signs without prior approval from an Airport Security Manager.
 - 1. The Contractor shall contact Airport Security at least 48 hours in advance for approval prior to removing any fencing, ESS or signs.
- C. Prior to removing or altering any existing AOA perimeter fencing, a permanent or temporary fence shall be in place and have been inspected and approved by an Airport Security Manager.
- D. Any temporary fence shall still meet the standard fence security requirements. Any alternate details must be pre-approved by Airport Security.
- E. AOA perimeter fencing may require the installation of the Airport's perimeter detection system (Infinity 2000) depending on the

project/location. Airport Security will make this determination based on the project.

- F. Any AOA fence that is displaced whether temporarily or permanently, or any new AOA fence shall be 10 (ten) foot chain link with top and bottom tension wires.
1. There shall be at least five (5) fence ties attaching the fabric to each post and at least 5 ties (ea. top and bottom) attaching the tension wire to each section of fence.
 2. The fence shall be topped with dual, "V" Type, outriggers with a minimum of three (3) strands of barbed wire on each outrigger.
 3. The barb wire shall be fastened securely.
 4. The fence fabric is to be placed on the public side of the fence posts.
 5. All gaps—including those from the bottom of the fence or gate to the ground (Figure 1C), and between a gate leaf and a post or another gate leaf (Figure 1B)—shall not exceed three and a half inches (3.5").
 6. To allow proper clearance for Airport Fire and Maintenance equipment, all vehicle gates shall allow a minimum clear opening of sixteen feet (16').
 7. To prevent gates from sagging, there shall be support cross braces for a minimum of two (2) sections on either side of the gate leaves.
 8. To address erosion concerns and the subsequent risk of pedestrian and wildlife access, all fencing shall have at least three feet (3') of flat ground on either side.
 9. New permanent fence installations must have wildlife deterrent fencing (i.e., skirting).
 10. All fence posts shall be secured in concrete.
 11. If new or replacement fence is installed adjacent to existing fence that is at a different height, the fence shall transition to the different height in not more than one section.
- G. All permanent AOA fence (chain link and decorative) shall have a physical barrier protecting the fence from forced penetration. Options can include: fence on barrier wall, guard rail, berms, or other natural or manmade barriers. Physical barrier option will require prior approval by an Airport Security Manager.
- H. Decorative wrought iron fence is an acceptable alternative in certain locations. Aegis II – Invincible manufactured by Ameristar Fence Products is the current Airport approved standard. The wrought iron fence shall have one-inch (1") 14-gauge aluminum pickets, steel cross members and posts and be at least 10' (ten feet) high with an additional height to support the curving in the same direction as an outrigger. Pickets shall be spaced at a maximum of four inches (4") between each picket.
1. The fence shall be installed by Airport-approved methods which vary depending on the material in which the fence is installed on.
- I. Guardrail or fence installed on concrete barrier wall is required for all permanent fence locations unless a natural or man made barrier already exists to prevent vehicular penetrations. Any alternate barriers must be approved by Airport Security.

1. To prevent damage, guardrail shall be placed at least six feet (6') from the AOA fence in all parking areas and areas immediately adjacent to an AOA checkpoint booth and associated gates.
 2. The guardrail shall be installed on the public side of the fence and meet DOT highway standards unless approved by Airport Security to be installed on the AOA side.
 3. The guardrail is to be of sufficient height to prevent semis and other large trucks from backing into or along the fence.
 4. The Airport's Inspector or Engineer shall approve the installation.
- J. Fence and Gate Signs requirements.
1. All signs shall be the same size, material and design as existing Airport signs.
 2. All signs shall be securely fastened to the fence posts to prevent alarming the perimeter detection system.
 3. All non-parking areas or driveways adjacent to the AOA fence shall have "NO PARKING" signs installed every one-hundred feet (100') and on all gates.
 4. The Contractor shall install "Restricted Area Keep Out" signs every one-hundred feet (100') on the Public Side of the fence and on all gates.
 - i. The sign shall be reflective with red background and white lettering - 12" (twelve inches) high by 24" (twenty-four inches) wide. The signs shall be securely fastened to the fence posts.
 5. In all parking areas adjacent to the AOA fence, shall have "Head-In Parking Only" signs installed every one-hundred feet (100').
 6. The Contractor shall install a gate identification sign on the Public Side of the gate.
 - i. The signs shall be made of reflective material and securely fastened. Gate signs shall be 12" wide by 18" high and have white letter/number on a blue background for Intellikey locations. Non-Intellikey locations shall be black letters/number on a white background.
 7. The Contractor shall install fence identification signs on the Public Side of the fence.
 - i. The signs shall be made of reflective material and securely fastened. Identification signs is installed every 1,000 feet and shall be 12" wide by 6" high and have green letter/number on a white background.
 - ii. Airport Security will provide the identification numbering sequence. Contractor may be required to re-number a section larger than the work area to maintain the Airport's numbering sequence in order.
- K. To comply with 49 CFR 1542.207, the Contractor shall supply and install an "Intellikey" locking mechanism on all manual security gates. Contact a Security Manager for further information on parts and components.
1. The lock shall be programmed by Airport Security and shall become the property of Airport Security and will not be returned to the Contractor.
 2. All Intellikey locks become the Airport's property after the project, even if being utilized on temporary fence line.

3. The fence post that the locking unit shall be attached to is to be two (2) inches minimum in diameter.
 4. A spacing of no more than 4 inches (4") is required between gate posts to allow for adequate clearance for the mechanism. Additional posts may be required to be installed above and below the Intellikey lock to prevent any gap issues.
 5. Intellikey locks shall be bolted and welded to the gate leaf, per the Manufacturers' instructions.
 6. The Intellikey lock shall be mounted so that the battery compartment is located on the secure/AOA side of the gate.
 7. To prevent any damage to the Intellikey locks, a drop rod shall be installed on all gate leaves; this prevents the wind from pulling on the locks.
- L. All culverts, drains, ditches or piping shall be secured to prevent pedestrian/wildlife access. Piping diameter of 4" or greater that extends from the public to the security sensitive area shall also be secured by means approved by an Airport Security Manager. There should be no gaps greater than 3.5 inches (3.5"). If rebar is used, all cross rebar should be welded and secured into the ground at a depth of at least 36".
1. The location shall be identified utilizing the Airport's identification system and a sign shall be installed at the contractor's expense. The sign shall be 12" high by 18" wide white letter/number on green background.
- M. Fence shall not be installed within six feet (6') of any utility pole or device that could be used to climb over the fence.
1. If unavoidable, the device shall be equipped with an anti-climb device. The anti-climb device or method shall be approved by an Airport Security Manager prior to any installation.
- N. Landscaping shall not be placed in areas that would prevent monitoring of the AOA fence from perimeter roads or CCTV systems.
- O. Landscaping shall not be placed in areas that would create a climb point or may cause further decay or damage to the fence due to vegetation, roots or other growth.
- P. Fencing shall not be installed within six feet (6') of existing landscaping.
- Q. Areas of the fence line that may be susceptible to vehicle impact, such as end of roadways, open lots, etc. may require additional barricades or physical layout alteration. Airport Security shall approve any additional barricades in these vulnerable locations.

2.8 PASSENGER SCREENING CHECKPOINT

- A. The Contractor shall first receive approval of the Screening Checkpoint layout, new installation or redesign by the TSA and Airport Security. At least sixty (60) day advance notice is required to the Airport for changes to the Airport Security Program.

1. This approval is required prior to commencing any construction. Failure to comply with this requirement may delay the project.
- B. CCTV shall be installed and integrated into the Airport's CCTV live and recorded systems – see CCTV Section. The layout, number of cameras, type of cameras and type of installation shall be submitted for approval to an Airport Security Manager prior to fabrication and installation.
 1. A local monitor connected to the existing CCTV system shall be installed to allow for the review of recorded video playback and live cameras.
 - i. The location of the monitor shall be approved by Airport Security prior to installation.
 2. CCTV coverage shall be of the entire screening checkpoint area including any associated exiting areas. This includes all access points into and out of the screening area.
 3. There shall be additional CCTV coverage to allow for the verification of the direction of travel of an individual approaching and leaving the screening checkpoint area.
- C. Emergency Screening Checkpoint direct line phone and Silent Alarm Button with ESS Interface shall be installed at each screening lane.
 1. Contact Technology Services (734) 247-0000 for phone and alarm specifications and Airport Security for ESS interface.
- D. A "Caution Alarm" shall be installed
 1. The alarm shall have a twist to reset switch/button.
 2. The alarm shall be interfaced into the CCTV and ESS.
 3. The alarm shall include a local Audible and visual alarm.
 - i. The audible alarm shall deactivate after 30 seconds but the visual alarm shall remain active until the reset of the Caution Alarm.
 4. The activation alarm shall match all existing buttons within the terminals. Placement of the alarm equipment shall be coordinated with a Security Manager.
 5. The exit lane may require an additional "Caution Alarm" activation button depending on checkpoint layout.
 6. As part of the "Caution Alarm" system, manual or automatic isolation gate(s) and associated CCTV coverage may be required to be installed adjacent to the screening checkpoint and exit lane(s). Exact location shall be determined by TSA and Security.
- E. Installation of a full partition gate shall be installed in front of the screening checkpoint and any associated exit lane to allow for complete closure.
 1. The gate shall not allow for any persons or items to be introduced into the sterile area from under, through or over the gate.
 2. The gates shall have ESS installed with alarm contacts, CCTV coverage and be card reader controlled.
 3. Exit lane technology should be considered as the approved method for any new permanent screening locations.

- F. The exit lane shall have a LEO authorization ESS reader installed with red “denied” and green “authorized” lights.
 - 1. The lights and reader shall be tamper proof.
 - 2. Area shall be covered by CCTV.
- G. Validation readers shall be installed with red “denied” and green “authorized” lights at the TSA document checking stations (TDC) location to validate employees.
 - 1. The lights and reader shall be tamper proof.
 - 2. Area shall be covered by CCTV.
- H. The Contractor shall install necessary TSA Airport Foreign Advisory Notice signs and associated bulletin boards and all other signs including x-ray and magnetometer numbers.
 - 1. The Foreign Advisory Sign shall be a locking cabinet 36” high by 24 “ wide. Keys are to be given to Airport Security. X-ray equipment and magnetometer numbers shall be a minimum of inches high of a contrasting color. The numbers shall be placed on all equipment
- I. Contractor shall install a Sterile Area access corridor adjacent to the screening checkpoint to allow Airport and Emergency personnel access to the sterile area at the permit holder’s expense. A camera will be installed so that the corridor door shall be monitored via the Airport’s CCTV system with both live and recorded video.
 - 1. Corridor access will be controlled by a maglock door with card reader integrated into the ESS (see ESS requirements).
 - 2. The Corridor shall be a one-way door.
 - 3. All new Security doors or gates shall have the appropriate signs and be numbered using Airport Security’s numbering system. The signs shall match (look and material) the existing security related signs and shall be provided by the Contractor at their expense. Security shall approve all signs prior to production. Signs must be in place prior to door or gate activation.
 - 4. Design and layout will be like that of existing access corridors at other screening checkpoints. The corridor shall be unobstructed to the screening operations and away from the public’s view.
 - 5. An addendum to the permit must be submitted for approval. The addendum shall include the layout/design of the corridor and associated equipment.
 - 6. The Contractor shall provide CCTV coverage at the new corridor location. Cameras are to be like that at other screening locations. Security shall pre-approve CCTV placement (See CCTV requirements).
 - 7. Provide all other fire and security signs (this includes informational and directional signs currently located at the existing corridor.
 - 8. Install a securable bulletin board within the corridor. The board shall match existing boards. Exact location to be approved by Security.
 - 9. A Known Flight Crew lane may be required depending on location.

2.9 EMPLOYEE SCREENING

- J. The Contractor shall first receive approval of the Screening Checkpoint layout, new installation or redesign by Airport Security. At least sixty (60) day advance notice is required to the Airport for changes to the Airport Security Program.
 - 1. This approval is required prior to commencing any construction. Failure to comply with this requirement may delay the project.
- K. CCTV shall be installed and integrated into the Airport's CCTV live and recorded systems – see CCTV Section. The layout, number of cameras, type of cameras and type of installation shall be submitted for approval to an Airport Security Manager prior to fabrication and installation.
 - 1. CCTV coverage shall be of the entire screening checkpoint area including any associated exiting areas. This includes all access points into and out of the screening area.
 - 2. There shall be additional CCTV coverage to allow for the verification of the direction of travel of an individual approaching and leaving the screening checkpoint area.
 - 3. An audible speaker should be installed and integrated into the Airport's CCTV System.
- L. Silent Duress Alarm Buttons shall be installed and tied into the Phoenix / building alarm system with annunciation in the ARC.
- M. Installation of a full partition gate shall be installed in front of the screening checkpoint and any associated exit lane to allow for complete closure.
 - 1. The gate shall not allow for any persons or items to be introduced into the sterile area from under, through or over the gate.
 - 2. The gates shall have ESS installed with alarm contacts, CCTV coverage and be card reader controlled.

2.10 TEMPORARY VEHICLE CHECKPOINT

- A. Contractor may be required to furnish additional Security personnel at the entrance to the job site. Security will provide the specific procedures required for the position.
 - 1. The Airport's Contract Security company is required to be used at the Contractor's expense.
- B. All equipment shall be approved by an Airport Security Manager prior to installation and operation. Contact an Airport Security Manager for detailed specifications of the above equipment.
- C. The contractor shall provide the labor, equipment, and material needed to maintain the operational maintenance of the checkpoint for contractor access to the AOA.
 - 1. The contractor must clean the interior and exterior of the checkpoint booth(s) for the duration of the project.

2. The contractor is responsible for sweeping the vehicle lanes and placing fine grade aggregate in the lanes.
 3. The contractor shall place jersey barriers along the vehicle lanes and straighten them when needed. This will be coordinated with the Airport Security Manager so they are properly placed.
 4. The contractor shall keep spare parts for the checkpoint (e.g. gate arms) to prevent a long period of being disrupted if there is a maintenance issue.
- D. Installation of CCTV & ESS may be required and will be at the discretion of Airport Security.
1. This may include the installation of wireless camera and readers.
- E. Temporary booths shall be furnished and installed at the locations as indicated in the drawings and/or as directed by Airport Security.
1. Contractor shall furnish all utilities required to heat, air condition, and light the booth for the duration of the project.
 2. The Contractor shall maintain the booth for the duration of the Contract, including repair of air conditioning, heating, lighting, removal of garbage, and cutting of grass around the booth.
- F. The booth shall be no less than five feet wide by eight feet long (5'x8').
1. Shall have two counters, one in front, one in back (maximum depth of 16 inches)
 2. Two doors (one on each side) to allow contract security officers to check entering and exiting vehicles.
 3. Windows on all sides, large enough for contract security officer to observe from a seated position.
 4. One chair with turning radius of 360 degrees, at a height which allows contract security officer to observe restricted areas through windows.
 5. Trash cans (dumping daily responsibility of Contractor).
- G. The Contractor shall provide a portable toilet facility near the booth for the use of the Contract Security Officer and shall be maintained by the Contractor.
- H. The Contractor will be responsible for maintenance of the booth during the duration of the project and will return the booth in the same condition or better should updates need to be completed by the contractor.
- I. The Contractor will be responsible for providing power to the booth. If a generator is used it must be maintained by the contractor (including fuel) for the duration of the project. The contractor must be available to respond always while the booth is powered by a generator.
- J. On a case-by-case basis, with Security approval, Contract Security Officer Service may be provided without a booth if the request is for "one time" access with a period of less than eight (8) hours. The Contractor will be responsible for all vehicle expenses.

- K. The Contractor shall remove all temporary booths from the project site at the completion of the project.
1. Booths provided by the contractor remain the property of the Contractor.
- L. Install enhanced (cable re-enforced) gate arm operators. The gate arm operator switch shall be installed at the front counter of the temporary booth. All equipment shall remain the property of the Airport.
1. The gate arms shall be a similar model to existing equipment in current use at the Airport and must be approved by Security.
 2. Installed per Manufacturers' specifications.
 3. The gate arms shall have a minimum clear opening of sixteen feet (16').
 4. A lightweight 'stop' sign shall be installed on the gate arms (see other locations for example).
 5. The gate arms will function manually with the switches inside of the booth at the front counter.
 6. Environmentally Friendly oil shall be used.
 7. Seal all expansion joints around the foundations.
 8. The enhanced gate arms shall have the ability to be controlled from the ESS.
- M. To prevent ESS and booth damage, guardrail or other approved barriers, shall be installed on the inbound and outbound lanes of the booth.
- N. Concrete jersey barriers shall be installed at least sixty (60) feet on both public and AOA sides of the gate to form a chute.
1. The barriers shall match other checkpoint locations.
 2. The barriers shall be painted safety yellow.
 3. The barriers shall have reflective tape/signs installed.
- O. Provide and install all necessary signs. The signs shall be same size and design of other locations and made with outdoor reflective materials. The signs shall be approved by Security prior to fabrication and installation. Listed below are some of the required signs:
1. "Stop - Wait Until Traffic is Clear" - mounted on the inbound lane, prior to start of the barrier chute, with a white Stop-Line painted on the ground adjacent to the sign.
 2. "Stop" sign - installed adjacent to the gate arm operators on the inbound and outbound lanes.
 3. "Wait Until Gate is Closed Before Proceeding - No Tailgating" - on both sides of the inbound and outbound automatic gate leaf's.
 4. "Restricted Area – Keep Out" on each gate leaf.
 5. "Warning - Restricted Area. Area.
 6. All Vehicles and persons are subject to search', and Prevent Runway incursions shall be mounted at the checkpoint approach, not to obstruct view from inside booth of approaching vehicles/individuals. The sign shall be the same size and design as other checkpoint booth signs.
 7. "No Pedestrians" – mounted on all gate leaf's.

8. "Stop – Ensure Gate is secure before departing" on the secured side at the end of the barrier chute with a white Stop-Line painted on the ground adjacent to the sign.
9. Install Checkpoint Identification number on booth.

2.11 PERMANENT VEHICLE CHECKPOINT

- A. All equipment shall be approved by an Airport Security Manager prior to purchase installation and operation. Contact an Airport Security Manager for detailed specifications of the ESS equipment.

Power Requirements: the power at the checkpoint shall be configured to allow generator support for the entire location.

If the checkpoint has more than one lane, each lane and associated equipment should be controlled independently.

Power requirements and configuration need to be evaluated at each location to ensure that there is sufficient power to handle the loads at full equipment usage. Evaluations should also be made to determine if items such as Line Conditioners need to be provided and installed to level out any power fluctuations or surges.

- B. A booth is required for vehicle access checkpoints.
 1. Installation of the booth shall meet all Manufacturers' specifications.
 2. Final booth location must be approved by a Security Manager.
 3. Booth design and layout shall be approved by an Airport Security Manager prior to fabrication and installation.
 4. The booth shall be designed and fabricated with inbound and outbound doors and windows like existing checkpoint booths.
 5. The 36" sliding steel doors should be 36 inches wide with weather stripping, ball bearing hangers, heavy duty track, safety glazing, hook bolt lock. The locks should be equipped with a seven (7) pin interchangeable core to accommodate the Best Core System. Each door will have a horizontal sliding window and hardware.
 6. Booth shall be a minimum of eight feet (8' length) by six feet (6' width) in size and gray in color. Booth shall have a 12" canopy overhang on all sides. Front and rear downspout.
 7. Booth shall be equipped with a heavy-duty (240V/4800 watt) heater and air conditioner.
 - i. Heater should be wall mounted with a protective cover and a Integral Thermostat Control .
 - ii. Air conditioner should be heavy duty 120V/13,500 BTU roof mounted with Integral Thermostat Control,
 8. Install a minimum of 2 interior duplex 110VAC GFI outlets (front and back of booth interior, under the countertop).
 9. Install two (2) interior lights with wall switch, 24" LED light fixture with acrylic lens. Light(s) should be ceiling mounted over each countertop. Switch should be installed above each counter.
 10. Install four (4) duplex exterior LED bulb spotlights with photocell included in the fixture, mounted on the soffit of each corner of the booth.
 11. Wall switch for exterior lights above front countertop.

12. Install circuit breaker panel mounted under rear counter – 120/240V rated (can be fed with 120/280V), 12 space 1-3 wire with ground bar, 100 amp main breaker and branch breaker for factory installed devices.
13. Junction box mounted in wall near floor slot for low voltage conduit termination.
14. Data prep mounted below counter with ½" raceway to junction box.
15. Camera prep - 2" x 4" device box surface mounted on header with ½" raceway to junction box.
16. Install exterior mirrors on the inbound and outbound sides of the booth.
17. Front and back counters painted galvanized steel, 18 inches deep, mounted 32" A.F.F." and include at least one drawer per counter. Each counter shall have two (2) 2-inch diameter holes for drop cords.
18. Install infrared heaters on both sides of the exterior eaves, above doors, minimum 240V/1600W – Mounted on fascia as high as possible.
19. Install wall thermostat for Fostoria Infrared Heaters.
20. LED Red/Green traffic light with 3 position wall switch – mounted on exterior header. 3 position wall switch for traffic light mounted inside above countertop
21. Foundation should be a minimum of 6" deep and a minimum of 24 inches wider than the building footprint. Provide and install pull down tinted mylar shades for all windows (like other booth locations). Shades must not interfere with either of the door slides.
22. Provide an anti-fatigue mat installed on the entire floor.
23. The booth shall have at least a one (1) year warranty.

Install exterior mirrors on the inbound and outbound sides of the

- C. The booth shall be at enough distance from the automatic gate so that when a vehicle is stopped for physical verification, the safety loop for the gate is activated but also that the enhanced gate arm can be down. Final equipment layout shall be pre-approved by an Airport Security Manager.
- D. Inside the booth there shall be toggle switches that open the automatic gates. The toggles shall be independent of each gate opening.
 1. The Security Officer shall open the NEMA enclosure via the interior ESS card reader. The enclosure shall contain toggle switches to open and close the individual automatic gate leaf's
 2. An alarm shall enunciate in the ESS when these toggle switches are used.
 3. An alarm shall enunciate in the ESS when the enclosure is opened without a valid card swipe.
- E. Provide independent CCTV coverage (see CCTV requirements) for the checkpoint. An Airport Security Manager shall approve all CCTV locations and views during the design phase. CCTV coverage shall include:

1. PTZ camera(s) to view an overview of the checkpoint including all lanes. Depending on the checkpoint layout, an individual camera may be required for each lane.
 2. A stationary camera to be installed on or near the booth to view the interaction between the security officer and the driver of the vehicle.
 3. PTZ camera(s) to view the approach area of the checkpoint from the view of the Security Officer (i.e. tower located behind the booth or adjacent to the booth, etc.)
- F. Permanent Vehicle Checkpoint shall be equipped with automatic gates and enhanced barriers/gate arms. The checkpoint should be equipped with 3 lanes. The contractor will be required to pass the System's Acceptance Test, prior to the completion of the project (see ESS section for requirements).
1. Installation of the automatic gate and enhanced barriers shall meet all Manufacturer's specifications.
 2. Gate design and layout shall be approved by an Airport Security Manager prior to fabrication and installation. This includes card reader, loop, photo sensor placement, etc.
 3. A key switch shall be installed, within the booth, that prevents activation of any ESS device (i.e., gate, barrier etc.,) if removed.
 4. To access the gate from either side, a valid card read and PIN entry is required (The reader is to operate the same as other card readers in the system).
 - i. The card readers shall be placed at an approved height and distance so that a vehicle is not activating the ground loops for the gate while swiping at the reader.
 - ii. Once the system has validated the card, the appropriate gate shall open.
 - iii. Once the system has validated the card, the green tamper proof "Authorized" light within the booth shall illuminate.
 - iv. If the card is not validated, the red tamper proof "Denied" light within the booth shall illuminate and the gate shall remain secured. A lockout alarm also enunciates in the ESS.
 - v. There shall be two loop detectors for the entrance (inbound) side. First is a safety, tailgating and loitering detector, the second is a safety loop.
 1. The traffic control light shall remain 'RED' until the gate is fully open.
 2. Once the gate is fully open the traffic control light shall turn 'GREEN'.
 3. Additional photo eyes may be required. See Manufacturers' specifications.
 4. Loops should be installed so that once an inbound vehicle pulls forward for Security Officer interaction, the vehicle should be triggering one of the loops to keep the automatic gate open.
 5. Once the vehicle clears the last ground loop detector, the gate shall automatically close.
 - i. The signal light shall illuminate 'RED' once the vehicle clears the ground loop and as soon as the closing process has begun for the gate.

6. Once open, if the gate does not close in a predetermined time, an alarm will enunciate in the ESS.
 7. Once the gate is secured, it shall take another valid card read to reopen the gate.
 - i. If the safety edge of the gate is activated the gate will automatically re-open and an alarm shall enunciate in the ESS.
 8. Any attempt to open the gate without a valid card read shall enunciate an alarm in the ESS.
 9. When a vehicle is detected on a ground loop prior to a valid card read, after a predetermined time, an alarm will enunciate in the ESS.
- G. Vehicle checkpoints shall have installed enhanced (cable re-enforced) gate arm operators at each opening.
1. The gate arms shall be a similar model to existing equipment in current use at the Airport and must be approved by Security.
 2. Installed per Manufacturers' specifications.
 3. The gate arms shall have a minimum clear opening of sixteen feet (16').
 4. A lightweight 'stop' sign shall be installed on the gate arms (see other locations for example).
 5. The gate arms will function manually from the switches inside of the booth at the front counter.
 6. An override function shall be programmed into the ESS to allow for remote activation of the gate arm.
 7. Environmental Friendly oil shall be used in locations where it is required
 8. Seal all expansion joints around the foundations.
 9. The enhanced gate arms shall have the ability to be controlled from the ESS and ARC.
 10. Programming to include knowing when the gate arm buttons were activated.
- H. The checkpoint may need space and facilities to accommodate screening of persons and property. Each location should be evaluated with Airport Security during the design phase regarding this requirement.
- I. Provide for at least three (3) parking spaces on the public side for contract security officers. The parking spots shall be signed "Security Parking Only".
- J. To prevent damage, guardrail shall be installed on the inbound and outbound lanes protecting the booth. Guardrail layout and specifications shall be submitted to an Airport Security Manager for approval prior to installation. All guardrails shall be painted safety yellow and meet DOT highway standards.
- K. Guardrail shall be installed on the AOA side of the fence around the checkpoint at a minimum of 500' (five hundred) feet on either side of the gates. Contact an Airport Security Manager for approval prior to installation. All guardrails shall be painted safety yellow and meet DOT highway standards.

- L. Concrete jersey barriers shall be installed at least sixty (60) feet on both public and AOA sides of the gate to form a chute.
 - 1. The barriers shall match other checkpoint locations
 - 2. The barriers shall be painted safety yellow.
 - 3. The barriers shall have reflective tape/signs installed.
- M. Provide for adequate slope and drainage to prevent water ponding in or around the booth and associated security equipment.
- N. Provide and install all necessary signs. The signs shall be same size and design of other locations and made with outdoor reflective materials. The signs shall be approved by Security prior to fabrication and installation. Listed below are some of the required signs, not all inclusive depending on current security requirements:
 - 1. "Stop - Wait Until Traffic is Clear" - mounted on the inbound lane, prior to start of the barrier chute, with a white Stop-Line painted on the ground adjacent to the sign.
 - 2. "Stop" sign - installed adjacent to the gate arm operators on the inbound and outbound lanes.
 - 3. "Wait Until Gate is Closed Before Proceeding - No Tailgating" - on both sides of the inbound and outbound automatic gate leaf's at the end of the barrier chute.
 - 4. "Restricted Area – Keep Out" on each gate leaf.
 - 5. "Warning - Restricted Area.
All Vehicles and occupants are subject to search', and Prevent Runway incursions shall be mounted at the checkpoint approach, not to obstruct view from inside booth of approaching vehicles/individuals. The sign shall be the same size and design as other checkpoint booth signs.
 - 6. "No Pedestrians" – mounted on all gate leafs.
 - 7. "Stop – Ensure Gate is secure before departing" on the secured side at the end of the barrier chute with a white Stop-Line painted on the ground adjacent to the sign.
 - 8. Install Checkpoint Identification number on booth.
- O. Provide validation reader to be used with the Airport's ESS. The readers shall be interfaced with green "Authorized" and red "Denied" indicator lights located inside the booth that shall illuminate upon authorization or denial from the ESS.
 - 1. The lights shall be tamper proof.
 - 2. The reader installation within the booth shall allow for easy and frequent access.
- P. Provide wiring for the installation of a wireless reader.
- Q. Protection posts are required to surround all security equipment (i.e., card readers, panels, gates, operators, etc.) to prevent damage.
 - 1. Layout of protection posts shall be approved by Security.
 - 2. Posts must have plastic protective covers.
- R. Paint all lanes, hold short and directional lines.

PART 3 - E ELECTRONIC SECURITY SYSTEM (ESS)

3.1 GENERAL ELECTRONIC SECURITY SYSTEM (ESS) REQUIREMENTS

- A. ESS includes equipment and systems such as CCTV, access control, Intellikey, Perimeter Detection and enhanced gate arms.
- B. Installation of any ESS equipment and associated hardware shall meet all Manufacturers' specifications.
- C. The Contractor is required to submit detailed plans for the installation of the ESS at least sixty (60) days prior to the expected completion date. Failure to submit the plan may result in delays.
 - 1. TSA approvals may take up to 45 days.
- D. The Contractor is responsible for all costs associated with installation, termination and programming of the ESS equipment and the associated infrastructure.
 - 1. This includes any interconnectivity or programming necessary between systems such as camera call-ups for alarms.
- E. Final tie in and programming of new ESS equipment shall be completed by the Airport's ESS service provider at the Contractor's cost.
 - 1. The Airport's on-site technicians cannot be pulled from normal duties to be used by the Contractor. Additional coverage will have to be coordinated, with the costs to be incurred by the Contractor.
- F. All parts and equipment associated with the ESS must match existing hardware and be approved by a Security Manager prior to purchase and installation.
- G. Protection posts are required to surround all security equipment (i.e., card readers, panels, gates, operators, etc.) to prevent damage.
 - 1. Layout and size of protection posts shall be approved by Security.
 - 2. Posts must have plastic protective covers.
- H. Fiber installation shall meet the requirements and be approved by the WCAA's Technology Services and Power Systems Divisions.
 - 1. Other communication means may be considered depending on location or type of equipment being installed. The Contractor/designer is required to submit a Networking/Communications Plan to an Airport Security, Technology Services and Power Systems for approval.
- I. All ESS equipment and associated wiring installed shall be labeled. This includes panels, cameras, wiring etc.
 - 1. The labeling plan must be approved by a Security Manager and TS prior to implementation.

- J. The Contractor shall provide or obtain a 1-year warranty on all parts and service associated with the ESS equipment and installation. The warranty period will not start until Security testing is complete and the items have passed.
- K. The system shall be designed and installed to prevent tampering with any of the ESS components. This includes, but is not limited to, tamper resistant screws, tamper switches and key locks.
- L. All wiring shall be shielded cabling in conduit and unless otherwise approved, may not be exposed. All wiring that is to be maintained underground, shall meet the specifications for underground rated wiring.
- M. All equipment that is to be exposed to the elements, shall meet Airport Security's standards for weather conditions (i.e. NEMA rated enclosures).
 - 1. The enclosures shall be installed on the secured side of the location within lockable security dedicated cabinets.
- N. The Contractor shall submit an addendum to the permit indicating the ESS installation specifications and layout for approval by Security prior to start of work and shall provide As-Built of the ESS installation.
- O. All ESS doors shall have card readers and door handles installed on both sides of door regardless if crash bar or other door hardware is installed.
 - 1. Some locations may allow for the installation of a Request to Exit (REX) device and may be installed only after approved by a Security Manager.
- P. All fire rated ESS doors require latching hardware per Fire Code.
- Q. Proper signage is the Contractor's responsibility as part of any ESS installation or relocation (i.e., door signs, panel labeling).
- R. Power for all ESS components shall be routed to a dedicated breaker panel with automatic generator emergency hook-up.
 - 1. The breakers shall be labeled.
 - 2. Contact Airport electricians for generator load requirements and connector specifications.
- S. Communication for the security equipment should be designed and requires approval from Security prior to any work authorization.
 - 1. Equipment associated with the communication network shall be secured.
- T. All security equipment shall be installed in an area to allow for maintenance accessibility. The locations shall be approved by Security prior.
 - 1. Any exterior CCTV or Access Control installations must be accessible via a drivable maintenance path.
- U. The following items are not allowed in conjunction with any ESS door installation: Motion Detectors, electric strikes, door cords, maglocks with

external contacts, delayed egress maglocks, chex-its, or key switch overrides.

V. Emergency Doors

1. All new emergency doors must have a dedicated camera approved by airport security.

W. Fire System Interface

1. The fire system output for releasing the doors in an alarm state shall be interfaced with the Airport's ESS doors. The fire system shall provide an alarm output relay for both alarming and monitoring of the fire system status directly from the ESS.
2. The Contractor shall install an override for the fire system while the system is undergoing maintenance or should a system failure occur.
3. When the fire system activates, the system should release power to the maglocks in the specific zone.
 - i. An alarm shall enunciate in ESS that identify the maglock has lost power due to the fire alarm. All other functions of the card reader and door status monitoring shall not be affected.

X. Testing of any new equipment shall be completed by the Contractor using the Security Acceptance Test Forms.

1. The Contractor will be required to submit their test sheets to Security for review and approval.
2. Once the Contractor has completed their testing, Security will complete final acceptance testing.

Y. If any manufacturer or safety regulations differ from the security standards established here, change orders shall be submitted to Airport Security for approval prior to any work being completed.

Z. As part of Project Close-Out, a Security Manager will complete and authorize a Performance and Installation Completion Form (Test Sheet) as part of the equipment and installation test. Unless otherwise approved by a Security Manager, the equipment may not be utilized until it has been tested and approved by Security.

3.2 Special Systems Rooms (SSR): All ESS equipment inside of buildings shall be routed and terminated within Special System Rooms (SSR) within independent lockable cabinets/racks/panels dedicated to Security equipment and/or WCAA Technology Services equipment that is tied in to the Security equipment.

- A. Cores: Contact Airport Security for details on the security lock system/cores currently being utilized.
- B. CCTV: SSR's shall have at least 2 cameras. One interior camera and one exterior camera. The cameras and views must be approved by an Airport Security Manager.
- C. Access Control: Doors allowing access to SSRs should have access control installed and be tied into the Airport's ESS.
 1. Entry into the SSR should be via valid card read.

2. Exit out of the SSR should be via an ESS egress lever handle that acts as an authorized release of the maglock and doesn't activate an alarm. The public side of the handle should not interact with the ESS and should act solely as a physical "handle" to be used for opening and closing the door.
 3. All alarms required for pedestrian doors shall apply to SSRs.
 4. An emergency key switch shall be installed on the outside of all SSR rooms. The key switch will have the Security core installed.
 5. An emergency release pull handle should be installed inside the SSR within 5' from the door.
 - i. This emergency release, when activated, will drop the power to the maglock in the event of an emergency or system issue that would otherwise restrict access out of the room.
 - ii. This emergency release should activate an alarm in the ESS when it is pulled.
 - iii. A separate intrusion alarm should activate if the door is opened while the release is active.
 - iv. The model of the emergency release should duplicate what is currently installed at the Airport (Model CM-722). If not available, an alternative should be presented for approval prior to purchase or installation.
- D. Access Control Panel: The DIB panel containing the ESS equipment for the SSR door(s) should be installed outside the SSR, if possible. This will allow the technician access to the panel in case of system issues.
1. If the panel is located inside the room and the door is unable to be opened, then there may be no way to get access to the necessary equipment to make repairs or troubleshoot.
 2. This panel will need to have appropriate labeling, tampers, power supplies, etc. and should be a model that allows for locking via a padlock versus just a generic panel key core.
 3. This panel will need to be suitable for the environmental conditions present outside the SSR.
- E. Environmental & Power Considerations: Environmental and electrical systems should be sufficient to accommodate all equipment in the SSR, as well as for potential future expansion.
1. If additional equipment is being installed within a current SSR, the contractor is required to ensure HVAC and electrical is addressed to sufficiently supply the new equipment. This may require the purchase and installation of additional equipment or expansion of the existing systems.
- F. Equipment Racks: All exposed cabling coming into and out of a rack should be stored in cable trays or conduit depending on the location and conditions present at that location.
1. For wall mounted racks all power supplies should be installed in a lockable enclosure. There should be no external transformers or equipment that could be subject to tampering.

3.3 Pedestrian Operational Doors: The following is a synopsis of ESS pedestrian door operations. This information applies to both single and double leaf pedestrian doors.

- A. Installation of the door shall meet all Manufacturer's specifications.
- B. The door shall be tied in to the ESS system to allow for remote monitoring and control of the door. Programming shall allow for items such as Tamper Alarms, Prop Alarms, Intrusion Alarms, Power Alarms, etc.
- C. A maglock shall be installed at the top of the door in the standard configuration used at the Airport.
 - 1. Other door configurations or styles which may require distinctive maglock installation (such as a full glass door) or specialty hardware outside of a standard WCAA install, will need to be reviewed with Airport Security prior to purchase and installation but is highly discouraged.
 - 2. Depending on the specific operation and configuration of the door, a dual leaf door may require either one single maglock covering both leaf's or may require a maglock dedicated to each leaf. For dual leaf doors where one leaf is the primarily access point and the second leaf is only used for oversize items, the second leaf may also require a pin installation to keep the leaf in place while still allowing access on the master leaf.
- D. Card readers shall be installed on both sides of the door. To access the door from either side, a valid card read and PIN entry is required. The readers are to operate the same as other card readers in the system.
 - 1. Some doors may allow for the installation of a Request to Exit (REX) device, depending on the specific location. This design must be pre-approved by an Airport Security Manager. If approved, the public side of the door will require a card reader meeting the specifications presented.
 - 2. Depending on the specific operation and configuration of the door, a dual leaf door may be required to be programmed as two independent doors, resulting in 4 readers'.
 - 3. If the reader is exposed to the elements, a protective reader cover and/or shield may be required.
 - 4. The reader shall have a tamper installed that is tied in to the ESS.
- E. Once the system has validated the card entry, or the REX is engaged, the maglock will release allowing the door to be opened.
- F. Once the door is secured, it shall take another valid card read or activation of the REX, to be reopened.
- G. A horn and strobe shall be mounted adjacent to the door on the public side.
 - 1. The horn and strobe shall be mounted high enough and have adequate protection to deter tampering.
 - 2. The horn/strobe shall have a timer where the audible portion of the alarm resets (programmable time) while the strobe remains active until reset by the ESS system.
 - i. Currently, most horns are set to 30 seconds.

3. On a Prop Alarm, the horn and strobe will activate after a predetermined time set within the ESS system.
 - i. The horn and strobe will automatically reset after the door is closed and the Prop Alarm has reset.
 4. On an Intrusion Alarm, the alarm and horn and strobe shall activate immediately. The strobe will remain active until reset remotely through the ESS system.
 5. Under certain circumstances, such as a close quarters situation, Airport Security may require that the horn and strobe be modified or adjusted for volume concerns or may be removed from the configuration.
- H. If the fire alarm is activated, see Fire System Interface requirements, the maglock will automatically release. An alarm will enunciate in the ESS that the fire alarm is active for that door. If the door is then opened, an Intrusion Alarm will activate in the ESS, as well as the local horn and strobe.
- I. Depending on the location and operational purpose of the door, additional functionality may be required such as:
1. Emergency Pull Station release
 2. Remote push button or toggle release
- J. The component enclosure shall be installed in the immediate vicinity of the primary door.
1. The enclosure shall be lockable and shall be key-cored to match the other enclosures in that building.
 2. The enclosure shall have a tamper installed that is tied in to the ESS.
 3. The enclosure shall be installed in such a manner that it remains easily accessible and has adequate clearance for maintenance purposes.
 4. The enclosure shall have external labeling that matches that being used in the software programming to identify the cabinet. Labeling shall also indicate that the contents are "Property of Airport Security – 734-942-5304".
- K. Live and recorded CCTV coverage of the area may be required. See CCTV Requirements.
- L. Airport Security will provide the Contractor with the details on the specific make and models of ESS currently in use.
- M. To streamline maintenance and inventory requirements and/or to ensure that certain system requirements and functionality are maintained, Airport Security may require that specific brands or models of equipment are utilized.
- 3.4 DELAY HARDWARE OPERATIONS: The following is a synopsis of the delay hardware operations (The Contractor will be required to pass the Acceptance Test, prior to completion of the project.):
- A. Installation of the door shall meet all Manufacturers' specifications.

- B. To access the door from the public side of the door, a valid card read and PIN entry is required (The reader is to operate the same as other card readers in the system).
 - 1. A REX or card reader on the restricted side of the door will allow access into the building. The door location will determine the requirements for the restricted side of the door. Security to approve the device(s) proposed.
 - C. Once the system has validated the card or the Request to Exit (REX) is activated, the maglocks will release allowing the door to be opened.
 - D. A horn and strobe shall be mounted adjacent to the door on the public side.
 - 1. The horn and strobe shall be mounted high enough and have adequate protection to deter tampering.
 - 2. The horn/strobe shall have a timer where the audible portion of the alarm resets (programmable time) while the strobe remains active until reset by the security system.
 - 3. On a Prop Alarm, the horn and strobe will activate after a predetermined time set with the ESS system
 - i. The horn and strobe will automatically reset after the door is closed from the prop alarm.
 - 4. On a forced open (Intrusion) alarm, the alarm shall activate and remain active until reset remotely through the ESS system.
 - E. Once the door is secured, it shall take another valid card read to reopen the door.
 - F. If the crash/touch bar is held for greater than 3 seconds, an irreversible timer will engage causing the door to unlock in 15 seconds. When the maglock releases and the door is opened, an alarm shall enunciate in the ESS.
 - 1. The locking mechanism shall have the ability to be reset remotely within the ESS.
 - 2. The strobe shall remain active until reset remotely by the ESS.
 - 3. No key switch overrides are allowed in the crash bar.
 - G. If the fire alarm is activated, the maglock will automatically release, and the local horn and strobe will activate.
 - 1. An alarm will be enunciated in the ESS that the fire alarm is active for that door.
 - 2. An Intrusion Alarm will be activated if the door is opened.
- 3.5 BAG BELT OPERATION: The following is a general synopsis of baggage door operations: (The Contractor will be required to pass the Acceptance Test, prior to completion of the project.):
- A. Installation of the door shall meet all Manufacturers' specifications.
 - B. Monitoring of all baggage system doors that lead from any sterile or public area to the secured area is required.

- C. To access the door, a valid card read and PIN entry is required (The reader is to operate the same as other card readers in the system). The door operator should not allow the door to be opened without authorization from the ESS system.
 - 1. The door operator should not allow the door to be opened without authorization from the system. An alarm will enunciate in the Airport Response Center () if the door is opened without an authorized card read.
 - 2. Once access is granted via the reader, the green "Open Door" light on the reader will light allowing access to the door operator controls.
 - 3. To open the door, press the door "Open" button on the door operator controls. (Note: the "Open" button must be pressed while the green "Open Door" light is lit on the card reader. If the button is not pressed during this time, the individual will need to re-swipe their badge in the reader.)
- D. Auxiliary lights shall be installed near the card reader. The green "Closed/secured" indicator light should stay lit until the door begins to open. Once the door has started to open, the red "Open/unsecured" light will activate – activated off the door contacts. The lights shall be tamper proof.
- E. To close the door, press and hold the door "Close" button until the door is secure and the green "Close" light is activated on the door operator. No swiping of the card reader is required to close the door.
- F. Once the door is closed, it shall take another valid card read to be reopened.
- G. Any attempt to open the door without a valid card read shall enunciate as an alarm in the ESS and activate the local horn/strobe.
- H. Depending on the system operations, the door may be allowed to be propped open. An alarm shall enunciate in the ESS if the door fails to secure after a pre-determined time or after the system has sent the close command.
- I. Any override of the card reader shall enunciate an alarm in the ESS.
- J. The door shall have restricted area signs installed.

3.6 OVERHEAD CARGO DOOR OPERATIONS: The following is a synopsis of the Overhead Cargo door operations (The Contractor will be required to pass the Acceptance Test, prior to completion of the project.):

- A. Installation of the door shall meet Manufacturer's specifications.
- B. To access the door, a valid card read and PIN entry is required (The reader is to operate the same as other card readers in the system). The door operator should not allow the door to be opened without authorization from the ESS system.
- C. Auxiliary lights shall be installed near the card reader. The green "Closed/secured" indicator light should stay lit until the door begins to open. Once the door is fully open, the red "Open/unsecured" light will activate. The lights shall be tamper proof.

- D. Once access is granted via the reader, the green "Open Door" light on the reader will light allowing access to the door operator. To open the doors, press the door "Open" button. If the button is not pressed during this time, the individual will need to re-swipe their badge in the reader.)
- E. To close the door press and hold the door "Close" button until the door is secure and the green "Closed" indicator light is lit. Swiping at the card reader is not required to close the door.
- F. Once the door is closed, it shall take another valid card read to be reopened.
- G. Any attempt to open the door without a valid card read shall enunciate as an alarm in the Airport Response Center.
- H. All cargo doors shall be numbered and signed to meet the Authority's standards.
- I. A local horn and strobe will activate if the door is not closed in a predetermined time. In addition, an alarm will annunciate in the Airport Response Center. (The horn and strobe will automatically reset after the door is closed from the prop alarm.)
 - 1. The horn and strobe is to be mounted adjacent to the door on the public side. The horn and strobe shall be mounted high enough and have adequate protection to deter tampering.
 - 2. The horn /strobe shall have a timer where the audible portion of the alarm resets (programmable time) while the strobe remains active until reset by the security system.
- J. Cargo doors that will be left are not allowed to be left open without being manned or active loading or unloading is being performed.

3.7 AUTOMATIC GATE OPERATIONS

- A. Installation of the gates shall meet all Manufacturers' specifications.
- B. All gates shall have a minimum clear opening of 16 (sixteen) feet.
- C. Gate design and layout, including equipment location, shall be pre-approved by an Airport Security Manager prior to fabrication and installation. This includes the locations of the card readers, photo sensors and/or ground loops.
- D. High speed chain driven gate shall be used. The gate operator shall be approved by Security prior to purchase and installation.
- E. The control panel for the security system and the gate operator shall be placed on the restricted side of the fence. All panels and gate controllers shall be lockable.
- F. To access the gate from either side of the gate, a valid card read and PIN entry is required (The reader is to operate the same as other card readers in the system).

1. The location of the card readers shall be coordinated with security as to not allow the presence of a vehicle on the ground loops when utilizing the card reader.
 2. Card readers shall be on a stanchion and there shall be a high and low card reader. The height of the stanchion and placement of the card readers shall be pre-approved by Security to ensure that the height and location is sufficient.
- G. Once the system has validated the card, the appropriate gate shall open.
1. At locations where a booth is present - Once the system has validated the card, the green "Authorized" light within the booth shall illuminate. See booth requirements.
 - a. If the card is not validated, the red "Denied" light within the booth shall illuminate and the gates remain secured.
- H. At a minimum, there shall be two loop detectors for the entrance (inbound) side. First is a safety, tailgating and loitering detector, the second is a safety loop.
1. The placement of the loops shall follow Manufacturer's recommendations but must be pre-coordinated with Security so that a vehicle at the card reader is not on the loop but a vehicle at the booth is on the loops. In addition, the loops shall not be placed too close to the gate that the metal in the gate will interfere with the operation of the gate.
 2. When a vehicle is detected, after a predetermined time, on a ground loop prior to a valid card read, an alarm will enunciate in the ESS.
- I. Once open, if the gate does not close in a predetermined time, an alarm will enunciate in the ESS.
- J. Once the gate is secured, it shall take another valid card read to reopen the gate.
1. If the safety edge of the gate is activated, the gate will automatically re-open and an alarm shall enunciate in the ESS.
- K. Any attempt to open the gate without a valid card read shall enunciate an alarm in the ESS.
- L. The gate shall have safety edges installed and be tied into the ESS.
- M. Gates may require the installation of heavy duty gate catch and welded in such a way to not interfere with gate operation
- N. The gate shall have PTZ CCTV coverage installed that allows for 24/7 live and recorded viewing of the location. The camera(s) location shall be approved by Security. See CCTV requirements.
- O. To prevent damage, protection posts shall be installed to protect the card readers, gate operators, gate opening, panels etc.

1. The protection posts shall be of a sufficient height to protect the equipment (example – same height or higher at card reader to deflect vehicle mirrors).
 2. The protection posts shall have yellow plastic protective covers.
- P. A manual key switch shall be installed at each gate operator to allow an override of the ESS system for maintenance or in emergency situations.
1. The key switch cylinder shall accept the 7 pins “Best” series key cores (Notify an Airport Security Manager for installation of an Airport Core for the key switch).
 2. The key switch shall be installed on the AOA/Secured side of the gate.
 3. The key switch shall enunciate an alarm in the ESS when operated.
- Q. The slope of the gates shall be such to provide proper drainage and prevent ponding of water, erosion and/or ice building up.
- 3.8 CCTV REQUIREMENTS: Depending on the type of operation and location, CCTV coverage of the area may be required
- A. Installation of the CCTV system shall meet all Manufacturers’ specifications.
 - B. All components used shall be compatible with the existing CCTV system and shall be approved prior to installation.
 - C. Airport Security will specify the type and number of cameras required.
 - D. Any exterior CCTV installations must be accessible via a drivable maintenance path and pad.
 - E. Final tie into the existing security equipment shall be by a contractor authorized to work on said equipment (i.e., Honeywell, Verint. Etc.)
 1. Programming shall include live and recorded video and all associated monitor programming. Frame rate, quality and video retention shall at least meet current requirements and must be pre-approved by Security.
 2. The system design shall be coordinated with Security.
 - F. All parts and equipment associated with the CCTV system shall match existing hardware and be approved by a Security Manager prior to installation.
 1. Installation shall include all CCTV interfacing and ESS programming (i.e. camera call up for alarms).
 - G. All associated camera system equipment shall be installed within SSR rooms within independent lockable dedicated security cabinets.
 - H. Camera video is required to be incorporated into both the Airport’s live and digital Recording System. The interface into the recording system shall be by a company authorized by the vendor to perform such installation.

1. It shall be the Contractor's cost if additional equipment is needed to support the installation of the new camera(s). This may include but not be limited to licensing, expansion of recording system, additional hardware, etc.
 2. The Contractor is responsible for expansion of the system to allow for at least 15% expansion. Using current unused portions of the CCTV system will not be allowed.
- I. The Contractor is responsible for all costs associated with installation of the CCTV System equipment.
1. The Airport's on-site technicians cannot be pulled from normal duties to be used by the Contractor. Additional coverage will have to be coordinated, with the costs to be incurred by the Contractor.
- J. Testing of any new equipment shall be completed by the Contractor using Security Acceptance Test Forms. The Contractor will be required to submit their test sheets to Security for review and approval. Once the Contractor has completed their testing, Security will complete final acceptance testing.
- K. The Contractor shall obtain a one (1) year warranty on all parts and service associated with the CCTV equipment and installation. The warranty period will not start until Security testing is complete and the items have passed.
- L. The system shall be designed and installed to prevent tampering with any of the CCTV components. This includes, but is not limited to, tamper resistant screws, tamper switches and key locks.
- M. All wiring shall be shielded cabling in conduit and unless otherwise approved, may not be exposed. All wiring that is to be maintained underground, shall meet the specifications for underground rated wiring.
- N. All equipment that is to be exposed to the elements, shall meet Airport Security's standards for weather conditions (i.e. NEMA rated enclosures).
- O. The CCTV installation specifications and layout shall be pre-approved by Security prior to start of work.
1. As-Built of the CCTV installation are required.
- P. CCTV shall be enclosed in an Environmental housing and be installed to be tamperproof.
- Q. Exterior Environmental Housings shall be heated.
- R. Camera Electronics shall be heated.
- S. Wipers may be required as specified by an Airport Security Manager.
- T. All video and control communications shall be via fiber optics or networking unless otherwise approved.
1. Use of existing fiber shall be approved by the Airport Authority – Contact Technology Services (734) 247-0000.

- U. All CCTV components make and models shall be approved prior to installation.
- V. All camera towers installed shall have “anti-climb” protection and protection posts. Tower height and placement shall be pre-approved by Security.
 - 1. All new camera towers shall have bird spikes installed on them. They must be approved by Security.
- W. Lighting shall be provided to illuminate the viewing area.
- X. Camera wiring shall be in conduit.
- Y. At a minimum, 30-day recording storage shall be provided for all cameras installed.

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DOCUMENT SP-40 - TEMPORARY UTILITIES

PART 1 - GENERAL

1.1 REFERENCE

- A. Contractor shall follow the requirements of WCAA General Terms and Conditions.

1.2 WATER SUPPLY

- A. All water required for and in connection with the work to be performed shall be provided by the Contractor and at the Contractor's expense. The Contractor shall coordinate with the WCAA Facilities & Infrastructure Management Division for water service to the Contractor's staging area, including the line tap and meter. Please refer to Hydrant & Watermain Installation Standards, particularly Administrative Policy – Fire Hydrant Meters.
- B. The Contractor shall remove all temporary waterlines installed by him, after completion of the work.

1.3 POWER

- A. All power for lighting, operation of Contractor's plant(s) or equipment, or for any other use as may be required in the execution of the work to be performed under the provisions of these Contract Documents shall be provided by the Contractor at his expense. If Contractor chooses to tap into the Airport Authority's electrical service, metering and tapping requirements must be coordinated with WCAA Facilities & Infrastructure Management Division.
- B. The Contractor shall remove all temporary electrical facilities installed by him, after completion of the work.

1.4 TELEPHONE SERVICE

- A. The Contractor shall make all necessary arrangements with the telephone utility for telephones in his offices at the site and shall pay all monthly charges thereof.
- B. All contractors and others performing work or furnishing work or furnishing services at the site shall be permitted to use the Contractor's telephone without charge for toll-free calls pertaining to the work

1.5 INTERNET SERVICE

- A. The Contractor shall make all necessary arrangements with the telephone utility for telephones in his offices at the site and shall pay all monthly charges thereof.
- B. All contractors and others performing work or furnishing work or furnishing services at the site shall be permitted to use the Contractor's telephone without charge for toll-free calls pertaining to the work.

1.6 SANITARY FACILITIES

- A. The Contractor shall make all necessary arrangements with the local utility for plumbing facilities in his offices at the site and shall pay all monthly charges thereof. All contractors and others performing work or furnishing work or furnishing services at the site shall be permitted to use the Contractor's facilities without charge pertaining to the work.

1.7 EXISTING UTILITIES

- A. Utilities, utility appurtenances and cables encountered by the Contractor during the construction of this project shall be protected by the Contractor as needed to permit construction and to conform to the finished grades on the project. Use of mechanical equipment of any kind to verify utility locations are expressly prohibited. The Contractor shall immediately repair any damaged utilities at his own expense.
- B. The Contractor shall coordinate all contacts with companies maintaining utilities at the Airport prior to any excavation/digging. Provide the Engineer with written documentation of how utility locations were verified.
- C. The Contractor shall continuously maintain utilities for facilities and/or systems which are or may be affected by work associated with the project. Prepare and maintain a contingency plan to restore to service all utilities and/or control/signal cables which may be placed out of service or damaged during performance of the work. The Contractor shall provide the Engineer, WCAA and FAA Sector Manager with written reports on all cable cuts.
- D. Take all measures necessary to accurately locate all the routing of underground cable and utilities within project areas to be excavated, trenched or drilled. Contractor shall locate underground cables and utilities by designation, and where necessary, potholing and/or hand digging. Once located, place highly visible and durable markers along all such cable and utility routes at intervals of not greater than 25 feet. The Contractor shall maintain these markers in their original location throughout the project. The Contractor shall also be responsible for providing and maintaining a field survey and plan of the marker locations and shall replace any disturbed markers at his own expense. Do not use power equipment with teeth when excavating where cables are marked. Obtain WCAA approval of proposed marking devices. Use semi-permanent markers which are low profile, frangible and non-metallic within runway/taxiway safety areas and navigational and restricted zones.

- E. Utilities located by potholing and/or hand digging shall be surveyed by the Contractor. Coordinates and elevations shall be submitted to the Engineer and marked on the Contractor maintained record drawings.
- F. The Contractor is hereby advised that the location of all utilities, as shown on the Plans, may not be complete or exact. The Contractor shall satisfy himself as to the exact location of the utilities by contacting all utility companies before proceeding with the work and by having a private utility locating firm locate and identify all utilities at the work site prior to any construction. The Contractor shall be responsible for any and all costs as a result of damage caused by construction activities to public or private property or utilities. Wayne County Airport Authority will be responsible for pointing out and marking Wayne County Airport Authority owned facilities. The Contractor shall be responsible for any damage done to public or private property.

PART 2 – PRODUCTS (none)

PART 3 - EXECUTION

3.1 METHOD OF MEASUREMENT

- A. No direct payment will be made for temporary utilities required for this project. The cost thereof shall be included in other items for which direct payment is made

3.2 BASIS OF PAYMENT

- A. No direct payment will be made for temporary utilities required for this project. The cost thereof shall be included in other items for which direct payment is made.

END OF DOCUMENT SP-40

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DOCUMENT SP-50 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. This section includes administrative and procedural requirements for submittal of Shop Drawings, Product Data, Samples, quality-control test reports, and construction progress documentation.
- B. Items shall be completed in accordance with the WCAA General Terms and Conditions.

1.2 DEFINITIONS AND TYPES OF SUBMITTALS

- A. Administrative Submittals: Administrative submittals include, but are not limited to, Permits, Applications for payment, Insurance certificates, and Listing of subcontractors.
- B. Bill of Materials: A detailed description of an assembly or components, including quantity.
- C. Certification: A notarized form or letter attesting to the quality of workmanship or product as measured by standards, codes or criteria specified in the SPECIFICATIONS.
- D. Shop Drawings: Drawings, diagrams, schedules, illustrations or similar data specifically prepared for work on this project by the Contractor, subcontractor, distributor or manufacturer to illustrate a product or a particular portion of the work. Coordinate requirements with WCAA Standard forms and Terms and Conditions of the Contract.
- E. Guarantee: Written statement guaranteeing the product or a particular portion of the work to be and remain free from defects in materials or workmanship for a definite period of time from date of acceptance or the work. Coordinate requirements with WCAA Standard forms and Terms and Conditions of Contract.
- F. Letter of Compliance: Written statement confirming that the product or a particular portion of the work conforms to the requirements of the Contract Documents.
- G. Product Data: Brochures, pictures, illustrations, diagrams, color charts or similar printed data of a manufactured product that is incorporated into the work.
- H. Qualifications: Notarized statements attesting to the quality of workmanship, firm or individual as measured by standards, codes or criteria specified in the SPECIFICATIONS.
- I. Record: Data substantiating the performance of a product, or a particular portion of the work, and which does not require prior review and approval by the Engineer, but is required for record purposes only. Performance data and other data may be required.
- J. Samples: Physical examples of sufficient size to clearly illustrate functional characteristic of the product or assembly, or to show color, texture or pattern, as appropriate.

- K. Test Report: Report, from a qualified testing agency, of actual tests conducted on products, assemblies or particular completed portions of the work, measured against standards, codes or criteria specified in the SPECIFICATIONS. Each report shall state the values obtained for comparison with the stated standard, code or criteria specified in the SPECIFICATIONS. Coordination Drawings: shop Drawings that show the relationship and integration of different construction elements that require careful coordination during fabrication or installation to fit in the space provided or to function as intended. Preparation of Coordination Drawings may include components previously shown in detail on Shop Drawings or Product Data.
- L. Field samples: Full-size physical examples erected on-site to illustrate finishes, coating, or finish materials. Field samples are used to establish the standard by which the work will be judged.

PART 2 - PRODUCTS

2.1 PARTIAL LIST OF SUBMITTALS

- A. Note that this list is not necessarily in order and may not be complete. The Engineer may revise this list as the project progresses.

* Indicates that the Submittal or Shop Drawing is due at or prior to the Pre-Construction Conference.

1. Contractor's submittal schedule*
2. Preliminary and final construction schedules*
3. Field Office and Equipment layout plan*
4. Temporary Fencing and Gate Plan for Contractor's Staging Area.*
5. Contractor's emergency name and phone number list*
6. List of subcontractors and material suppliers with an experience statement*
7. Contractor's quality control plan*
8. A Detailed Work Plan for Each Phase and Sub-phase of Construction *
9. A Construction Safety Plan*
10. A Security Badge Control Plan.*
11. Dust Control Plan.*
12. Spill prevention and response plan*
13. Storm water pollution prevention plan, including Certification of Compliance Form.*
14. Barricade and traffic control plan*
15. A List designating those Portions of the Work to be performed by Subcontractor's and the Contractor's own forces.
16. Contractor's written certification verifying the accuracy of survey control points established by the Engineer. (Must be received prior to starting work.)
17. Copies of all subcontracts, including Material Suppliers (to be submitted before any subcontractor or material supplier begins work).
18. Detailed lighting plan for any night work proposed
19. List of all proposed construction equipment with specification details and production rates for the following: the concrete paver(s) including cure application equipment, structural concrete vibration equipment, the asphaltic concrete paver, compaction equipment, and concrete batch plants
20. Disposal sites for impacted and non-impacted materials (P-152)
21. Controlled Low Strength Material (CLSM) (P-153)
22. Submittals for all erosion control devices (P-156)
23. Crushed aggregate base mix design and testing results (P-209)

24. Recycled Concrete Base Course (P-219)
25. Asphalt Surface course mix design and testing results (P-401)
26. Asphalt base course mix design and testing results (P-403)
27. Portland cement concrete mix designs (including admixtures and curing compounds) and testing results (P-501)
28. Detailed plan for protection of concrete pavement, a temperature management plan, and a spall repair plan (materials and methods) (P-501)
29. Portable Weather Station (P-501)
30. Tack coats (P-603)
31. Joint Sealer Materials including Concrete Pavement Contraction Joints, Construction and Expansion Joints and Bituminous Shoulder-Concrete Pavement Joints (P-605).
32. Adhesive Compound Certificate of Compliance (Item P-606).
33. Structural Portland cement concrete mix designs and testing results (P-610)
34. Submittals for all concrete reinforcement materials (reinforcing bars, welded wire fabric, dowels, baskets, chairs, etc.) (P-501, P-610)
35. Manufacturer's Certified Test Reports for all paint shipped to the Project (P-620).
36. Submittals for all fencing materials (including, but not limited to: posts, ground rods, concrete footings, connections, barbed wire extension arms, brace panels, Inteikey, etc.) (F-162)
37. Submittals for all drainage pipe and associated materials (including reinforced concrete pipe, rubber gaskets, end sections, video inspection, etc.) (D-701)
38. Submittals for underdrain pipe and associated materials (perforated PVC pipe, porous backfill materials, filter fabric and cleanouts) (D-705)
39. Submittals for all drainage structures and associated materials (manholes, swales, inlets and headwalls) (D-751)
40. Submittal for hyrdo-seed mix including fertilizer, seeding mix, and mulching materials (T- 901)
41. Soil analysis test results and proposed rate of application of fertilizer (T-901)
42. Sources and quality of top soil (T-905)
43. Submittals for all electrical improvements (including, but not limited to: electrical manholes, pullboxes, cable types and voltages, counterpoise wire, ground rods, light bases and covers, edge light fixtures, semi-flush light fixtures, transformers, airfield guidance signs, etc.)
44. Certification from the Contractor's Michigan State Registered Land Surveyor that the primary control established by the Engineer are acceptable and adequate to allow the Contractor's construction staking to meet the accuracy requirements of the Specifications
45. A Contingency Plan listing alternate batch plants and distance to Detroit Metropolitan Airport and Production Capacity
46. Closeout Documentation as listed in the WCAA General Terms and Conditions and the Special Provisions.

PART 3 - EXECUTION

3.1 SUBMITTAL SCHEDULE

- A. Develop and prepare a Submittal Schedule listing all submittals. Coordinate with Special Provisions for additional Submittal Schedule Log requirements. The schedule shall include the following as a minimum:
 1. Specification item number;
 2. Item description;

3. Description of submittal;
 4. Specification paragraph requiring submittal; and
 5. Scheduled date of submittal.
- B. Using the schedule as a base, submit to the Engineer, each submittal as scheduled. Generally, the Engineer reviewed submittal dates shall be determined so as to permit the orderly progression of the work as defined in the Construction Schedule. Submit the Submittal Schedule Log no later than 10 days following the Award of Contract.
- C. The Engineer's review will be only for general conformance with the design concept of the work and for compliance with the information contained in the contract documents. The review of a specified item, as such, will not indicate review of the assembly, dimension or in which the item functions. Review by the Engineer will not relieve the Contractor from responsibility for any errors or omissions in the submittal or shop drawings, nor from his responsibility for complying with the contract documents

3.2 SUBMITTAL PROCEDURES

- A. Except as otherwise specified below, as soon as practicable after contract award and without causing delay in the work, submit to the Engineer one electronic copy of submittals of all items for which submittals are specified in other sections, and for all major submittal equipment whether specified in other sections or not. Each submittal shall be clearly marked with the project name, dated, and accompanied by a letter of transmittal listing all items included in the submittal and referencing the project specification page and article numbers applicable to each item.
- B. Submittals shall include all test results and/or certificates necessary to show that the item conforms to the standards specified. Such standards shall include ASTM, AASHTO, FAA, PCA, Federal Specifications or any other standard listed in these specifications.
- C. Before submission to the Engineer, the Contractor shall check the submittals of all items furnished directly by him, and the applicable Subcontractor shall check the submittals of all items furnished by the Subcontractor involved, as follows: check the submittal drawings for completeness and compliance with the contract documents; check and verify all dimensions, field conditions certifications relating to the submittals and certify in writing that these checks have been made. The Engineer will return for resubmission, all submittals without the above specified approval and certification, and all submittals which in the Engineer's opinion contain numerous discrepancies and/or have not been checked by the Contractor or Subcontractor.
- D. Coordinate preparation and processing of submittals with performance of construction activities. Transmit each submittal to the Owner sufficiently in advance of scheduled performance of related construction activities to avoid delay.
1. Coordinate each submittal with other submittals and related activities that require sequential activity including:
 - a. Testing.
 - b. Purchasing.
 - c. Fabrication.
 - d. Delivery.
 2. Coordinate transmittal of different types of submittals for the same element of the work and different elements of related parts of the work to avoid delay in processing

because of the Engineer need to review submittals concurrently for coordination.

- a. The Airport Authority reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are forthcoming.
3. Submittal Schedule listing submittals and indicating time requirements for coordination of submittal activity with related construction operation are required.
 - a. To avoid the need to delay installation as a result of the time required to process review submittals, allow sufficient time for submittal review, including time for re-submittals. Allow two (2) weeks for the Engineer's initial review of each review submittal. Allow additional time if the Engineer must delay processing to permit coordination with subsequent submittals. The Engineer will advise the Contractor when a submittal being processed must be delayed for coordination.
 - b. Where necessary to provide a re-submittal, process the re-submittal in the same manner as the initial review submittal.
 - c. Allow two (2) weeks for reprocessing each re-submittal.
 - d. Extension of time will not be granted because of the Contractor's failure to transmit review submittals to the Engineer sufficiently in advance of the work to permit processing.
- E. Submittals shall be numbered according to the following criteria (example P-501-01-A)
 1. Specification/Material ID (i.e. P-501, D-751, SC-10, etc.)
 2. Submittal Number within specified Specification ID (i.e. 01, 02, 03, etc.)
 3. Revision per Submittal Number (i.e. A, B, C, etc.)
- F. If Contractor is requested to "Revise and Resubmit," the original submittal name and number shall be retained, but to be followed with alphabetical categorization. For example, an original "P-501- 01-A" submittal is to be changed to "P-501-01-B", "P-501-01-C, etc." for future revisions.
- G. It is preferred for submittals to be sent for review through email in electronic, PDF format. Contractor shall include in the subject line of the email:
 1. Airport ID: (DTW)
 2. Project Title
 3. Submittal Number
- H. Submit each item accompanied by Transmittal Letter including the following information:
 1. Project name, AIP number, and WCAA Project number
 2. Date
 3. Name and address of the Contractor
 4. Submittal Number uniquely identifying the submittal.
 5. Name and title of appropriate Specification Section
 6. Drawing number and detail references, as appropriate
 7. If made, request to reduce Engineer review period. Such request will be considered but may or may not be granted.
 8. Provide a space approximately 4 by 5 inches on the label or beside the title block to record the Contractor's review and approval markings, and the action taken by the Airport Authority.

9. Apply Contractor's stamp certifying that the Contractor verified products required, field dimensions, adjacent construction work, and coordination of information in accordance with the work and contract documents.
- I. Submittals shall include when necessary:
 1. Name and address of the subcontractor
 2. Name and address of the supplier
 3. Name of the manufacturer
- J. Incomplete or improperly completed shop drawings, product data sheets or submittal forms are cause for rejection of submittal and shall be returned without comment.

3.3 SHOP DRAWINGS

- A. Submit newly prepared information, drawn accurately to scale. Do not reproduce Contract Documents or copy standard printed information as the basis of Shop Drawings.
- B. Include the following information on Shop Drawings:
 1. Dimensions.
 2. Identification of products and materials included.
 3. Compliance with specified standards.
 4. Notation of coordination requirements.
 5. Notation of dimensions established by field measurement.
- C. Submit Coordination Drawings where careful coordination is needed for installation of products and materials fabricated by separate entities. Prepare coordination drawings where limited space availability necessitates maximum utilization of space for efficient installation of different components and where necessary to avoid conflict in utilization of the space available.
 1. Show the relationship of components shown on separate Shop Drawings.
 2. Indicate required installation sequences.
- D. Highlight, encircle, or otherwise indicate deviations from the Contract Documents on the Shop Drawings.
 1. Do not allow Shop Drawing copies that do not contain an appropriate final stamp or other marking indicating the action taken by the Architect-Engineer to be used in construction.
 2. Submit Shop Drawings on sheets 24" X 36" inches in size or smaller.

3.4 PRODUCT DATA

- A. Collect Product Data into a single submittal for each element of construction or system. Mark each copy to show which choices and options are applicable to the project.
 1. Where Product Data includes information on several similar products, some of which are not required for use on the Project, mark copies clearly to indicate which products are applicable.
 2. Where Product Data must be specially prepared for required products, materials, or

systems, because standard printed data are not suitable for use, submit as Shop Drawings not Product Data.

3. Include the following information in Product Data:

- a. Manufacturer's printed recommendations.
- b. Compliance with recognized trade association standards.
- c. Compliance with recognized testing agency standards.
- d. Application of testing agency labels and seals.
- e. Notation of dimensions verified by field measurement.
- f. Notation of coordination requirements.

B. Furnish copies of approved Product Data submittal to the manufacturers, subcontractors, suppliers, fabricators, installers, governing authorities and others as required for performance of the construction activities. Show distribution on transmittal forms.

1. Do not proceed with installation of materials, products, and systems until an approved copy of Product Data applicable to the installation is in the Installer's possession.
2. Do not permit use of unmarked copies of Product Data in connection with construction.

3.5 SAMPLES

A. Submit full-size, fully fabricated Samples, cured and finished in the manner specified, and physically identical with the material or product proposed for use.

1. Mount, display, or package samples in the manner specified to facilitate review of qualities indicated. Include the following information:

- a. Generic description of the Sample.
- b. Sample source.
- c. Product name or name of manufacturer.
- d. Compliance with recognized standards.
- e. Compliance with governing regulations.
- f. Availability.
- g. Delivery time.

2. Submit Samples for review of kind, color, pattern, and texture for a final check of these characteristics with other elements and for a comparison of these characteristics between the final submittal and the actual component as delivered and installed.

- a. Where variation in color, pattern, texture, or other characteristic is inherent in the material or product represented by a sample, submit at least three (3) multiple units that show approximate limits of the variations.
- b. Refer to other Specification Sections for requirements for samples that illustrate workmanship, fabrication techniques, details of assembly, connections, operation and similar construction characteristics.

B. Except for Samples intended to illustrate assembly details, workmanship, fabrication techniques, connections, operation and other characteristics, submit three sets of Samples. One set will be returned marked with the action taken.

1. Maintain sets of samples, as returned by the Engineer, at the Project Site, available for

- quality-control comparisons throughout the course of construction activity.
 2. Unless the Airport Authority or Engineer observes noncompliance with provisions of the Contract Documents, the submittal may serve as the final submittal.
 3. Sample sets may be used to obtain final acceptance of the construction associated with each set.
- C. Distribute additional sets of samples to the subcontractors, suppliers, fabricators, manufacturers, installers, governing authorities and others as required for performance of the work. Show distribution on transmittal forms.

3.6 QUALITY ASSURANCE SUBMITTALS

- A. Submit quality-control submittals, including certifications, and other quality-control submittals as required under other Sections of the Specifications.
- B. Where other Sections of the Specifications require certification that a product, material, or installation complies with specified requirement; submit a notarized certification from the manufacturer certifying compliance with specified requirements.
 1. An officer of the manufacturer or other individual authorized to sign documents on behalf of the company shall sign Certification.

3.7 ENGINEER'S ACTION

- A. The Engineer will review each submittal, mark to indicate the action taken, and return to Contractor.
 1. Compliance with specified characteristics is the Contractor's responsibility and not considered part of the Engineer's review and indication of action taken.
- B. The Engineer acceptance of each such submittal shall not relieve the Contractor of responsibility for errors or omissions in the work.
- C. The Engineer will stamp each review submittal with a uniform, action stamp. The Engineer will mark the stamp appropriately to indicate the action taken, as follows:
 1. Where submittals are marked "No Exceptions Taken," the work covered by the submittal may proceed provided it complies with requirements of the Contract Documents. Final acceptance will depend on that compliance.
 2. When submittals are marked "Exceptions as Noted," the work covered by the submittal may proceed provided it complies with the Engineer's notations or corrections on the submittal and requirements of the Contract Documents. Final acceptance will depend on that compliance. No correction or change indicated on the submittals shall be considered as an order for extra work.
 3. When submittals are marked "Revise and Resubmit," do not proceed with the work covered by the submittal, including purchasing, fabrication, delivery or other activity. Revise or prepare a new submittal according to the Engineer's notations. Resubmit without delay. Repeat if necessary to obtain a different action mark.
 4. When submittal is marked "Rejected," do not proceed with the work covered by the submittal, including purchasing, fabrication, delivery, or other activity. Prepare a new submittal according to the Contract Documents and Engineer's notations and resubmit without delay.

5. Where a submittal is primarily for information or record purposes or for special processing or other contractor activity, the submittal will be returned, marked "Action Not Required."
- D. The Engineer's review will be only for general conformance with the design concept of the work and for general compliance with the information contained in the Contract Documents. The review of a specified item, as such, will not indicate review of the assembly in which the item functions. Review by the Engineer will not relieve the Contractor or Subcontractor from responsibility for accuracy of submittals, proper fitting, coordination, construction or work, and furnishing materials and work required by Contract but not indicated on submittals, for any errors or omissions in the submittals or shop drawings nor from his responsibility for complying with the Contract Documents.
- E. Any material ordered, or work performed prior to Engineer's review shall be at the Contractor's risk and subject to rejection.

END OF DOCUMENT SP-50

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DOCUMENT SP-60 - SEQUENCE OF CONSTRUCTION AND LIQUIDATED DAMAGES

PART 1 - GENERAL

1.1 SUMMARY

- A. This section describes the sequence of construction of the various phases of the project and sets forth the liquidated damages of each phase.
- B. Contractor shall follow the requirements of the Construction Services Contract, General Provisions, and Supplemental Terms and Conditions.
- C. Contractor shall follow the requirements of WCAA General Provisions and Conditions for definitions of time, project schedule, progress and completion, delays and extensions of time and payments and completion.

PART 2 - PRODUCTS

2.1 (NOT USED)

PART 3 - EXECUTION

3.1 GENERAL

- A. The work shall be completed within the Contract Time as stipulated below. Completion includes all work shown on the plans and specifications including, but not limited to, upgrades to Family Restrooms.
- B. Phase limits, work areas and durations are described herein and in the Drawings of the construction documents. This project will be constructed during the 2026/2027 construction season.
- C. The following are the goals and restrictions which were considered in the development of the phase limits, work areas and the construction documents:
 - 1) There may be other operational constraints than those listed here.
 - 2) All Work to be coordinated with WCAA.
 - 3) The Contractor shall work around airline schedules, gate usage

needs, and occupied tenant space needs.

- 4) The Contractor will be required to work around parked aircraft and ground service equipment on the apron and within office, storage, and maintenance spaces within the terminal building. The contractor shall protect personnel and equipment.
- 5) The contractor shall work around airline schedules, gate usage needs, and occupied tenant space needs.
- 6) The contractor will be required to work around parked aircraft and ground service equipment on the apron and within office, storage, and maintenance spaces within the terminal building. The contractor shall protect personnel and equipment.
- 7) Air Rescue Fire Fighting (ARFF) routes must be maintained at all times.
- 8) The Runway Safety Area (RSA) is 250 feet wide, either side of the centerline of an active runway. No work is allowed within 250 feet from the runway centerline unless the runway is closed and the appropriate NOTAM is issued by the Airport Authority.
- 9) No work is allowed within the taxiway or taxilane object free area unless the taxiway or taxilane is closed and the appropriate NOTAM is issued by the Airport Authority. The following table lists the object free areas for taxiways and taxilanes.

10)

AIRPLANE DESIGN GROUP (ADG)						
	I	II	III	IV	V	VI
Taxiway OFA	89 ft	131 ft	186 ft	259 ft	320ft	386 ft
Taxilane OFA	79 ft	115 ft	162 ft	225 ft	276 ft	334 ft

- D. Delay in issuance of NTP shall not be the basis for a claim for delay or for additional mobilization costs.

The AIRPORT AUTHORITY and the CONTRACTOR recognize that time is an essential element of this contract and that delay in completing this project will result in damages due to public inconvenience, obstruction to aviation and vehicular traffic, interference with businesses both on and off the airport, and increased costs to the AIRPORT AUTHORITY, associated

with professional services provided by the Engineer, inspections, and project administration. It is therefore agreed that in view of the difficulty of making a precise determination of such damages, the CONTRACTOR will pay the AIRPORT AUTHORITY, sums of money in the amounts herein stipulated, not as a penalty, but as Liquidated Damages for not meeting the schedule for specific project milestones.

PROJECT DURATIONS

- E. Critical Project Durations are established and agreed to as the following:
- 1) Contract Award is expected **October 2026**.
 - 2) The Notice to Proceed is expected to be sent in the fall of 2026.
 - 3) Substantial Completion is within 150 calendar days from the Notice to Proceed.
 - 4) Final Completion of the Project is within 90 calendar days after Substantial Completion.

3.2 LIQUIDATED DAMAGES

- A. For these Project Durations, the AIRPORT AUTHORITY and the CONTRACTOR have, in good faith, agreed to Liquidated Damages as set forth below, in lieu of actual damages.
- B. If the CONTRACTOR fails to meet the Substantial Completion date, the CONTRACTOR shall pay to the AIRPORT AUTHORITY, fixed, agreed, and Liquidated Damages, the sum (s) specified in Table 1, below. (Starting on the required date of Substantial Completion until Substantial Completion is achieved),

Table 1 – Liquidated Damages

Phase	Maximum Duration	Liquidated Damages
Substantial Completion	Specified Above	\$1,500 per Day

- C. Application of Liquidated Damages is not a Change to the Contract. The application of any Liquidated Damages to one Phase shall not effect a change in the subsequent Contract duration dates or relieve CONTRACTOR of his responsibility to meet all construction schedules. If multiple phase duration dates are missed, Liquidated Damages for more than one Phase may be imposed concurrently.
- D. If Liquidated Damages are imposed, the AIRPORT AUTHORITY shall deduct the same from any amounts due the CONTRACTOR at the time

Liquidated Damages are imposed. If sufficient amounts are not due to the CONTRACTOR to cover such Liquidated Damages, then the AIRPORT AUTHORITY shall invoice the CONTRACTOR for the amounts due to the AIRPORT AUTHORITY. Such invoices shall become due and payable immediately upon receipt by the CONTRACTOR.

- E. Liquidated damages for failure to meet the Final Completion date shall be \$250.00 per day starting on the required date of Final Completion until Final Completion is achieved.

3.3 COMPLETION BONUS

- A. None this contract.

3.4 NOTES

- A. The Airport Authority reserves the right to prohibit the Contractor from working in certain areas of the Aircraft Operations Area (AOA) during periods of inclement and/or Instrument Flight Rules (IFR) weather conditions in order to maintain safety for aircraft operations.
- B. The Contractor include in his schedule inclement weather calendar days for each month based upon National Weather Bureau data which could be normally expected during the Contract period. Normal inclement weather days shall be established by averaging the previous ten (10) years of inclement weather for each month and comparing it to each month of construction activities to determine if the number of inclement weather days occurring in any given month exceeds the average for that month over the past ten (10) years. Requests for extension of time shall be as allowed in Section 7.4 of the General Terms and Conditions.
- C. The Airport Authority reserves the right to adjust phase and work area limits and sequence to accommodate availability and airfield operations at no additional cost to the Airport Authority.

END OF DOCUMENT SP-60

DOCUMENT SP-70 - PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. This section includes administrative and procedural requirements for Project Record Documents, including the following:
 - 1. Record Drawings, in multiple media.
 - 2. Record Specifications.
 - 3. Record Product Data.
- B. Items should be completed in accordance with of the WCAA General Terms and Conditions.

1.2 SUBMITTALS

- A. The Engineer's review of the current status of Project Record Documents is a prerequisite to the Engineer's approval of requests for progress payments and request for final payment under the Contract. Denial of payment request will be made if Record Documents are not maintained in an up-to-date status.
- B. Prior to submitting each Application for Payment, secure the Engineer's review of the current status of the Project Record Documents.
- C. Prior to submitting request for release of retainage, submit the final Project Record Documents to the Engineer and secure his approval.
- D. Record Drawings:
 - 1. Submit three sets of black lines Record Prints (22x34), one set of CAD format drawings, and one set in PDF format. The Engineer will initial and date each print and mark whether general scope of changes and additional information recorded are acceptable. The Engineer will return prints for additional information, correction as required and re-submission.
 - 2. Contractor shall follow the requirements of the FAA Advisory Circular 150/5300-18B for CAD layer naming convention.
- E. Record Specifications
 - 1. Submit three original copies and one PDF format file of Project's Specifications, including addenda and contract modifications.
- F. Record Product Data
 - 1. Submit three original copies and one PDF format file.
 - 2. Where Record Product Data is required as part of operation and maintenance manuals, submit marked-up Product Data as an insert in the manual instead of submittal as Record Product Data.

PART 2 - PRODUCTS

2.1 RECORD DRAWINGS

- A. Maintain one set of blue or black line white prints of the Contract Drawings and Shop Drawings.
- B. Mark Record Prints to show the actual installation where installation varies from that shown in the original design. Require individual or entity that obtained record data, whether individual or entity is installer, subcontractor or similar entity, to prepare the marked-up Record Prints.
 - 1. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
 - 2. Accurately record information in an understandable drawing technique.
 - 3. Record data as soon as possible after obtaining it. Record and check the mark-up before enclosing concealed installations.
- C. Types of items required to be marked include, but are not limited to, the following:
 - 1. Dimensional changes to Drawings.
 - 2. Revisions to details shown on Drawings.
 - 3. Depths of foundations below grade
 - 4. Locations and depths of underground utilities.
 - 5. Revisions to routing of piping and conduits.
 - 6. Revisions to electrical circuitry.
 - 7. Actual equipment locations.
 - 8. Locations of concealed internal utilities.
 - 9. Changes made by Change Order.
 - 10. Changes made following Airport Authority or authorized representative's written orders.
 - 11. Details not on the original Contract Drawings.
 - 12. Field records for variable and concealed conditions.
 - 13. Record information on the work that is shown only schematically.
- D. Mark the Contract Drawings or Shop Drawings, whichever is most capable of showing actual physical conditions, dimensions, completely and accurately. If Shop Drawings are marked, show cross-reference on the Contract Drawings.
- E. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the work at the same location.
- F. Date all entries.
- G. Call attention to the entry by a "cloud" drawn around the area or areas affected.
- H. Mark important additional information that was either shown schematically or omitted from original Drawings.
- I. Note Construction Change Directive numbers, alternate numbers, Change Order numbers and similar identification, where applicable.
- J. Identify and date each Record Drawing, include the designation "PROJECT RECORD DRAWING" in a prominent location.
- K. Organize CAD information into separate electronic files that correspond to each sheet of the Contract Drawings. Name each file with the sheet identification. Include identification in each CAD file as follows:

1. Project name and Number.
2. Date.
3. Designation "PROJECT RECORD DRAWINGS."
4. Name of Construction Manager.
5. Name of Contractor.

2.2 RECORD SPECIFICATIONS

- A. Mark Specifications to indicate the actual product installation where installation varies from that indicated in Specifications, addenda and contract modifications.
 1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
- B. Mark copy with the proprietary name and model number of products, materials and equipment furnished, including substitutions and product options selected.
- C. Record the name of the manufacturer, supplier, installer and other information necessary to provide a record of selection made.
- D. For each principal product, indicate whether Record Product Data has been submitted in operation and maintenance manuals instead of submitted as Record Product Data.
- E. Note related Change Orders, Record Drawings and Product Data where application.

2.3 RECORD PRODUCT DATA

- A. Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.
- B. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
- C. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
- D. Note related Change Orders, Record Drawings and Product Data where applicable.

2.4 MISCELLANEOUS RECORD SUBMITTALS

- A. Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the work. Bind or file miscellaneous records and identify each, ready for continued use and reference.
- B. Photographs of unforeseen conditions used justify any claim for additional compensation.

2.5 FINAL SURVEY

- A. The contractor shall provide survey data for but not be limited to the following items: pavements, utilities, drainage, in-field grading, duct banks, drainage structures, pavement markings, fencing, and electrical and Navigational (NAVAIDs) items installed or re-commissioned as part of this project. The survey shall include geodetic coordinates and elevation data. Geodetic coordinates

shall be based upon the NAD-83 coordinate system. Vertical measurement shall be based upon the NAVD88 datum.

1. All submitted information shall be based upon field surveying during and following installation. The field surveys shall be conducted by a licensed surveyor and must meet the minimum requirements of FAA Advisory Circular 150/5300-18B.
2. The information submitted shall be signed and sealed by the registered surveyor responsible for the survey. The surveyor shall certify that the submitted data meets the accuracy requirements for a GIS survey. This requirement should not be construed to mean that the surveyor is certifying that the submitted data represents a full GIS survey.
3. Survey shall be submitted in AutoCAD Civil 3D 2012 format.
4. Final survey submittal shall include all requirements of the FAA Advisory Circular listed above including photographs, where applicable.

PART 3 - EXECUTION

3.1 RECORDING AND MAINTENANCE

- A. Recording: Maintain one copy of each submittal during the construction period for Project Record Document purposes. Post changes and modifications to Project Record Documents as they occur; do not wait until the end of Project.
- B. Maintenance of Record Documents and Samples: Store Record Documents and Samples in the field office apart from the Contract Documents used for construction. Do not use Project Record Documents for construction purposes. Maintain Record Documents in good order and in a clean, dry, legible condition protected from deterioration and loss. Provide access to Project Record Documents for Construction Manager's reference during normal working hours.
- C. Provide access to Project Record Documents for Engineer's reference during normal working hours.

3.2 FINAL PROJECT RECORD DRAWINGS

- A. The purpose of the final Project Record Documents is to provide factual information regarding all aspects of the Work, both concealed and visible, to enable future modification of the Work to proceed without lengthy and expensive site measurement, investigation, and examination.
- B. Approval of recorded data prior to transfer to Engineer:
 1. Secure the Engineer's review of all recorded data.
 2. Make required revisions.
- C. Review and submittal:
 1. Submit the completed set of Project Record Documents to the Engineer as described in Paragraph 1.1-C above.
 2. Participate in review meetings as required.
 3. Make required changes and promptly deliver the final Project Record Documents to the Engineer.

3.3 CHANGES SUBSEQUENT TO ACCEPTANCE

- A. The Contractor has no responsibility for recording changes in the Work subsequent to Final Acceptance for changes resulting from work performed under Warranty.

END OF DOCUMENT SP-70

DOCUMENT SP-80 - CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. This section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:

1. Substantial Completion
2. Final Completion
3. Final Project Record Documents
4. Application for Payment of Final Quantities
5. Operation and Maintenance Manuals
6. Satisfactory report that all mechanical systems have been and are properly balanced (as necessary per project)
7. Affidavit of Contractor
8. Final Waiver and Release of Liens
9. Contractor Warranties
10. Certificate of liability insurance (as necessary per project)
11. Consent of Surety Company to Final Payment
12. Certificate of Final Completion

B. Items shall be completed in accordance with the WCAA General Terms and Conditions.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SUBSTANTIAL COMPLETION

A. Preliminary Procedures: Before requesting inspection for determining date of Substantial Completion, complete the following. List items below that are incomplete in request.

1. Prepare a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the work is not complete.
2. Advise Airport Authority of pending insurance changeover requirements.
3. Submit specific warranties, workmanship bonds, maintenance service agreements, final certifications and similar documents.
4. Obtain and submit releases permitting Airport Authority unrestricted use of the work and access to services and utilities. Include occupancy permits, operating certificates and similar releases.
5. Prepare and submit Project Record Documents, operation and maintenance manuals, damage or settlement surveys, property surveys and similar final record information.
6. Deliver tools, spare parts, extra materials, keys and similar items to location designated by Airport Authority. Label with manufacturer's name and model number where applicable.
7. Complete startup testing of systems, including required training of maintenance

- personnel.
- 8. Submit test/adjust/balance records and manufacturers field test reports.
- 9. Terminate and remove temporary facilities from project site, along with mockups, construction tools, construction debris and similar elements.
- 10. Advise Airport Authority of changeover in heat and other utilities.
- 11. Submit changeover information related to Airport Authority's occupancy, use, operation and maintenance.

B. Inspection: Submit a written request for inspection for Substantial Completion. On receipt of request, Airport Authority will either proceed with inspection or notify Contractor of unfulfilled requirements. Airport Authority will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items that must be completed or corrected before certificate will be issued.

- 1. Re-inspection: Request re-inspection when the work identified in previous inspections as incomplete is completed or corrected.
- 2. Results of completed inspection will form the basis of requirements for Final Completion.

3.2 FINAL COMPLETION

A. Preliminary Procedures: Before requesting final inspection for determining date of Final Completion, complete the following:

- 1. Submit a final Application for Progress Payment
- 2. Submit certified copy of Airport Authority's Substantial Completion inspection list of items to be completed or corrected (punch List), endorsed and dated by Airport Authority's Observer. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
- 3. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
- 4. Instruct Airport Authority's personnel in operation, adjustment, and maintenance of products, equipment and systems.

B. Inspection: Submit a written request for final inspection for acceptance. On receipt of request Airport Authority will either proceed with inspection or notify Contractor of unfulfilled requirements. Airport Authority will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.

- 1. Re-inspection: Request re-inspection when the work identified in previous inspections as incomplete is completed or corrected.

3.3 FINAL PROJECT RECORD DOCUMENTS

A. Submit final project record documents in accordance with Special Provision 70 (SP-70).

3.4 OPERATIONAL AND MAINTENANCE MANUALS

A. Submit operational and maintenance manuals in accordance with the WCAA General Terms and Conditions including an electronic copy in PDF format.

3.5 CONTRACTOR WARRANTIES

- A. Submit Contractor warranties in accordance with the WCAA General Terms and Conditions.
- B. Organize warranty documents into an orderly sequence based on the table of contents of the Project Specifications or per Subcontractor.
 - 1. Bind warranties and maintenance agreements in heavy-duty, 3-ring, vinyl-covered, loose- leaf binders, and thickness as necessary to accommodate contents and sized to receive 8- 1/2 by 11-inch (115 by 280 mm) paper.
 - 2. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address and telephone number of Installer.
 - 3. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name and name of Contractor.

END OF DOCUMENT SP-80

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DOCUMENT SP-90 - SURVEYING LAYOUT

PART 1 - GENERAL

1.1 SUMMARY

- A. This section includes procedural requirements for surveying during the project.
- B. Items shall be completed in accordance with the WCAA General Terms and Conditions.

PART 2 - PRODUCTS

2.1 MATERIALS, PERSONNEL, AND EQUIPMENT

- A. Materials, personnel, and equipment shall include, but not be limited to, vehicles for transporting personnel and equipment, properly adjusted and accurate survey equipment, straightedges, stakes, flagging and all other devices necessary for checking, marking, establishing and maintaining lines, grades and layout to perform the work called for in the contract. The Contractor shall furnish a sufficient quantity of competent personnel to perform the survey work and layout. The Contractor shall not employ nor engage the services of any person or persons in the employment of the Engineer or the Airport Authority for the performance of any work as described herein.

PART 3 - EXECUTION

A. CONSTRUCTION SURVEYING LAYOUT

- B. The Engineer's surveyor will establish horizontal and vertical survey control for the project. Any additional stakes, lines or grades necessary to complete the work will be the responsibility of the Contractor. Any costs associated with verification of the control or contractor staking will be considered incidental to the respective bid items. The Contractor shall set all construction stakes establishing lines, grades, and elevations to include all work including the necessary utilities and appurtenances and shall be responsible for their conformance with plans and specifications. The Contractor shall perform all calculations to establish horizontal and vertical controls on the project from the project plans. The Contractor shall not base his survey layout and calculations on CAD files. Information contained on CAD files may not be compatible with the coordinates, elevations, details, and dimensions shown on the project plans. The Contractor shall furnish all materials, personnel, and equipment necessary to perform all surveying, staking, and verification of the accuracy of all existing control points, which have been provided by the Engineer and/or the Airport Authority. Included in this work shall be all calculations required for the satisfactory completion of the project in conformance with the plans and specifications. The work shall include establishing and marking "Record Drawings" coordinates and elevations on survey monuments and other designated locations.

The work shall be done under the direction of a Michigan registered land surveyor employed by the Contractor. All survey crew chiefs shall be a registered Civil Engineer, a registered Land Surveyor, an Engineer-in-Training or a NICET Level III (or a higher NICET level) certified technician.

3.1 FIELD BOOKS

- A. The Contractor shall furnish and use bound field books for recording survey data and field notes. These books shall be available for inspection by the Engineer at any time.

3.2 INITIAL VERIFICATION

- A. Prior to setting any construction stakes the Contractor shall first verify the accuracy of the control points established by the Engineer. If errors are discovered during this verification process, and the control points do not agree with the geometry shown in the plans, the Contractor shall immediately notify the Engineer in writing, explaining the issue in detail. The Engineer will advise the Contractor within five working days of any corrective actions, which may be deemed necessary. Secondly, upon completion of this verification process, the Contractor's registered Land Surveyor shall certify in writing, that all control points established by the Engineer are acceptable and adequate to allow the Contractor's construction staking to meet the accuracy requirements of the specifications.

3.3 STAKE SETTING

- A. After the Contractor's registered surveyor has submitted his written certification verifying the accuracy of the control points established by the Engineer, the Contractor shall set all stakes including, but not necessarily limited to: centerline stakes, offset stakes, reference point stakes, slope stakes, pavement lines and grade stakes, stakes for sewers and waterlines, airfield drainage, pipe, under drains, clearing, survey monuments, blue tops for subgrade, base and pavement courses, paint striping layouts, supplement bench marks and permanent as-built elevation marks, as-built survey elevations of concrete pavement and asphalt pavements at each concrete paving joint intersection, as all other horizontal or vertical controls necessary for complete and accurate layout of the construction work, and submitted to the Engineer.

3.5 PRESERVATION

- A. The Contractor shall exercise care in the preservation of stakes, references and benchmarks and shall reset them when any are damaged, lost, displaced or removed. Station and offset reference stakes shall be installed and maintained at all times on each side of runway and taxiway to which is being referenced at 100-foot intervals.

3.6 DISCREPANCIES

- A. Any discrepancies in the grade, alignment, quantities, locations or dimensions detected by the Contractor shall immediately be brought to the attention of the Engineer. Changes to the project plans will not be allowed without the written approval of the Engineer.

3.7 RANDOM INSPECTIONS

- A. The Engineer reserves the right to make inspections and random checks of any portion of the staking and layout work. If, in the Engineer's opinion, the work is not being performed in a manner that will assure proper controls and accuracy, the staking and layout work may be required to be re-done, or further staking may be required to supplement the original work, both of which would be at no additional cost to the Airport Authority.

3.8 FINAL SURVEY

- A. The Contractor shall submit a final survey to the Engineer in accordance with Special Provision 70 (SP-70), Section 2.5.

3.9 METHOD OF MEASUREMENT

- A. No direct payment.

END OF DOCUMENT SP-90

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