METROPOLITAN WASHINGTON AIRPORTS AUTHORITY

CONSTRUCTION SAFETY MANUAL

Revision 18

Ronald Reagan Washington National Airport | Dulles Toll Road | Washington Dulles International Airport

OFFICE OF ENGINEERING & CONSTRUCTION DEPARTMENT

The Metropolitan Washington Airports Authority Construction Safety Mannual (AACSM) is a contract document and shall take precedence over contract specifications documents.

June,11, 2019

CONSTRUCTION SAFETY POLICY

METROPOLITAN WASHINGTON AIRPORTS AUTHORITY

It is the policy of the Metropolitan Washington Airports Authority (Airports Authority) to foster a safe environment where accident-free construction activities are achievable.

The contractor is responsible for all aspects of safety and accident prevention while under contract to the Airports Authority.

This Airports Authority Construction Safety Manual (AACSM) has been established by the Airports Authority to assist the contractor to promote safety and to limit, reduce, and control hazards and any risks associated with construction, maintenance, and related services required by the Airports Authority. It provides safety and loss control requirements and procedures for all construction and construction-related activities. The AACSM sets forth general site-specific safety requirements that shall be followed by all contractors, tenants, and Airport Authority personnel who are performing construction activities.

The contractor is charged with the responsibility for conducting safe operations in order to protect anyone exposed to Airports Authority construction activities. Nothing contained in this manual relieves a contractor of its obligations assumed under contract with the Airports Authority or required by law.

Roger M. Natsuhara
Vice President for Engineering

6/11/19
Date

Airports Authority Construction Safety Manual

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CHAPTER 1

DEFINITIONS

1.0 ACCIDENT

The Metropolitan Washington Airports Authority (Airports Authority) has adopted the Occupational Safety and Health Administration (OSHA) Accident Definition; an “Accident” is defined as an unplanned event that results in personal injury or property damage.

1.1 AIRPORTS AUTHORITY CONSTRUCTION SAFETY MANUAL (AACSM)

The provisions of this manual implement and supplement the safety and health standards and requirements of The Airports Authority. Where the more stringent safety and occupational health standards are set forth in these requirements and regulations, the more stringent standards shall apply. The AACSM shall take precedence over contract specifications.

1.2 AIRPORTS AUTHORITY CONSTRUCTION PROGRAM SAFETY MANAGER (PSM)

An employee of the Airports Authority, Program Management Support Services (PMSS), or designated representative who is responsible for the day-to-day management of the Airports Authority Construction Safety Program.

1.3 AIRPORT OPERATIONS AREA (AOA)

Areas of the airport used or intended for landing, taking off, surface maneuvering, loading, unloading, or servicing of aircraft, operational vehicular traffic, and cargo operations. This is a high security area requiring badging and compliance with security regulations. This includes “Movement Area” and “Non-Movement Areas” on the AOA.

1.4 AIRPORT OPERATIONS DUTY MANAGER

A representative from the Airports Authority’s Operations Department who has the authority to intervene if the contractor's actions on the airport are detrimental to the airport's operational safety or security.

1.5 AIRCRAFT RESCUE and FIRE FIGHTING (ARFF)

Airports Authority designation for Aircraft Rescue and Fire Fighting stations and equipment.

1.6 CAPITAL CONSTRUCTION PROGRAM (CCP)

A major portion of the Airports Authority's construction program is to upgrade the facilities of Ronald Reagan Washington National Airport (Reagan National) and to expand the facilities at Washington Dulles International Airport (Washington Dulles).

1.7 CAPITAL OPERATIONS MAINTENANCE INVESTMENT PROGRAM (COMIP)

The Airports Authority program which is coordinated with the CCP, to provide major restoration or replacement of utilities or facilities at Reagan National and Washington Dulles Airports.

1.8 COMPETENT PERSON

One who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate these conditions.

1.9 CONFINED SPACE

Any space not intended for continuous employee occupancy, having a limited means of egress, large enough to enter and perform work. These spaces include, but are not limited to, manholes, vaults, sewers, storage tanks, boilers, and other new construction (Refer to Section 3.3 Confined Space Policy for additional definitions that apply to Confined Space Entry).

1.10 CONSTRUCTION SAFETY PROGRAM
The safety and loss prevention program established by the Airports Authority to monitor the hazards and risks associated with construction projects.

1.11 CONSULTANTS
Any individual, partnership, corporation, or other business entity utilized by the Airports Authority as an independent contractor to provide engineering, design, construction management, technical support, testing, or other related services.

1.12 CONTRACT
The written agreement by and between the Airports Authority and a contractor.

1.13 CONTRACTING OFFICER (CO)
An individual with formally delegated written authorization to commit the Airports Authority by entering into contracts and other contractual instruments such as modifications, task orders, delivery orders, purchase orders, and blanket purchase orders.

1.14 CONTRACTING OFFICER'S TECHNICAL REPRESENTATIVE (COTR)
An individual, usually an Airports Authority employee, possessing technical expertise with respect to the contractual work being performed who has been delegated limited responsibility for monitoring technical performance and compliance with contract requirements. The COTR also provides administrative support for the contracting officer. Resident Engineers may also be designated as COTRs for assigned construction contracts.

1.15 CONTRACTOR
An individual, firm, partnership, or corporation undertaking a project through one or more contracts with the Airports Authority, program manager, or a tenant, performing work at a job site located on either airport.

1.16 CONTRACTOR'S PROJECT MANAGER
The contractor's senior management employee for a given project or task who has the overall responsibility to see that the work or job is satisfactorily completed.

1.17 CONTRACTOR'S SAFETY ENGINEER (CSE)
A full-time on-site safety professional (CHST, ASP preferred) with a minimum of five years construction industry safety experience whose sole responsibility was managing safety (dual roles will not be accepted) on construction sites. Safety consultants will not be considered as a primary safety engineer. The Contractors Safety Engineer(s) shall possess the core competencies of hazard identification of the type/scope of work to be performed under the contract and have no other duties but managing safety on the project (Refer to Chapter 2 Program Management section for additional responsibilities). The requirements contained herein are in addition to any other requirements contained in the contract documents.

1.18 CONTRACTOR'S SAFETY MANAGER (CSM)
A full-time on-site construction safety professional with a minimum of ten years construction industry safety experience (dual roles will not be accepted). The Contractors Safety Manager shall have managed construction safety programs as the lead safety professional supervising other safety professionals on large construction projects comparable to this contract in scope and complexity (CSP or WSO-CSM preferred). The Safety Manager will monitor the daily efforts of Safety Engineers assigned to the project and perform administrative duties assigned in the AACSM and the applicable OCIP Manual (Refer to Chapter 2 Program Management section for Safety Manager additional responsibilities*)* Safety consultants will not be considered as a primary safety manager. The requirements contained herein are in addition to any other requirements contained in the contract documents.

1.19 CONTRACTOR'S SUPERINTENDENT
The contractor’s superintendent is responsible for the day to day operation on the construction site and control of the short-term schedule. See additional responsibilities regarding safety Chapter 2.

1.20 CONSTRUCTION FOREMAN/JOB FOREMAN
A construction foreman/job foreman is the worker or tradesman who is in charge of a construction crew.

1.21 CONSTRUCTION MANAGER
The Airports Authority employee or contractor responsible for the overall management of the construction phase of the Capital Construction Program and other designated projects.

1.22 DE-ENERGIZING REQUESTOR
Requestors for system de-energizing may include competent persons from the Airports Authority, airport contractors, airport tenants, concessionaires, airport tenants, concessionaire contractors, airport engineering, and maintenance departments.

1.23 DULLES CORRIDOR CAPITAL IMPROVEMENT PROGRAM (DCCIP)
Funds Dulles Corridor Capital Improvements related to the Toll Road, its ancillary ramps and interchanges, the Metrorail Project, and other corridor improvements. The Capital Improvement Program is funded from bond proceeds, Federal Transit Administration grants, contributions from Fairfax County, and from the Commonwealth of Virginia.

1.24 DULLES CORRIDOR RENEWAL AND REPLACEMENT PROGRAM (DCRRP)
Addresses major maintenance requirements including overlays, sound wall repairs, bridge deck replacements, erosion control, drainage control, and other maintenance projects. The Renewal and Replacement program is funded from Toll Road revenue.

1.25 ENGINEERING AND MAINTENANCE DEPARTMENT
A department reporting to the manager of an airport responsible for the construction and safety programs related to COMIP (major) and O&M (minor) facility projects.

1.26 FIRE MARSHAL
The Airports Authority official within the Office of Public Safety who is responsible for fire safety at both Airports and enforcement of the Virginia Statewide Fire Prevention Code.

1.27 GENERAL PUBLIC
All persons not employed by the contractor or subcontractor, PMSS or other consultants, tenants, other Airports Authority contractors, or Airports Authority involved in the project. This will include Airports Authority employees not directly involved with the project, facilities, or other construction-related contracts.

1.28 HIGH RISK ACTIVITY
Critical activities and high-risk work include but is not limited to the following:
Crane lifts, fall protection, any exposure to energized electrical work, excavation work, steel erection, work on the High Temperature Hot Water system, confined space work, highway lane closures, exposure to traffic, exposure to aircraft on AOA, and work with potential public exposures.

1.29 INCIDENT
The Airports Authority has adopted the Occupational Safety and Health Administration (OSHA) Incident Definition; an incident is an unplanned event that adversely affects completion of a task.

1.30 IMMINENT DANGER
Any conditions or practices on the Job Site in which an immediate danger exists which could reasonably be expected to cause death or serious physical harm to any persons, property damage, or before the imminence of such danger can be eliminated. It may be a safety hazard such as an unstable trench or exposed electrical wire that could cause a serious or fatal accident immediately under present conditions or activities that could damage aircraft or other structures. It also may be a health hazard such as toxic substances or dangerous fumes, dusts, or gases that could cause death or irreversible physical harm, shorten life, or reduce physical or mental performance.

1.31 INCURSION
Any occurrence in the airport runway environment involving an aircraft, vehicle, person, or object on the ground that creates a collision hazard or results in a loss of required separation with an aircraft taking off, intending to take off, landing, or intending to land.

A surface incident is an unauthorized or unapproved movement within the designated movement or non-movement area (excluding runway incursions) or an occurrence in that same area associated with the operation of an aircraft that affects or could affect the safety of flight.

1.32 INSURANCE BROKERS
Representatives from insurance brokerage firms responsible for assisting in the administration of the Airports Authority's OCIP programs.

1.33 INSURED
The Airports Authority, Program Management Consultant, contractors, consultants, architects, engineers, subcontractors, and any other party listed as an insured on the certificates of insurance signed by a duly authorized representative of the insurance carriers.

1.34 INSURERS
The companies providing insurance coverage for the OCIPs.

1.35 JOB SITE
The site of contract work is to include storage and laydown facilities on Airports Authority property at Reagan National and Dulles International Airports, Dulles Corridor Metrorail, Dulles International Airport Access Highway (DIAAH), Dulles Toll Road, and other off-site construction projects. Job site is referred to as "On-Site" which means the location of the permanent work, including the Project Right-of-Way, and those areas that the Airports Authority has designated or may, from time to time, designate for contractor's use in performance of the work. For purposes of this document, "On-Site" is synonymous with "Job Site".

1.36 LIVE LOAD
Any load attached to a crane hook by any means shall be referred to as a "live load" until the load has been disconnected.

1.37 LOCKING
Locking is a method of controlling hazardous energy by preventing a switch or other electrical circuit opening device or energy restraining device from becoming accidentally altered.

1.38 METROPOLITAN WASHINGTON AIRPORTS AUTHORITY (Airports Authority)
The (Airports Authority) operates Washington Dulles International and Ronald Reagan Washington National airports. The Airports Authority also operates the Dulles Toll Road and is the financial manager and builder of the Metrorail extension through the Dulles Corridor, known as the Silver Line.

1.39 NEAR MISS
The Airports Authority has adopted the Occupational Safety and Health Administration (OSHA) Near Miss Definition; OSHA defines a **near miss** as an incident in which no property was damaged and no personal injury was sustained, but where, given a slight shift in time or position, damage or injury easily could have occurred. **Near misses** also may be referred to as close calls, **near** accidents, accident precursors, injury-free events and in the case of moving objects, **near** collisions.

1.40 OBJECT FREE AREA
An area clear of vehicles and fixed objects that is in proximity to a runway or taxiway.

1.41 OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA)
The federal agency responsible for providing the rules and regulations on safety and health requirements in the work place.

1.42 OFFICE OF ENGINEERING
The Airports Authority office responsible for the implementation of the planning, design, overall program construction, and safety programs related to the Capital Construction Program and Dulles Corridor Capital Investment Program. In addition, the Office of Engineering is responsible for budgeting for Capital Operations Maintenance Investment Programs, Dulles Corridor Renewal and Replacement Program, and planning and design of individual COMIP projects, and construction of certain COMIP projects where assigned.

1.43 OFFICE OF PUBLIC SAFETY
The Airports Authority's office responsible for Fire and Police Department activities and the overall public safety at both National and Dulles airports.

1.44 OPERATION AND MAINTENANCE PROGRAM (O&M)
The Airports Authority program which provides for the daily operation of both airports and those functions performed centrally, including minor facility projects.

1.45 OWNER CONTROLLED INSURANCE PROGRAM (OCIP)
A coordinated insurance program providing certain coverages for the Airports Authority, eligible and enrolled construction managers, contractors, and subcontractors performing work at the job Site. Refer to the applicable OCIP Manual for coverage details**.**

1.46 PRE-TASK WORK PLAN (PTWP)
A daily detailed work plan outlining all associated hazards and corrective measures for a specific task.

1.47 PROFESSIONAL ENGINEER (PE)
An individual, who has fulfilled education and experience requirements and passed rigorous exams that, under State licensure laws, permits them to offer engineering services directly to the public.

1.48 PROGRAM MANAGEMENT SUPPORT SERVICES CONSULTANT (PMSS)
The consultant employed by the Airports Authority under contractual agreement to provide program management support services for the CCP and selected COMIP projects, including planning, design, construction, and related services.

1.49 PROJECT
The term used to describe the specific construction work including but not limited to the following CCP, COMIP, DCCIP, DCRRP, Task Orders, programs defined by contracts at both airports, the Dulles Enterprises Corridor, the DIAAH and any construction project managed by the Airports Authority .

1.50 PUBLIC AREA
Any area of the airport accessible to the general public without requiring the issuance of a badge or escorting. Work areas within public areas need to be controlled to prevent attractive nuisances (e.g. ladders, lifts, equipment, and tools).

1.51 RESIDENT ENGINEER/SITE REPRESENTATIVE
The person responsible for the supervision and coordination of individual construction contracts usually provided by the PMSS Consultant.

1.52 RISK MANAGER
Airports Authority employee responsible for design and administration of the Airports Authority's insurance and self-insurance programs for property and casualty exposures. Manages claims, safety, insurance, and business continuity matters. Oversees the Airports Authority's Risk Management Department (RMD).

1.53 (OCIP) RISK CONTROL PROGRAM DIRECTOR (RCPD)
The Airports Authority's Risk Management Department representative responsible for OCIP-related claims, safety, and other risk management activities. Advises job site personnel of safety training and compliance issues to control losses.

1.54 RUNWAY/TAXIWAY SAFETY AREA (RSA/TSA)
The surface adjacent to a runway or taxiway that is free of holes, trenches, bumps or other surface variations which is capable of supporting an aircraft under normal dry conditions.

1.55 SECURITY IDENTIFICATION DISPLAY AREA (SIDA)
A restricted area defined by the Airport Security Program (ASP).This area requires a background check, a badge, and or be escorted at all times by an approved badged individual.

1.56 SECURED AREA
A secured controlled area defined by the ASP. This area requires entry through a designated entry point (checkpoint, vehicle gate, or designated entry door). This area requires a background check, a badge, and or escorted at all times by an approved badged individual.

1.57 STERILE AREA
An area accessible to the public only after processing through a security checkpoint.

1.58 TAGGING
Tagging is the placement of a red "Danger-Hold" tag (See Appendix D Sample Lockout/Tagout “Danger Hold Tag”) directly on a circuit opening and/or locking device.

1.59 TENANT
Any airline, concessionaire, or an entity that has a lease agreement with the Airports Authority and undertakes renovations or new construction on airport premises.

1.61 UTILITY LOCATING: When penetrating a wall, floor, ceiling, concrete slab, concrete/masonry structures with any type of tool or drill, scanning methods are required to locate utilities and rebar in the substrate before any tool or drill penetration can occur. Scanning methods to include GPR, and X-Ray shall be used if GPR is inconclusive in finding utilities and rebar in the substrate. The contractor shall follow Airports Authority Code requirements which may be stricter than the AACSM requirements. This requirement applies to inside of buildings and outside scopes of work. For Excavations the contractor shall follow the Airports Authority excavation policy on locating utilities. For utility markings on soil refer to the Airports Authority Excavation Policy.

1.60 UTILITY SWEEP
Locating utility contractor hired by the contractor to perform a utility grid sweep search of the entire excavation area and five (5) feet beyond the marked perimeter/boundary of the exposure to locate known and unknown utilities. In addition, the utility sweep should also include looking into manholes and other identification markers to locate unknown utilities that might be in the exposure area.

1.61 VIRGINIA OCCUPATIONAL SAFETY AND HEALTH (VOSH)
The Department of Labor and Industry shall be responsible for administering and enforcing occupational safety and occupational health activities as required by the Federal Occupational and Health act of 1970 in accordance with the State plan for enforcement of that act. Refer to VA Code Title 40.1, including but not limited to Section 40.1-22(5). VOSH is a division of the Department of Labor and Industry of the Commonwealth of Virginia.

CHAPTER 2
PROGRAM MANAGEMENT

The Construction Safety Program has been established by the Airports Authority to assist the contractor to promote safety, and to limit, reduce, control hazards, and risks associated with construction activities. The Airports Authority's Construction Safety Manual (AACSM) sets forth general safety requirements that shall be followed by all contractors, tenants, and Airport Authority personnel who are performing construction activities. In addition to the AACSM, all contractors, tenants, and Airports Authority personnel shall follow and be in compliance with the US Army Corps of Engineers EM 385-1-1 Safety and Health Requirements Manual. The AACSM will be the overarching safety and health manual between the two manuals; however, the Airports Authority reserves the right to apply the most stringent standards at the discretion of the Airports Authority Construction Program Safety Manager (PSM).

The specific Construction Safety Program goals are to foster a safety conscious environment to encourage contractors to actively manage safety in order to limit losses from personal injuries and property damage. The ultimate objective is to achieve greater efficiency and reduce direct and indirect costs associated with losses and loss control.

The effectiveness of the Construction Safety Program depends upon the active participation and cooperation of the contractor's project managers, supervisors, employees, and the coordination of their efforts with the Airports Authority.

2.0 GENERAL CONSTRUCTION SAFETY AND HEALTH MANAGEMENT REQUIREMENTS

1. Provide safe and healthful working conditions on each operation at all times. Conduct the various operations connected with the Work so that they will not be injurious to safety or health. Comply with all provisions, regulations and recommendations issued pursuant to the Occupational Safety and Health Act of 1970, and the Construction Safety Act of 1969, as amended, and with laws, rules and regulations of other authorities having jurisdiction, with regard to all matters relating to the safety and health of workers and the general public. The Contractor shall comply with OSHA Regulations, the US Army Corps of Engineers EM 385-1-1 Safety and Health Requirements Manual, FAA regulations, EPA, NRC standards for all radioactive materials, comply with all provisions, regulations and recommendations issued pursuant to Virginia Department of Labor and Industry Occupational Safety & Health (VOSH) Unique Safety Standards for Construction with the AACSM being the overarching safety regulations and safety construction manual. The most stringent standards shall apply. Compliance with government requirements is mandated by law and considered only a minimum level of safety performance. Perform all work in accordance with best safe work practices recognized by the construction industry.

2. Noncompliance with the AACSM, FAA Requirements, OSHA 1926 Safety Regulations, US Army Corps of Engineers EM 385-1-1 Safety and Health Requirements Manual, VOSH Safety & Health Safety Regulations shall result in an issuance of Notice of Non-Compliance (NCN) (Refer to Chapter 2 Section 2.7 Non-Compliance Section).

3. Stop work whenever a work procedure or a condition at a work site is deemed unsafe by the Contracting Officer's Technical Representative (COTR), the Program Safety Manager (PSM), the Contractors Project Manager (PM), the OCIP Risk Control Program Director (RCPD), the Contractor's Safety Manager (CSM), the Contractor Superintendent (CS), the Contractor's Safety Engineer (CSE), the Contractor's Industrial Hygienist (CIH), or by any authorized Airports Authority personnel (e.g. Airport Operations), representative, or supporting consultants.

4. Prior to the start of construction activities in the Airport/Aircraft Operations Area (AOA), the CSM, CSE, and CIH, shall tour airside with the Program Safety Manager (PSM), COTR and his/her representative(s). The general contractor shall be responsible for identifying all existing permit and non-permit confined spaces prior to the start of construction activities and identify all confined spaces that will be created on their construction site.

5. Implement and conduct safety meetings, as indicated in the AACSM, with all subcontractors on the job site and all subcontractors anticipated to be on the job site from the previous safety meeting to the next safety meeting. The purpose of the safety meeting shall be safety coordination, review of safety procedures, and promoting safety awareness.

6. All work shall be pre-planned prior to starting any construction activity. Pre–Task Work Planning shall be required by all work crews and reviewed by management personnel. Work crews will review the Pre-Task Work Plan (PTWP) with management personnel so they are aware of the hazards of the work they are performing. Work crews and management will plan how to abate the hazards identified in their plan. Management and work crews will sign the PTWP form acknowledging that they have read and understand the hazards of the work being performed and have planned how to mitigate the safety hazards that they have identified. (Refer to Chapter 3 Section 3.17 Pre-Task Planning Policies in the AACSM).

7. Fire Safety: Conform to the following requirements:

    a. Ensure adequate access to all construction areas for emergency response.

    b. Complete application and obtain a permit from the Office of the Airports Authority Fire Marshal to store, handle, or use any hazardous material, including but not limited to fuels for equipment.

c. Develop an Emergency Action Plan (EAP).

8. Perform all utility outages in accordance with the requirements set forth in contract documents, permits, and the AACSM.

9. Be responsible for developing a site-specific Hearing Conservation and Respiratory Protection Programs for all employees who may be exposed to a health hazard. The Contractor Safety Manager (CSM) shall review these programs prior to beginning work that may expose employees to health hazards associated with construction activities. All employees exposed to airborne contaminate and/or noise shall, at a minimum, shall have an audiogram and pulmonary function test. The cost of the audio gram and pulmonary function test is incurred by the employer of their employees who are exposed to these hazards.

10. The contractor shall follow and use Airports Authority forms and updated forms, applicable governmental agencies and industry safety standards and manuals specified in the appendices of the AACSM. The contractor may request a form substitution if it meets the minimum requirements of AACSM forms with the acceptance of the PSM.

11. The Contractor and their subcontractors shall have a Light Duty/Return to Work program prior to working on Airports Authority construction sites.

2.1 SAFETY AND HEALTH MANAGEMENT

1. Proposed Safety and Health Personnel General Requirements

   a. The Contractor shall provide a full-time on-site Contractor's Safety Manager (CSM) if required by contract, which shall be responsible for all safety and health requirements as included herein and as required by the AACSM. The Contractor shall also provide the services of at least one full-time on-site Contractor's Safety Engineer (CSE) per construction work shift per 100 employees working on a shift, a CSE is required to be on the project during every shift including projects scheduled to work 24-hours a day or on weekends. One full-time on-site certified Industrial Hygienist (CIH) (shall be determined if a CIH is needed by the contract scope of work being performed) and shall work under the direction of the CSM. All safety professional resumes shall be vetted by the CSM prior to submitting resumes to the PSM and Risk Control Program Director (RCPD) to review. The CSM and CSE(s) shall all have a current Red Cross First Aid Certificate or equivalent and CPR Certification.

   b. For contracts with exposure to the Airport Operations Area (AOA), the CSM and CSE(s) shall have at least one-year experience in an airport or other aviation environment unless approved by the Contracting Officer (CO) with a recommendation from the Airports Authority PSM taking into consideration the proximity of the project to aircraft.

   c. For Airport Authority highway projects, (e.g., DTR, DIAAH, and/or other connecting arterial roadways supporting vehicle conveyance at DCA or IAD) the CSE(s) and CSM are required to have a minimum of one year of experience in highway safety and shall be a VDOT Intermediate Trained Supervisor. A VDOT Advance Trained Supervisor shall be required for specific highway projects that involves a larger scope of work for Maintenance of Traffic (MOT) setup, this requirement shall be determined by the PSM (See 3.12 Highway Safety Policy).

   d. On-site work may not be performed until the CSE(s) are approved and present on-site. CSM and CSE(s) shall notify the PSM and RCPD daily via text when on site, when leaving the site, sick/absent, or for any other reason. CSE(s) shall notify the Airports Authority PSM and the RCPD of location of work and work being performed on a daily basis. CSE(s) can only work

on one project at a time unless the Airports Authority PSM, at his/her discretion, allows safety personnel to work on other projects.

e. The Contractor shall submit the résumés of all proposed safety and health professionals who shall serve in the role of CSM, CSE(s), CIH and all other Contractor's Site Supervision to the PSM and the RCPD for approval. The resumes shall include but not limited to such items as: work experience with dates of employment, position responsibilities and duties of each position held, size and dollar amount of projects worked on, recordable injury and lost time rates on each project that they have managed, education, safety and health training completed, memberships in professional associations, professional certifications, professional registrations, and provide three professional owner work references from previous projects confirming the qualifications, competencies, and work experience of the candidate. The PSM and the RCPD may reject the persons proposed for failure to have adequate qualifications, past performance issues on Airport Authority construction projects, lack of scope of work competency or other reasonable and lawful causes. The contractor shall provide an accepted contingency plan for safety coverage if the approved safety engineer or safety manager is "absent", on vacation or "for any other reason". Therefore, additional safety professionals shall be pre-approved to cover safety staffing contractual requirements.

f. Approval of the COTR is required, if at any time the Contractor seeks to remove or discharge the CSM, CSE(s) and IH.

2. Contractor's Safety Manager

a. The Contractor's Safety Manager (CSM) shall be a full-time on-site safety professional with a minimum of 10 years of construction Industry safety experience (Dual roles will not be accepted). The CSM shall have managed construction safety programs as a lead safety professional who has supervised other safety professionals on large scale construction projects comparable to the awarded Contract in size, scope and complexity (a CSP or WSO-CSM preferred). The CSM shall perform the duties and responsibilities as stated in the AACSM. The CSM shall be an OSHA authorized Outreach Trainer having passed the OSHA 500 Training Courses in Occupational Safety and Health Standards for Construction Industry including any and all update training required to maintain a current active certification.

b. The CSM shall be knowledgeable of all applicable safety and health codes, statutes and ordinances as well as best safety practices recognized by the construction industry. The CSM shall be able to demonstrate knowledge and ability to ensure compliance with same. The CSM shall not be the project manager, project engineer, superintendent or anyone else working on the Project and shall perform no other duties except those related to safety and health. The primary duties of the CSM are to set up and administer the safety and health programs, run safety training courses, and to verify compliance by all of the Contractor's employees and those of all subcontractors. When necessary the CSM will be responsible for implementing any and all safety and health changes required by new legislation or as required by the COTR.

c. Contractor's Safety Manager's Roles and Responsibilities includes but not limited to the following roles and responsibilities listed below;

1. Administer and manage the Contractors Safety and Health Program.

2. Cooperate with the COTR, PSM, and RCPD in their administration, management, and oversight of the Contractor's Project Safety and Health Program.

3. CSM shall notify the PSM and RCPD daily when arriving on site, when leaving the site, or sick/absent via text. The CSM shall inform the PSM and RCPD of the work being performed on the shift (s) for that day.

4. Attend scheduled safety and health meetings conducted by the Airports Authority PSM.

5. Prior to the start of work, conduct a physical survey of the entire job site(s) and make a survey of the work to be performed by reviewing the drawings and conducting discussions as applicable with the necessary parties toward identification of and planning for hazard controls. These activities shall be documented and submitted as a Project Safety and Health Survey to the COTR and PSM for review.

6. At the initiation of the work and throughout the course of the project, review, conduct, and implement Pre-Task Work Plans (PTWP's) for all tasks. The PTWP shall identify potential hazards and actions required to control them. The CSM shall review and sign all PTWP's prior to submitting for review. The PTWP's will be submitted to the COTR and PSM for review. The CSM shall review PTWP forms in the field with work crews and management personnel. The CSM shall be notified by their employees or their subcontractors when addendums are made to the PTWP's. The CSM shall notify Airports Authority's PSM of any addendums to PTWPs in the field.

7. The CSM shall be physically at the Project job site on a full-time basis for 8 hours per working day with no exceptions.

8. Conduct physical inspections of the entire job site, equipment, materials and operations to detect and promptly eliminate unsafe acts and unsafe conditions. The frequency of the inspections shall be determined on the basis of site activities. Hazardous activities will require continuous inspection. In no case shall the above-described inspections be conducted less than once per shift.

9. Document in a uniform, established format the findings of each inspection by using Airports Authority's Daily Inspection Form, including the nature of hazards identified, the corrective actions taken, and the person(s) exposed or potentially exposed to the hazard(s). Abatement photographs shall be required for observed safety violations by Airports Authority personnel.

10. Schedule and conduct safety orientations, meetings and hazard recognition training for all workers and visitors on the project.

11. Develop and implement a program to readily identify individuals (i.e. Hard Hat Decals) who have completed the required safety and hazard training.

12. Administer the disciplinary action policies and procedures set forth in the Contractor's Project Safety and Health Program and the AACSM.

13. Post and maintain the required safety information at appropriate locations on the project, including, but not limited to emergency action information (phone numbers, means of egress, etc.), hazard warnings, hazard communication information, and injury and illness data.

14. Conduct investigations of all accident events, incidents, and near misses and document the findings of such investigations within 24 hours in accordance with applicable rules and regulations and the Contractor's Project Safety and Health Program. Review/Vet all work product produced by the CSE prior to inclusion in the incident accident report. All police reports and other documentation received by medical providers shall be submitted to the COTR, RCPD, and PSM for review. All personal information shall be redacted from all incident/accident reports and other reports submitted prior to submitting them to the Airports Authority for review. Complete a Root Cause Analysis for all incidents and accidents at the review meeting held by the Airports Authority. The incident/accident review team will review the Root Cause Analysis form together as a group. An incident/accident review meeting will be required by the Contractor with the Airports Authority management and with all parties

involved (including owner of the company), GC project manager, superintendent, and safety engineer/manger in the incident/accident. The incident/accident review meeting will be held at the Airport's Authority offices.

15. Maintain written materials, such as codes, standards, references, hazard communication information, medical and exposure monitoring records, and other safety and health program-related documents in an orderly manner at the project, readily available for use by the Contractor's personnel and review by the COTR and PSM.

16. Perform all safety and health-related tasks necessary to achieve the highest degree of safety that the nature of the work permits.

17. Manage the CSE(s) working on all shifts.

18. Implement and manage a Hot Work permit program, making sure that it complies with the Airports Authority's Fire Department rules and regulations. All Hot Work permits and outages shall be posted at the location of work.

19. Attend weekly safety walks with the COTR and PSM.

20. Attend insurance walks with Airports Authority's Insurance carrier and RCPD.

21. Attend project weekly progress meetings

22. Ensure the Pre-Start Required GC/Subcontractor Check list are completed prior to any work performed by each contractor.

23. Attend all preparatory meetings (mandatory) and review PTWP's with each contractor. This is not the role of the safety engineer if the CSM is in the contract documents for the project.

24. Submit a completed Monthly Safety Project Man-hour/Injury Report by the 10th of each month to the COTR and the PSM. Submit to PSM via email for review.

25. Maintain and update Evacuation white board at the job site.

26. In the instance of and unscheduled event to the designated, the CSM position shall be filled by an equally qualified pre-approved alternate candidate within 48 hours.

27. Ensure proper signage is installed and maintained.

3. Contractor's Safety Engineer

a. The Contractor's Safety Engineer(s) (CSE) shall be full-time on-site safety professional with a minimum five (5) years construction industry safety experience whose sole responsibility was managing safety on (dual roles will not be accepted) construction sites. The CSE (s) shall have the core competencies of hazard identification of the type of work to be performed under the contract. CHST or ASP certification is preferred. The CSE(s) shall perform the duties and responsibilities as stated in the AACSM.

b. The CSE(s) shall have, at a minimum, a certificate of completion of a 30-hour OSHA Training Course. Training shall be conducted by an instructor accredited to perform such instruction by the Occupational Safety and Health Administration.

c. When a contract does not require a CSM, the CSE will assume the same duties as the CSM as noted in the AACSM and contract documents.

d. The CSE(s) shall not be the project manager, engineer, superintendent or anyone else working on the project and shall have no other duties except those related to safety. The CSE shall not assume the CSM responsibilities when a CSM is in the contract documents for a project.

1. Contractor's Safety Engineer Safety Role and Responsibilities includes but not limited to the following roles and responsibilities listed below;

    a. Investigates at the direction of the CSM, all accidents, incidents, and implements immediate corrective action. Submit work product to CSM for review when a CSM is assigned to a project. All accidents and incidents shall be reported immediately to the COTR, PSM, and RCPD when they occur on an Airports Authority construction projects. Prepares or assists in the preparation of all accident and incident investigation reports. Submit copies of these written reports to COTR, PSM, and RCPD within 24 hours of the incident. Reports incidents/accidents immediately to the PSM, COTR, and the RCPD.

    b. Following onsite inspections with the Airports Authority's PSM, provide written reports within 24 hours to the Airports Authority COTR, PSM, and RCPD citing any observed unsafe conditions or practices, or violations of job security regarding safety issues, and take immediate corrective action. Abatement photographs are required to be submitted by the contractor's safety engineer when observed safety violations by the COTR, PSM, PMSS and RCPD showing that the observed unsafe conditions have been corrected.

    c. Conducts daily safety inspections using the Airports Authority's Daily Safety Inspection Report (located in Appendix B). Submits daily inspection reports to the Airports Authority with Summary Safety/Security Weekly Report to the COTR and PSM to review.

    d. Provides the job foremen with appropriate training materials to conduct weekly "tool box" safety meetings. The CSE shall attend the weekly "tool box" safety meetings to ensure that the meetings are held and are meaningful. Whenever the attendees are non-English speaking, training materials shall be provided in their language. Review the foreman's safety meeting reports.

    e. Coordinates safety activities with the Airports Authority, PMSS Consultant, and RPCD.

    f. Take the necessary steps to implement safety recommendations promptly.

    g. Coordinate public relations aspects of the contractor's safety plan with Airports Authority personnel.

    h. Submit drawings of all project entry points to the Airports Authority's Fire Department within 30 days of project commencement. When project conditions change, updated drawings shall be re-submitted.

    i. Ensure adequate first aid supplies are available at the work site and personnel are qualified to administer first aid as required in the contract.

    j. Ensure a 15-minute continuous flow eyewash station is in close proximity (unimpeded travel of 50 feet from the caustic /corrosive material) of the work.

    k. Post an updated list of current availability of first aid and emergency treatment for injured employees.

    l. Submit a completed Monthly Safety Project Man-hour/Injury Report by the 10th of each month to the COTR and the PSM.

m. Attend special safety meetings held or sponsored by the Airports Authority, Program Management Consultant, or contractor. The CSE or CSM is expected to participate in these meetings. In addition, the CSE and CSM are required to attend weekly safety walks of their project with the COTR, PSM, and RCPD.

n. Be present when subsurface engineering utility locating grid sweeps are being conducted for areas to be excavated (mandatory). Review contract drawings, GIS survey report, as-builts, and utility markings prior to any subcontractor performing excavation work. Attend excavation survey walks with Airports Authority personnel.

o. Ensure that all employees are provided with and are using the proper protective equipment and tools for the job.

p. Implement safety training programs for supervisors and employees applicable to their specific responsibilities and use of equipment.

4. Safety Staffing Requirements:

a. In cases where multiple shifts are employed, the safety staff shall be increased to meet all personnel and safety requirements of this section and the contract specifications for each shift when work is performed. The ratio of safety personnel to workers is one (1) approved qualified CSE per 100 workers per shift (shift is 12 hours). Depending on the size of the project more than 1 CSE per shift shall be required to adequately cover the work areas at no additional expense to the Airports Authority. This determination shall be agreed upon by the COTR and PSM.

b. CSE shall be in the field where work is being performed 80 percent of the time and 20 percent performing administration duties.

c. Any subcontractor or sub tier subcontractor of the general contractor that has over 30 employees working shall have a designated safety professional to manage safety on the project in addition to the general contractor's safety personnel assigned to the project.

d. In all cases, the safety staff shall not conduct escorting duties or any other duties that are not safety related.

5. Contractor's Certified Industrial Hygienist (CIH) (Contract Specific if CIH is Needed)

The Contractor's Certified Industrial Hygienist (CIH) shall have a minimum of 10 years' experience in managing construction related environmental conditions, including but not limited to contaminated or hazardous materials as defined in Section "Supplementary Provisions." The Industrial Hygienist shall be certified by the American Board of Industrial Hygienist (ABIH) and shall have received certification for taking and passing a 30-hour OSHA Training Course. The Industrial Hygienist shall develop, implement, and oversee the Contractors Environmental Response Plan and shall be responsible for ensuring compliance with the environmental requirements of the Airports Authority and all local, state and Federal agencies. The Certified Industrial Hygienist shall assist the Contractor's Safety Manager and Safety Engineers in training the Contractor and Subcontractor's personnel in recognizing and handling environmental problems.

6. Superintendents and Foremen shall have:

a. A minimum of 5 years' experience in the supervision in construction operations similar to the type of construction anticipated on this contract within the last 7 years.

b. In addition to the above, the Superintendents and Foremen employed by the Contractor on the Project shall have at a minimum:

A certificate of completion from a 30-Hour OSHA Hazard Recognition Training Course is required for verification of training. An instructor accredited by the Occupational Safety and Health Administration to perform such instruction shall have conducted the course for which the certificate is offered.

c. It is mandatory that each work site foreman of the subcontractor of the General Contractor to attend all preparatory meetings for definable features of work to be performed.

d. Injured workers shall be accompanied by their supervisor/foreman and the controlling contractor safety personnel to the clinic or hospital. The supervisor shall inform the treating physician of the injured workers job duties. In addition, shall inform the physician that their company has a light duty program/return to work program.

e. ALL Contractor and Sub contractor/Tiered Sub contractors' employees shall have:

OSHA 10 certification as a minimum for working on an Airports Authority construction job site. All supervisors/foreman shall have OSHA 30 certification.

7. Reference Codes, Standards and other Documents shall be followed in addition to Appendix A;

a. OSHA - US Department of Labor, Occupational Safety and Health Administration, Construction Standards and Interpretations, 29 CFR Parts 1910 and 1926.

b. US Department of Labor, Occupational Safety and Health Act of 1970, as amended.

c. US Department of Labor, Construction Safety Act of 1969, as amended.

d. US Army Corps of Engineers EM 385-1-1 Safety and Health Requirements Manual and AACSM.

e. Virginia OSHA Rules and Regulations (Virginia Occupational Safety & Health Unique Standards.

f. All other Federal, State and Local requirements and regulations in effect at the time of construction.

2.2 REQUIRED SAFETY SUBMITTALS

1. Submit Safety and Health Program following the sequence and outline in Appendix C to COTR within 15 calendar days after Notice to Proceed and prior to the start of any construction activities. COTR and PSM shall approve the Contractor's Safety and Health Program prior to the start of any work. The Contractor safety plan shall also be submitted and reviewed by the Airports Authority Fire Marshal and RCPD. **No work shall proceed until the contractor safety plan is approved**.

a. Submit Pre-Start Required GC/Subcontractor Checklist (Located in Appendices of the AACSM manual) and required information on the checklist to the COTR for all contractors prior to working on an Airports Authority Construction site. The Pre-Start Required GC/Subcontractor checklist shall be reviewed and accepted by the PSM prior to any work being performed by each contractor. The general contractor shall submit a Pre-Start Required GC/Subcontractor Checklist in addition to their subcontractors. The CSM shall review and submit the PRE-Start Required GC/Subcontractor Checklist for each subcontractor to the COTR and PSM review.

Information shall be submitted in sequential order of the checklist to expedite the review process. All information on the checklist shall be scanned and submitted as one document.

b. Submit Fire Risk Assessment to COTR prior to any construction.

c. Submit return to work orders from treating physician of injured workers prior to returning to work. Personal information shall be redacted prior to submitting to Airports Authority COTR and PSM review.

d. Submit a completed Monthly Safety Project Man-hour/Injury Report by the 10th of each month to the COTR and the PSM for review. In addition, email the monthly report to the PSM directly.

e. Submit drawings of all project entry points to the Airports Authority's Fire Department within 30 days of project commencement. When project conditions change, updated drawings shall be re-submitted. Submit a drawing of locations of existing confined spaces and those confined spaces that will be created during construction and the associated list of hazards of each confined space. The contractor will be responsible for the host employer responsibilities regarding identifying confined spaces and marking them with signage. Confined space locations and hazards shall be submitted prior to construction activities to the COTR.

f. Submit résumés of the candidates of the proposed CIH, CSM, and CSE to COTR within 10 calendar days after Notice to Proceed. All resume candidates shall be vetted by the CSM prior to the COTR, PSM, and RCPD interviewing them.

g. Submit qualifications of Contractor's Site Supervision to COTR within 15 calendar days of employment at the project.

h. Submit Airports Authority Daily Safety Inspection Report and Weekly Summary Report by the Contractor's Safety Manager to the COTR weekly for the COTR and PSM to review.

i. Submit Meeting Minutes and attendance sheets of Safety Training

j. Submit all Weekly Safety Meetings minutes and related communications by Contractors and Subcontractors.

k. Submit disciplinary action notices.

l. Submit notices from public authorities to COTR as soon as possible but no later than 24 hours of receipt by Contractor.

m. Submit for review a jobsite specific Pre-Task Work Plan (PTWP) for each definable feature of work and tasks associated with the work to be undertaken. This shall include the task, its hazard(s), and corrective measure(s). The PTWP shall be site specific (blanket PTWP shall not be accepted) and reviewed by the CSM if in contract or the CSE(S) prior to submitting to the Airports Authority PSM for review. The SDS sheets shall be attached to the PTWP when work involves chemicals. It's the responsibility of the CSM to review and make sure SDS PPE requirements are in the PTWP. In addition, the CSM/CSE will attach and provide cut sheets on equipment used for the task. Each PTWP shall be submitted individually to the PSM via email in a word document. The PSM will add highlighted comments. The contractor will make corrections and submit to the Airports Authority in PDF format with the PSM comments left highlighted on the document. All definable features of work will require a preparatory meeting which will include all required support documentation for the work activity. No definable feature of work may proceed without conducting a preparatory meeting. The PTWP shall be submitted within 15 days prior to the preparatory meeting for that definable feature of work. In addition, **all tasks** shall have a site specific PTWP. The PTWP shall be posted at the specific

worksite location where the work is being performed. **The working foreman shall attend all preparatory meetings (Mandatory), if the foreman is not at the preparatory meeting, the work shall not be performed until the preparatory meeting is successfully completed.**

n. Submit Safety Data Sheets (SDS) for all substances to COTR for PSM review as received by Contractor along with written Hazard Communication Program.

o. Submit copy of Contractor's and all other contractors on multi-employer work sites chemical inventory list to COTR and the Airports Authority Fire Marshal as developed and updated.

p. Unless mandated by Federal, State or Local Authority Regulation, code of law, all equipment shall be inspected for possible safety problems and any safety problems found shall be corrected prior to piece of equipment being brought on to the project. All equipment shall be safety inspected monthly if not more often as directed by the COTR. Submit copies of these inspection reports to COTR within one week of the inspection.

q. Submit copies of the latest annual inspections as required by OSHA 1926 Crane Standards to the COTR immediately upon any crane being brought on to the job site and within one week of any annual inspections that occur while that crane is on the project. Cranes that are assembled on site shall be inspected by a third-party inspector and the report shall be submitted to the COTR and PSM for review. Deficiencies and recommendations shall be corrected if noted on the crane annual inspection report prior to the crane mobilizing on an Airports Authority construction site.

r. Submit a listing of all crane operators and their qualifications (Shall be a National Commission for Certified Crane Operator (NCCCO Certified) to the COTR for PSM acceptance. In addition, crane plan, rigging plan, annual inspection with deficiencies report, rigging personnel, and signalman certifications, crane placement verification, dunnage documentation, ground bearing pressure calculations, and soil analysis test results shall be submitted to the COTR for the PSM review and acceptance (refer to Airports Authority "Crane Policy" in the Airports Authority Construction Safety Manual for additional crane requirements).

s. Submit Experience Modification Rates (EMR) for the General contractor and all subcontractors. Submit an EMR of the last completed year for each contractor. If the contractor EMR is over 1.0, a safety mitigation plan shall be submitted. In addition, OSHA 300 logs shall be submitted for the current year and last three years. The contractor shall provide documentation of the most current year and last three years of safety related issues and address those issues in the safety mitigation plan.

t. Submit Crisis Management plan to COTR

u. Submit a Security Plan if the project is in secured areas.

v. Submit a Temporary Heating Plan; All projects that are anticipated to work in the winter months shall submit a Temporary heating plan. Temporary Heating plan shall be approved by the Airports Authority Codes Department.

w. Submit soil testing analysis results for ground bearing capacity for all crane pad placements.

2.3 SAFETY PROGRAM ADMINISTRATION

1. The contractor is responsible for establishing a committed unified safety team in a positive cooperative environment where all personnel and employees communicate, create, maintain, and verify the required level of safety in all aspects of construction as established in the Contractor's Safety Plan, Contract Specifications, and the AACSM.

2. Roles and Responsibilities: The Contractor shall be directly responsible for establishing and implementing a project-specific Contractor Safety and Health Program for the protection of its workers, the workers of its Subcontractors, the COTR, Architect/Engineer, the Airports Authority, and the general public. Protecting the Public is the utmost importance and is the main priority of the contractor performing the work when working on Airports Authority construction projects. The Contractor shall ensure that the necessary resources for an effective program, as set forth in the contract documents and specifications, are provided at all times during the course of the Work. The Contractor shall require that its Subcontractors comply with all requirements of the Work and of the Contractor Safety and Health Program and be in compliance with the AACSM. The Contractor shall include documentation of safety and health program implementation and accident experience as criteria for evaluating performance of its individual project managers and site supervisors.

3. The Contractor's Project Manager

   A. Contractor Project Manager Roles and Responsibilities are as follows but not limited to the following:

      1. Ensure the implementation and administration of the Contractor's Safety and Health Program**.**

      2. Project Manager is responsible for accident prevention and job site safety.

      3. Project manager is responsible for their subcontractor's and sub tier contractor's safety**.** This responsibility cannot be delegated to sub-contractors, suppliers, the Airports Authority, PMSS Consultant, or other persons.

      4. Support the Contractor's Safety Manager (CSM) with the resources and authority to enable him/her to effectively administer and manage his/her designated portion(s) of the project safety effort.

      5. Project manager is responsible for ensuring the COTR is informed in advance if the contractor's safety personnel will not be on duty when work will be undertaken**.**

      6. Project manager shall ensure compliance with all provisions of the contract, including the Airports Authority's *Construction Safety Manual*, OSHA, VOSH, FAA, US Army Corp of Engineers EM 385 1-1 Safety and Health Requirements Manual, other agency and industry safety requirements and standards.

      7. Safety Plan**;** Upon notification of contract award, submit in writing a contractor's safety plan (Refer to Appendix C for contractor safety plan requirements) to the COTR, who will forward the documents to the PSM, Airports Authority Fire Marshal, and the RCPD for review and recommendations. A copy of the safety plan will also be sent to the respective Airports Authority Battalion Chief for review. The contractor's safety plan shall comply with Airports AACSM before the COTR will approve the document. Delay in submitting a written safety plan shall not constitute grounds for a contract schedule extension or delay claim. Copies of the site layout and safety plan noting emergency response, access points, etc., shall be submitted to the Fire and Rescue Department Battalion Chief-Special Operations, prior to the start of work.

      8. Ensure that the Contractor's Safety Manager is assigned only work bearing directly on the safety and health of workers and members of the general public and not activities which prevent the CSM from performing his/her primary function: safety inspections, training and enforcement. Although it may be appropriate for the CSM to participate in functions such as site security, insurance-related issues such as medical case management, general procurement, and similar functions, are shall not be considered safety related activities for

purposes of these Specifications and they shall not be part of the CSM's primary responsibilities.

9. Attend scheduled safety and health meetings conducted by the Contractor pursuant to administration of the project safety effort.

10. Cooperate with the COTR, RCPD, and PSM in enforcement of the Safety and Health Program responsibilities as set forth in the AACSM and contract specifications.

11. Ensure updated phone numbers for contractor personnel, Police Department, Fire Department, COTR, and other Airports Authority departments shall be posted on the project at all times in a conspicuous location.

12. Corrective Action. Review and direct immediate action to correct all recognized unsafe conditions. This shall also apply to the work performed by all subcontractors on the project. Abatement photographs shall be required by the contractor's safety engineer, safety manager, or the contractor's project manager showing that the observed unsafe conditions have been corrected.

13. Be responsible for providing the CSM, CSE, and the Airports Authority PSM with support in carrying out the duties and responsibilities of those positions. Take an active part in, weekly safety inspection audit walks, supervisory safety meetings, including the discussion of observed unsafe work practices or conditions, a review of incidents, corrective actions, and encouragement of safety suggestions from employees.

14. Provide the COTR copies of any Federal or State citations immediately upon receipt.

15. Ensure that all heavy equipment operators (e.g., cranes, loaders, forklifts) are properly qualified and trained on the specific piece of equipment in use.

16. Plan and execute all work to comply with the stated objectives and safety requirements contained in the A*ACSM*, contract provisions, Federal, State, local laws and regulations, US Army Corps of Engineers EM 385-1-1 Safety and Health Requirements Manual, and industry standards, as listed in Appendix A.

17. Ensure that all of its subcontractors and sub tier subcontractors are provided with a copy of this *AACSM*, US Army Corps of Engineers EM 385-1-1 Safety and Health Requirements Manual and are informed of their obligations regarding safety. Suppliers and visitors shall be informed of their obligations regarding safety and shall comply with the AACSM.

18. Select either a safety engineer, safety manager, or both, as required in the contract provisions, to perform safety inspections, and training services under the direction of the project manager.

19. Ensure safety managers and safety engineers hold weekly safety meetings. These shall be multilingual if dictated by the work force. Documentation of topics discussed and attendees shall be maintained with copies of record submitted to COTR and PSM review.

20. Maintain an orientation program for new employees that includes at a minimum a review of (a) potential hazards in the work areas and (b) required personal protective equipment and apparel as specified under OSHA, VOSH, AACSM, PPE policies or the site-specific safety manual (c) applicable contents and potential consequences of violating safety rules and damaging Airports Authority property. The contractor's project manager shall also ensure that all new hires are accompanied by an experienced employee to evaluate his/her knowledge and skills.

21. Safety performance goals are identified by the Airports Authority, PMSS Consultant, and the prime contractor to evaluate contractor performance. The contractor's project manager is responsible for developing and monitoring performance measures to meet or exceed these performance goals.

22. Attend Incident review meetings held by the Airports Authority COTR and PSM.

4. The Contractor's Site Supervisors (Superintendents and subcontractor foreman)

A. Contractors Site Supervisors shall:

1. Be directly responsible for ensuring the work is performed in a safe and healthful manner. They shall be knowledgeable of the hazard's attendant to the work, aware of the necessary hazard controls and authorized to effect prompt action to control or eliminate them. The contractor's job superintendents are an integral part of an effective safety program. The effort put into accident prevention while performing the job superintendent's daily assignments determines a good accident record. The job superintendent's responsibilities shall include but not limited to the following:

a. Assist the Contractor's project management and safety staff in the inspection of job sites, equipment and materials, attending and participating in the Contractor's safety meetings and training efforts, and enforcing safe work rules set forth in the Contractor's Project Safety and Health Program.

b. Enforcement. Ensuring that unsafe practices or conditions are not allowed to exist on the job sites through continuous monitoring. Correct or report immediately to the job project manager, any unsafe conditions, practices, or violations of job security.

c. Ensure that each job has the necessary safety appliances and personal protective equipment.

d. Monitor and report to the Contractor's Safety Manager the safety performance of Subcontractors on the project to determine their level of compliance with the Contractor's Project Safety and Health Program.

e. Participate and cooperate fully with the COTR, PSM, RCPD, CMSS Consultant, and Contractor's Safety Manager in the investigation of accidents and remediation of hazards.

f. Report all accidents immediately and incidents as promptly as conditions permit, with written follow up reports within 24 hours after the occurrence, to the COTR, PSM, RCPD, PMSS Consultant, and Contractor's Safety Manager.

g. First Aid. Providing that prompt first aid is administered to an injured employee.

h. Instruction. Instructing personnel under his or her supervision in safe work methods and practices when assigning work.

i. Personal Protective Equipment. Protecting employees by having and using the proper protective equipment and tools for the job (Refer to 3.16 Personal Protection Equipment Policy

j. Safety Attitude. Setting a good example for personnel.

k. Safety Meetings. Holding weekly "tool box" safety meetings with work crews to discuss any observed unsafe work practices or conditions; review the accident

experience of the crew; discuss corrective action to prevent future accidents; and encourage safety suggestions from the employees. Recommendations from the meeting shall be given to the safety engineer.

l. Daily Pre-Shift Safety Meeting. Taking five minutes to advise employees on conditions and work to be performed prior to each day's shift (Refer to 3.17 Pre-Task Work Planning Policy).

m. Accident Investigations. Performing a complete investigation of all accidents and taking corrective actions to prevent a recurrence. Attend incident review meetings held by the COTR and PSM.

5. Contractor's and Subcontractor Employees:

1. Contractor's and their subcontractor employees shall be required by the Contractor to:

a. Fully support the Contractor's Project Safety and Health Program by assisting the COTR, PSM, RCPD, CMSS Consultant, and Contractor's Safety Manager in the inspection of the job site, equipment and materials to detect hazards and reporting unsafe acts and unsafe conditions immediately.

b. Attend and actively participate in all orientations, safety and health training safety meetings and other functions for communication of safety and health prescribed by the Contractor's Project Safety and Health Program.

c. Comply with the work rules set forth in the Contractor's Project Safety and Health Program or as further established as a part of ongoing safety training and/or PTWP analysis/review.

d. Report to the Contractor's Site Supervision any and all apparent unsafe acts or unsafe conditions.

e. Report any and all accidents, injuries, incidents, symptoms of illness involving the worker to the Contractor's Site Supervision immediately or as promptly as conditions permit.

f. Contractors shall follow OSHA's Multi-Employer Citation Policy.

6. Airports Authority Management

A. Airports Authority Management Roles and Responsibilities:

1. Contracting Officer's Technical Representative (COTR). The COTR and any delegated/designated representative shall observe the contractor's safety and accident prevention procedures for all activities and personnel working at the construction sites, including the Airports Authority, consultant, subcontractors, visitors, and materials or equipment suppliers. For O&M projects, the functions of the PSM are performed by the COTR designated by the Airports Authority's Engineering Division. The COTR acting on the behalf of the PSM shall not omit or make any variances of safety requirements from this AACSM without written approval by the PSM of the Office of Engineering. The COTR on the project shall be responsible for the following:

a. Report Unsafe Conditions. Report directly, or assign another person to report, any unsafe working condition to the contractor, and the PSM.

b. Fire Safety. Report directly to the Airports Authority's Fire Code Enforcement Division, or assign another person to report, any fire safety issues, and fire

protection system impairments. Submit site specific safety plans to the Airports Authority's Fire Marshall for review. Refer to Airports Authority's FCDE Website for permits. The Airports Authority's Fire Marshall will review all permits for acceptance.

c. Corrective Actions. Initiate measures to promptly notify the entities in control of construction activities to address unsafe working conditions, including taking corrective action when unsafe working conditions are detected (e.g., lack of good housekeeping practices, use of equipment in obviously poor condition, failure to adhere to any of the regulations and standards listed in Appendix A, or issued by any of the agencies listed in Appendix A which pertain to safety). Unsafe conditions shall be corrected by prompt referral to the contractor's safety engineer, safety manager, or the contractor's project manager. Abatement photographs shall be required by the contractor's safety engineer, safety manager, or the contractor's project manager showing that the observed unsafe conditions have been corrected.

d. Documentation. Maintain written documentation of communications concerning accident prevention to preclude any misunderstandings and ensure documentation.

e. Imminent Danger. If in the COTR's judgment, construction activity constitutes a threat of imminent danger, the COTR shall stop such work and notify the contractor, PSM, and the RCPD.

f. Monitor Contractor Enforcement. The COTR shall monitor to ensure that contractors provide effective safety enforcement on the project.

g. Noncompliance. Promptly notify the contractor, the PSM, and the RCPD in writing of noncompliance with any of the safety requirements contained in the contract documents including the Airports Authority *Construction Safety Manual.* The Airports Authority's Daily *Construction Safety Inspection Report shall be used* (Refer to Appendix B).

h. Safety Compliance. Receive and review copies of the Contractor's Daily Reports, Equipment Maintenance Log, Accident Report forms, and other forms as they apply. These reports are to be continually monitored to ensure that the contractor takes prompt action to correct safety deficiencies. Any CO designated representative has the authority to direct the contractor in matters of safety or imminent danger.

i. For COMIP, O&M and other projects that are not managed by the Office of Engineering PSM, the COTR is responsible to ensure the contractor's safety engineer requirements are performed by a specifically dedicated person on the project. A full-time contractor's safety engineer shall be required for the following in addition to safety staffing and definition requirements sections:

- Contracts exceeding $250,000 depending on the scope of work. All work that meets the definition of high-risk activity shall have an assigned safety engineer on the project (Refer to Definition Section 1.28 High Risk Activities)

- Exposure to aircraft operations

- Certain task orders/projects

2. Program Safety Manager (PSM). The PSM assigned is the Airports Authority's designated employee who is the subject matter expert in regards to safety matters on Airports Authority Construction projects for the Airports Authority of the Office of Engineering Department. The PSM is responsible for the day to day safety management of the all construction contracts assigned by Airports Authority executive management of the Airports Authority Office of Engineering department.

A. Program Safety Manager Roles and Responsibilities are as follows but not limited to the following;

1. Audit and Inspections. Conducts safety audits and inspections of all projects assigned with the assistance of the insurance carrier as necessary. A copy of the PSM written safety audit reports and inspection reports shall be sent to the RCPD for review.

2. Contractors Safety Plans. Reviews contractor's safety plans, PTWP's, safety programs, descriptions of hazards peculiar to their work, and nominees for the contractor's safety engineer and safety managers as required by contract. The PSM shall approve or disapprove the contractors submitted safety engineers or safety managers based on contract requirements, based on the safety engineer/ safety manager hazard identification competencies and knowledge of the scope of work of the contract, past performances on previous Airport Authority construction projects, qualifications, certifications, and previous owner work references from previous projects.

3. Cooperation. Assist the Airports Authority, Site Managers, Consultants, COTR's, and field personnel on safety matters. Organizes and conducts safety awareness training as necessary. Acts as a technical advisor and subject matter expert on safety issues. Performs necessary actions to promote successful safety programs.

4. Document Review. Reviews PTWP's, safety plans, PE plans, contract drawings, and other pertinent contract documents for safety-related problems or issues.

5. Emergency Incident. Works with Airports Authority's Fire Department on construction sites when major incidents have occurred. Acts as a resource to the Incident Commander and /or Airports Authority's Public Safety Designated officer.

6. Enforcement. Works with the Airports Authority and field personnel in assisting the COTRs, and inspectors toward strict enforcement of the contract safety provisions. This includes compliance with OSHA (Part 1910 and 1926 of the Code of Federal Regulations), VOSH, FAA, US Army Corp of Engineers EM 385 1-1 Safety and Health regulations and other laws and applicable safety standards, as well as Airports Authority regulations set forth in the *AACSM* (Refer to Appendix A).

   The PSM has the right to enforce, through the contract designated on-site representative, stricter safety procedures than those that might have been issued by OSHA, VOSH, EM-385 Safety and Health requirements or any other related agency, when in his/her judgment, potential hazards could otherwise exist. In case of conflict or ambiguity between various statutes, contract documents, or safety provisions, the PSM shall recommend to the CO an interpretation as to which provision applies or what is implied in a given provision. The CO decision will be based on the PSM recommendations and will be considered the final decision. The PSM has the authority to omit or make a variance to any of the safety provisions stated in the AACSM.

7. Imminent Danger. Stops any construction activity or task which, in the PSM judgement constitutes an immediate or evolving situation of imminent danger (any conditions or practices in any place of employment which are such that a danger exist which could reasonably be expected to cause death or physical serious harm).

8. Meetings. Participates in meetings with offerors and contractors (such as pre-proposal, pre-award, preconstruction conferences, and preparatory meetings) to outline and explain the Airports Authority Construction Safety Program.

9. Safety Reports. Provides and distributes all contracts assigned Monthly Safety Reports as directed by Airports Authority executive management.

3. Airports Authority Risk Manager.

A. Airports Authority employee responsible for design and administration of Airports Authority's insurance and self-insurance programs for property and casualty exposures. Manages claims, safety, insurance, and business continuity matters. Oversees the Risk Management Department, which has the responsibility to perform the following:

1. Communication. Coordinate and maintain regular communication with all parties involved in the safety and loss control efforts provided by the Airports Authority, PMSS, RCPD, insurers, and insurance brokers involved in construction.

2. Industry Awareness. Obtain and exchange current information on Federal, State, and local safety and environmental regulations.

3. Insurance. Provide the insurance coverage required under the applicable OCIPs or other coverage necessary to protect the Airports Authority's interests.

4. Loss Analysis. Analyze loss trends; prepare safety and loss control reports, including an analysis of accident frequency, severity, and causes. Provide recommendations to increase the effectiveness of the *AACSM.*

5. Program Evaluation. Monitor the Airports Authority's Construction Safety Program and make recommendations as required.

6. Risk Evaluation. Evaluate potential loss exposures and monitor the safety performance and enforcement of safety standards. Areas of evaluation include, but are not limited to; personnel safety, liability exposure, public safety, property preservation, emergency planning, and fire protection.

7. Claims. Manage the claims process for all property and casualty claims arising out of construction activities

B. Risk Control Program Director (RCPD).

1. The RCPD is an Airports Authority's Risk Management Department representative responsible for OCIP-related claims, safety, and other risk management activities. All incidents, injuries, occupational-related illnesses, or property damage are to be reported within 24 hours to the RCPD. The RCPD advises and provides safety related recommendations to the Airports Authority and enrolled contractors performing work under the OCIP. Advises job site personnel of safety training and compliance issues to control losses and assists in the processing of OCIP claims.

2.4 SPECIFIC CONTRACTOR'S PROJECT SAFETY AND HEALTH REQUIREMENTS

1. The Contractor's Project Safety and Health Program shall incorporate all basic elements of the construction project safety and health program set forth in the AACSM, and the following project-specific program elements:

2. A written, project-specific Safety and Health Plan (Plan), incorporating PTWP's for construction operations, encountering contaminated soil and water, detailed emergency action procedures and fire risk assessment shall be developed by the Contractor, for review by the COTR and PSM to point out deficiencies before the start of any construction. The Plan shall specifically address rescue operations, conditions affecting rescue operations, smoke venting procedures, back-up power supply and pumping systems, means of ingress and egress, communications, hot work permitting procedures, and training, orientation and refresher training for workers, emergency responders and visitors.

3. A written fire risk assessment portion of the Plan shall detail potential fire hazards, means of dealing with those hazards, fire prevention, fire suppression and emergency evacuation measures that will be employed by the Contractor during the course of the Project. The fire risk assessment shall include documentation that the material selected for the ventilation system ducting is in compliance with the specifications. The fire risk assessment shall be prepared and stamped by a registered fire protection engineer in the Commonwealth of Virginia.

4. The Plan shall be updated as substantive changes in the underground work environment occur. The Airports Authority's and local fire departments shall be provided with a copy of the most current Plan and advised of changes in the Plan as they are implemented. The fire departments will be requested to review and comment on the Plan and any changes that occur to the Plan.

5. The Contractor is required to send all project supervisory personnel to an Authority provided Orientation prior to the start of any work.

6. The Contractor's Safety Manager shall train all workers and the COTR and his staff members in the details of the Plan.

7. In accordance with local and state regulations a permit system shall be used for all hot work performed on the project. The Contractor's Safety and Health Plan shall detail the permit system's procedures. The permit system shall be implemented and supervised by the Contractor's Safety Manager. The permits shall be made available for inspection by the Airports Authority, the COTR and the local fire department(s). Open flames and fire shall be prohibited in all construction operations, except as permitted for welding, cutting and other hot work operations pursuant to the Contractor's Hot work Permit System. Smoking shall be allowed only in areas free of fire and explosion hazards that is approved by the Airports Authority Fire Marshall. Readily visible signs prohibiting smoking and open flames shall be posted in areas having fire or explosion hazards. Smoking is prohibited on the AOA.

8. The Contractor in all cases shall request responses by the fire department(s) to Project-related emergencies involving members of the general public. The Contractor shall fully coordinate and cooperate with the Airports Authority Fire and Rescue in its response to such emergencies.

9. The Contractor shall fully coordinate and cooperate with the Airports Authority's Risk Management Department in its response to such emergencies.

10. The Contractor is required to obtain all permits required for the Contractor's use of chemicals, and is responsible to meet all Federal, State and Local requirements. The Contractor shall develop a written chemical safety plan to address all chemicals used during construction. This safety plan shall include detailed procedures to prevent chemical accidents to the maximum extent possible during chemical transport, transfer, storage, use and disposal. The chemical safety plan shall include emergency response procedures, which identify all potential chemical emergencies and the recommended emergency response action to be taken for each incident. These procedures shall consider all potential chemical emergencies including chemical spills, incompatible reactions, fires and human exposures. Procedures shall describe methods to contain and isolate the accident, including the required protective clothing, equipment, first aid and response methods. Conduct, using Contractor's staff emergency response training and drills to the extent necessary to control the specific chemicals used by the Contractor. The Contractor's emergency response procedures shall be coordinated with support action from the Airports Authority's and local fire departments and hazardous material response teams, to provide for a comprehensive emergency response plan. This coordinated response shall be adequate to manage all chemical emergencies and provide for the health, safety and evacuation of all site personnel as well the community. The Airports Authority's and local fire departments shall be provided with a copy of the most current plan and be requested to review and comment on the plan. At all times when chemicals are on site, the

Contractor shall maintain a trained emergency response staff, equipment, protective clothing and supplies as needed to implement the chemical safety plan.

11. The Contractor shall have at least one (1) employee on site at all times who is trained and qualified to administer first aid and cardiopulmonary resuscitation (CPR) for every 25 employees on site.

12. The Contractor shall comply with all requirements identified in OSHA regulation § 1926.50 relating to medical services and first aid.

13. The Contractor shall provide the on-site safety staff an appropriate office on the job site(s) to maintain safety records, up-to-date copies of all pertinent safety rules, regulations and governing legislation, material safety data sheets, and the site safety and health plan including information concerning foreseeable emergency conditions, location of emergency and telephone contacts for supportive action and for all required notifications.

14. AOA projects will follow contract specifications in addition to the AACSM requirements.

2.5 PROCEDURES

1. Detection. Maintain a system of prompt detection and correction of unsafe practices and conditions.

2. Education. Establish and conduct an educational program to stimulate and maintain interest and cooperation of all employees. Education will be conducted through safety meetings, safety training programs, the use of personal protective equipment, and mechanical guards.

3. Investigation. All accidents, incidents, and claims will be investigated to determine their causes and reasonable corrective action will be taken. All information gathered by the contractor (e.g. police reports, medical reports etc.) shall be submitted to the Airports Authority's COTR, RCPD, and PSM for review. Personal information shall be redacted from all reports sent to the Airports Authority for review. An incident/accident review meeting will be held with the principles of the company, the general contractor PM, Superintendents, CSE, CSM, and all contractor employees involved in the incident or accident will be present. A root cause analysis shall be completed by the general contractor using the Airports Authority's Root Cause Analysis Form referenced in the appendices of the AACSM.

4. Planning**.** Plan all work to minimize the potential for personal injury, property damage, and loss of productivity. All work tasks shall have a Pre-Task Work Plan (PTWP) prior to performing the work task. Foremen who are directing the work shall attend the preparatory meetings for all definable features of work and have initial meeting with work crews for all other tasks performed. The contractor will be required to use all Airports Authority forms and updated forms (refer to appendices of this safety manual).

5. Regulations. Comply with Federal, State, local laws, ordinances, regulations, industry standards, Airports Authority regulations and procedures, FAA regulations and procedures and the US Army Corps of Engineers EM 385-1-1 Safety and Health Requirements Manual. The contractor shall attain a copy of the US Army Corps of Engineers EM 385-1-1 Safety and Health Requirements Manual found at *https://www.usace.army.mil/Safety-and-Occupational-Health/Safety-and-Health-Requirements-Manual/*. Use the most updated EM-385 Safety and Health manual. Refer to Appendix A for a list of applicable agencies. Virginia Unique Standards can be found at the following link:

http://www.doli.virginia.gov/vosh_enforcement/vaunique_standards.html

2.6 ACCIDENT PREVENTION

1. Reporting Unsafe Conditions. Employees shall immediately report any condition suspected to be unsafe or unhealthy to their job foreman, contractor's safety manager, or contractor's safety engineer. If there is no resolution of the concern at that level, the employee shall report the concern to the PSM and COTR. Contractor employees have the authority to stop unsafe acts on Airports Authority construction projects.

2. Prevent Job Site Accidents. All contractors have the responsibility to correct hazardous conditions and practices and shall follow OSHA's Multi-Employer Citation Policy Directive CPL02-00-124. When more than one contractor is working within a given job site, any job foreman or employees shall have the authority to take action to prevent physical harm or significant property damage. If it is determined there is imminent danger, the job foreman, employees, or contractor's safety engineer shall:

   a. Take immediate action to remove workers from the hazard and stabilize or stop work until corrective actions can be implemented to eliminate the hazard.

   b. Immediately notify the COTR, PSM, contractor's safety engineer/manager, and others as identified in the contractor's safety plan of the condition.

3. Identify and implement corrective action to eliminate the hazard. Notify the proper emergency service personnel if the danger cannot be promptly corrected and could develop into an emergency condition. When the job foreman or safety engineer is made aware of an unsafe condition or act that cannot be corrected, he/she shall develop and submit an abatement plan to the COTR for transmission to the PSM and the Airports Authority's RCPD for review.

4. Stop work until any condition that has been determined to constitute a safety hazard is corrected, guarded, or removed from the job site.

5. Protection of the Public and Property. The contractor shall take all necessary action to eliminate hazards which can be expected to cause injury to the general public or property damage.

2.7 NONCOMPLIANCE

1. Cooperation and Involvement. It is the Airports Authority's intention to maintain a healthy and safe workplace. To succeed, all parties shall be actively involved and maintain cooperation between the Airport Authority, all contractors, subcontractors, and their employees. Contractors and subcontractors are responsible for orienting employees on the specific safety rules that shall be followed by all persons working on the project.

2. Noncompliance**.** If the CO is aware of any noncompliance or unsafe practices the following may occur:
   a. Claim: The Airports Authority will deny claim or requests from the contractor for equitable adjustment for additional time or money on any suspended work order issued under these circumstances. In addition, Notice of Noncompliance will be issued for serious safety violations and repeated violations (Refer to NCN Fine Schedule Appendix H). On each repeat violation, fines will multiply by one per violation occurrence fine amount (e.g. repeat is multiple X 2, a third repeat is a multiple of X 3 and so forth). On third repeat safety violation occurrences, the contractor shall submit a safety mitigation plan to the PSM for review to prevent future occurrences. The controlling contractor shall require their contractors that have multiple safety violations to add a safety representative to monitor the contractor's work on site to prevent further safety violations at the contractor's expense.

   b. Work Suspension: The contractor shall be required to remove any employee or piece of equipment deemed to be unsafe from airport property. The contractor shall notify the COTR and

PSM of all information regarding removal from the project. Given the concurrence from the CO, the PSM shall direct the replacement of the CSM,CSE, or other contract personnel for not being cooperative with the Airports Authority management or nonperformance of his or her safety/security duties at no additional cost to the Airports Authority. Violations impacting the safe environment of the airport will be treated as a safety violation**.**

c. Work Suspension: If the contractor fails or refuses to take corrective action within the specified time, the CO will exercise the right to suspend work, stopping all or part of the work. The order will remain in effect until satisfactorily corrected.

d. Individual Suspension: Any employee that commits a serious act shall be suspended from any airport project for a minimum of three (3) working days. Whether or not an act is serious will be determined by the PSM and Risk Management Department. The Airports Authority reserves the right to suspend any person permanently from their jobsites.

e. Grounds for Removal: Any employee of the contractor or subcontractor found to be violating the following safety rules, or other Airports Authority policies, or procedures as defined in the AACSM, is subject to immediate removal from the job site. Disciplinary policies shall be included in the contractor's safety plan to address violations. Airports Authority disciplinary policies and NCN fine schedule shall also be implemented in the contractor's safety plan.

f. Continued Violations**:** Any employee, who has been documented as having repeatedly violated the Federal, State, or Airports Authority safety regulations on any Airports Authority project, can be removed for cause.

g. Drugs and Alcohol: The possession, use, or being under the influence of drugs or alcohol while on the project is strictly prohibited (Refer to 3.6 Drug-Free Worksite Policy).

h. Unprofessional Behavior: Unprofessional behavior, such as but not limited to fighting, gambling, or horseplay is strictly prohibited.

i. Weapons: Possession of firearms, knives not necessary for the performance of work, clubs, or other weapons is strictly prohibited.

j. Rehire: Any employee removed from an Airports Authority construction project for safety violations or unsafe work practices ca be hired to work on any other Airports Authority project for a minimum of one year from the date of removal without the approval of the CO. **The contractor shall provide the names of individuals removed from their projects for safety reasons to the COTR, PSM, and RCPD.**

2.8 SAFETY AWARDS

1. Safety Award Program; The Airports Authority appreciates contractors who meet or exceed established safety goals. Awards may be given for overall loss performance and to recognize exceptional safety programs.

CHAPTER 3

PROGRAM SAFETY POLICIES & PROCEDURES

3.0 AIRPORT OPERATIONS AREA (AOA) CONSTRUCTION POLICY

I. Policy Statement

The Airport Operations Department has established procedures to be followed during Airport Operations Area (AOA) construction operations. All construction work on the AOA is under the jurisdiction of the Airport Operations Department. The Airport Operations Department shall be notified in advance and give approval prior to the start of any work on the AOA "Non-Movement Area" or "Movement Areas". Activities on or within the vicinity of an active "Movement Area "shall not be distracting, confusing or alarming to pilots during aircraft operations. The contractor shall comply with all current FAA Advisory Circulars and/or Airport Orders and Instructions. The contractor shall follow these procedures and instructions that include but are not limited to the following procedures and requirements:

II. Procedures

1. **Barricades.** Barricades shall be properly highlighted for easy visibility by flight crews and airport support personnel. Tape of any type is prohibited.

2. **Clearance.** The contractor shall provide adequate clearances for takeoffs and landing and all other aircraft movements over obstructions or work or storage areas.

3. **Drop-offs.** Pavement drop-offs or pavement turf lips, either permanent or temporary, cannot exceed 3 inches in height.

4. **Dumpsters/Trash Containers.** All trash containers shall be covered and secured at all times with a flame-retardant cover. Trash containers shall be emptied at the end of each shift.

5. **Hazardous Conditions.** In the event of a hazardous condition, the contractor or subcontractor shall immediately coordinate the corrective action with an Airport Operations Officer, who will issue proper notices to airport users.

6. **Inspections**. Daily inspections of temporary AOA fencing will be conducted. Replacement or repairs shall be given top priority to deter human and animal intrusion into the AOA.

7. **Lighting.** Obstruction lights may not be misleading or malfunctioning in the approach to any open runway, approach or departure surface. Night work lighting should be directed in such a manner that it does not interfere with airport operations. Steady burning or flashing lights are required on barricades (specific to Airport).

8. **Lunch/Break Location.** Lunch and break locations will be approved by the COTR for employees working on the AOA. Adequate trash receptacles shall be provided and emptied on a daily basis or when trash receptacles are full.

9. **Marking/Lighting.** Temporary runway and taxiway threshold marking and lighting will be provided as required. Elongated or unmarked objects, especially tall cranes, pile drivers or drill rigs, shall be properly lit or flagged.

10. **Objects.** Mounds or piles of earth, construction materials, temporary structures, or other objects in the vicinity of any operational runway, taxiway, taxi lane, or in a related safety area approach or departure area are prohibited. All trench spoils shall be trucked from airside when excavated unless storage is approved by the COTR. Objects such as manholes should be constructed at grade. **In no case should their height exceed 3 inches above grade.**

11. **Contractor's On-Call Personnel.** An employee, and a back-up individual, shall be on 24-hour call when work is not being performed on the job site. They shall have the capability to maintain construction barricades and lighting on the AOA.

12. **Vehicle/Equipment Operations**. Vehicles or equipment, whether operating or idle, may not be used on any open runway, taxiway, taxi lane, or in any related approach, departure, or safety area, except when coordinated with Airport Operations (Refer to Chapter 4, Motor Vehicle Operations). All drivers that are operating motorized equipment shall have a valid driver's license and submit current driving record documentation. All drivers and equipment operators shall follow DOT regulations regarding number of hours allowed operating equipment.

13. **Work Completion**. Upon completion of work within the AOA, the contractor shall return all areas to the conditions required by the contract and notify the COTR who will notify Airport Operations to issue the proper notice indicating completion of the construction.

14. **RSA Flagging Safety Lines**. All safety lines or lathe flag lines shall be installed marking the RSA prior to work set up on the airfield.

15. **Powder- Actuated Tools.** Air Operations Department shall be notified if powder actuated tools are going to be used on an Airports Authority construction project.

16. **Cranes:** Contractor shall notify Airport Operations when raising and lowering the boom on a crane. FAA form 7460 shall be approved by the FAA prior to bringing a crane on the AOA.

17. **FAA Regulations:** All contractors shall follow FAA safety regulations when working on the AOA. Fines will be issued if FAA safety standards are not followed.

18. **Security:** Is the responsibility of the controlling contractor and shall follow their written security program.

19. **Smoking:** Smoking is prohibited on the AOA.

3.1 BASIC SAFETY PROVISIONS

I. Policy Statement

The contractor shall protect the health and safety of employees, the public, and any other persons take all necessary and reasonable actions to prevent damage to property, materials, supplies, and equipment, and avoid interrupting normal airport operation. Nothing contained herein alters the requirements to comply with the safety procedures in the contract or otherwise mandated by law or regulation. Examples of items requiring specific contractor attention are included but not limited to in the following procedures and requirements:

II. Procedures

1. **AEROTRAIN TRACK ACCESS APPROVAL**. All contractors requiring access into the Aerotrain Track System shall obtain track access approval through the COTR from the Aerotrain manager's representative. Access forms are available from the IAD Work Order Desk. No access allowed without the Aero Train Manager's written approval and designated escort.

2. **All Thread Rods.** All thread rods shall be capped with safety caps.

3. **AOA Operation.** Prevent employees, subcontractors, suppliers, or equipment from intruding upon the AOA, without the knowledge and concurrence of the Airport Operations Officer. Contractors shall follow Air Operation Department O & I requirements when operating equipment on the AOA.

4. **Barricades.** Provide adequate and proper fencing, barricading, marking, and lighting of construction, maintenance, or other areas that are temporarily closed to normal airport use. The use of tape of any type is not acceptable.

5. **Buddy System.** No employee shall be allowed to do any activity on Airports Authority construction jobsite, unless accompanied by a fellow worker.

6. **Communication.** A fully operational telephone or other means of two-way communication shall be available at the site before construction begins and at all times when construction is in progress. Maintain radio communication between the construction and maintenance vehicles and air traffic control tower or other on field communications facility as required in the AOA.

7. **Compressors.** Provide ANSI or OSHA approved valve on all air compressors with hoses exceeding 1/2 inch inside diameter at the source of supply or branch line. Jack-Hammer operators shall be rotated at least every two (2) hours to prevent acute injury, i.e. 2 hours on and 2 hours off. Pneumatic compressor hoses shall have positive locking pins and whip checks at all coupling connections. Metatarsal protection shall be required when working with jackhammers, earth compaction equipment, and other similar equipment.

8. **Confined Space.** Ensure all confined space entries are made only under the supervision of a qualified/competent person. Each entry shall have a permit signed by the contractor's designated qualified/competent person and be kept in visual sight at the entry points. Confined space entries shall be made according to OSHA CFR 1926 Construction Standards (Refer to 3.3 Confined Space Policy).

9. **Cylinders.** Secure compressed gas cylinders in upright position at all times. Valve caps shall be in place when not in use. They shall be transported and stored according to Federal and State standards. Moving compressed gas cylinders by crane is prohibited, unless cylinders are capped and secured in an approved carrying device. When not in use (over 24-hour period not in use is considered storing), acetylene and oxygen tanks shall be separated 20 feet apart and stored in cages outside of the building. Tanks shall be stored in storage cages with the appropriate required

signage. When oxygen and acetylene is in use a 5-foot barrier with a fire-resistant rating of at least one-half hour shall be used in between the oxygen and acetylene tanks.

10. **Demolition**. Ensure that material is not dropped outside the exterior wall of the building where the drop distance is more than 20 feet high, unless contained in a chute enclosed on all sides. If the drop distance is less than 20 feet high, the landing area shall be barricaded. When material is dropped through openings in the building, the openings shall be barricaded at least 42 inches high and 6 feet or more back from the edge of the open area at the landing (Refer to Demolition Policy Section 3.5 for additional demolition requirements).

11. **Electronic Interference.** The contractor shall not use any vehicles, equipment, excavations, stockpiles, or other materials that could degrade or otherwise interfere with the electronic signals from radios or electronic navigational aids.

12. **Equipment Perimeter Protection.** Heavy equipment with rotating superstructure, such as backhoes and power shovels, shall be guarded in such a manner that rotation and use shall not present a danger to individuals or infringe into any traffic lane.

13. **Fire/Rescue Department Emergency Access.** Prevent construction/maintenance activities or materials from hampering access by any airport rescue and firefighting (ARFF) vehicle to all parts of the airport. Contractors shall provide and post signage to indicate where emergency access is located (see example below). Letters shall be a minimum of 12 inches high and made of red reflective material on white background. Access for Fire/Rescue Department apparatus shall be maintained as directed by the Airports Authority Fire Code Enforcement Division.

FD - _____EMERGENCY ACCESS

*Project:*_____
_____

*Contractor:*_____
_____

14. **Flagging.** Provide properly trained and equipped flaggers at designated locations on all Airports Authority roadways including the AOA and for such *periods as necessary* for the control and protection of vehicular and pedestrian traffic in accordance with the *Manual of Uniform Traffic Control Devices* (MUTCD) and *Virginia Work Area Protection Manual*. Reflective vests (ANSI Class 3) shall be worn during ALL flagging operations. Class E reflective pants shall be worn for night work. Flagging operations at night shall require illuminated flagger stations for the flaggers. Flaggers shall use lighted batons at night, to ensure maximum visibility of direction given by the flagger. Refer to Highway Work Zone Safety Policy Section 3.12 for additional flagging requirements.

15. **Foreign Object Debris.** Foreign Object Debris (FOD) and other materials can cause serious damage to aircraft. Material or equipment shall not be permitted to obscure pavement markings, pavement edges, or detract from visibility of runway/taxiway markings or lighting. Prevent trash, water, snow, dirt, debris, or other transient materials with FOD damage potential from entering into or remaining in construction or maintenance areas, whether on runways, taxiways, aprons, or in related safety areas. Trash dumpsters shall be covered and removed when full. Remove all bird attractions, such as edibles (food scraps, etc.) or other miscellaneous garbage, trash, or pooled water while on or near the airports. All materials and equipment, such as lightweight construction materials, shall be

secured to prevent displacement from wind or jet blast. Dust shall be controlled at all times by using water trucks, vacuum trucks, sweeping, and other acceptable means as determined by the COTR and at no additional cost to the Airports Authority.

16. **Forklift Operations.** Operators shall be trained and certified as instructed under OSHA regulation 29 CFR 1910.178, entitled, *"Power Industrial Trucks"*. Forklift operators are required to have a "Forklift Trained" decal on their hard hat indicating the person is certified. Forklift operator's certification documentation (re-evaluation required every three years for certification) shall be provided to the Airports Authority and submitted to the COTR. Forklifts are to be used for stacking or moving of materials and not to set steel or as a lifting device, unless equipped with the manufacturers approved sleeve with a lifting hook attachment. A lift plan shall be required when exceeding 50 % of the capacity of the forklift.

17. **Ground Fault Circuit Interrupters (GFCI).** All construction related electrical services shall be equipped with ground fault circuit interrupters. All power tools shall be GFCI protected regardless of power source.

18. **Imminent Danger.** Any employee can stop work if construction activity constitutes a threat of imminent danger. They shall notify their supervisor if this action is taken and shall not return to the dangerous situation until it has been resolved by the contractor's designated competent person.

19. **In Line Cutoff/ Quickie Saw/ Chop Saw Usage.** Cutting into an existing utility (steel, ductile iron, etc.), where binding and torsion can be present, by means of using a chop saw, is prohibited. An alternative method of cutting into these types of utilities shall be used. Examples of methods include, but are not limited to: hydraulic chain saw, reed saw, etc.

20. **Ladders.** Inspect all ladders prior to use. Defective ladders shall be removed from service immediately. All ladders shall have firm footing, be secured at the top, and extend 36 inches above the landing level. Provide adequate training for employees and ensure ladders are being used properly. For example, frame ladders may not be used as extension ladders; the upper/lower section of extension ladders may not be dismantled and used as a separate ladder. Metal ladders and platform ladders are prohibited on Airports Authority projects. Job built ladders are permitted on Airports Authority's construction projects as long as there constructed in accordance with ANSI standards (Refer to Stairways and Ladders Policy Section 3.22 for additional ladder requirements).

21. **Loss Control.** Implement any additional safety measures the CO determines to be necessary to ensure project safety pursuant to a recommendation by the PSM, RCPD, contractor's safety engineer or COTR.

22. **Man lifts/Aerial Lifts/Scissor lifts.** Scissor Lifts /Aerial Lift operators and occupants shall follow the procedures provided by the manufacturer, ANSI, and OSHA standards, as well as guidelines specified by either airport, for equipment provided by the contractor or owned by the Airports Authority. The contractor shall use tie off points if the lift has anchorage points on the lift. Fall restraint devices are required. (Refer to Scaffold Policy Section 3.20 for aerial lift and scissor lift requirements). All occupants shall be trained in addition to operators operating the lift and shall follow ANSI A92.20 standards. A control guard shall be required to guard controls when working on an aerial or scissor lift. An anti-crush device shall be on all aerial lifts.

23. **Overhead Hazards.** It is strictly prohibited for one trade to work over/under another trade. Provide barriers when working above public areas, in addition, all tools shall be tethered when working along elevated edges.

24. **Personal Electronic Devices**. The use of personal electronic devices is prohibited while operating any motorized equipment or motor vehicle on the Air Operation Area (AOA) and active construction work areas. Prohibited devices include but are not limited to; cell phone, radio, iPod, portable CD player and any other device that restricts hearing and distracts the operator.

25. **Piles.** Prevent cut-off piles from free falling if the top of the pile sticks out of the ground *above knee high. Holes shall be kept free of c*ut-off piles.

26. **Safety Data Sheets**. Current Safety Data Sheets (SDS) shall be kept on-site and available to all personnel. Copies may be requested by the Airports Authority's Fire Department in connection with their responses for fire, injury, or spill incidents. SDS's shall be attached to the PTWP and be posted at the work location where the work is being performed.

27. **Scaffolding.** Hollow concrete blocks, in any fashion, shall not be used under scaffold legs to support the scaffold. Appropriate base plates shall be utilized at all times. Prior to utilizing any scaffold or fall-protection systems, written documentation shall be provided upon request to PSM substantiating its compliance with current OSHA regulations. All scaffolding systems shall be required to utilize a tagging system. Scaffolding shall be inspected when erected and daily thereafter by the contractor's "Competent Person" as described in the OSHA regulations. All scaffolds 4 to 10 feet in height, having a minimum platform dimension of less than 45 inches horizontally in any direction, shall be equipped with a guardrail or a fall protection system. This includes a Baker Scaffold (Refer to Scaffolding Policy Section 3.20 for additional scaffolding requirements).

28. **Temporary Lighting**. All outdoor temporary electrical wiring within the construction area shall be flexible cord listed for hard usage suitable for wet locations, Type UF cable (direct burial type), or installed in rigid conduit. If installed outside the limits of the construction area, wiring shall meet the requirements of the *Airports Authority Design Manual*. All indoor temporary electrical lighting shall be a three-wire type system in compliance with OSHA regulations and NEC codes.

29. **Tools**. Tools in public areas are a security hazard, and shall be closely guarded or locked-up when not in use.

30. **Trash**. Trash containers shall be emptied at the end of each shift.

31. **Stilts.** Stilts are permitted to be used on Airport Authority construction projects; however, a safety plan shall be submitted to COTR, and reviewed by the PSM to include but not limited to a fall protection plan, housekeeping, stilt inspection, and coordination with other trades. Those who are in violation of not following the safety plan submitted will be prohibited from using stilts for future work.

32. **Utility Locating:** When penetrating a wall, floor, ceiling, concrete slab, concrete/masonry structures with any type of tool or drill, scanning methods are required to locate utilities and rebar in the substrate before any tool or drill penetration can occur. Scanning methods to include GPR, and X-Ray shall be used if GPR is inconclusive in finding utilities and rebar in the substrate. This requirement shall be for outside and inside scopes of work. The contractor shall follow Airports Authority Code requirements which may be stricter than the AACSM requirements. For Excavations the contractor shall follow excavation policy on locating utilities. For utility markings on soil refer to the Airports Authority Excavation Policy.

33. **Weather.** When there is Inclement weather (e.g. lightning, tornado warning), outside construction activities shall stop until the weather event has dissipated. When there is lightning work shall stop when lightning is within a 10-mile radius. Contractors shall follow **National Oceanic and Atmospheric Administration** (**NOAA**) alerts. In the event of high winds construction materials shall be secured.

34. **Working Around Mechanized Equipment.** Construction personnel working around mechanized equipment and equipment operators shall be **aware of their surroundings at all times**. The employee shall get the operators acknowledgment before walking behind, working in front of or behind equipment as well as crossing in front of mechanized equipment. Construction personnel shall maintain a safe working distance around mechanized equipment. A spotter shall be required for all mechanized equipment operations. Spotters shall be identified by wearing a different colored hard hat.

3.2 CONCRETE & MASONRY POLICY

I. Policy Statement

Metropolitan Washington Airports Authority (Airports Authority) shall require contractors performing concrete and masonry operations to be performed in accordance with 29 CFR 1926, Construction Industry Regulations, Subpart Q – Concrete and Masonry Construction, US Army Corps of Engineers EM 385-1-1 Safety and Health Requirements Manual, and the AACSM. The more stringent standard will be used and applied at the discretion of the PSM, in addition to the following procedures and requirements:

II. Procedures

1. General requirements

   a. No construction loads may be placed on a concrete structure or portion of a concrete structure unless a qualified person, knowledgeable in structural design, determines that the structure is capable of supporting the load.

   b. Protruding reinforced steel, onto and into which employees could fall and be impaled shall be guarded to eliminate the hazard of impalement.

   c. Concrete and masonry workers shall wear appropriate personal protective equipment to prevent from getting chemical burns from concrete or mortar. When employees are using pneumatic hoses to pump cement, sand and water mixture, they shall wear the appropriate PPE (e.g. face shield, safety goggles, and hardhat).

   d. All wood cutting activities shall be done on saw horse tables or supported surface. Cutting free hand in the air shall be prohibited.

   e. Employees shall not be permitted to work under concrete buckets while being elevated or lowered into position. In addition, elevated concrete buckets shall be routed in way that limits exposure to employees of a falling concrete bucket.

   f. Cutting concrete or block shall be wet cut or HEPHA filter. When dry cutting, dust control measures and PPE requirements (e.g. safety goggles, face shield, dust mask respirators in accordance with the SDS PPE requirements and respiration program requirements) shall be implemented. The contractor shall follow OSHA's Silica standard.

   g. No employees (except those essential to post tensioning operations) shall be permitted behind the jack or end anchorages during post-tensioning operations. Signs and barriers shall be erected to limit employee's access to post-tensioning area during tensioning operations.

   h. When working above six feet, a fall protection plan shall be submitted to Airports Authority COTR and reviewed by the PSM.

   i. Eyewash station requirements; shall have a 15-minute continuous flow eyewash station in close proximity (unimpeded travel of 50 feet from the caustic /corrosive material of the work).

   j. Utility Locating: When penetrating a wall, floor, ceiling, concrete slab, concrete/masonry structures with any type of tool or drill, scanning methods are required to locate utilities and rebar in the substrate before tool or drill penetration can occur. Scanning methods to include GPR, and X-Ray if GPR is inconclusive in finding utilities and rebar in the substrate. The

contractor shall follow Airports Authority Code Departments requirements which may be stricter than AACSM requirements.

2. Equipment and Tool Requirements

   a. Bulk storage facilities such as storage bins, containers and silos shall be equipped with conical or tapered bottoms, mechanical or pneumatic means of starting the flow of material.

   b. Masonry saws shall be provided with a semi-circular guard over the blade.

   c. Masonry saws that are made for dry cutting shall not be used for wet cutting operations unless the saw is made for wet cutting operations.

   d. Machines shall be locked and tagged out of service before employees can perform any maintenance or repair work.

   e. Powered and rotating concrete troweling machines as well as other powered tools shall have a “dead man” switch that automatically shuts off power whenever the hands of the operator are removed from the machine.

   f. Mortar Mixers that have belt driven motors shall have covers closed after starting them due to the exposure of belt drives that are not guarded.

   g. Concrete pumping systems that use compressed air hoses shall be provided with positive fail-safe joint connectors. Concrete pumping systems using discharge pipes shall be provided with pipe supports designed for 100% over load.

   h. Concrete buckets equipped with hydraulic or pneumatic gates shall have positive safety latches or similar safety devices installed to prevent premature or accidental dumping.

3. Cast-In-Place Concrete Requirements

   a. Formwork shall be designed, fabricated, erected, supported, braced and maintained so it is capable of supporting all lateral and vertical loads anticipated to be applied to the form work.

   b. Formwork that is installed below grade over 4 feet shall have soils sloped as all soils are classified as type “C” soils. Continuous air monitoring shall be conducted at 4 feet in depth.

   c. All shoring equipment shall be inspected by a PE prior to erection to determine if it meets the requirements specified in the formwork drawings. Shoring plans shall be submitted to Airports Authority COTR and reviewed by the PSM.

   d. Erected shoring equipment shall be inspected by a competent person immediately prior to, during and after concrete placement.

   e. A PE shall prepare the design of the shoring and shall inspect the erected shoring.

   f. Forms and shores shall not be removed until it is determined that the concrete has gained sufficient strength to be determined by contract specifications (break test).

   g. 100% fall protection shall be maintained while employees are climbing rebar and formwork.

   h. Areas where form stripping is to be performed shall be properly barricaded and signage shall be posted on all sides.

i. Protruding nails shall be removed or bent immediately.

4. Masonry Requirements

a. A limited access zone using a guardrail system shall be established prior to the start of any masonry work.

b. A limited access zone using guardrails shall be established prior to the construction of the wall.

c. The limited access zone using guardrails shall be equal to the height of the wall, plus four feet.

d. Contractors shall follow wall bracing requirements that is in accordance with OSHA 1926 standards and applicable standards.

e. Overhand brick/block installation from a scaffold requires 100% fall protection.

f. Scaffolds will be designed for four times intended load and shall not be over loaded.

3.3 CONFINED SPACE POLICY

I. Policy Statement

Metropolitan Washington Airports Authority (Airports Authority) Confined Space Policy requires contractors that are performing confined space work shall be performed in accordance with 29 CFR 1926 Construction Industry Regulations for Confined Space, US Army Corps of Engineers EM 385-1-1 Safety and Health Requirements Manual and AACSM. The more stringent standard will be used and applied at the discretion of the PSM. In addition, contractors shall follow any additional Airports Authority requirements regarding confined space entry.

II. Procedures

1. General requirements: All confined space entries shall be initially classified as Permit-Required and shall be made safe according to the OSHA Confined Space Entry Program. Additionally, Contractors/Subcontractors shall adhere to the following Airports Authority requirements:

    a. Prior to entry of a confined space, the contractor/subcontractor shall submit a PTWP to the Airports Authority COTR for review.

    b. *All contractors/subcontractors* shall maintain a written *Confined* Space Entry Program.

    c. All entrants and attendants shall successfully complete a confined space entry-training program. In addition, Airports Authority shall be informed as to whom the contractor/subcontractor has deemed as their “Qualified Person”.

    d. ” Qualified person” means a person who is trained to recognize the hazards of the confined space and how to evaluate those anticipated hazards and shall be capable of specifying necessary control measures to assure worker safety.

    e. Once the PTWP’s are reviewed, the contractor shall then contact the Airports Authority PSM of the scheduled entry.

    f. All entrants shall wear full-body harnesses with step down device. A tripod with a retrieval line shall always be readily available and immediately accessible to the Attendant.

    g. A trained Attendant shall be stationed immediately outside every confined space while the confined space is occupied and have the means available to summon assistance.

    h. All confined spaces shall be identified with proper signage as “confined space permit required”. In addition, the General Contractor shall make sure all confined spaces are identified and marked on the contract drawings prior to construction activities on site. The controlling contractor shall be responsible for the host employer responsibilities of identifying and the marking of permit and non-permit confined spaces prior to performing construction activities on the project.

    i. The “Qualified Person” shall assure that each confined space into which an employee may be required to enter is tested immediately prior to entry. The monitoring equipment shall be capable of detecting oxygen level, potential flammable hazards and toxic material known or expected to be encountered.

    j. At all times during occupancy, the “Qualified Person” shall also perform continuous atmospheric testing. CO action level shall be set at 10 PPM on the testing device.

k. The air quality results shall be recorded on the Confined Space Entry Permit (contractor form in compliance with VOSH/OSHA), which shall be posted outside the confined space. Where the existence of an IDLH hazardous atmosphere is demonstrated by tests performed by qualified person, the Contractor/Subcontractor shall not enter or immediately exit the confined space and notify both Airports Authority PSM and Fire and Rescue. Thereupon additional steps will be required to deem the confined space safe.

l. Ensure all confined space entries are made only under the supervision of a qualified person. Each entry shall have a permit signed by the contractor's designated qualified person and be kept in visual sight at the entry points.

m. Stand by rescue operations shall be the responsibility of the contractor. Airports Authority Fire Department will not perform these services.

n. NFPA 70 E requirements shall be followed when exposed to energized parts. Contractors shall submit an arc flash analysis documentation to the COTR.

o. When building a structure inside of an excavation, if the structure meets the definition of a confined space it will fall under the confined space standard not the excavation standard.

3.4 CRANES, DERRICKS, HOISTS, ELEVATORS & CONVEYORS POLICY

I. Policy Statement

Metropolitan Washington Airports Authority (Airports Authority) will require all contractors using a crane to perform their work shall be performed in accordance with 29 CFR 1926.1400, Construction Industry Regulations, Subpart CC – Cranes and Derricks, Appendix K, 29 CFR 1926 Subpart N Helicopters, Hoists, Elevators, and Conveyors, American National Standards Institute (ANSI) guidelines, Federal Aviation Administration (FAA) regulations, US Army Corps of Engineers EM 385-1-1 Safety and Health Requirements Manual, and the AACSM. The more stringent standard will be used and applied at the discretion of the PSM, in addition to the following procedures and requirements:

II. Procedures

1. General Requirements

   a. No crane shall be placed in service on an Airports Authority project until an annual inspection has been performed. All cranes shall be certified by a master mechanic or certified manufacturer's representative. The annual inspection report shall include the deficiencies report and be submitted to the Airports Authority COTR and reviewed by the PSM prior to mobilization.

   b. Whenever a crane is assembled on Airports Authority job site, an independent third-party inspection shall be conducted and all reports to be submitted to the Airports Authority COTR indicating that the crane meets the manufacturer's inspection criteria. If the crane is moved to a different location and has to be reassembled again then a third-party inspector shall re-inspect the crane. If a crane is shock loaded, the crane shall be re-inspected.

   c. The general contractor shall be responsible for making sure that the crane pad is suitable for the loads being put upon the crane pad (e.g. Verification of any voids underneath pad, compaction testing, and a soil testing analysis by an engineering company for ground bearing capacity). When setting up adjacent to a slope a PE shall evaluate the stability of the ground taking into consideration the lateral forces applied to the slope. A slope analysis shall be conducted by a PE.

   d. Airport Operations shall be notified prior to crane operations set up on an Airports Authority job site. FAA form 7460 shall be completed online and submitted to the FAA. All crane operations shall be in compliance with FAR Part 77. Operating times and crane boom heights shall be reported to the Airport Operations Department. Airport Operations shall be notified prior to raising the boom of the crane and lowering the boom of the crane. Cranes shall be lowered at the end of each shift to prevent tipping of the crane due to unexpected winds.

   e. Checkered orange and white flag shall be attached to the top of boom (light at top of boom required at night).Airports Authority shall require all crane operators to be certified by the National Commission for the Certification of Crane Operators (NCCCO). Prior to mobilization, copies of all certifications shall be submitted to the Airports Authority COTR and reviewed by the PSM. The crane operators shall meet the certification of the crane being operated. All crane operators shall submit to a physical exam prior to beginning work on an Airports Authority project and provide documentation.

f. All riggers and signal man shall be certified by either NCCCO, Crane Tech or the Crane Institute of America. Copies of all certifications shall be submitted to Airports Authority COTR and reviewed by the PSM.

g. Critical lifts include all of the following; any lift **exceeding 75%** of the cranes rated load chart capacity, tandem lifts involving two or more cranes, loads over 100,000 lbs., any lift that will pose additional risk to personnel or public, any lift where attachment points are below center of gravity, any lift that has a load over a building structure, and lifting personnel in a work platform basket. In addition, any lift that will affect the critical path of the project deadline date will also be considered a critical lift. Contractors shall have a **master rigger** on all critical lifts. All other lifts that are not considered a critical lift shall have at least one **class 2 rigger** on site for crane rigging operations. All critical lifts plans shall have a Professional Engineer (PE) stamp on the plan with an approved signature. The PSM will determine if the lift is critical, this includes moving critical lifts. Critical lifts will only be considered as a last resort as the contractor shall exhaust all options not to perform a critical lift (e.g. use a larger crane). **A pre-planning meeting shall be held with the crane operation crew and contractor to discuss the critical lift plan that was submitted prior to the crane lift.**

h. All crane operations shall submit a crane lift plan to the Airports Authority COTR. The plan shall be reviewed and accepted by the PSM prior to any crane lift on Airports Authority construction projects. This plan shall include a narrative for the lifting operation. The weights of all lifts shall be determined and verified prior to lifting the load. Airports Authority Crane Lift plan requirements that need to be submitted to the PSM for review are as follows; Crane load capacity % calculated, annual inspection with deficiencies report, rigging plan, wind speed limits shall be determined by the surface area of load and drag coefficient, certifications of crane operator with medical exam documentation, rigger and signal man certifications, and size of dunnage used for crane pad placement and crane pad size calculations.

i. The swing radius of cranes shall be properly barricaded at all times while working on site. No contractor's employees shall be working under any crane loads at any time. Tag lines shall be attached to all crane loads.

j. Crane operations shall follow crane manufacturer recommendations regarding wind speed limits. All cranes shall have a wind speed indicator. Wind speed limits shall be determined by the surface area of load and drag coefficient. 20 MPH sustained winds are Airports Authority's maximum limit to operate a crane depending on manufacturer requirements.

k. Multi member lifting or "Christmas treeing" of crane loads is prohibited on Airports Authority construction projects.

l. Wire rope, its attachments, fittings, sheaves and safety devices shall be inspected according to the manufacturer's recommendations. Copies of the inspections shall be submitted to Airports Authority COTR.

m. Specialty slings and hooks shall not be used to set steel or move materials over workers. All hooks shall have functional safety latches installed (except shake out hooks).

n. Chains are prohibited for lifting crane loads. All synthetic slings shall have labels attached and shall be legible or will be taken out of service. Slings shall be inspected before each use. Any sling that has visible signs of wear, holes, stitching undone, redline indicators showing shall be taken out of service. Wire rope chokers shall have legible identification tags attached or shall be taken out of service. Chokers shall be inspected before each use. Any choker showing signs of excessive wear, corrosion, Kinking, Bird caging or other damage that could affect the choker's integrity shall be removed from service immediately.

o. An anti-two-block or warning device is required on all cranes.

p. Cranes, hoists, boom trucks and derricks shall not be installed or operated within 20' of overhead power lines unless they have been de-energized. Contractors shall follow VOSH Unique Standards/ Virginia Law in regards to Overhead Power Line Act requirements.

q. Outrigger crane pads shall use blocking boards. For cranes over 30 tons capacity 6-inch x 6-inch blocking boards shall be used for cribbing. There shall be no separation between the boards and shall be bolted together. For cranes under 30 tons capacity 4-inch x 4-inch boards will be used for cribbing. Blocking boards shall also be required for all equipment that has outriggers (e.g. pump trucks). Composite pads can be used if they are engineered and accepted by the PSM.

r. Outrigger Pads are mandatory irrespective of the terrain, conditions, or surfaces located beneath the pads. Ground Bearing Pressure calculations (PSF or PSI) shall be calculated to make sure the outrigger pad size is sufficient for the loads placed upon the pads. These calculations shall be verified by soil penetrometer testing or other equivocal means. The maximum pin bearing pressure as calculated through a 360-degree radius shall be utilized in determining the minimum square footage requirement in pounds. Pads shall be suitably sized to support both the crane and loading on the test soil. Soil testing is required for all crane pick locations. Crane pad size calculations shall be submitted to the COTR for the PSM to review. See example below.

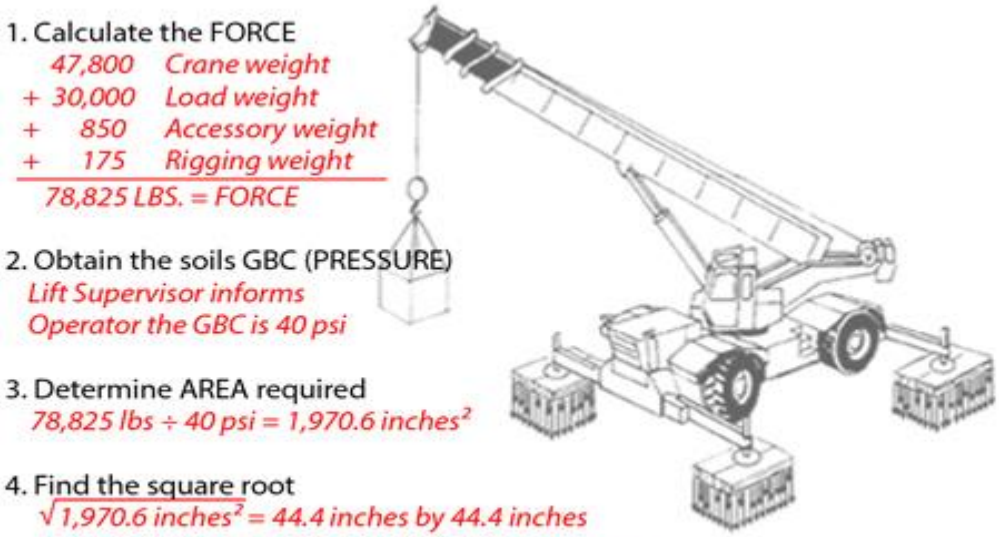
   Example of Determining Mat Size is shown using GBC in PSI or can be calculated using PSF.

   1. Calculate the FORCE exerted on the ground (i.e. crane weight and attachments, plus load weight and rigging)

   2. Obtain the Ground Bearing Capacity (GBC) permitted for the soil you are set-up on. This is the PRESSURE the soil can withstand

   3. Determine AREA by calculating FORCE ÷ PRESSURE

   4.Find the square root of the area to determine the minimum blocking dimensions



s. All outrigger cranes and other vehicles with outriggers shall be operated with outriggers fully extended and have appropriate blocking. All pick and move picks plans shall be reviewed by the PSM for acceptance. There shall be a safety fence barricade around the crane to prevent anyone from entering near the outriggers and counter weights. Danger tape and caution tape are prohibited.

t. All material and personnel hoists shall comply with ANSI guidelines as well as the manufacturer's recommendations.

u. No crane suspended personnel work platforms shall be used without the involvement and agreement of the COTR, PSM, contractor's safety representative, and general superintendent. This operation will only be considered as a last resort as the contractor shall exhaust all other alternatives.

v. All lifts shall be made in accordance with the manufacturers lifting recommendations.

w. The contractor shall use only forged North American made alloy steel shackles. Chinese made shackles are prohibited to use on Airport Authority construction projects. Below hook devices shall be designed by a qualified engineer or qualified engineering organization.

3.5 DEMOLITION POLICY

I. Policy Statement

Metropolitan Washington Airports Authority (Airports Authority) shall require contractors performing demolition operations on an Airports Authority project shall be performed in accordance with 29 CFR 1926, Construction Industry Regulations, Subpart T – Demolition, US Army Corps of Engineers EM 385-1-1 Safety and Health Requirements Manual, and the AACSM. The more stringent standard will be used and applied at the discretion of the PSM, in addition to the following procedures and requirements:

II. Procedures

1. Preparatory Operations

   a. An engineering survey shall be done by a PE. The engineering survey will determine the condition the framing, floors and walls of the structure. In addition, the survey shall identify areas subject to unplanned collapse of any portion of the structure and the existence of other potential or real demolition hazards.

   b. An environmental survey shall be conducted to assess potential hazards that might exist such as but not limited to asbestos and lead.

   c. A demolition plan shall be written by a PE and provide a wet stamped sealed plan by the PE for the safe dismantling and removal of all building components and debris.

   d. Employees that are working in demolition activities shall have knowledge and instructions of the demolition plan so that their work activities are done in a safe manner.

   e. All utilities shall be shut off, capped (with a minimum 12-inch gap for visual verification) or otherwise controlled outside the building line before demolition work is initiated.

   f. A hazard assessment shall be performed prior to the start of demolition work to identify any hazardous chemicals, gases, explosives, flammable materials or similarly dangerous substances that may have been used on the property. If any substances are found or suspected, testing and purging shall be performed and the hazard eliminated before proceeding with demolition work. Compressed gas cylinders, such as Carbon Dioxide, shall be removed from the site prior to start of Demo work.

   g. All wall openings or open holes shall be protected by a guardrail, personal fall arrest system (PFAS), safety net, or covers that are secured marked and labeled. All covers shall be substantial enough to support the weight of any load which may be imposed on the cover.

   h. Construction personnel working around mechanized equipment and equipment operators shall be **aware of their surroundings at all times**. The employee shall get the operators acknowledgment before walking behind, working in front of or behind equipment, and crossing in front of mechanized equipment. Construction personnel shall maintain a safe working distance around mechanized equipment. An identified spotter (using different color vest or hard hat) shall be required for mechanized equipment operations.

   i. Employee entrances to multi-story structures being demolished shall be completely protected by installing a canopy or sidewalk shed that extends at least eight (8') feet from the building with the walkway at least two (2') feet wider than the building entrance / exit.

j. Subcontractors performing a demolition operation are required to control any and all airborne contaminants, including nuisance dust.

k. Ladders shall be prohibited to be used during demolition operations.

l. Eyewash station requirements; shall have a 15-minute continuous flow eyewash station in close proximity (unimpeded travel of 50 feet from the caustic /corrosive material of the work).

2. Stairs, Passageways, and Ladders

a. The designated access points of the structure shall be in the demolition plan. Only designated stairways, passageways and ladders shall be used to access the structure. All other access ways of entry shall be closed at all times.

b. All stairways shall be properly illuminated.

c. All access points to a floor where demolition activities are being performed shall have a separate passageway that is properly lighted and protected.

d. All stairways, passageways and ladders shall be periodically inspected and maintained in a clean, safe condition.

e. All means of ingress/egress shall be part of the PE stamped demolition drawings and engineered to adequately protect from potential exposure.

3. Chutes

a. No material shall be dropped to any point outside the building exterior walls where the drop distance is more than 20 feet high, unless contained in a fully enclosed chute. If the drop distance is less than 20 feet high, the area landing shall be effectively protected with barricades. Warning signs shall be posted on the barricades.

b. Any chute opening where employees are dumping debris shall be protected by a guardrail system.

c. Chutes that have multiple openings, the chute doors shall be locked. Only one chute opening can be used at one time.

d. A substantial gate shall be installed in each chute at or near the discharge end. A competent person shall be assigned to control the operation of the gate and the backing and loading of trucks.

e. Chutes shall be designed and constructed of such strength as to eliminate failure due to the impact of material and debris loaded into them.

4. Removal of Walls, Masonry Sections and Chimneys

a. Masonry walls, or sections of masonry, shall not be permitted to fall onto the floors of the building in such masses as to exceed the safe carrying capacities of the floors.

b. No wall section, more than one story in height, will be permitted to stand alone without lateral bracing unless it was designed to stand alone.

c. Structural or load-supporting members of any floor will not be cut or removed until all stories above such a floor have been demolished or removed.

5. Removal of Walls, Floors, and Material with Equipment

a. Mechanical equipment shall not be used on floors unless the floors are of sufficient strength to safely support the loads imposed on the floor.

b. Curbs shall be installed to prevent equipment from running over the edge. The curbs shall be marked for easy identification.

c. Mechanical equipment will only be used for its intended purpose according to the manufacturer's recommendations.

6. Removal of Steel Construction

a. Steel construction will be dismantled column length by column length, tier by tier.

b. When floors arches have been removed, planking shall be provided for workers raising the steel framing.

c. Any structural member being dismembered shall not be over stressed.

7. Mechanical Demolition

a. All steel members shall be cut free prior to pulling over any portion of a wall. In addition, all roof cornices or stone work shall be removed prior to pulling over any wall.

b. Continual inspections shall be conducted as the work progresses to detect hazards of the building structures.

3.6 DRUG –FREE WORK ENVIRONMENT POLICY

I. Policy Statement

Metropolitan Washington Airports Authority (Airports Authority) has made a commitment to protect the public, employees and contractors to provide a safe, hazard, and drug-free work environment. Contractors shall be in accordance with Occupational Safety & Health Administration (OSHA) 29 CFR 1926.20 General Safety and Health provisions, in addition to the following procedures and requirements:

II. Procedures

1. General Requirements

   a. Under OSHA general health provisions CFR 1926.20, the contractor has a duty to provide a hazard free environment for their employees. The contractor shall have a drug and alcohol policy in place to screen workers prior to working on an Airports Authority project. The general contractor shall provide documentation to Airports Authority of their employees and subcontractors screening results prior to working on Airports Authority construction sites.

   b. The possession, use or being under the influence of drugs or alcohol while on an Airports Authority project is strictly prohibited.

   c. All employees are prohibited from engaging in the unlawful manufacture, distribution, dispensing, use, possession or sale of narcotics: opiates, hallucinogens, or any other controlled substances while on Airports Authority property. Any employee who violates this prohibition is subject to discipline, including removal.

   d. Any worker using prescription drugs which may impair their mental or motor functions, shall notify their supervisor. The controlling contractor shall be notified and take appropriate measures.

   e. Workers who have been injured on the job and prescribed medication by a health care provider shall not be permitted to work until released as fit for duty (e.g. light/modified duty restrictions physician order) by the prescribing physician.

3.7 ENERGY CONTROL POLICY

I. Policy Statement

The intent and purpose of this energy control policy is to prevent serious injury and death by limiting exposure to employees of the unexpected release of stored or residual energy. Metropolitan Washington Airports Authority (Airports Authority) shall require contractors performing electrical work or exposed to electrical circuits to be performed in accordance with 29 CFR 1926, Construction Industry Regulations, Subpart K, Section 1926.417, "Locking and Tagging of Circuits", NFPA 70E, US Army Corps of Engineers EM 385-1-1 Safety and Health Requirements Manual, and the AACSM. The more stringent standard will be used and applied at the discretion of the PSM, in addition to the following procedures and requirements:

II. Procedures

1. Guidelines and Purpose. The purpose of this requirement is to establish safe electrical clearance procedures to protect life and property while requiring opening and closing of switches and pull out breakers for electrical transmission or distribution lines. This procedure, shall be followed by all contractors, provides for the blocking, tagging, and grounding of electrical switching and controlling devices to clear lines and equipment for the safe accomplishment of work in the de-energized condition.

2. Responsibilities**.** Each airport has identified certain individuals with defined responsibilities as described below:

3. De-energizing Requestors. De-energizing requestors are responsible for the implementation of all safe clearance procedures as defined in the AACSM and the training of their representatives assigned to work at or near equipment requiring clearance procedures. The requestor's representatives shall be a "Competent Person" with the knowledge to implement these safety procedures.

4. Electrical Outage Approval Authority. The Airport Engineering and Maintenance Department Manager or designated representative, has the approval authority for all scheduled electrical outage requests which impact airport facilities and services.

5. General requirements for Lockout/Tag out Procedures are as follows: Contractors shall create an Electrical Safe Procedure, which will include their own Lockout/Tag out Procedure and submit it to the PSM through the COTR. Contractors shall use the Airport's Authority's Lockout/Tag out Procedure when indicated in the contract. Contractors shall not work on any energized circuits without an approved Electrical Safe Procedure. USE the (Airports Authority's Electrical Permit Form in Appendices of the AACSM) and submit to COTR for review and accepted by the PSM. The general procedure is as follows:

    1. After obtaining approval for an approved outage, the contractor and Authority Electrician meet at the disconnecting device;

    2. The Authority Electrician de-energizes the circuit/device on outage request;

    3. The Authority Electrician provides an Authority red "Lockout/Tagout Tag" (TAG) to the contractor;

    4. The contractor fills out the entire TAG;

    5. The contractor places the TAG on the disconnecting device;

6. The contractor checks the circuit/device for the presence of energy (electrical and otherwise);

7. The contractor locks and grounds the circuit/device being worked on (as needed);

8. The contractor removes the STUB (bottom half of the TAG) and proceeds to work on the circuit / device;

9. Once the work is complete;

10. The contractor and Authority Electrician meet at the disconnecting device;

11. The contractor states they are ready to remove their grounds;

12. Discussion between Authority Electrician and contractor agreeing to proceed with energizing the circuit/device;

13. The contractor removes the electrical grounds from circuit/device;

14. The contractor signs the STUB authorizing the circuit/device to be energized AND assuring that all personnel and grounds are clear from the system he was working on and hands it over to the Authority Electrician; If the STUB is lost, the contractor is to provide names of all employees working on the circuit/device and physical verification such employees are no longer working on the circuit/device.

15. The Authority Electrician energizes the circuit/device;

16. The Authority Electrician and the contractor ensure all equipment downstream is operating properly;

17. Based on the circumstances, the STUB should be kept on file for a period of time ranging from 1 day to 1 week, possibly more;

18. Outage terminated;

19. Contractor may leave site

III. Approval Procedure**.** The following steps are required under the Electrical Safe Clearance Procedure:

1. MWAA Form EM-27. De-energizing requestors will complete MWAA Form EM-27 entitled, *Utility Outage Request* (see Appendix D). This form will be used to identify the area(s) required to have electrical circuits and equipment de-energized, the type of work to be performed, the desired start time, and the time required for the outage.

2. Electrical Outage Approval Authority. Requestors will submit to COTR, Form EM-27 to the Electrical Outage Approval Authority and provide a copy to the COTR. De-energizing requestors will submit blocking and tagging procedure for each type of device being disconnected. Approved outage requests will be forwarded to the Electrical Safe Clearance Approval Authority for further action. Disapproved requests will be returned to de-energizing requestors with reasons for disapproval annotated.

3. Timeliness**.** All activities set forth in the procedure section shall be completed in the scheduled work period so that the initiation and maintenance of regular airport service will not be adversely impacted.

4. Locking. Locking out will be accomplished by the use of padlocks, or other approved means, which will be controlled by the person receiving the safe clearance. The de-energizing requestor

will use his lock and retain the key in his possession. Red tags will be tied to the requestor's lock by the Requestor, and the clearance stubs given to the de-energizing requestor. In addition, the requestor will attach his own tag with the name of the person working on the equipment. When possible, a visible line break shall be provided at all points of possible feed.

5. Re-energizing. The de-energizing requestor is responsible to ensure switching operations are performed in reverse order. Beginning with the last detail of switching, blocking and tagging, perform the opposite sequence of events. For example, if the detail of switching, blocking and tagging reads, "open switch no. 27 install lock and attach danger tag," then the opposite operation should be "remove danger tag, remove lock, and close switch No. 27."

   The reverse operation is to be done only after red tag stubs are matched to the upper body of the red tag by the Airports Authority's representative and both copies are signed by the requestor. The requestor will return all Danger Tags to the Safe Clearance Approval Authority.

3.8 EXCAVATION POLICY

I. Policy Statement

Metropolitan Washington Airports Authority (Airports Authority) shall require contractor's performing excavation and trenching operations to be performed in accordance with 29 CFR 1926, Construction Industry Regulations, Subpart P – Excavations, Subpart M Fall Protection, Miss Utility requirements, US Army Corps of Engineers EM 385-1-1 Safety and Health Requirements Manual, and the AACSM. The more stringent standard will be used and applied at the discretion of the PSM, in addition to the following procedures and requirements:

II. Procedures

1. Prior to excavation operations:

    a. It will be the contractor's responsibility to verify underground installations (e.g., sewer, electrical lines, water lines, fuel lines, and communication lines) prior to excavating. An excavation/trenching checklist shall be filled out (Refer to excavation checklist in appendices of the safety manual in Appendix F) along with a work plan. A pre-planning meeting shall take place with the Airports Authority prior to any excavation work. GIS plans shall be reviewed, along with any other documentation that can help assist locating utilities where excavation work will be performed.

    b. Contractors shall have a third-party locating company (subsurface utility engineering locating company) to locate utilities and mark where utilities are located. Miss Utility requires by law that contractors call for a Miss Utility ticket number even though they do not come out to locate utilities on Airport Authority property. The contractor shall submit the Miss Utility Ticket to the Airports Authority COTR/RE. The COTR will initiate the utility verification process. Once the verification process is initiated, there will be up to a 4 day/ 96-hour response time from utility owners (Airports Authority, FAA, ACS/Verizon, ASIG, Washington Gas (DCA), Park Authority (DCA), and Arlington Water (DCA) to verify utilities. The contractor shall follow Virginia Miss Utility guidelines.

    c. The "**entire"** excavating area in addition to 5 feet outside the marked perimeter/boundary of the excavation shall be swept in a grid system by the third-party utility locating company. In addition, the contractor shall also locate manholes and other identifiers that could suggest unknown utilities in the excavation area. The contractor shall be present when the locating utility lines are marked.

    d. It shall be the contractor's responsibility once the third-party locating company has marked where the utilities are located to "**visually verify**" where the utility is in the ground by hand digging, pot holing, or hydro excavating in order to locate the utility. The contractor shall use markers to identify utilities if their test pits are covered with soil or from any other reason. The contractor shall visually verify and document the depth, width (Note: duct bank shall be identified on both sides to determine width), and elevation of the utility prior to excavating. **Note: when locate markings are dissipated by environmental factors (e.g. rain, snow) or by earth moving activities, it's the responsibility of the contractor to have their third-party locating company remark the lines.**

2. Excavation Requirements

    a. The competent person shall inspect the excavation or trench prior to anyone entering the excavation. The competent person shall have thorough knowledge of soil classification and protective systems that might be used in the excavation or trench.

b. The competent person shall be at the excavation/trench site while work is being performed.

c. The competent person shall inspect the excavation/trench frequently during the course of the day while work is being performed in the excavation/trench.

d. Benching soils is prohibited. Soils at Airports Authority construction sites are classified as "C" type soils by the Airports Authority. All "C" type soils shall be sloped 1 ½ to 1 from the toe/bottom of the excavation/trench.

e. Excavations/trenches greater than **4 feet in depth** shall be protected by means of sloping soils, manufactured protective systems (trench box), or shoring.

f. Access and egress (ladder, ramp or stair) shall be installed for employees in the excavation/trench (depth of **4 feet** and above) and shall be no more than 25 feet unimpeded access and egress laterally from where the employee is working. When trench boxes are used a ladder shall be used inside the trench box.

g. If using a trench box, tabulated data shall be submitted to the Airports Authority COTR and reviewed by the PSM. The trench box data shall be stamped by a PE.

h. When using a trench box, soils shall be sloped back at the open ends, unless shields are provided. Trench box ladders shall be used on trench boxes.

i. Employees shall not work in excavations/trenches where water has entered the excavation/trench. Dewatering the excavation/trench shall be conducted.

j. Employees shall not work under any load while working in an excavation/trench.

k. AOA requirements: An open trench or excavation exceeding 3 inches deep and 3 inches wide will not be permitted within the limits of restricted areas of operational runways, taxiways, or ramps. Trench/excavation coverings shall be sufficient to support the weight of the heaviest aircraft, or vehicle on the runway, taxiway, apron, or road way. All spoil piles shall be hauled off the AOA. No more than 3-degree slope can be made on the AOA.

l. All excavations, regardless of depth, or configuration, shall be protected by a barrier 6 feet back to prevent pedestrian traffic from falling into the trench/excavation. Vertical cut trenches/excavations over 6 feet in depth shall have guardrails at each unprotected edge of the trench/excavation. The guardrails shall have mesh attached from the toe board to the top rail.

m. Where there is vehicle traffic, excavations/trenches shall be protected by means of a physical barrier. If the roadway falls within the slope requirements of an excavation, the Support of Excavation (SOE) shall be designed by a PE and wet stamped. The design shall take into consideration, the traffic loading of the roadway, and barrier/traffic loading for the protection of the workers. The physical barrier shall be pinned/anchored and follow barrier deflection requirements of the manufacturer. On the AOA, lighted curb barricades (lights continuously burning) are required. The barricade shall be secured. It's the contractor's responsibility to maintain and make sure barricade lights are working properly (e.g. brightness of the lights, checking batteries, and water filled barricades should be checked if used).

n. **Working Around Mechanized Equipment.** Construction personnel working around mechanized equipment and equipment operators shall be **aware of their surroundings at all times**. The employee shall get the operators acknowledgment before walking behind, working in front of or behind equipment as well as crossing in front of mechanized equipment. Construction personnel shall maintain a safe working distance around mechanized equipment. A spotter is required. Spotters shall be identified by a different colored hardhat.

o. Temporary and permanent spoils shall be kept back no less than two feet from the edge of an excavation. Angle of the spoil pile shall be no greater than the angle of the soil classification.

p. If using a trench box, shall always at be 18 inches above grade at support. The bottom of the trench box cannot exceed 2 feet from the bottom of the trench. Employees shall not be in the trench box when being moved vertically or horizontally.

q. A registered professional engineer shall design sloping or benching systems for excavations greater than 20 feet in depth.

r. Sheer walls shall be sloped when using a trench box with open ends. The contractor shall follow support of excavation requirements.

s. Any pipes or utilities running through an excavation/trench shall be supported. PE stamp designed drawings is required for supporting critical utilities that could impact airport operations.

t. Equipment operating next to an excavation shall be a minimum 2 feet away from the unprotected edge of the trench/excavation.

u. When building a structure inside an excavation and the structure meets the definition of a confined space, the contractor shall follow the confined space standard not the excavation standard.

3. Training Requirements

a. Each employee working in excavation/trenches shall be trained in the excavation trenching procedures and hazard identification.

b. Each employee working around mechanized equipment shall be trained to maintain safe working distances when working around mechanized equipment

c. Employees shall be trained in all sloping, benching, and shoring procedures prior to entering the excavation or trench.

d. Atmospheric monitoring shall be documented and conducted by someone trained in the use of atmospheric monitoring equipment. Monitoring equipment shall be calibrated and follow manufacturer requirements.

e. Excavation testing requirements **(trench/excavation depth of 4 feet or greater**) shall be continuously monitored by atmospheric monitoring equipment. CO action level shall be set at 10 PPM on the testing device.

3.9 FALL PROTECTION POLICY

I. Policy Statement

Metropolitan Washington Airports Authority (Airports Authority) Fall Protection Policy requires 100% fall protection when employees are exposed to a fall hazard six (6) feet or greater. There will be a zero tolerance for not being 100 % tied off over 6 feet. Contractors working on an Airports Authority project installing and using fall protection systems shall be in compliance with 29 CFR 1926, Construction Industry Regulations, Subpart M - Fall Protection, US Army Corps of Engineers EM 385-1-1 Safety and Health Requirements Manual, and the AACSM. The more stringent standard will be used and applied at the discretion of the PSM, in addition to the following procedures and requirements:

II. Procedures

1. General Fall Prevention Requirements:

    a. Each contractor, with employees exposed to a fall greater than six (6) feet, shall submit their fall prevention plans to the Airports Authority COTR and reviewed by the PSM prior to beginning work on site.

    b. Fall protection systems that are acceptable systems to use on Airports Authority construction sites are as follows; guardrail systems, safety net systems, fall restraint devices, and personal fall arrest systems.

    c. At no time shall a safety monitoring system, warning line system, and controlled access zone be used as a means of fall protection. These systems shall be prohibited from use on Airports Authority projects.

    d. Fall protection systems shall be inspected daily as required by the manufacturer and prior to use by the individual. The Contractor safety professionals shall ensure compliance of these inspections.

    e. A Personal Fall Arrest System (PFAS) shall be comprised of a full body harness with seat and leg straps, harness self-rescue attachment (relief step down device), retractable lanyard with double locking snap hook. If moving from one place to another a double retractable shall be required to maintain 100 % tie off requirements.

    f. All fall protection systems shall not be over 5 years (depending on manufacturer) of the manufacturers issue date or service date by the contractor (documentation required).

    g. All labels/tags on fall protection equipment shall be legible. If the labels/tags are not legible they will be prohibited to use on an Airports Authority construction project.

    h. Shock absorbing lanyards with fall protection harnesses can only be used above 18 1/2 feet depending on the manufacturer of the system. Shock absorber lanyards systems are not designed to be used less than 18 1/2 feet above ground levels. In addition, shock absorbing lanyards cannot be used in aerial lifts or scissor lifts.

    i. Horizontal Life line systems shall be an engineered system or designed by a licensed Professional Engineer (PE).

    j. Vertical Lifeline systems shall have a grommet end with a double locking safety clip. All life lines will be attached to a D ring or designed fall protection device anchorage point that will

be able to hold 5000 pounds. Knots are prohibited in lifeline systems (hold me termination bars are acceptable tie off connection points). All vertical lifelines shall be touching the ground when using the system. Vertical Lifeline systems shall be protected from abrasion by using a secured protective sleeve or softener. Barricades shall be used below as well as signage posted stating “workers working above”.

k. All vertical self-repelling devices shall have a separate vertical life line (this includes tree work). Lines shall be protected from abrasion. All tools shall be tethered from falling below to lower working surfaces. Barricade shall be installed below workers above with appropriate signage “Workers working above”.

l. Wire cable guardrails shall be designed by a PE if the contractor plans to use the system for fall protection attachment points.

m. Employees shall be protected from falling objects by the installation of toe boards, barricades, mesh or canopy structure.

n. Stilts are permitted to be used on Airport Authority construction projects; however, a safety plan shall be submitted to COTR, and reviewed by the PSM to include but not limited to a fall protection plan, housekeeping preparations, stilt inspection, and coordination with other trades. Those who are in violation of not following the safety plan submitted to the Airports Authority will be prohibited from using stilts for future work.

o. All life lines/ fall protection devices will be attached to a D ring or designed fall protection device anchorage point that will be able to hold 5000 pounds. Rigging devices are not acceptable for fall protection anchorage points.

p. Fall protection systems shall not be attached to mobile equipment. Fall protection systems can only be attached to engineered anchorage systems.

2. Floor and Wall Openings

a. All employees shall be protected from falling or walking through holes or openings by the use of guardrail systems, covers, and or PFAS.

b. A hole that is 2 inches or more shall be covered, marked with “hole” written on the cover and secured from displacement. The cover shall be color coded to be easily identified. Holes in the ground (e.g. manholes, handholds, pile holes, caisson openings, floor openings) shall be protected by guardrails and covers shall be made prior to opening or making a hole.

c. An opening 30 inches or higher and 18 inches wider where an employee could fall through the opening shall be protected by a guardrail system, safety net system, and or PFAS.

d. Coverings for floor and roof openings shall be of sufficient strength to support twice the intended load that may be imposed and shall be secured in place to prevent accidental removal or displacement. Covers shall support without failure at least twice the weight of employees, equipment, and materials that may be imposed on the cover at any one time. Covers shall be marked “Hole”.

e. Conduits, trenches, and manhole covers and their supports, when exposed to aircraft, vehicles, or equipment, shall be designed by a PE.

f. Standard guardrails shall consist of top rail that is at a 42-inch height plus or minus 3 inches, mid-rails at 21 inches or half the top rail height and toe boards at 31/2 inches high at a minimum above walking /working level.

g. Every hatchway and chute floor opening shall be guarded by a hinged floor-opening cover. The opening shall be barricaded with railings so as to leave only one exposed side. The exposed side shall be provided either with a swinging gate or so offset that a person cannot walk into the opening.

h. An extension platform outside a wall opening onto which materials can be hoisted for handling shall have a standard railing that meets handrail standards. However, one side of an extension platform may have removable railings to facilitate handling materials. The employee shall wear a PFAS when removing the guardrail when on the platform. The contractor shall install a double guardrail corral system at these openings.

3. Fall Prevention Systems

a. Guardrail Systems

1. Standard guardrails shall consist of top rail that is at a 42-inch height plus or minus 3 inches, mid-rails at 21 inches or half the top rail height and toe boards at 3 1/2 inches high at a minimum above walking /working levels.

2. The top rail of the guardrail system shall be able to withstand a force of 200 pounds applied within two inches of the top edge, in any outward or downward direction without failure.

3. Mid-rail shall be capable of withstanding, without failure, a force of at least 150 pounds applied in any downward or outward direction.

4. Toe boards shall be capable of with stand, without failure, a force of at least 50 pounds applied in any downward or outward direction. There shall be no opening between toe boards.

5. Mesh fence shall be used from the bottom of the toe board to the top of the top guardrail.

6. Wood Guardrails, the post shall be at a minimum of 2” x 4” stock and spaced eight feet on center. Top and mid-rails rails shall be 2” x 4” inch stock. Toe boards shall be 1” x 4” inch stock.

7. Structural steel railing post shall be 2x2 x 3/8” angles, with post spaced 8 feet on center. Steel posts used for safety rails post shall be at a height greater than 42 inches but not over 45 inches to accommodate the slab thickness of the floor.

8. Wire Perimeter cable used as guardrails may be 1/2-inch wire rope, but in no situation may they be less than 3/8-inch steel cable. Closed 18-inch turnbuckles are to be used every 100 feet with no more than 3 inches of deflection in the cable guardrail line.

9. The cable shall be flagged at 6’ foot intervals with high visible material (reflective yellow rope 8 inches long preferred tape is prohibited) and shall be looped and terminated with three “Crosby clips” on each end.

10. Saddle clips/J clips shall have clips section on the dead or short end of the rope and the saddle part of the clip on the live or long end of the rope. All clips shall be separated by 6 times the wire rope diameter and in the same orientation.

11. A Personal Fall Arrest System (PFAS) shall not be attached to a guardrail system unless the system is designed to accommodate the PFAS. A designed registered PE approved plan shall be in place in order to use PFAS application.

12. The contractor installing the perimeter cable guardrail system shall submit a design with details on how the system will be installed and maintained.

13. Double headed nails are prohibited on guardrail systems.

14. Wood guardrails shall be continuous from post to post with no splices in the guardrail system.

b) Safety Net Systems

1. Safety net systems shall be installed as close as possible below the working deck, not to exceed a distance of 25'.

2. Safety net systems shall be inspected at least once a week

3. Safety net systems shall be drop tested after initial installation and before being used as a fall protection system.

4. Additional drop tests are required after any repair, whenever the nets are relocated and at 6-month intervals, if the nets are left in place.

c) Personal Fall Arrest Systems

1. A PFAS shall be used when exposed to a fall hazard of 6 feet or greater. The PFAS shall consist of a full body harness with seat and leg straps, a self-retracting lifeline, double locking snap hook.

2. Decelerating devices and lanyards shall not be used with self- retracting lifelines or tied back to itself. Daisy chaining lanyards and retractable lifeline systems is strictly prohibited.

3. Two retractable lanyards (manufactured designed system on same D ring) will be required when disconnecting and reconnecting to a different location at an elevation greater than 6 feet. At least one lanyard shall be attached to an anchorage point at all times to be in compliance with the Airports Authority's fall protection policy.

4. A competent person shall assure that fall distance calculations have been evaluated in each circumstance where a PFAS is being used. Shock absorbing lanyard systems with a harness requires at least 18 1/2 feet clearance to use this type of fall protection system, depending on the manufactures recommendations. Therefore, retractable lanyard systems shall be used for heights 18 1/2 feet or below. If the employee is over 310 pounds, modification of the system may be warranted.

5. A PFAS shall be rigged so that the employee cannot freefall more than 6 feet nor contact a lower level or obstruction. Retractable lanyard systems shall be attached above the employee or directly behind the employee opposite of the fall hazard.

Retractable lanyard systems shall not be attached to an anchor that is parallel with fall hazard as this could cause swing fall effect and cause the employee to hit the lower level.

6. A PFAS is not required when climbing up or down a ladder under 24 feet. Over 24 feet a PFAS is required. However, if employees are working from a ladder under 24 feet, a competent person shall determine if positive fall protection is feasible. If the employee is working on the ladder and going beyond the ladder side rails and is not maintaining three points of contact with the ladder, fall protection shall be used.

7. Retractable lanyards shall incorporate either a 3/16inch steel wire cable or a nylon strap with a minimum width of 1 inch.

8. All anchorage points shall be capable of supporting a load of no less than 5000 pounds and shall be a designed fall protection system. Rigging devices shall not be used for fall protection anchorage points. Mobile equipment is prohibited to use as an anchorage point.

9. Steel erectors and metal decking installers shall utilize 100% fall prevention devices at all times when working over 6 feet.

10. Masons who are overhand brick or block laying shall maintain a 42 inch plus or minus 3 inches wall in front of them at all times or use vertical lifelines or other fall protection devices to be in compliance with Airports Authority's fall protection policy. When erecting and dismantling scaffolding, employees shall be 100% tied off. The contractor shall check manufacture guidelines if fall protection can be attached to the scaffold system or use some other means to comply with Airports Authority's fall protection policy.

11. Horizontal lifelines shall be designed by a PE and installed under the supervision of a qualified person. A safety factor of two shall be maintained. A designed engineered system can also be used for horizontal lifeline systems (Note: retractable lanyards shall not be used on horizontal life lines).

12. Vertical lifeline systems shall have a minimum breaking strength of 5000 pounds. Employees shall use independent life lines and shall be anchored independently from other vertical lifelines. Exception is made when constructing elevator shafts, two employees may be attached to one lifeline providing that they are both working on a false car. The breaking strength of the vertical lifeline shall be 10,000 pounds.

13. Adequate fall prevention devices shall be used at all loading platforms prior to removing existing perimeter protection.

14. A rescue plan shall be submitted to Airports Authority COTR and reviewed by the PSM prior to using fall protection systems.

4. Training Requirements

a. Each employee exposed to a fall hazard shall be trained by a competent person. Proof of fall protection training shall be made available to the Airports Authority upon request.

b. Specific training includes, but is not limited to the following:

1. The type of fall exposures expected.
2. How to use the fall protection system correctly.

3. How to wear the PFAS correctly.
4. Identify the hazards of the use of the system selected.

3.10 FIRE PROTECTION and PREVENTION POLICY

I. Policy Statement

Contractors shall be responsible for compliance with all fire prevention and safety requirements established in the Virginia Statewide Fire Prevention Code (VSFPC) and other applicable regulatory requirements. Metropolitan Washington Airports Authority (Airports Authority) shall require all contractors to be in compliance with 29 CFR 1926, Construction Industry Regulations, Subpart F – Fire Protection and Prevention, NFPA standards, US Army Corps of Engineers EM 385-1-1 Safety and Health Requirements Manual, and the AACSM. The more stringent standard will be used and applied at the discretion of the PSM and Airports Authority Fire Marshal, in addition to the following procedures and requirements:

II. Procedures

1. General Requirements

    a. The contractor shall establish a Fire Prevention/Safety Plan referencing OSHA, VOSH, The Virginia Statewide Fire Prevention Code, and NFPA Standards. The Contractor shall meet with the Airports Authority Fire Marshal to determine what needs to be included in the plan.

    b. The contractor's Fire Prevention/Safety Plan shall be submitted to the COTR for the Airports Authority Fire Marshal's approval. The Fire Prevention/Safety Plan shall be updated as job conditions change.

    c. All fires regardless of size shall be reported to the Airports Authority Fire Department and Fire Marshal's office for investigation. All fires shall be reported via 911 - ask for Airport fire dispatcher.

    d. Fire Hydrants taken out of service shall be bagged until active. Contractors shall only use green painted fire hydrants. Fire hydrants shall be protected by the contractor. Contractors shall maintain access to fire hydrants at all times.

    e. Safety Data Sheets: Safety Data Sheets for all hazardous materials on the jobsite shall be submitted to the Fire Code Enforcement Division prior to the start of construction. All chemical storage devices shall also have the SDS posted on the storage device for all chemical stored within.

    f. Gas cans; An approved container is one which is constructed of metal, has a spring-loaded top that allows venting of fumes and contains a flash arresting screen and spout cover. Plastic fuel cans are not allowed on the project. UL approved Metal Safety Cans shall be used to store combustible and flammable liquids.

    g. Fuel trucks: shall follow the Airports Authority Fire Department O&I procedures and requirements.

    h. Tarpaulins and similar sheet materials used to cover stored materials or as a temporary wall enclosure shall be constructed of fire-resistant material. Tarpaulins and similar sheets are to be securely fastened against displacement by wind.

    i. On-site fuel tanks shall be double walled, protected from construction vehicle traffic and have a built-in spill containment system capable of holding all contents of the tank in the event of a leak.

j. A spill kit 55 gallon shall be required (unless determined by the PSM that a smaller spill kit can be used on the project) to be provided by each subcontractor that is using and / or storing flammable / combustible fuels, chemicals, and / or oils on-site.

k. Pressurized gas cylinders, including 'B' tanks, shall NOT to be stored inside of gang boxes, sea containers, shanties, etc. Tanks shall be stored in storage cages at least 30 feet from any building structure.

l. Contractor personnel shall not use portable electronic devices around flammable liquids on construction sites where static charge could cause ignition.

2. Permits: Contractors shall be required to obtain a permit from the Fire Code Enforcement Division for the following (this list is not all inclusive):

a. Welding/Cutting/Hot Work

b. Hazardous Materials Storage, Use, Handling (including flammable/combustible liquids, compressed gases)

c. Organic Coating Application

d. Explosives/Blasting

e. Portable Tank Installation and above storage tanks

f. Temporary Heating Device Use Permits can be obtained at www.mwaa.com/firecode. Submit heating plan to the Fire Marshal for review. ****** Temporary Heating Permits will not be issued until a Temporary Heating Plan has been submitted and approved by the Airports Authority building officials. ******

3. Fuel Line Hot work:

Possible Scenarios. The following are possible scenarios for welding on fuel lines at the airports.

a. Welding with fuel in the line

b. Welding with no fuel in line and a line that has been purged.

c. Welding on a new fuel line

Notification: The contractor shall notify the Airports Authority's Fire & Rescue Department (FRD) of any welding on any fuel line and:
Should the contractor weld on a fuel line containing fuel, the contractor shall be required to use a foam unit for standby. It's the responsibility of the contractor to provide these services as MWAA FD will not provide these services.

d. Should the contractor weld on a fuel line that does not contain fuel and has been purged, the COTR shall ensure a courtesy phone call is made to the Airports Authority Public Safety Communications Center at the beginning and end of the welding operation.

e. In all cases, the contractor shall contact the Airports Authority Fire Code Enforcement Division for the applicable permits in the prescribed timetables.

4. Temporary Heating

a. All temporary building heating requires a permit to be obtained from the Airports Authority Fire Department and all specifications adhered to. In addition, ****** Temporary Heating Permits will not be issued until a Temporary Heating Plan has been submitted and approved by the Airports Authority building officials. ******

b. All heating equipment is required to be wired, piped, and operated in accordance with all applicable Codes and Regulations.

c. Open fires are **not** permitted. Employees failing to comply with this policy **shall** be subject to **immediate dismissal from the project**.

d. All wood, tarps and blankets used for temporary heating are required to be made of fire-retardant materials.

e. Solid fuel salamanders are **NOT** permitted.

3.11 HAND & POWER TOOL POLICY

I. Policy Statement

Metropolitan Washington Airports Authority (Airports Authority) shall require contractors using hand and power tools to be in compliance with 29 CFR 1926, Construction Industry Regulations, Subpart I – Hand and Power tools, Manufacturer requirements, American National Standards Institute (ANSI) standards, US Army Corps of Engineers EM 385-1-1 Safety and Health Requirements Manual, and the AACSM. The more stringent standard will be used and applied at the discretion of the PSM, in addition to the following procedures and requirements:

II. Procedures

1. General Requirements

    a. Hand and power tools shall be used as its intended purpose, inspected and maintained according to the manufacturer's instructions and recommendations.

    b. Hand and power tools shall be inspected before use to ensure the tool is in safe operating condition. Safety devices that came with the tool shall not be removed.

    c. Hand and power tools shall not be modified in any way unless approved by the manufacturer.

    d. Power tools that are designed to have a guard shall have the guard in place before use.

    e. Power tools that are designed to have handles attached to them shall be used when performing work with the tool.

    f. When work is being performed over head above a lower level, tools shall be tethered or secured in holders.

    g. Power tools shall not be lowered to a lower level by its power cord or dropped to a lower level to another person.

    h. Power tools that create sparks (e.g. grinder) shall be used in locations where there are no flammable or combustible materials in the work area. A hot work burn permit shall be required.

    i. All cutting activities with hand and power tools shall be done on a supported surface. Cutting free hand shall be prohibited.

    j. All power tools shall have a "dead man" switch that automatically shuts off power whenever the hands of the operator are removed from the tool.

    k. No cartridge style nail guns, nor any tool that uses a cartridge or any explosive charge, shall be permitted in public areas, unless authorized by Airport Operations / Security.

    l. When using hand and power tools, the user shall use the appropriate PPE referenced by the manufacturer and follow the AACSM Chapter 3.16 requirements.

2. Hand Tools

    a. Cheater bar extensions are prohibited on any hand tool unless manufactured for the tool.

b. When working with hand tools such as knives, workers shall cut away from the body to prevent lacerations. All knife sharp tools (e.g. utility knife shall be self-retracting) shall be retracted when not in use and placed in a holder. All knives and sharp tools shall be placed in a holder not in the workers pocket.

c. Wooden handle of tools shall be kept free of splinters or cracks and shall be kept tight in the tool.

d. Impact tools such as chisels, wedges and drift pins shall be kept free of mushroomed heads.

e. A wrench, including adjustable, pipe, end, and socket wrenches shall not be used when jaws are sprung to the point slippage occurs. When working with these hand tools employees shall push away from the body and not toward the body to prevent injury.

3. Pneumatic Power Tools

a. Pneumatic power tools shall be attached to the air hose and shall be secured with a "whip-check" or similar device to prevent the tool from accidentally disconnecting.

b. All air hoses, with an inside diameter exceeding 1/2 inch, shall have a flow reduction safety device (OSHA Valve) at the source of supply or branch line to reduce pressure in case of hose failure.

c. Compressed air shall not be used for cleaning purposes or use to clean yourself or other activities unless the pressure is reduced to less than 30 p.s.i. and appropriate guarding and PPE are in place (e.g. chip guard, nozzle reducing pressure, face shield, safety goggles).

4. Fuel Powered Tools

a. Fuel powered tools shall be turned off while being refueled, serviced or maintained.

b. Fuel powered tools shall not be used in enclosed spaces unless proper PPE is worn and air is monitored for toxic fumes. In addition, fuel powered tools shall not be used near any intake ventilation system.

c. Fuel power tools shall not be used on suspended scaffolds.

d. Gas portable generators shall be grounded according to manufactures recommendations.

e. Gas powered equipment shall have a fire extinguisher nearby.

5. Powder-Actuated Tools

a. Shall notify Air Operations Department before using powder-actuated tools.

b. Employees shall be trained in the particular tool being used before using the powder-actuated tool.

c. Face shield, safety goggles and hearing protection shall be worn when operating a powder-actuated tool.

d. The powder-actuated tool shall be tested each day, according to manufacturer's recommendations, before loading to see that safety devices are in proper working condition.

e. Powder-actuated tools shall not be loaded until just prior to the intended firing time. Powder-actuated tools shall never be pointed at anyone regardless if unloaded or not.

f. Loaded powder-actuated tools shall not be left unattended. Powder-actuated tools in public areas could be a security hazard and shall be closely guarded or locked-up if not in use.

g. Powder-actuated tools shall not be used in an explosive or flammable atmosphere.

h. All powder-actuated tools shall be used with the correct shield, guard or attachment recommended by the manufacturer.

i. Powder-actuated tools used by employees shall meet all other applicable requirements of American National Standards Institute A10.3-1970, Safety Requirements of Explosive-Actuated Fastening Tools.

j. Only **LOW VELOCITY POWDER ACTUATED FASTENING TOOLS** shall be used. Lead free shots are required.

6. Abrasive Wheels and Tools

a. The RPM rating on all grinding machine motors shall not exceed the speed rating of the grinding wheel attachment (Applies to all blade attachment on all tools).

b. All abrasive wheels shall be closely inspected and ring tested before mounting to ensure they are free from cracks or defects.

c. All abrasive wheels and tools used by employees shall meet other applicable requirements of American National Standards Institute, B7.1-1970, and Safety Code for the Use, Care, and protection of Abrasive Wheels.

7. Woodworking Tools

a. All fixed, power driven woodworking tools shall be equipped with a disconnect switch that can be locked out in the off position.

b. All portable, power driven circular saws shall be equipped with guards above and below the base plate or shoe.

c. When the tool is withdrawn from the wood, the lower guard shall automatically and instantly return to the covering position.

d. Reciprocating saws shall be used with two hands. The material shall be secured before cutting.

e. All saws that have mounting holes on the tool shall be secured to the support structure.

f. Chain saws shall have an anti-kick guard on the chain saw.

3.12 HIGHWAY WORK ZONE SAFETY POLICY

I. Policy Statement

The objective of this policy is to provide coordinated work zone safety systems for the Airports Authority, contractor employees, and the traveling public by facilitating construction, maintenance, and related activities on the highway transportation system without injury or fatality. Work zone safety planning and procedures apply to all Airports Authority and contractor workers on Airports Authority projects working in roadway work zones.

II. Procedures

1. General Requirements.

A worker working along the highway in performing construction or maintenance activities is one of the most hazardous work environments in the Airports Authority outside of the airport environment. Work zones are established for the safety of workers and the traveling public whether they are pedestrian or a driver. The risk to workers of being struck by a vehicle traveling through the work zone increases as traffic gets more congested and the traveling public become more impatient with traffic conditions. To deal with this increase risk, improved planning and better protection measures for the workers are needed.

Work zone safety should be continually emphasized during the year. Additional emphasis activities should be conducted during the months of April through November, when the greatest exposure occurs due to the increase in construction and maintenance activities, and changes in daylight saving times. Supervisors should continually stress work zone safety awareness to all highway construction and maintenance workers.

Work zone traffic control allows vehicles and pedestrians to move safely and easily through and around the work areas. Effective traffic control enhances traffic safety and efficiency and protects workers working in the work zone. Different criteria will apply to the design, planning, setup, and maintenance of the necessary traffic control measures for each type of work zone.

Prior to performing construction, maintenance, or other work activities along the Dulles Toll Road (DTR), Dulles International Airport Access Highway (DIAAH) and/or other connecting arterial roadways supporting vehicle conveyance at DCA or IAD a Traffic Control Plan shall be developed in accordance with the most current versions of the following guidelines, manuals, regulations, and standards listed below:

A. FHWA *Manual on Uniform Traffic Control Devices* (MUTCD) is referenced as the legal standard for traffic control.

B. VDOT *Virginia Work Area Protection Manual* and the *Work Zone Safety Pocket Guide* provide work zone traffic control information for proving a safer work zone for workers and the traveling public.

C. VDOT *Work Zone Safety Guidelines for Temporary Traffic Control* provides basic guidelines for work zone traffic control with emphasis on short term work sites on roads and highways.

D. VDOT *Work Zone Traffic Control Training Procedures* establishes the training requirements for personnel involved in the planning, designing, supervising, implementation, inspection and maintenance of work zone traffic control.

A Traffic Control Plan (TCP) shall be developed prior to the start of work activities and approved by the Engineering Division of DCA, IAD, or by the Manager of Operations and Maintenance for the DTR. Pre-job planning and site visits shall be conducted no less than 7 days in advance of work activities to identify the work location, posted speed limit, traffic volume and pattern, the type of work to be performed, identify hazards and exposures to mitigate potential impacts to workers, travelers, and public throughout the duration of work. The contractor safety manager shall notify PSM and RCPD daily at the beginning and at the end of each work shift. The CSE/CSM shall notify the PSM, RCPD, and DTR Operations by identifying work location by mile marker and work activities that will be performed on the shift. The CSE/CSM shall notify DTR Operations as well. The contractor will follow DTR administration policies and procedures.

Safety inspections shall be performed by an experienced (Minimum 1 year) Certified VDOT Intermediate Trained Supervisor and on large projects the contractor shall have at least one supervisor certified VDOT Advanced traffic control training and shall conduct the following:

1. At the initial Work Zone set up; an initial drive through shall be conducted when the MOT is set up. Video surveillance shall be required at beginning of the shift, and periodically throughout the shift. When there is an accident, video surveillance shall be conducted. Video shall be submitted to the Airports Authority at the request of the COTR and PSM.

2. Inspect daily prior to commencement of work activities;

3. Inspect when there is any changes of the Work Zone configuration;

4. Inspect periodically (as often as necessary to maintain compliance with safe zone practices).

Safety Inspections shall focus on the effectiveness of the TCP, traffic control devices and equipment, worker PPE, and equipment safety devices and procedures such as: back-up alarms and signaling spotters.

Police shall be present on highway projects at night to slow down traffic at the MOT. It's the controlling contractor's responsibility to set up police enforcement at the MOT. The cost of police enforcement at the MOT will be at the contractor's expense.

Working Around Mechanized Equipment. Construction personnel working around mechanized equipment and equipment operators shall be **aware of their surroundings at all times**. The employee shall get the operator's acknowledgment before walking behind, working in front of or behind equipment as well as crossing in front of mechanized equipment. Construction personnel shall maintain a safe working distance around mechanized equipment. A spotter shall be required for mechanized equipment operations. Spotters shall have a different color hat to identify the spotter.

Contractor personnel shall follow work zone vehicle speed limits at all times.

2. Flagging. When operations are such that signs, signals, and barricades do not provide the necessary protection on or adjacent to highways or streets and direct control of vehicles in a work zone is required to provide direction to stop or proceed in a designated path; flaggers or other appropriate traffic controls shall be provided. Flaggers are to be used only when other reasonable means of control will not adequately control traffic in the work zone. **Flagging is a very important position, when selecting flagger personnel, it should be a person that is competent, responsible, and is able to make safety decisions**. All personnel performing flagging duties shall

have in their possession a valid Virginia Flagger Certification Card. The card shall verify completion of the traffic control flagger training and be carried on the worker. The card shall be renewed every two years.

When flaggers are used, a method to ensure that flaggers have adequate warning of objects approaching from behind them shall be used. Flaggers should not be assigned other duties while flagging. Flaggers shall not use personal cell phones, pagers, or radio headsets that could distract their vision, hearing, or attention while flagging. Two-way radios used for communications between flaggers to direct traffic or ensure flagger safety are acceptable. Flaggers shall wear safety toed boots.

Flagger workstations **shall** be illuminated at night to increase their visibility to the public and other work zone vehicles and equipment. Flagger shall wear Class E reflective pants at all times.

3. Setting Traffic Control. Riding on the tailgate of a pick-up for any purpose is prohibited. Back-mounted cone cages (pickups and one-ton trucks) will be the accepted standard method allowed for use when setting cones and signs at work sites on all highways**. It is strictly prohibited for employees to cross any highway when setting up traffic control**. Truck-mounted front platform and single purpose signing vehicles such as a road warrior are also acceptable standard methods for setting cones.

   Platforms shall meet safety requirements involving load carrying capacity; and shall have a standard top, mid-rail, and toe board. While the cage is occupied and the vehicle is moving, the person occupying the cage shall have the closest end rail (bar or chain) closed. Workers standing on moving equipment with no top, mid-rail, toe board or safety chain shall wear a lanyard to keep from being ejected or falling from the vehicle.

   Employees shall not be in the truck-mounted attenuator or in the buffer zone when traffic control is set up.

   Road plates shall be secured from displacement and marked with iridescent white reflective tape on each corner of the plate (follow VDOT requirements).

4. High-Visibility Clothing. High-visibility clothing is required on all Airports Authority construction projects and roadway maintenance operations. All high-visibility clothing shall meet the latest ANSI/ISEA 107 standards and be worn as outermost garment.

   a. ANSI Class 3 high-visibility clothing is required on all Airports Authority construction projects and roadway maintenance operations and shall comply with current Virginia Department of Transportation (VDOT) policies and procedures.

   b. Care should be taken to ensure high-visibility garments are in contrast with traffic devices and equipment. The Appointing Work Zone Specialist and/or Safety Manager shall have final approval authority over the “High-Visibility” T-shirt itself and its use by Airports Authority employees. Workers on foot in areas exposed to aircraft or vehicular traffic shall wear the following:

      1. Daytime Operations: Flagmen shall wear an ANSI Class 3 high-visibility vest or jacket. A hardhat marked with at least twelve (12) square inches of retro-reflective material applied to provide 360 degrees of visibility shall also be worn.

      2. Nighttime, Inclement Weather, and Limited Visibility and other low-visibility conditions all employees shall wear ANSI Class 3 ensemble, consisting of an ANSI Class 3 upper garment and an ANSI Class E lower garment. A hardhat marked with at least twelve (12) square inches of retro-reflective material applied to provide 360 degrees of

visibility shall also be worn. Lighted batons shall be used all flagging and spotters at night.

3. During nighttime operations non-flagmen workers shall wear an ANSI Class 3 garment and ANSI Class E pants. When rain gear is worn it shall be ANSI Class 3 or have required high-visibility garment worn as outermost layer.

c. Garment Maintenance: Retro-reflective vest, hardhats, rain gear, and other high-visibility apparel shall be maintained in a neat, clean, and presentable condition. High-visibility garments shall be replaced periodically because of increased fading of the high-visibility colors. The Work Zone Specialist or Safety Manager has final authority for replacement of high-visibility garments.

d. Hard Hat Usage: Flaggers are required to wear a high-visibility hard hat that is iridescent or marked with 3 square inches of reflective material on each of the four sides of the hard hat. Bump caps and/or soft caps are strictly prohibited on construction and maintenance work sites.

3.13 HOT WORK POLICY

I. Policy Statement

Metropolitan Washington Airports Authority (Airports Authority) requires all hot work activities which includes but not limited to welding, burning, cutting, braising, open flame, or any other spark producing work shall be performed in accordance with 29 CFR 1926, Construction Industry Regulations, Subpart J – Welding and Cutting, Virginia Statewide (BOCA) Fire Prevention Code, NFPA 51B standards, US Army Corps of Engineers EM 385-1-1 Safety and Health Requirements Manual, and the AACSM. The more stringent standard will be used and applied at the discretion of the PSM, in addition to the following procedures and requirements:

II. Procedures

1. **General Requirements**: No one shall perform welding, cutting or other open flame work without first obtaining a permit from the Office of Public Safety, Fire Prevention Section. The Permit shall specify the area in which the cutting, welding or other open flame work will take place. Fire Prevention Section personnel will inspect the area in which the cutting, welding or other open flame work is to take place before issuing a permit and shall establish fire safety requirements if needed.

    a. An approved Welding/Cutting Hot Work Permit shall be posted where any welding/cutting or hot work operation is conducted and shall be immediately available to the Airports Authority Fire Code Enforcement Division if requested. Welding or cutting operations shall be performed by, and under the supervision of, individuals capable of performing such operations safely and in accordance with applicable regulatory requirements. Welding or cutting operations shall only be conducted in areas approved for that purpose by the Fire Code Enforcement Division.

    b. A Fire watch is required during operations and for **30 minutes after completion of welding/cutting unless otherwise specified by the fire marshal** or other hot work operations. A trained fire watch shall be in attendance to watch for fires, operate portable fire extinguishers or fire hose when necessary and perform similar fire prevention duties. In some cases, additional fire watch may be required in other areas around or below the immediate work area. The person assigned as fire watch shall be capable of immediately reporting an emergency, via telephone or radio, to the Airports Authority Fire/Rescue Department Emergency Communication Center (Public Safety Communications Center 703-572-2400, 703-417-2400, or 911 ask for Airport Dispatch). At least one (2)A:(20) B:C rated fire extinguisher is required where work is being performed. A fire extinguisher shall be within 30 feet of the hot work. The Fire Watch shall be identified by mutually agreed method. The fire watch shall perform no other duties but fire watch.

    c. No combustible materials shall be within **35 feet** of welding operations without approved shields/covers. Floors, ceilings, and wall openings shall be protected by non-combustible shields or covers. A fire extinguisher shall be within 30 feet of the hot work.

    d. Welding screens shall be in place when welding, cutting or burning to prevent arc welding flashes and burn exposure to surrounding contractor employees and shall be fire-resistant.

e. No welding/cutting or other potentially spark producing work shall be done within **100 feet** of flammable/combustible liquids, gases, solids or aircraft unless authorized by the Airports Authority Fire Code Enforcement Division. The need to operate in such a manner shall be communicated to the Airports Authority Fire Code Enforcement Division at least 48 hours before such operations take place for consideration.

f. Welding/cutting or other potentially spark producing work shall not be performed in or near rooms or locations where flammable gases, liquids or vapors, lint, dust, or loose combustible stocks are present and where sparks or hot metal are capable of causing ignition or explosion of such materials. In area where the potential for such hazards exist, continuous monitoring shall be performed using the appropriate type instrumentation.

g. Prior to starting work, instrument readings shall be taken to verify the level of hazard present. Continuous monitoring with instrumentation shall be performed for a minimum of 30 minutes after the work is completed.

h. Welding and cutting shall not be performed on containers and equipment containing or having contained flammable liquids, gases or solids until the containers and equipment have been thoroughly cleaned and purged. Specific approval shall be required for all “hot tapping” on tanks and pipelines.

i. Welding/cutting shall be performed by qualified personnel only. All grounding leads shall be connected at the point of work.

j. Flash arrestors shall be attached to regulator hoses at the cylinders and at the torch end.

k. Employees performing hot work shall wear non-flammable clothing. Wearing synthetic/ polyester clothing is prohibited when performing hot work. Welders PPE requirements shall wear leather welding jacket, leather gloves and apron. Welding helmets shall be attached to the hard hat. When using welding hoods employee(s) shall use filter lenses that have a shade number appropriate for the work being performed to protect the employee from optical radiation. Welding hoods shall be ANSI approved.

l. Compressed gas cylinders shall not be stored inside buildings, and shall be removed from the site each day unless a designated-on site storage area has been approved by the Airports Authority Fire Code Enforcement Division.

m. Oxygen and acetylene tank cylinders that are in storage (outside of building) shall be separated at a minimum of 20 feet. When in use on a cart, a noncombustible barrier at least 5 feet in height having a fire-resistant rating of at least one-half hour shall be used. All tanks shall be capped and secured at the end of the shift when not in use and stored outside the building at least 30 feet from the building. All gas cylinders shall be stored in cages outside with appropriate signage.

n. All compressed gas cylinders shall be secured at all times. Compressed gas cylinders shall be moved in a vertical position with caps in place and never in a horizontal position.

o. Automatic sprinkler protection shall not be shut off during welding/cutting operations. Where welding or cutting is performed close to automatic sprinklers, noncombustible barriers or damp cloth guards shall shield the individual sprinklers, but shall be removed immediately when the work is completed.

p. A Utility Outage shall be obtained when the possibility exists that a welding/cutting operation, dust from demolition or finish work that could cause the activation of a fire alarm/detection or fire protection system. **A copy of the approved Utility Outage Request form and the Hot work Permit shall be maintained and posted on site where the work is being performed.**

q. **No fire alarm, detection, suppression, or other fire protection device or system shall be impaired or removed from service without a Utility Outage** which includes approval from the Airports Authority Fire Code Enforcement Division and other appropriate Airports Authority Divisions.

r. Any unsafe practice or condition noted by the Airports Authority Fire Code Enforcement Division may result in the temporary or indefinite suspension of a welding/cutting permit and the immediate cessation of operations.

s. Tarpaulins and similar sheet materials used to cover stored materials or as a temporary wall enclosure shall be constructed of fire-resistant material. Tarpaulins and similar sheets are to be securely fastened against displacement by wind. In addition, if used as a screen shall be fire-resistant.

2. Compliance:

Compliance with all requirements established in this policy shall be the responsibility of all personnel performing welding, cutting and other open flame work at the airports. Informational documents containing requirements and standards for welding, cutting and other open flame work may be obtained from the Metropolitan Washington Airports Authority Fire Marshal 703-572-2975 or 703 572-5110/3331 for Dulles Airport (IAD) FCED Office 703 417-8365 or 703 417-2570 for National Airport (DCA) FCED Office

3.14 HOUSEKEEPING POLICY

I. Policy Statement

Metropolitan Washington Airports Authority (Airports Authority) shall require contractors to ensure that their work areas are maintained in a clean and orderly manner in all construction activities they are performing. It will be the responsibility of the contractor to maintain good housekeeping practices by making daily provisions for the proper storage of materials, waste, and debris. In addition, contractor employees working on an Airports Authority project shall be in compliance with 29 CFR 1926, Construction Industry Regulations, Subpart C 1926.25, US Army Corps of Engineers EM 385-1-1 Safety and Health Requirements Manual, and the AACSM. The more stringent standard will be used and applied at the discretion of the PSM, in addition to the following procedures and requirements:

II. Procedures

1. General requirements:

    a. Housekeeping shall be maintained as an integral part of every work operation. It's the controlling contractor's responsibility to conduct routine housekeeping inspections of their project. All debris, trash, or combustibles shall be disposed of at the end of each shift (mandatory). Materials, electrical cords, tools, and debris shall be off the floor at all times to prevent falls and tripping hazards.

2. Work environments:

    a. Materials, debris, and equipment shall not block or hinder access to valves, pipes, manholes, vaults, fire hydrants, fire extinguishers, fire alarm panels, smoke detectors, sprinklers, warning signs, fire lanes, electrical equipment, building entrances or exits.

    b. Fire Extinguishers shall be inspected, mounted in a box or to the wall (to the dust wall when present), and kept free and clear of material storage. Fire Extinguishers shall be located at:1. Each stairway on each floor, and where combustible materials have accumulated. 2. At every storage area and construction shed.3. Where special hazards exist such as the storage and use of flammable and combustible liquids.

    c. Stairways, aisles, corridors, and passageways shall be free from material, debris, and equipment for emergency access and egress.

    d. Work construction areas shall have adequate lighting (minimum 5-foot candles) so work can be performed safely. Temporary lighting or task lighting shall be installed if there is limited visibility in the work area. Hard hat lighting is insufficient to meet this requirement.

    e. Employees shall clean up as they perform their work and not wait until the end of the shift to clean up their work area.

    f. Ventilation shall be required based on the work being performed such as work that produces the accumulation of dust and fumes.

    g. A sufficient number of waste receptacles shall be made available in the work area. Containers shall be provided for the collection and separation of waste, trash, oily and used rags and other refuse. Trash receptacles shall be removed immediately when full.

h. Protective covers shall be provided under equipment that could possibly leak to prevent oil, grease, or other fluids from saturating the floor. Protective coverings shall be flame resistant, oil resistant and heavy gauge material.

i. Large trash containers that are in the AOA area shall have a secured cover over the entire container to prevent debris (FOD) from entering the air field. Non-AOA dumpsters shall be covered with a fire-retardant cover.

j. Tools & equipment that are not in use shall be placed back in tool gang boxes.

k. Spills shall be cleaned up immediately to avoid fall hazards. In the event that the spill cannot be cleaned up immediately, the area shall be appropriately guarded to prevent fall hazard exposure until the spill is cleaned up. A spill kit of appropriate size shall be readily available.

l. Glass containers are not permitted on site.

m. Banding-iron shall be flattened and discarded immediately in a trash receptacle when bands are broken around materials.

3. Work stations:

a. Work stations to perform work shall be elevated and not on the floor.

b. Work station areas where cutting, chopping, and sawing are performed shall have a receptacle next to the work station. All material scrapes shall be discarded in the trash receptacle not on the floor.

c. Work station areas shall be swept and kept clean at all times to prevent slip, trip, and fall hazards.

4. Material Storage:

a. Propane shall not be stored inside the building.

b. All gas cylinders shall be secured and in a vertical position. Acetylene and oxygen tanks when not in use shall be separated by 20 feet or have 5-foot fire rated barrier between the two gases when in use. When storing tanks, tanks shall be stored outside of the building in storage cages with appropriate signage at a minimum of 15 feet away from any building structure.

c. Any type of gas cylinders shall not be stored in gang boxes.

d. When stacking materials for storage, make sure the base is firm and level. Cross tie each layer. Keep materials level and do not stack materials too high not over 5 feet. Keep aisles clear and maintain adequate space to work around the stacked materials.

e. Materials shall not be place next to any guardrails or leading edge. Materials shall be placed at least 6 feet back from any guardrail system.

f. When unpacking materials in wood crates. Nails are to be removed or nail points hammered down as soon as lumber is disassembled to prevent impalement hazards. All banding/tie wire shall be discarded to prevent tripping hazards.

g. Materials stored where work is performed should be limited to only those materials that will be used in the same shift. Do not let materials and supplies that are no longer needed accumulate.

h. Dispose of all combustible materials/debris at the end of each shift to reduce the chance of fires.

i. Materials shall not be placed in front of any electrical panel. Shall have a minimum of 3 feet clearance in front of any electrical panel.

j. Materials shall not be placed on top of gang boxes or any movable parts where materials could be displaced.

5. Electrical Cord Management:

a. All electrical cords and power cords shall be inspected before use.

b. Electrical cords that have kinks, worn insulation, cuts, exposed strands of wire, and missing ground pins shall be prohibited to use on site.

c. All electrical cords shall be off the ground whenever possible. Electrical cords shall be run above at least 8 feet above ground.

d. All electrical cords shall not be placed crossing corridors, passageways, emergency exits, and stairways.

e. All extension cords and power cords shall be equipped with GFCI protection or be plugged into a wall GFCI outlet.

f. Portable generators shall have GFCI protection when using as a power source. In addition, portable generators shall be grounded according to manufacturer's recommendations. Portable generators are prohibited to be used inside of building structures (e.g. airport terminals).

g. Cords may only be repaired by a qualified electrician.

h. Heavy-duty 12-gauge electrical cords (type S, SJO, SJTW, ST, SO, STD) are acceptable for use on an Airports Authority construction site.14 and 16-gauge electrical cords are prohibited.

3.15 MATERIALS HANDLING and RIGGING POLICY

I. Policy Statement

Metropolitan Washington Airports Authority (Airports Authority) requires each contractor that is conducting material handling and rigging operations shall be performed in accordance with 29 CFR 1926, Construction Industry Regulations, Subpart H – Materials Handling, Storage, Use and Disposal, US Army Corps of Engineers EM 385-1-1 Safety and Health Requirements Manual, and the AACSM. The more stringent standard will be used and applied at the discretion of the PSM, in addition to the following procedures and requirements:

II. Procedures

1. Material Handling

    a. Employees shall be trained in safe lifting techniques. Any manual lift of over 50 pounds shall require two people to lift the item.

    b. Material handling devices shall be made available for the handling needs of the activity. Material handling devices (e.g. dollies, carts, pallet jack) shall be the preferred method over manual lifting methods.

    c. Material handling needs for moving heavy material shall be evaluated based on weight of the item being moved, size of the item, distance the item needs to be moved, and the path of movement where the item will be placed.

    d. Materials shall not be moved over or suspended above personnel.

    e. Materials loads shall have taglines or other devices to control the loads being handled by hoisting equipment.

    f. Chains are prohibited to use when hoisting materials. Chain fall hoists are acceptable to use.

    g. Forklifts are to be used for stacking or moving materials and not to set steel or as a lifting device, unless equipped with the manufacturers approved attachment. The lifting attachment shall be secured to the forks of the forklift with a lifting hook. The hook shall have a safety latch/mouse on the hook. Forklift operators shall use an attachment because free rigging straps on the forks of a forklift are prohibited.

    h. Forklift operators shall be certified to operate a forklift and shall have Airports Authority badge to operate a forklift. Forklift operators shall be re-certified every three years. Certifications shall be submitted to the COTR and reviewed by the PSM.

    i. Scissor lifts shall not be used as lifting devices to install materials.

    j. Duct jacks shall have the manufacturer’s supplied forks/extension attachments for lifting materials.

2. Material Storage

    a. All materials shall be stacked, blocked, interlocked, and limited in height of 5 feet, so that it is stable and secured against sliding or collapse.

b. Aisles and passageways shall be kept clear at all times for the safe movement of material handling equipment and employees.

c. Do not store material within 6’ feet of any hoist way or interior floor opening.

d. Do not store material within 10’ feet of an exterior wall.

3. Rigging

a. Prior to each use, rigging equipment, including its fastenings and attachments, shall be inspected by a competent certified rigger . All rigging devices shall have capacity rating markings or tags that are legible. Fall protection devices shall not be used for rigging and rigging devices shall not be used for fall protection. All rigging shall be performed by a certified rigger (Refer to Rigging certification requirements in Appendix L). Chinese rigging is prohibited to use on Airport Authority construction projects. The contractor shall use only North American forged alloy steel shackles and American made rigging on Airports Authority construction projects.

b. Inspections shall also be conducted during use and where additional service conditions warrant.

c. Lifting chains can be used for trench boxes and manhole structures. Lifting chains shall have capacity tag and inspection records on site.

d. Defective or damaged slings shall be removed from service immediately.

e. Taglines shall be utilized to control loads.

f. Wire Rope Slings

1. The manufacturer’s safe working loads shall be followed at all times

2. Each synthetic sling shall be identified with the name of the manufacturer, rated capacities and type of material Shall be inspected before each use.

3. Protruding wire rope shall be covered or blunted.

4. Wire rope shall not be used if, in any length of eight diameters, the total number of visible broken wires exceeds 10% of the total number of wires.

5. Wire rope shall not be used if it shows signs of excessive wear, corrosion or defects.

6. When used for eye splices, the saddle clip shall be attached so the saddle section is on the live end of the rope.

7. Slings shall not be shortened with knots, bolts or other makeshift devices.

8. Slings shall be protected from sharp edges with padding, softeners or similar devices.

9. Shock loading of a sling is prohibited and slings shall not be pulled from under a load when the load is resting on the sling.

g. Synthetic Slings

1. Each synthetic sling shall be identified with the name of the manufacturer, rated capacities and type of material.

2. Nylon and polyester slings shall not be used in temperatures in excess of 180 degrees.

3. Synthetic slings shall be immediately removed from service if any of the following conditions are present; acid or caustic burns, melting or charring of any of the sling surface, snag, puncture, tear or cut, broken or worn stitches, or red thread showing in the sling.

h. Chain Hoists

1. Inspected before each use.

2. The hoist chain shall not be wrapped around the load.

3. The load shall be attached to the load hook by suitable means.

4. The load shall not be applied to the point of the hook.

5. The hook is required to have a working safety latch.

3.16 PERSONAL PROTECTIVE EQUIPMENT POLICY

I. Policy Statement

Metropolitan Washington Airports Authority (Airports Authority) shall require each contractor working on an Airports Authority construction project to be in compliance with 29 CFR 1926, Construction Industry Regulations, Subpart E – Personal Protective and Lifesaving Equipment, American National Standards Institute (ANSI),instruction requirements and recommendations by the manufacturer, US Army Corps of Engineers EM 385-1-1 Safety and Health Requirements Manual, and the AACSM. The more stringent standard will be used and applied at the discretion of the PSM in addition to the following procedures and requirements:

II. Procedures

1. General requirements: Airport Authority employees, subcontractor employees and visitors who are working or visiting Airport Authority construction projects are required to adhere to the following Personal Protective Equipment (PPE) Policy requirements;

    a. All PPE shall be replaced after 5 years of the manufacturers issue date unless the contractor can provide documentation when the PPE was put into service not more than 5 years. These requirements may vary based on the manufacturer criteria.

    b. Contractor shall provide in their daily Pre-Task Plans specific PPE requirements for each task.

2. Eye Protection

    a. Eye Protection: Eye Protection: All safety glasses shall comply with ANSI Z87.1 Standards. ANSI Z87.1 should be stamped on the lens or the arm of the glasses for identification that there ANSI-approved.

    b. Dark lens safety glasses shall not to be worn inside of buildings, enclosed areas or at night time. Clear safety glasses shall be worn.

    c. Safety goggles are required for operating circular saws, table saws, routers, and grinding concrete. In addition, safety goggles will be required when performing above the shoulder work activities.

    d. Face shields and safety goggles (both) shall be worn to provide face and eye protection from flying debris/particles, splashes or mist. In addition, face shields and goggles (both) shall be worn when using abrasive wheels; chop saws; portable grinders, chipping concrete or stone; using explosive powder actuated fastening tools and when air powered tools.

    e. Chemical splash proof goggles and face shield shall be worn when handling or dispensing liquid chemicals. Refer to chemical product manufacturer safety data sheets for specific PPE requirements.

    f. Employees that wear prescription eye glasses shall wear ANSI Z87.1 approved prescription safety eye glasses with side shields.

    g. When using welding hoods employee(s) shall use filter lenses that have a shade number appropriate for the work being performed to protect the employee from optical radiation. Welding hoods shall be ANSI approved. Welding screens shall be installed if working on ground level to protect others who are not wearing the appropriate eye protection. Welding

screens shall be required whenever anyone is within 10 feet of the welding operation. All welding screens shall be fire-resistant.

h. Employees working with hot tar or hot liquids shall wear a face shield, safety goggles, long sleeve shirt, and full apron and long thermal gloves.

3. Head Protection:

a. Hardhats shall comply with ANSI Z89.1 standard. ANSI Z89.2 Type Hardhats shall be worn when exposed to 600 Volts or greater.

b. Western style hardhats, aluminum hardhats, baseball caps under the hardhat, and bump caps are prohibited on Airports Authority construction projects. Only approved hard hat liners made to attach to inside the hardhat will be allowed on Airport Authority projects.

c. Welding hoods shall have hardhat attachments for head protection.

d. The brim/bill of the hard hat shall project forward to protect the face. Turning the hardhat backwards is prohibited unless the hardhat interferes with the task at hand, as with welders and surveyors.

e. Hard hats shall be worn at all times while on an Airports Authority project. On the AOA, hardhat shall have tethered attachment lanyard for windy conditions**.** Contractor employees shall have their name on the front of their hardhats. Hard hat lights are not sufficient lighting for tasks. The contractor shall provide adequate lighting per OSHA requirements.

f. All flagging operation workers shall wear hardhats with at least 12 inches square inches of retro-reflective material applied to the hardhat to provide 360 degrees of visibility.

4. Hand and Arm Protection:

a. Gloves will be required at all times when working on Airports Authority construction sites. The exception for not wearing gloves would be when working with rotary tools, which poses a greater hazard to the employee of getting the glove bound/caught in the rotating point of operation of the tool.

b. Cut resistant gloves (Kevlar) will be required when working with sharp materials such as metal and cutting activities using a knife or sharp tool. The cut resistant gloves shall be a 3+ plus cut resistant rating or above. When working near sharp metals Kevlar sleeves to protect arms shall be required.

c. Contractors shall establish a “Glove Protection Policy” appropriate to the hazards identified by specific task(s).

d. Contractor employees working with hot tar/hot liquids shall wear approved hot work thermal rated gloves.

5. Foot Protection:

a. Airports Authority employees, subcontractor’s employees, and visitors shall wear a serviceable pair of leather ankle high safety toed work boots.

b. Sneaker style shoes (even ANSI approved sneaker shoes) shall not be worn on Airports Authority construction projects. Tennis shoes, sandals, street shoes, high heels and other similar shoes are not permitted.

c. Metatarsal protection covers over the shoes are required when operating jack hammers, earth compacting equipment, and similar equipment.

6. Construction Clothing:

a. Pants: Full length trousers without excessive length or flared bottoms. Shorts and sweat pants are prohibited on Airports Authority projects.

b. Shirts: Shall cover entire midsection and sleeves shall cover the entire shoulder.

c. Sleeveless shirts, tank tops, net /mesh shirts, halter tops, flannel sweat pants and any other clothing with derogatory language or offensive photographs shall not be worn on an Airports Authority construction project.

7, High-Visibility Clothing:

a. ANSI Class 3 high-visibility clothing is required on all Airports Authority construction projects and roadway maintenance operations. Contractor employees shall wear Class E pants for night work if working in or near a roadway.

b. Airports Authority Public Safety and Airport Operations personnel are the only exception not to wear class 3 clothing on construction sites and are allowed to follow ANSI/ISEA 107 and 207 standards regarding PPE requirements for emergency response.

8. Hearing Protection:

a. Contractors shall provide a hearing conservation program prior to beginning work.

b. Hearing protection shall be required when in designated areas posted as high noise areas. In addition, hearing protection shall be required when working around or using equipment that generates high noise such as but not limited to, using a jack hammer, pneumatic tools, powder-actuated tools, chainsaw operations, pile driving operations, and cutting metal studs or decking. The contractors hearing conservation program shall identify high noise equipment and tools that warrant a need for hearing protection.

9. Respiratory Protection:

a. Each contractor shall have a written respiratory program if their work requires the use of a respirator. The written respirator program shall include; selection of respirators, medical evaluation and monitoring, fit testing, respirator use, care and maintenance, training and record keeping.

b. Respirator protection shall be in accordance with safety data sheets (SDS) manufacturer’s recommendations.

10. Fall Protection:

a. Guardrail systems, safety nets, or a personal fall arrest system (PFAS) shall be used during any activity where a worker is exposed to a fall hazard of more than 6 feet. One-hundred percent (100%) fall protection applies in all cases.

b. Full body safety harnesses with seat support, leg straps, harness, attached self-rescue attachment (relief step down device), double locking snap hook with retractable lanyard are the only acceptable fall protection outside of safety guardrails and safety nets. Double retractable lanyard system shall be used to maintain 100 % fall protection when moving to another area or areas.

c. Nylon shock absorbing lanyards can only be used over 18/1/2 feet in height depending on the manufacturer requirements. Prohibited to use on aerial lifts and scissor lifts.

d. Safety monitoring systems, warning line systems and controlled access zones are prohibited on an Airports Authority construction project.

e. Refer to Fall Protection policy for more information regarding different types of fall protection and anchorage systems. It is prohibited to use mobile equipment as a tie off point/anchorage point.

11. Hot Work:

a. Welders shall wear leather welding jacket, gloves, hardhat with welding helmet and apron.

12 Chain Saw Operations:

a. Employees shall have documented training in the operation of a chainsaw. Employees shall wear full length chaps (e.g. Kevlar) or the equivalent, wire mesh face shield, leather gloves, safety goggles, steel/composite toed boots and hearing protection when operating a chain saw.

13, Working near or over water:

a. When working near or over water where there is a potential exposure to drowning a personal flotation device (life jacket) shall be worn.

b. The controlling contractor shall also provide a ring buoy and rope lifesaving skiff every 200 feet with 90 feet of rope.

3.17 PRE-TASK WORK PLANNING POLICY

I. Policy Statement

Metropolitan Washington Airports Authority (Airports Authority) shall require the contractor and their subcontractors to preplan their work activities on a daily basis**.** Prior to the actual start of work, the foreman shall conduct a Pre-Task Work Planning (PTWP) meeting with the work crew performing the work. Pre–Task Work Planning shall be required daily for each work operation/ task activity on an Airports Authority construction project. Unlike the Job Hazard Analysis (JHA) which is a general plan outlining the work steps and associated hazards of specific tasks, the PTWP greater defines the work plan and the associated hazards for the particular phase of work being performed.

II. Procedures

1. Pre-Task Work Planning

The Pre-Task Work Plan is designed to engage the work crews in the planning process so that they are aware of the hazards associated with the work that they will be performing. All workers and the competent person and project manager/general superintendent shall review and sign the PTWP form (Refer to PTWP form in Appendix E) for their assigned work at the beginning of each shift.

The main components of the PTWP meeting will include a five-step process for foreman/competent person and workers to follow:

Step 1. Identify and define the tasks of the scope work.

Step 2. Identify the hazards of each step of the task.

Step 3. Abate the hazards that have been identified.

Step 4. Use controls measures as a guideline to control the hazards such as but not limited to the PTWP form, Airports Authority safety guidelines, ANSI standards, manufacturer's recommendations and OSHA regulations.

Step 5. Continual improvement such as but not limited to what worked and what did not work, safety inspections identifying problem areas, and looking at the work process to improve the work plan.

Refer to Section 2 of the AACSM for additional requirements regarding PTWP's.

3.18 REGULATORY INSPECTION POLICY

I. Policy Statement

Metropolitan Washington Airports Authority (Airports Authority) policy is to fully cooperate and maintain a positive working relationship with all regulatory agencies such as but not limited to Virginia Department of Labor & Industry Occupational Safety and Health (VOSH) and Federal Occupational Safety and Health Administration (OSHA). The purpose of this policy is to prepare and provide guidance to contractors who may be subjected to a regulatory inspection. The Airports Authority shall not deny entry to regulatory authorities; however, the controlling contractor can exercise their right by law to request a search warrant prior to any regulatory inspection.

II. Procedures

1. General Requirements:

   a. If the OSHA/VOSH inspection location is located on the AOA, VOSH/OSHA shall notify the Airports Authority and be escorted to the inspection worksite. The Airports Authority will immediately notify the controlling contractor that OSHA/VOSH is on airport property.

   b. If an inspection is located outside the AOA/SIDA area, OSHA/VOSH can directly enter the site. The controlling contractor shall notify the Airports Authority COTR and PSM immediately of any OSHA/VOSH inspection. This includes VPP or scheduled inspections.

   c. The Airports Authority has a right to participate and be present in all inspections conducted by any regulatory agency on airport property and construction projects.

   d. To give guidance to contractors regarding OSHA/VOSH inspection process, contractors should attain a copy of the OSHA Field Operations Manual (FOM) at OSHA's website at www.OSHA.gov. The FOM is a document that the compliance officer shall follow during the inspection process. In addition, the FOM also covers and explains the employer's rights. The contractor should read the manual to better prepare and understand the OSHA/VOSH process prior to an OSHA inspection.

   e. Regulatory inspectors or OSHA/VOSHA compliance officers shall provide proof of current credentials prior to conducting an inspection.

   f. Regulatory inspectors or OSHA/VOSH compliance officers should state the reason for the inspection and what type of inspection they will be conducting in the opening conference.

   g. If the inspection is due to a formal complaint, the compliance officer should provide the controlling contractor with a copy of the complaint before proceeding with the inspection. The controlling contractor shall submit a copy of the complaint to the Airports Authority COTR.

   h. Regulatory inspectors or OSHA/VOSH compliance officers shall not be harassed, intimidated, or abused during or after the inspection process.

   i. Regulatory inspectors or OSHA/VOSH compliance officers shall follow Airports Authority PPE requirements and safety policies during the inspection process.

3.19 SANITATION POLICY

I. Policy Statement

Metropolitan Washington Airports Authority (Airports Authority) Sanitation Policy requires contractors that are performing construction work shall be in compliance with Virginia Occupational Safety and Health (VOSH) Virginia Sanitation Standard for Construction 16VAC25-160 referenced below (use most current standard). Note: The following standard is unique for the enforcement of occupational safety and health within the Commonwealth of Virginia under the jurisdiction of the VOSH Program. The existing federal OSHA standard does not apply; it does not carry the force of the law.

II. Procedures

1. 16 VAC25-160-10 Water supply.

    a. Portable drinking water shall be provided and placed in locations readily accessible to all employees.

    b. The water shall be suitably cool and in sufficient amounts, taking into account the air temperature, humidity and the nature of the work performed to meet the needs of all employees.

    c. The water shall be dispensed in single-use drinking cups or by fountains. The use of common drinking cups is prohibited.

    d. 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.

    e. Any container used to distribute drinking water shall be clearly marked as to the nature of its contents and not used for any other purposes. Water shall not be dipped from containers.

    f. 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 cups shall be provided.

    g. Maintenance: potable drinking water, toilet and hand washing facilities shall be maintained in accordance with appropriate public health sanitation practices, and shall include the following: Drinking water containers shall be constructed of materials that maintain water quality; drinking water containers shall be refilled daily and shall be covered; and drinking water containers shall be regularly cleaned.

2. Non-potable water

    a. Outlets for non-potable water, such as water for industrial or firefighting purposes only, shall be identified by signs meeting the requirements of Subpart G of this part (16VAC25-1926.200 et seq.), to indicate clearly that the water is unsafe and is not to be used for drinking, washing, or cooking purposes.

    b. There shall be no cross-connection, open or potential, between a system furnishing potable water and a system furnishing non-potable water.

3. Toilet and hand washing facilities.

    a. One toilet and one hand washing facility shall be provided for each 20 employees or fraction thereof.

    b. Toilet facilities shall be adequately ventilated, appropriately screened, have self-closing doors that can be closed and latched from the inside and shall be constructed to ensure privacy.

    c. Toilet and hand washing facilities shall be readily accessible to all employees, accessibly located and in close proximity to each other.

    d. Toilet facilities shall be operational and maintained in a clean and sanitary condition.

    e. Sanitation facilities shall not apply to mobile crews having transportation readily available to nearby toilet facilities.

    f. Washing facilities; Hand washing facilities shall be refilled with potable water as necessary to ensure an adequate supply of potable water, soap, and single use towels.

    g. Disposal of wastes from facilities shall not cause unsanitary conditions.

    h. Definitions: 1. “Hand washing” facility means a facility providing a basin, container or outlet with adequate supply of potable water, soap and single use towels. 2. “Potable water” means water that meets the standards for drinking purposes of the state or local authority having jurisdiction or water that meets the quality standards prescribed by the U.S. Environmental Protection Agency’s Interim Primary Drinking Water Regulations, published in 40 CFR Part 141.

4. 16VAC25-160-20. General industry standards applicable to construction sanitation (29 CFR 1910.141).

    a. Every enclosed workplace shall be so constructed, equipped, and maintained so far as reasonably practicable, as to prevent the entrance or harborage of rodents, insects, and other vermin. A continuing and effective extermination program shall be instituted where their presence is detected.

    b. Eating and drinking areas. No employee shall be allowed to consume food or beverages in a toilet room or in any area exposed to a toxic material.

5. 16VAC25-160-30. Medical services and first aid (29CFR1910.151).

    a. Where eyes or body of any person may be exposed to injurious corrosive materials, suitable facilities for quick drenching or flushing of the eyes and body shall be provided within the work area for immediate emergency use.

3.20 SCAFFOLD POLICY

I. Policy Statement

Metropolitan Washington Airports Authority (Airports Authority) shall require contractors who are conducting scaffold operations to be performed in accordance with 29 CFR 1926, Construction Industry Regulations, Subpart L – Scaffolds, manufacturer requirements of the scaffolding system being used, Airports Authority fall protection policy, American National Standards Institute (ANSI) A92.20, US Army Corps of Engineers EM 385-1-1 Safety and Health Requirements Manual, and the AACSM. The more stringent standard will be used and applied at the discretion of the PSM, in addition to the following procedures and requirements:

II. Procedures

1. General Requirements

   a. All scaffolds shall be erected and maintained to comply with the manufacturer requirements.

   b. Special designed scaffolding systems shall be PE stamped and submitted to Airports Authority COTR and reviewed by the PSM. This requirement shall be determined by the PSM if a PE stamp is required.

   c. Scaffolds shall be erected under the supervision of a competent person. The name and qualifications of this person shall be submitted to the Airports Authority COTR and reviewed by the PSM prior to the start of work.

   d. Prior to erecting any scaffold, a written fall protection plan shall be submitted to Airports Authority COTR and reviewed by the PSM.

   e. Supported scaffolds with a height to base width ratio exceeding 4:1 shall be stabilized from tipping by a solid connection such as pipe or wood. Wire support shall be prohibited on Airports Authority projects.

   f. When scaffolds are erected adjacent to structures, they shall be secured to the structure every 26 feet vertically and 30 feet horizontally.

   g. During the erection and disassembly of scaffold systems, all employees shall wear a Personal Fall Arrest System (PFAS) unless protected by a guardrail system. PFAS shall not be attached to scaffolding system unless the manufacturer allows personnel to attach a PFAS to the scaffolding system.

   h. Scaffolds and their components shall be able to support at least four times the maximum intended load combined with employee's weight, tools, and material loads imposed on the scaffold.

   i. All supported scaffolding shall have base plates for supports. Scaffolding systems that have locking wheels shall be prohibited from use in stairways.

   j. Mudsills shall be required when the scaffolding is not supported by concrete. Mudsills shall be continuous under the base plate supports. Base plates shall be nailed down to the mudsill when used. It is strictly prohibited to use concrete blocks or any other masonry products as a support for a scaffolding system.

   k. Screw jacks shall be installed according to the manufacturer's specifications.

l. All scaffolding and stair towers shall be inspected before use. Inspection tags shall be placed on the scaffold at its access point. The competent person shall inspect the scaffold daily and sign the inspection tag to verify that the scaffold is in compliance and is safe to use.

m. The contractor shall use a color-coded placard scaffolding tag system that signifies that the scaffold is in compliance or not.

i. A green placard scaffold tag shall be used when the scaffolding system is in compliance and safe. The tag shall be signed by the competent person.

ii. A red placard scaffold danger tag shall be used when the scaffold is not in compliance and unsafe to use. A red placard shall be used when erecting or dismantling the scaffold. Fall protection required. The tag shall be signed by the competent person.

n. All supported scaffolding systems shall have ladder access. Scaffolding built- in ladders shall meet the ladder rung spacing requirements. Scaffold ladders shall be continuous to the working platform. Extension ladders used to access scaffolding shall be 3 feet past the landing and secured to the scaffold. All openings at ladder access points shall have a corral system installed to prevent backing off the scaffold.

o. Scaffold components from different manufactures shall not be interchanged.

p. Scaffolds shall be kept free of snow, ice, or any other material from rendering the scaffold unsafe for personnel using the scaffolding system.

q. All scaffolds with a working height of 4 feet (includes bakers' scaffold) and above shall have a guard rail system in place on all open ends. This includes masonry fabricated frame scaffolds with end bracket platforms.

r. Scaffolds that exceed 125 feet in height shall be designed and erected under the supervision of PE competent in scaffolding systems.

s. The area below a working scaffold shall be barricaded to protect employees from a falling object hazard.

t. Contractors shall not use another contractor's scaffolding system unless a scaffold release form has been signed and has been approved by the contractor that owns the scaffolding system.

u. Scaffolding systems shall be secured and anchored for wind loads. Scaffolds shall meet OSHA guidelines for securing and anchoring requirements.

2. Specific Scaffold Types

a. Mobile Elevated Work Platforms (MEWP)/Scaffolds (scissor lifts, baker scaffolds, welded frame scaffolds with wheels)

1. Rolling scaffolds with personnel on the scaffold shall not be moved. Employees shall come off the scaffold to move the scaffold.

2. Tools shall be removed from the scaffold before moving the scaffold.

3. Wheels shall be locked on the scaffold prior to employees using the scaffold.

4. Wheel casters shall be capable of supporting the loads imposed on the scaffold.

5. MEWP's shall only be used on level and suitable surfaces. It shall be prohibited to use material to level a mobile scaffold.

6. Scaffolds that are narrow (30 inches wide) and above 4 feet with a height to base width ratio that exceeds 2:1 shall be braced with outrigger frames.

7. Mobile scaffolds next to guardrail systems shall be perpendicular to the guardrail system when accessing and egressing from the scaffold (opposite side from the guardrail) to prevent exposures to falls.

8. Baker scaffolds at 4 feet and above shall require a guardrail system.

9. The work platform shall be fully planked. Planks shall be cleated and secured to prevent movement. Any gap in a working platform cannot exceed 1 inch. All planks or platforms shall be cleated or overlap a minimum of 6 inches, but no more than 12 inches.

10. Toe boards shall be installed on all scaffolding.

11. Employees using scissor lifts shall be tied off if attachment points are in the lift. Employees shall not climb on the rails of a scissor lift to reach their work.

12. Scissor lifts/MEWP shall not be used as a lifting device for materials
.
13. Scissor lift/MEWP shall have a control guard for controls on the lift.

14. Contractor lift operators and occupants shall follow training requirements of the American National Standards Institute (**ANSI**) **A92.20**

b. Fabricated Frame scaffolds

1. It shall be prohibited to climb the rungs (rungs are structural only not for climbing) or cross braces of fabricated frame scaffolding systems.

2. Cross braces shall not be used as a guardrail system. 2 x 4 wood rails or metal rails shall be used as a guardrail system.

3. Frames and panels shall be joined together by stacking pins or couplings.

4. The work platform shall be fully planked. Planks shall be cleated and secured to prevent movement and shall be overlapped at a minimum of 12 inches.

5. Any gap in a working platform cannot exceed 1 inch.

6. Scaffolding planks that extend over their end supports shall be a minimum of 6 inches, but no more than 12 inches.

7. Scaffolding planks shall not be painted. Scaffolding planks shall inspect for cracks and taken out of service when found.

8. Scaffolding planks holding material shall not deflexed more than 3 inches.

9. Toe boards shall be installed along the platform edges. Screening or paneling shall be installed if material, tools or equipment exceed the toe board height. The screening/paneling shall be place from the bottom of the toe board to the top of the top guardrail.

10. End bracket platforms shall have guardrail system in place. If the scaffold exceeds the face of the building, guardrail system shall be installed on the opening.

c) Suspension Scaffolds

1. Screening shall be installed inside the suspension scaffold to prevent overhead hazards.

2. Employees working on a single-point or two-point suspension scaffold shall be protected by a PFAS with rope grab and guardrail system.

3. Suspension scaffold support devices, such as outrigger beams, cornice hooks, parapet clamps that rest on surfaces (e.g. parapet wall) shall be capable of supporting at least 4 times the maximum intended load. Surfaces that support devices noted above shall be PE stamped approved to verify the support surface will support the load of the scaffolding system.

4. Vertical life lines shall be independent of each other and shall have separate anchorage points independent of scaffolding tie backs and other lifelines anchorages. Vertical life lines shall have a grommet end with safety clip with mouse attached to a designed fall protection anchorage point. Knots are prohibited for securing vertical lifelines.

5. Vertical lifelines shall be protected from abrasion by using secured softeners on the vertical lifeline at the point of contact where abrasion can occur.

6. Suspension scaffolds wire rope shall be capable of supporting six times the intended load. Suspension scaffolds shall not be used to hoist materials to the building roof.

7. Outrigger beams shall be secured by tiebacks. The tiebacks shall be attached to a structural member of the building. Standpipes, vents, conduit and other piping systems are not adequate structural members. The tie backs shall anchor directly behind the outrigger beam, if not able to then two tiebacks shall be required on each outrigger beam.

8. Suspension scaffolds with a load rating of 500 pounds shall have only two employees working on the scaffold. Suspension scaffolds with load rating of 750 pounds shall have only three employees working on the scaffold. The contractor shall follow manufacturer guidelines of the scaffolding system being used.

9. Counterweights shall be secured to the outrigger beams to prevent accidental displacement.

10. Counterweights shall be made of non-flowable material. Sand, gravel, water or similar material shall not be used.

d) Aerial Lifts/Mobile Elevated Work Platforms (MEWP)

1. Only trained certified employees may operate aerial lifts/MEWP on an Airports Authority construction project.

2. Employees shall be tied off (fall restraint device) while in the basket of articulating boom aerial lifts/ MEWPs at all times.

3. Employees shall keep both feet on the floor of the aerial lift basket. It shall be prohibited to climb on the rails of the aerial lift basket. Option is to use zero clearance MEWP's.

4. When an aerial lift/MEWP is operated on rough terrain, the operator shall boom down to move the lift. Once moved the operator can boom up to the working area.

5. Transferring from or leaving the aerial lift/MEWP basket to another landing is prohibited unless the other landing point is fully protected with a guardrail system (follow manufacturers recommendations). Fall protection anchorage bar shall be attached to the lift.

6. Areal lifts shall not be modified or used as a hoisting device.

7. Aerial lift operators shall check and survey ground surface conditions prior to operating the aerial lift (e.g. holes, drop-offs).

8. Aerial lifts shall have an anti-crush device/control guard on the controls of the lift.

9. Operators and occupants shall comply with American National Standards Institute (**ANSI**) **A92.20**.

10. Aerial lifts/MEWP are prohibited to be use for material lifting or lowering materials. Employees shall follow the manufacturer guidelines and capacities of the lift.

3. Scaffold Training Requirements

1. Employees shall be trained by a qualified person in the recognition and avoidance of hazards associated with the type of scaffold they are using in the field.

2. Employees that are involved in the erection, dismantling, moving, operating, repairing, maintaining or inspecting of a scaffold shall be trained by a qualified person in the recognition and avoidance of hazards associated with these operations.

3.21 SIGNS, SIGNALS, and BARRICADES POLICY

I. Policy Statement

Metropolitan Washington Airports Authority (Airports Authority) shall require contractors performing installation of barricades, signs, and signals shall be performed in accordance with 29 CFR 1926, Construction Industry Regulations, Subpart G, Signs, Signals and Barricade, US Army Corps of Engineers EM 385-1-1 Safety and Health Requirements Manual, and the AACSM. The more stringent standard will be used and applied at the discretion of the PSM, in addition to the following procedures and requirements:

II. Procedures

1. Barriers/Barricades. All barriers used on the project shall comply with Virginia Department of Transportation and other applicable regulations (see Appendix A). The Contractor shall provide adequate visibility and protection when public use of work areas shall be maintained on sidewalks, entrances to buildings, lobbies, corridors, aisles, stairways, and vehicular roadways. Appropriate barriers (i.e., guardrails, barricades, temporary fences or partitions, overhead protection, shields) shall be secured against accidental displacement and maintained in place except where temporary removal is necessary to perform the work. When a barricade is temporarily removed, a guard shall be placed at all openings.

2. Barricades shall be used where sidewalk sheds, fences, or guardrails are not required. Such barricades shall guard against harmful radioactive rays or particles, open excavations, flying materials, falling or moving materials and equipment, hot or poisonous materials, explosives and explosive atmospheres, flammable or toxic liquids and gases, open flame, energized electric circuits, or other harmful exposures. In addition, the contractor shall provide adequate and proper fencing, barricading, marking, and lighting of construction, maintenance, or other areas that are temporarily closed to normal airport use. The use of tape of any type is not acceptable.

3. Caution/Danger Tape. The use of tape for marking unsafe conditions or open hazards is prohibited. Only plastic orange safety fences or other devices of similar construction shall be used.

4. Egress. Sidewalks, building entrances, lobbies, corridors, aisles, doors, or exits in use by the public shall be clear of obstructions to permit safe ingress and egress of the public at all times.

5. Guardrails. Guardrails shall be provided on both sides of vehicular and pedestrian bridges, ramps, runways, and platforms. Their height shall be approximately 42 inches.

   Guardrails shall be made of rigid materials able to withstand a force of at least 200 pounds applied in any direction at any point in their structure. Pedestrian walkways elevated above adjoining surfaces, or walkways within 6 feet of the top of excavated slopes or vertical banks shall be protected with guardrails. Top rails and posts shall be 2 inches by 4 inches dressed wood or equal material. Posts shall not be more than 8 feet apart.

6. Overhead Protection**.** Sidewalk sheds, canopies, catch platforms, and appropriate fencing shall be provided when it is necessary to safely maintain public pedestrian traffic adjacent to the erection, demolition, or structural alteration of outside walls on any structure. A plan shall be submitted to the COTR and be reviewed by the PSM.

7. Perimeter Fencing. Temporary fencing shall be provided around the perimeter of aboveground operations adjacent to public areas except where a sidewalk shed or fencing is provided by the

contract or as required by subparagraphs (3) and (5). Perimeter fencing shall be at least 6 feet high. Fencing shall be constructed of wood or metal frame and sheathing, wire mesh or a combination of both, as provided in contract documents and shall be adequately anchored.

When fencing is adjacent to a sidewalk and near a street intersection, the upper fence section shall be composed of open wire mesh from a point not more than four feet above the sidewalk. The fencing shall extend at least 25 feet in both directions from the corner of the fence.

8. Public Areas**.** Work shall not be performed in any area occupied or in public use unless specifically permitted by the contract or in writing from the Airports Authority, PMSS Consultant, or other designated party.

   All workers in the sterile area of the airport may utilize tools in their work area provided: 1) The tools are essential and necessary to their work. 2) Tools shall be kept controlled at all times, and may not be left unattended. 3) Tool boxes shall be guarded and locked when not in use.

   No cartridge style nail guns, nor any tool that uses a cartridge or any explosive charge, shall be permitted in public areas, unless authorized by Airport Operations / Security.

9. Signage. Appropriate warnings, signs and instructional safety signs shall be conspicuously posted where necessary. In addition, a properly certified flagger shall control the movement of motorized equipment in areas where the public might be endangered.

10. Temporary Sidewalks. Temporary sidewalks with guardrails shall be provided when a permanent sidewalk is obstructed by the contractor's operations. These sidewalks shall be built according to the local ordinances/codes.

11. Warning Lights. Signs and lighting shall be placed at both ends of any public protection or obstructions and not over 20 feet apart alongside such protection or obstructions. Warning signs and lights, including lanterns, torches, flares, and electric lights, meeting Airports Authority and FAA requirements, shall be maintained from dusk to sunrise along the guardrails, barricades, temporary sidewalks, and at every obstruction to the public.

3.22 STAIRWAYS and LADDERS POLICY

I. Policy Statement

Metropolitan Washington Airports Authority (Airports Authority) shall require contractors to comply with 29 CFR 1926, Construction Industry Regulations, Subpart X – Stairways and Ladders, ANSI Standards, US Army Corps of Engineers EM 385-1-1 Safety and Health Requirements Manual, and the AACSM. The more stringent standard will be used and applied at the discretion of the PSM, in addition to the following procedures and requirements:

II. Procedures

1. General Requirements

    a. A stairway or ladder shall be provided at all points of access where there is a break in elevation of 19" or more.

    b. All ladders and stairways shall be inspected for hazards before use.

    c. Stairways shall be inspected and cleaned periodically to eliminate slip and trip hazards.

    d. Platform ladders and metal ladders shall be prohibited to use on Airports Authority projects.

    e. Job built ladders are permitted on Airport Authority construction sites. Job built ladders shall be built in accordance to ANSI standards.

    f. Two or more separate ladders shall be used when ladders are the only means of egress from a working area with 25 or more employees.

    g. There shall be two points of access and egress at all times in the building and between floors during construction.

    h. All ladders shall have the manufacturer's safety and capacity labels on the ladder or shall be tagged out and taken out of service.

2. Stairways

    a. Structures that exceed 20 feet in height, stairways shall be provided during construction.

    b. Where doors or gates open directly onto a stairway, a platform shall be provided and the swing of the door shall allow an additional 20 inches.

    c. Unprotected sides and edges of stairway landings shall be provided with a guardrail system (top rail, mid-rail, and toe boards). On stairways the hand rail height shall be not more than 37 inches in height nor do less than 36 inches from the upper surface of the stair rail system, in line with the face of the riser at the forward edge of the stair tread.

    d. Mid-rails shall be installed between the top edge of the stair rail system and the stairway steps.

    e. Employees shall not use metal pan stairs unless they have been fitted with wooden filler blocks or poured with concrete.

f. Stairways with four or more risers or rising more than 30 inches, whichever is less, shall have a stair rail or handrail along each unprotected side or edge.

3. Ladders

a. All ladders shall be capable of supporting loads imposed upon on the ladder.

b. When working on a ladder above 6 feet in height, the employee shall work within the side rails of the ladder and maintain three points of contact with the ladder (the employee's belt buckle shall not exceed the side rails of ladder). Fall protection shall be required when working on a ladder over/above 6 feet in height.

c. All ladders shall be used for the purpose for which they were designed. It's prohibited to take an extension ladder apart and use the top or bottom half of the ladder.

d. Extension ladders shall be used at a 4 to 1 ratio base to the wall and secured. Every 4 feet in vertical height, the base of the ladder will be 1 foot out horizontally.

e. At the top and bottom of a ladder shall be clear of debris and materials.

f. When employees ascend or descend a ladder, they shall maintain three-points of contact with the ladder at all times. Employees are prohibited to carry anything in their hands while ascending and descending a ladder.

g. Employees working on a ladder shall face the ladder at all times while working on the ladder. It is prohibited to work with your back facing the ladder.

h. Pull ropes shall be placed at all ladder access points so employees can safely lift tools or equipment to upper levels. Fall protection system shall be in place when hoisting up tools and supplies.

i. Step ladders shall be opened fully with the locking arm locked. It's prohibited to use a step ladder in a closed position using it as a straight ladder.

j. Employees shall not jump walk a ladder (hopping with the ladder). They shall come off the ladder to move it.

k. Employees are prohibited to use the top two steps of a step ladder while working on a step ladder.

l. Employees shall not sit on top of a step ladder or straddle the step ladder when working on a step ladder.

m. When ladders are used to access upper landings, the side rails shall extend at least 3 feet above the landing and secured at the top. A corral system shall be in place at all ladder access points to prevent fall hazards.

n. Step ladders shall not be used to transition to another landing. Only straight ladders shall be used for transitioning to another landing.

o. Materials or tools shall not be left on top of the step ladder.

4. Training

a. Employee shall be trained by a competent person in the recognition and avoidance of stair and ladder hazards.

3.23 STEEL ERECTION POLICY

I. Policy Statement

Each contractor involved in steel erection operations on a Metropolitan Washington Airports Authority (Airports Authority) project shall be in compliance with 29 CFR 1926, Construction Industry Regulations, Subpart R – Steel Erection, US Army Corps of Engineers EM 385-1-1 Safety and Health Requirements Manual and the AACSM. The more stringent standard will be used and applied at the discretion of the PSM, in addition to the following Airports Authority procedures and requirements:

II. Procedures

1. General Requirements**:** Pre-Steel Construction Meeting

    a. A pre-steel construction meeting shall be held prior to beginning steel erection on Airports Authority projects. This meeting will be held with all parties involved in steel erection activities including but not limited to the following: steel erector, steel fabricator, and architect and/or structural engineer of record.

    b. This pre-construction meeting will address issues and items relating to all actives to steel erection under 29 CFR 1926 Subpart R Steel Erection Standards in including but not limited to the following;

        1. Site layout, material storage and laydown areas
        2. Site specific steel erection plan
        3. Structural steel assembly sequencing
        4. Crane operations, crane pad placement, critical lifts, paths overhead load
        5. Fall protection
        6. Hoisting and rigging
        7. Beams and columns
        8. Open web steel joist
        9. Metal decking installation
        10. Overhead hazards protection
        11. Falling object protection
        12. Ornamental and miscellaneous iron.
        13. Coordination with other trades and construction activities
        14. Training
        15. Hot Work
        16. Aerial lift/Scissor usage

    c. Multi member lifting “Christmas Treeing” is prohibited on Airports Authority construction projects.

    d. Crane and rigging operations shall follow Airports Authority crane and rigging policy requirements.

    e. Walking on any live loads is prohibited.

    f. The use of chains is prohibited on Airports Authority construction projects.

    g. No other trades shall work under steel operations.

2. Fall Protection Requirements

a. Employees who are working 6 feet above a lower level shall be protected from fall hazards by guardrail systems, safety net systems, and/or personal fall arrest systems.

b. Safety monitor systems, warning lines systems and controlled access zones are prohibited on Airport Authority projects. These systems shall be prohibited from use on Airports Authority projects.

c. Personal fall arrest systems shall have double locking snap hooks with two retractable lanyard systems attached to the D ring (shall be manufactured for this application) of the harness to maintain compliance with Airports Authority 6-foot fall protection policy. Beam clamps shall be used for anchorage points on beams. Pin cables shall be prohibited to use on Airports Authority construction projects. All fall protection equipment shall be inspected daily prior to use. All fall protection lines shall be protected from abrasion or being cut by use of softeners.

d. Horizontal life line systems shall be a designed fall protection system or a PE stamped design. If the steel contractor is using cable guardrail as a fall protection system, the system shall be designed by a PE.

e. Construction activities and construction personnel shall be prohibited below steel erection activities.

f. Restraint devices are required in baskets of aerial Lifts and scissor lifts. Anti-crush devices shall be required for aerial lifts and control guards on scissor lifts.

g. All open floor holes shall be protected with guardrails or covered by securing, marking and labeling the cover. The cover shall be strong enough to hold 2 x the amount of weight of equipment that might go over the cover.

h. Perimeter safety cables shall be installed as soon as the metal decking has been installed. Mesh shall be applied to the cable rails from the bottom of the toe boards to the top rail.

i. All materials, equipment, and tools, which are not in use while aloft, shall be secured against accidental displacement.

3.24

TUNNELING and UNDERGROUND CONSTRUSTRUCTION POLICY

I. Policy Statement

All tunneling and underground construction shall be performed in accordance with OSHA Regulation 29 CFR 1926, Subpart S-800-804 entitled, "*Underground Construction, Caissons, Cofferdams, and Compressed Air',* US Army Corps of Engineers EM 385-1-1 Safety and Health Requirements Manual, and the AACSM. The more stringent standard will be used and applied at the discretion of the PSM. Additionally, Contractors will adhere to the following Airports Authority procedures and requirements:

II. Procedures

1. General Requirements:

   a. Diesel Powered Equipment. Any diesel-powered equipment used underground will require scrubbers and shall be in good operating condition (i.e., no exhaust leaks, no excessive noise or smoking).

   b. Lighting. Underground lighting shall be free of defects and kept clean at all times. This includes the equipment lights and all temporary tunnel lighting.

   c. Monitoring. Contractor shall provide air quality data to the COTR. Air quality shall be constantly monitored while any personnel are occupying the shafts, tunnels, or headings that are under construction. The monitoring equipment shall be capable of detecting four gasses simultaneously and equipment shall be calibrated and tested per the manufacturer's specifications.

   d. Permits. Utility vaults require OSHA confined space entry permits. Completed walk back, baggage, tug, and train tunnels do not require confined space entry permits.

   e. Prohibited Items. The use of the following items is prohibited in all underground or subsurface construction to include, but not limited to tunnels, cut and cover or other openings underground: gasoline or use of gasoline powered equipment; liquid propane gas; natural gas; PVC piping; and smoking materials.

   f. Record Keeping**.** All daily air quality results shall be recorded and submitted to the COTR within 24 hours.

   g. Safety Plan. Special safety requirements shall be identified in the contractor's safety plan to cover all tunnel operations, including a comprehensive evacuation and rescue plan coordinated with the Airports Authority. This plan shall be updated concurrently as tunneling advances.

   h. Ventilation. Fan line ventilation shall be maintained within 10 feet of the tunnel heading. A hard line (steel) system is required.

   i. Electric. Handling live electrical line and equipment shall be in compliance with MSHA regulations.

2. Tunnel and Underground Safety.

    a. Pre-Task Work Plan (PTWP). The contractor shall submit for a review a PTWP for each task to be undertaken. This includes the task, its hazards, and corrective measures. These shall be submitted fifteen (5) working days prior to initiating the task.

    b. Training. The contractor shall submit for approval by the PSM:

        1. Orientation program
        2. Frequency of training
        3. Types of training
        4. Accommodation of non-English speaking language groups
        5. List of qualified Competent Persons

3. First-Aid and CPR. A First-Aid and CPR trained individual shall be required on each crew.

4. Safety Manager. The Safety Manager shall be a full-time on-site position with one of the following qualifications:

    a. Minimum of ten years underground construction safety management experience.

    b. A Certified Safety Professional (CSP) or a Licensed Professional Engineer (PE) with a minimum of five years of experience in underground construction safety supervision.

5. Safety Engineer. The safety engineer shall have a minimum of five years in underground construction safety supervision or equivalent Tunneling/Underground experience to be determined by PSM.

6. Whip Checks. Whip checks are required on all air lines at all connections.

7. Moving Energized Cables. Pulling or moving energized electrical cable shall be done with electrical gloves or electrical stick.

8. Walkway. The contractor shall provide a separate designated walkway for access and egress within the tunnel. They shall be separated and clearly marked.

9. Conveyors.

    a. In addition to the audible warning requirements for conveyors in 29 CFR 1926.555, both a visual warning system and a minimum of a 30 second delay for conveyor start-up shall be incorporated into the system.

    b. No one shall walk on the same side of the tunnel that a conveyor is installed while it is in operation.

10. Mine Phones. All phone systems shall be installed in accordance with 29 CFR 1926.800. Additionally, spacing between operating units shall not exceed 200 feet. Each phone location shall be provided with a 20 lb. ABC fire extinguisher. The mine phone and fire extinguisher locations shall be identified by a “red light.”

11. Compressed Air. The use of compressed air is not allowed as a method to clean or empty any concrete, shotcrete, or grout delivery lines. All delivery lines shall have adequate restraining devices which are certified in writing by a registered Professional Engineer (PE).

12. Receiver Tanks. All air receiver tanks shall comply with 29 CFR 1910.169. Written certification shall be provided prior to their use on site.

13. Personnel Underground. No individual is allowed to be underground alone. Additionally, under no circumstances, is any individual allowed to be forward of any excavation in progress.

III. Emergency Preparedness.

a. Work Platform. If a shaft or work area accessible by stair tower or ladder is the means of access/egress, the contractor shall provide a work platform at each shaft location. The platform shall be capable of supporting a full rescue team and equipment. It shall be designed by a licensed structural engineer and be appropriately tested and conspicuously posted in accordance with OSHA 29 CFR 1926.550.

b. Second Means of Retrieval. A second means of personnel retrieval shall be available within fifteen minutes travel time to the shaft.

c. Vertical Conveyors. If a vertical conveyor system is utilized, it shall be equipped with a fire suppression / sprinkler system the full length of the belt.

d. Training Sessions. Contractors shall make arrangements with the Airports Authority's Fire Department to explain rescue procedures at the sites. This shall include quarterly, on-site training sessions. This shall be coordinated with the COTR.

e. Water Service. For fire protection, a water service shall be installed and maintained throughout the tunnel. This water service shall require a "T" placed every 200 feet horizontally, starting at the portal, to be equipped with an operational shut off valve and a 1 ½" National Standard thread male end with a protective cap.

f. Self-Rescuers. Self-Rescuers shall be of the oxygen generating type with a minimum one-hour supply.

3.25 VISITOR and TOUR POLICY

I. Policy Statement

It is imperative that the highest degree of protection is afforded to all individuals touring any Metropolitan Washington Airports Authority (Airports Authority) construction site. Visitors shall adhere to the contractor's rules while on the construction site. All tours and visits shall be coordinated through the Construction Department of the Office of Engineering and the contractor. The following policy guidelines and procedures have been prepared as general instructions for the organization, direction and safe conduct of tours and visits:

II. Procedures

Escorted Visitors. While on the job site, non-construction personnel or groups shall be accompanied at all times by an authorized representative from the PMSS Consultant, the Airports Authority, the contractor, or other designee familiar with the job site.

Notification and Tours. Personnel tours that do not involve technical inspections need to be cleared through the Construction Department of the Office of Engineering to allow reasonable advance notice. The COTR shall be consulted to coordinate the tour plan, identify specific rules, and to ensure necessary safety precautions are taken.

Safety Enforcement. Before entering a job site, all visitors shall be informed of the need for careful, orderly conduct and be notified of any special hazards that may be encountered. All visitors and tour groups shall comply with the safety precautions required under the contract for that site, including provision and use of personal protective equipment. The number of escorted persons on tours should be proportionate to the degree of hazard and operating space involved, but may not exceed ten visitors per authorized representative.

General Release Form. Before entering an Airports Authority job site, a visitor release form shall be signed by visitors (Refer to Appendix G).

CHAPTER 4:
MOTOR VEHICLE OPERATIONS

4.0 BASIC VEHICLE OPERATIONS

The Airports Authority created a series of motor vehicle rules, which was adopted by the Board of Directors and became regulations with the full force of law. A complete copy of the regulations is located on the Airports Authority's web site at www.mwaa.com, Airports Authority Publications, Motor Vehicle Rules. In addition, the following rules apply:

General Requirements

1. Right of Way. Drivers shall yield the right of way to all aircraft, including aircraft under tow. Drivers shall also yield the right of way to Fire, Police, Airport Operations, and other emergency response vehicles that have lights and sirens activated; all Mobile Lounges or Plane Mates; passengers and employees walking on the ramp to/from aircraft; pushback equipment and wing walkers departing from or returning to the gate; and snow removal equipment.

2. Cleaning. The contractor shall provide means for cleaning haul vehicles as needed to prevent mud or other potentially hazardous material from accumulating on ramps, taxiways, runways, and airport roads.

3. Flagging. The contractor shall furnish VDOT certified flaggers as necessary to control the work traffic, unless otherwise directed by the CO. Reflective (ANSI class 3) vests and class E pants shall be worn by all flagging personnel.

4. Obstructed View. All motorized equipment and vehicles shall be equipped with a functioning back-up alarm. In addition, a spotter shall be used in ALL construction areas where other personnel are working near motorized vehicles, and any foot traffic.

5. Parking. Employee parking shall be as designated in the contract documents. Contractors shall have a tagging system for vehicles on site as a security measure.

6. Site Access. Access to the construction sites and haul roads shall be as shown and described in contract documents.

7. Spoil Covers. Spoil covers shall be used whenever trucks are loaded.

8. Unattended Vehicle/Equipment. No vehicle or equipment operator shall dismount any equipment without first turning off the engine, removing the key, and securing the equipment from movement.

9. Vehicle Inspection. Construction equipment and all vehicles shall be inspected at the beginning of each shift. Safety equipment such as windshields, side windows, head, tail, brake, and clearance lights, etc., shall be kept clean, tested and unbroken.

10. Vehicle Weight. No vehicle may be operated on any road within Airports Authority property in excess of approved highway weight limits.

11. Fueling Operations. Equipment shall be turned off when fueling equipment.

12. All gas-powered equipment shall have a five-pound ABC fire extinguisher in the cab of the equipment.

4.1 SPECIAL REQUIREMENTS FOR AOA

After award of the contract, and before commencing vehicle use, the contractor shall furnish to the COTR a complete vehicle and operators list, including subcontractors, who will be operating motor vehicles on the AOA. The list shall contain the name of each employee, their address, valid operator's permit (i.e., State driver's license number), and the vehicle registration number for each vehicle that will be used at the airport. The following requirements apply to motor vehicle operations within the AOA:

2. AOA Permit. All contractor personnel driving unescorted motor vehicles on airside shall obtain and maintain an AOA operator's permit from the Airport Operations Department. The airport has specific Orders and Instructions addressing vehicle and driver's license requirements.

3. AOA Tour. Prior to beginning construction on the AOA, the contractor's safety representative shall tour airside with an Air Operations Officer.

4. Communication. The contractor shall contact the COTR to arrange Airside Radio Communication training before they are permitted to use radios on the AOA. Contractor's traffic shall not be permitted to cross active runways, taxiways, and ramps in the AOA, except as specifically approved and controlled by the COTR. It shall be the contractor's responsibility to ascertain the status of runways, taxiways, and ramps at all times and maintaining continuous communication while on the airside through means identified by the COTR. The clearance should be confirmed by the driver's personal observation that no aircraft is approaching or departing in that area.

5. Escort Procedures. Operators who do not possess a valid airport driver's license shall be escorted. Unlicensed operators or not registered vehicles on the airport entering the AOA shall be escorted by a licensed operator into, through, and out of the AOA by a vehicle properly identified to operate in the area. All persons operating vehicles on the AOA shall have a valid State driver's license with CDL endorsements as necessary.

   Escort of vehicles onto the AOA is permitted only when the vehicle has a demonstrated need, i.e. unloading / loading of tools, equipment, supplies, etc. No personal vehicle parking is permitted on the AOA.

6. Flagging, Airfield Crossing. Unless specifically approved, flaggers shall be positioned only to control traffic across an active taxiway. Flaggers shall receive training and information by airport operations on flagging operations. Flaggers shall be VDOT certified. Flaggers shall obtain an Airport Identification Badge and use the standard red (18 inch) square flag with weighted baton and lighted baton wands during nighttime operations. IAD does not require square flags but requires batons. Contractor's working at DCA only shall use the standard signals as defined by the Airport Operations Department for flagging operations through all active runway, taxiway and ramp areas, including the following:

   Stop = Hands/flags/batons crossed to represent an X.

   Proceed = Right hand stretched upward; left hand pointed at the ground.

   Wait at Hold Line = Waving both hands in a crossing motion indicates return to hold line and wait for signal to cross.

7. Vehicle Identification. Only properly identified vehicles shall be allowed in the project work area (Consult Airport Operations: Orders & Instructions at each airport for details of vehicle and drivers program).

CHAPTER 5

REPORTING PROCEDURES

5.0 CONSTRUCTION SAFETY/SECURITY INSPECTION REPORT

Inspection Report. The Airports Authority's *Construction Weekly Safety/Security Inspection Summary Report* form is required for recording any unsafe conditions or acts noted during the week by the contractor's safety staff in addition to the Airports Authority Daily Safety Inspection report used by the safety engineer and safety manager. (see Appendix B for both forms). This form is used by the Contractor's Safety Engineer, and the Contractor's Safety Manager, The Airports Authority Daily Safety Inspection Form will also be used by the PSM, the COTR, PMSS inspectors to log observed safety violations. The following instructions apply to the use of the Airports Authority's *Construction Weekly Safety/Security Inspection Summary Report* form:

1. Classification. Unsafe conditions or acts having potential to cause bodily injury or property damage should be classified as either "imminent danger" or "serious." In either case, immediate action should be taken to correct the hazard. The unsafe condition or act shall be reported as instructed in this Construction Safety Manual, even if it has been corrected.

2. Corrective Action. The last item in the "Contractor's Correcting Action" column shall indicate abatement action and a deadline date. (For example, "Repair or replace rail, immediately. Clean up accumulated trash, 9/27. Relocated flammable storage, 9/25.") Abatement photographs shall be taken showing the unsafe condition has been corrected and submitted for review.

3. Detailed Information. Provide specific information under "Safety Violations." Descriptions such as, "safety rails need repair" are adequate, but a better description would be, "broken top rail in safety rail, 8' long at head of Smith Avenue escalator entrance needs repair." Give exact locations of safety violations.

   Distribution. All forms will be distributed electronically and submitted to the COTR.

4. Item Numbering. Number each item, beginning with #1 on each report.

5. Legible. Print or write legibly with a ball point pen, so that all copies are readable.

6. Report Signature. The person conducting the inspection shall sign and date the form in the space marked, "Report Prepared By:" after the inspection is completed.

7. Review. The violations or comments marked on the inspection report shall be reviewed with the project manager, CSE, CSM, COTR, and any other persons authorized by the project manager to implement the necessary corrective action. The project manager, or the authorized representative, shall note in the "Contractor's Corrective Action" column the appropriate action that shall be taken, such as [*Defective regulator shall be removed from service this date]*. That individual shall sign and date the report.

The Airports Authority's *Construction Weekly Safety/Security Inspection Summary Report* shall include all the daily violations observed during the week from the Airports Authority Daily Safety Inspection forms. The Airports Authority's *Construction Weekly Safety/Security Inspection* summary report and the Airports Authority Daily Safety Inspection reports from the entire week shall be submitted weekly to the COTR and PSM to review.

5.1 REPORTING ACCIDENTS AND INCIDENTS

1. Reporting Accidents. Accidents and incidents shall be reported, verified, investigated, and analyzed as prescribed by this manual and/or the applicable *OCIP Manual*. All contractors and other individuals involved in the construction programs shall instruct employees and other personnel to follow these reporting procedures:

   a. Accident Notification. Employees shall report all accidents and incidents, as soon as possible, to their employer or immediate supervisor, who shall report all accidents and incidents to the contractor's safety engineer, or other designated person, COTR, RCPD, PSM, the Airports Authority Construction Department, and others in charge at the job site. For incidents involving fire or hazardous materials releases, the Airports Authority Fire Code Enforcement Division shall be contacted immediately to conduct an investigation. **All fires and hazmat incidents shall be reported to the Authority Public Safety Communications Center 703-572-2400, 703-417-2400, or 911 and ask for the Airport fire dispatcher. The Fire & Rescue responders will determine with Fire Code Enforcement personnel are required at the scene.** In addition, the contractor shall comply with all VOSH notification requirements.

   b. Accident Investigation and Reports. Following any accident or incident, the contractor shall notify the Airports Authority COTR, PSM, and RCPD immediately. The contractor shall conduct an in-depth investigation identifying all causes and recommend hazard control measures. Completed reports shall be sent to the CO, PSM, and RCPD within 24 hours of the accident/incident. No supervisor may decline to accept a report of injury from a subordinate.

   c. Monthly Project Man-Hour/ Injury Report Log. Contractors shall submit, by the 10th day of each month, a Monthly Project Man-Hour/Injury Report Log indicating the total number of man-hours worked and recordable injuries for the month.

   d. Medical Assistance. Contact **Authority Public Safety Communications Center 703-572-2400, 703-417-2400, or 911 and ask for the Airport fire dispatcher** for all emergencies. The injured person's supervisor will ensure that first aid is administered and will accompany the injured worker to the hospital or clinic. The supervisor will inform the treating physician of the injured workers job duties. In addition, the supervisor will inform the treating physician that the company has a light duty/return to work program as required by the AACSM.

   e. Public Information. Information concerning accidents or incidents shall only be provided to authorized personnel (i.e., the Office of Public Safety, Risk Management Department, Airport Operations Department, and Office of Legal Counsel). Questions from the media are to be referred to the Airports Authority's Public Affairs Manager at 703-417-8370.

   f. Secure the Incident Area. Except for rescue and emergency procedures, the accident area shall be tightly and quickly secured for all major accidents. The accident scene shall not be disturbed until released by the investigating Airports Authority officials.

   g. Occupational Exposures. In the event an employee is exposed to toxic materials or harmful physical agents, the Contractor shall:

Notification. Notify the COTR, RCPD, and the PSM of the incident. Develop procedures under the Airports Authority's guidance to contact the following Airports Authority offices for the events listed below:

Fire Department	• *Hazardous Material Incidents* • *Fire Related Incidents* • *Medical Emergencies*
Police Department	• *Bomb Threats* • *Public Demonstrations*
Risk Management	• *Insurance/Claim Issues* • *Property Damage* • *Injuries to Employees or the Public*
Airport Operations	*All accidents or incidents on the AOA*

h. Reports. Any occupational exposures shall be reported on an accident investigation form along with an explanation of the corrective action taken to eliminate further exposures. The completed form shall be submitted to the PSM and RCPD within 24 hours.

I. Review Procedures. Review the emergency procedures regularly and adjust as necessary to provide maximum effectiveness. All such procedures are to be included in the Contractor's Safety Plan and coordinated with the Contracting Officer and COTR.

5.1 ON-SITE FIRST AID

At least one qualified person shall be available at the work site, at all times, to render first aid. This person shall have a valid certificate in first aid training from the U.S. Bureau of Mines, the American Red Cross, or equivalent verifiable training program. A minimum ratio of one such qualified person for every 25 employees shall be maintained throughout the project.

APPENDIX A

APPLICABLE GOVERNMENTAL AGENCIES AND INDUSTRY SAFETY STANDARDS

The contractor shall comply with the safety requirements and provisions of the following agencies, associations, councils, societies, etc.

American Concrete Institute
American National Red Cross
American National Standards Institute (ANSI)
American Petroleum Institute (API)
American Society of Mechanical Engineers (ASME)
American Society for Testing Materials (ASTM)
American Welding Society
Associated General Contractors of America (AGCA
American Concrete Institute
American National Red Cross
American National Standards Institute (ANSI)
American Petroleum Institute (API)
American Society of Mechanical Engineers (ASME)
American Society for Testing Materials (ASTM)
American Welding Society
Associated General Contractors of America (AGCA)
Building Officials Conference of America (BOCA)
Federal Aviation Administration (FAA)
Federal Fire Council
Federal Safety Council
Industrial Hygiene Foundation of America, Inc.
Institute of Makers of Explosives
Interstate Commerce Commission (ICC)
International Fire Code
National Electrical Code (NEC)
Transportation Security Administration (TSA)
Manual of Uniform Traffic Control Devices (MUTCD)
National Fire Protection Assoc. (NFPA)
National Institute of Occupational Safety and Health (NIOSH)
National Institute of Standards & Technology (NIST)
National Safety Council (NSC)
Underwriters Laboratories, Inc. (UL)
U.S. Army, Corp of Engineers https://www.usace.army.mil/Safety-and-Occupational-Health/Safety-and-Health-Requirements-Manual/ Use most updated manual
U.S. Atomic Energy Commission
U.S. Department of Interior, Bureau of Mines
U.S. Department of Labor (OSHA)
U.S. Environmental Protection Agency (EPA)
U.S. General Services Administration (GSA)
U.S. Standards Institute
Virginia Department of Labor (VOSH)
Virginia Department of Transportation (VDOT)
Virginia Division of Motor Vehicles and the Motor Vehicle Safety Responsibility Act
Virginia Statewide Fire Prevention Code (VSFPC)

APPENDIX B

CONSTRUCTION SAFETY/SECURITY INSPECTION REPORT FORMS

Airports Authority

CONSTRUCTION SAFETY / SECURITY INSPECTION WEEKLY SUMMARY REPORT

CONTRACTOR _____

CONTRACT No. _____

ITEM NO.	SAFETY / SECURITY VIOLATIONS	CONTRACTOR	REFERENCE#	CONTRACTOR'S CORRECTING ACTION	DATE CORRECTED

Safety and Security are Awareness Action!

REPORT PREPARED BY _____

SIGNATURE _____

TITLE _____

DATE _____

CONTRACTOR PROJECT MANAGER

SIGNATURE _____

DATE _____

SAFETY ENGINEER/ MANAGER

_____

SIGNATURE _____

DATE _____

AIRPORTS AUTHORITY DAILY SAFETY INSPECTION REPORT

Details

Project(s):		**Date:**	
Building:		**Inspected By:**	
Location:		**Reviewed with:**	
Contractor(s) Observed:			

Category: Sub-Category

1. Administration	CONTRACTOR OBSERVED	COMPLIANT / NON-COMPLIANT OBSERVATIONS		ACTION TAKEN Y / N	ISSUE OPEN / CLOSED	NEAR MISS	COMMENTS/ PHOTOS/ ADDITIONAL INFORMATION
1. Documenting pre-construction meetings							
2. Safety Inspections frequently / daily							
3. PTWP's submitted for all trades/ tasks							
4. Pre-Task Plans conducted daily and at site location							
5. SDS manual							
6. Orientations conducted							
7. OSHA 30 Certified Sub On-Site							
8. OSHA 10 Trained employees							
9. OSHA Posters / OSHA 300 log posted between February 1 to April 30							
10. Safety Committee meetings							
11. Safety manual							
12. State / Fed Posters (English / Spanish)							
13. Tool Box Talks (weekly)							
14. Visitor release sign-in form							
15. Pre-start Subcontractor Package Completed (certifications, competent persons, OCIP enrollment, EMR info, competent persons etc..)							

2. Air Operations Area (AOA)	CONTRACTOR OBSERVED	COMPLIANT / NON-COMPLIANT OBSERVATIONS		ACTION TAKEN Y / N	ISSUE OPEN / CLOSED	NEAR MISS	COMMENTS/ PHOTOS/ ADDITIONAL INFORMATION
1. FOD: Containers Covered							
2. No more than 3-inch elevation drop							

3. Barricades lit (lights continuous burn) & separated 5 feet on center							
4. Barricades filled with water							
5. OFA (flagged or marked, clear)							
6. RSA (flagged, clear of objects at end of shift)							
7. Escort Procedures Followed							
8. SIDA training /Valid Driver's license							
9. Excavation barricaded using lighted barricaded and lights on each end of each barricade							
10. Flaggers on Active Runways							
11. Flagmen wearing Correct PPE							
12. Flagmen have two flags for flagging							
13. Have lights been properly placed for nighttime flagging							
14. Properly placed MOT							
15. Light Buckets and Class II barricades							
16. Notify OPS working near secured area Potomac river (DCA only)							
17. Items placed 10 feet from perimeter fence.							
18. Proper procedures for closure/ OPS notified/Permission from OPS and Tower to close any area							
19. Notified OPS for inspection prior to opening closed area/FOD							
20. Travel areas (RW's, TW's, service road, Levy road if at DCA, and all roads used) free of debris, mud, gravel etc.							
21. Escorts following tower contact procedures during inclement weather.							
22. Parking unauthorized vehicles on AOA							
23. Operating unauthorized equipment on highways /AOA							
24. Reviewing SIDA rules with contractors							

3. Concrete/Masonry	CONTRACTOR OBSERVED	COMPLIANT / NON-COMPLIANT OBSERVATIONS		ACTION TAKEN Y / N	ISSUE OPEN / CLOSED	NEAR MISS	COMMENTS/ PHOTOS/ ADDITIONAL INFORMATION
1. Competent Person Provided							
2. Chemical resistant gloves worn							
3. Face shields /goggles worn							
4. Elevated work platform for wood cutting							
5. Cutting free hand prohibited							
6. Dust control implemented							
7. Rebar protected from impalement							

8.	Eyewash station available within 50 feet of work						
9.	Fall protect plan submitted if working over six feet						
10.	Masonry saws guarded						
11.	Masonry saws used as intended purpose/wet or dry						
12.	Dead man switches used on equipment/tools						
13.	Cover closed on mortar mixer						
14.	Compressor air hose nozzle has pressure reducer/chip guard						
15.	Concrete buckets have positive safety latches						
16.	Compressor air hoses equipped with positive fail-safe joint connectors/ OSHA Valve Required						
17.	Shoring adequate for concrete load						
18.	Shoring plan submitted/ PE stamped						
19.	Formwork designed, fabricated, erected supported, braced properly						
20.	Shoring has been inspected						
21.	Forms and shores prohibited to remove until determined by break test of sufficient strength						
22.	Fall protection required when climbing rebar or form work						
23.	Signs posted for stripping operations						
24.	Protruding nails removed or bent down						

4. Confined Space		CONTRACTOR OBSERVED	COMPLIANT / NON-COMPLIANT OBSERVATIONS		ACTION TAKEN Y / N	ISSUE OPEN / CLOSED	NEAR MISS	COMMENTS/ PHOTOS/ ADDITIONAL INFORMATION
1.	CSE Competent Person on Site							
2.	Permit required? Confined space permits visible at the point of entry							
3.	Atmospheric conditions tested							
4.	IDLH atmosphere conditions exist rescue on stand by							
5.	Attendant / entrant communication							
6.	Electrical / fire prevention							
7.	Entry supervisor / monitor							
8.	Harness / extraction equip							
9.	Area secured / confined space signage posted							
10.	Regular inspection / air monitor							
11.	Gas meter calibrated / field check prior to entry							
12.	Rescue plan / emergency #'s / training							
13.	Respiratory equipment / training / physician pulmonary testing done / fit test							

14. Training documentation							
15. Ventilation adequate							
16. Permit filled out correctly							
17. Housekeeping in/ around confined space							

5. Cranes and Hoisting Equipment	CONTRACTOR OBSERVED	COMPLIANT / NON-COMPLIANT OBSERVATIONS		ACTION TAKEN Y / N	ISSUE OPEN / CLOSED	NEAR MISS	COMMENTS/ PHOTOS/ ADDITIONAL INFORMATION
1. Competent Person Provided							
2. Air Operations approved location, time, & height of crane. Lights provided as required							
3. Anti -Two Block device							
4. Boom angle indicator							
5. Certification of crane operator (NCCCO), riggers and signalmen (Certifications from either NCCCO, Crane Tech or Crane Institute of America)							
6. Crane pad soil analysis checked for load bearing capacity							
7. Crane supported and level w/ proper compaction of soils under crane support							
8. Daily inspections current							
9. Distance from power lines / de-energized 20 ft. or greater w/ higher voltages, (see OSHA chart)							
10. Fire extinguisher in crane (tagged & charged)							
11. Certified flagman identified/trained							
12. Lift plan on file							
13. Critical lift plan /PE stamped							
14. Tandem Lift, (2 operators – 1 coordinator)							
15. Load chart posted							
16. Loads properly rigged / Master Rigger on critical lifts, class 2 rigger on all lifts							
17. Means of communication							
18. Operator appears competent							
19. Operator manual in crane							
20. Outrigger extended / adequate cribbing/ min. 6x6 blocking over 30 tons or approved mats by PSM							
21. Rigging inspected / rated/ American made only							
22. Rigging tags legible							
23. Safety latches used							
24. Swing radius barricaded							
25. Tag lines used							

26. Weight of load field verified							
27. Annual crane inspection current / third party inspection after assembly available							
28. Proper hand signals being used							
29. Distance / Radius of crane pick field verified							

6. Electrical	CONTRACTOR OBSERVED	COMPLIANT / NON-COMPLIANT OBSERVATIONS		ACTION TAKEN Y / N	ISSUE OPEN / CLOSED	NEAR MISS	COMMENTS/ PHOTOS/ ADDITIONAL INFORMATION
1. Cords in good condition / proper size minimum 12 AWG							
2. Cords protected from traffic / water							
3. Elect Hot Work Procedures							
4. Electrical room protected and locked							
5. Energized parts protected							
6. GFCI's used / tested monthly							
7. LO/TO procedures followed							
8. Proper temp lighting							
9. Proper use temp power boxes							
10. Electrical panels 3 feet clearance							
11. Signage present Authorized personnel only							
12. Arc Flash Exposure, NFPA 70 Airports Authority Electrical permit required							

7. Environmental	CONTRACTOR OBSERVED	COMPLIANT / NON-COMPLIANT OBSERVATIONS		ACTION TAKEN Y / N	ISSUE OPEN / CLOSED	NEAR MISS	COMMENTS/ PHOTOS/ ADDITIONAL INFORMATION
1. Airborne contaminants							
2. Concrete cut wet & vacuumed							
3. Hazard Material storage/use/disposal							
4. Nuisance dust							
5. Spill containment adequate, reported.							
6. Granite / Silica dust controlled							
7. SWPP Plan Available							

8. Excavation	CONTRACTOR OBSERVED	COMPLIANT / NON-COMPLIANT OBSERVATIONS		ACTION TAKEN Y / N	ISSUE OPEN / CLOSED	NEAR MISS	COMMENTS/ PHOTOS/ ADDITIONAL INFORMATION
1. Competent person present							
2. Access/Egress (ladder, ramp, stair) with 25' laterally							

3. Utilities marked and checked prior to excavating. GIS plans checked.							
4. Utilities visually located by hand digging using non-conductive tools, potholing or hydro excavating							
5. Airports Authority Excavation Permit filled out							
6. Daily inspections doc							
7. Excavation > 20' engineered.							
8. Employees protected from cave in when entering or exiting the excavation.							
9. Perimeter pedestrian protection/barricade 6 feet back from edge of excavation							
10. Sloped, benched, or shored correctly							
11. Spoil piles 2' from edge							
12. Surface encumbrances removed or supported							
13. Surface traffic exposure/hard barricade in place							
14. Water entering excavation / dewatering in place							
15. Employees prohibited from being under overhead loads (e.g. pipes)							
16. Proper Shoring provided if needed							
17. Additional Lighting provided at night							
18. Excavation protected with guardrail system when sheer walls of trench/excavation is over 6 feet in depth							
19. Trench box data available							
20. Trench box free of defects / structurally sound							
21. Trench box pins in place / secured							
22. Trench box open ends shielded or sloped 11/2:1							
23. Trench box 18 inches above grade							

9. Fall Protection	CONTRACTOR OBSERVED	COMPLIANT / NON-COMPLIANT OBSERVATIONS		ACTION TAKEN Y / N	ISSUE OPEN / CLOSED	NEAR MISS	COMMENTS/ PHOTOS/ ADDITIONAL INFORMATION
1. Exterior/interior guardrails							
2. Fall protection at 6' mandatory							
3. Fall protection plan							
4. Floor/wall openings protected							
5. Floor covers adequate for loads imposed upon them, marked, secured, and labeled							
6. Impalement Protection							
7. Proper anchorage points							
8. Roof edge protected							

9. Safety harness and correct fall arrest systems used under 181/2 feet							
10. Retractable lanyard/ Swing Fall							
11. Fall protection used within 5 years of manufacturer issue date/tags legible							
12. Horizontal life lines designed system or approved by PE							
13. Ladder openings properly protected with corral system							
14. Vertical Lifelines Set-up properly							
15. Lifelines protected from abrasion							
16. CAZ / Warning lines / Safety Monitor prohibited.							

10. Fire Protection	CONTRACTOR OBSERVED	COMPLIANT / NON-COMPLIANT OBSERVATIONS		ACTION TAKEN Y / N	ISSUE OPEN / CLOSED	NEAR MISS	COMMENTS/ PHOTOS/ ADDITIONAL INFORMATION
1. Emergency vehicle access maintained							
2. Fire Hydrant shall be protected and access maintained							
3. Fire Extinguishers Inspected and charged							
4. Fire Extinguishers kept in cabinet or mounted to wall							
5. Fire Extinguishers located on each level at stairways and at storage sheds							
6. Fire Extinguishers visible accessible and located within 30 feet from hot work							
7. Fire Extinguishers at Fuel Dispensing/storage areas > 25 feet <75 feet from site							
8. Other Fire extinguishers accessible within a travel distance of not less than 75 feet							
9. Valid Hot Work Permit obtained and posted at the Hot Work location. Outage Form shall be posted as well							
10. Fire watch when applicable/30 min after hot work completed. Fire Watch shall be identified by different colored nonflammable class 3 vest or hard hat mutually agreed upon by the contractor and the Airports Authority.							
11. Combustibles removed 35 feet away from Hot Work							
12. Proper signs posted in storage areas such as “No Smoking”							
13. UL Approved Safety cans used for fuel containment. Plastic gas containers are prohibited							
14. UL Approved safety fuel cans shall have spring loaded cap and flash arrestor screens							

15. Compressed gas cylinders shall be capped, secured from falling, and protected from vehicle impact							
16. Compressed gases shall be stored in storage cages outside the building with proper required signage							
17. Compressed gases shall not be stored inside a building							
18. Trash removed at the end of each shift (Mandatory)							
19. Trash dumpsters shall be covered at all times with a flame-retardant cover							
20. Smoking is prohibited on site. Smoking is only allowed in areas approved by the Fire Marshall							

11. Hand and Power Tools	CONTRACTOR OBSERVED	COMPLIANT / NON-COMPLIANT OBSERVATIONS		ACTION TAKEN Y / N	ISSUE OPEN / CLOSED	NEAR MISS	COMMENTS/ PHOTOS/ ADDITIONAL INFORMATION
1. Anti-whip connections attach to pressurized lines/Pinned							
2. Auto shut off/safety switches							
3. Cord in good condition							
4. Ground prong in place where applicable							
5. Guards in place							
6. Information label on tool							
7. Proper tool for the job							
8. Tool used for its intended purpose							
9. Tool in good condition							
10. Strain relief functioning							
11. Powder actuated tool used properly/training							
12. Unspent powder actuated shots disposed properly							
13. Powder actuated tool training documented							
14. Powder actuated tool secured in SIDA area							
15. Powder actuated tool shots lead free and low velocity							
16. Using a workbench waist high for cutting							
17. Saw mounted to workbench							
18. Trash receptacle next to work bench							

12. Hazard Communication	CONTRACTOR OBSERVED	COMPLIANT / NON-COMPLIANT OBSERVATIONS		ACTION TAKEN Y / N	ISSUE OPEN / CLOSED	NEAR MISS	COMMENTS/ PHOTOS/ ADDITIONAL INFORMATION
1. Copy of Hazard Communication Program							

2. Employees trained in global harmonization system							
3. Inventory list / Hazardous Inventory List							
4. Safety Data Sheets (SDS) attached to PTWP at work site location where work is being performed							
5. Proper labels on containers / Placards posted.							
6. SDS readily available							
7. MWAA FD provided copies of SDS							

13. Housekeeping	CONTRACTOR OBSERVED	COMPLIANT / NON-COMPLIANT OBSERVATIONS		ACTION TAKEN Y / N	ISSUE OPEN / CLOSED	NEAR MISS	COMMENTS/ PHOTOS/ ADDITIONAL INFORMATION
1. Work Areas kept clean							
2. Clear access to building / site							
3. Proper material storage							
4. Slip, trip, fall hazards addressed							
5. Trash in protected container							
6. Walkways clear / unobstructed							
7. Electrical cords off ground / out of water							
8. Work stations elevated							

14. Ladders	CONTRACTOR OBSERVED	COMPLIANT / NON-COMPLIANT OBSERVATIONS		ACTION TAKEN Y / N	ISSUE OPEN / CLOSED	NEAR MISS	COMMENTS/ PHOTOS/ ADDITIONAL INFORMATION
1. Three Points of contact using ladder							
2. Working off top two steps prohibited							
3. Metal Ladders and Platform ladders prohibited							
4. Bottom of ladder clear of debris							
5. Defective ladder							
6. Extension ladder secured and 3 feet past landing							
7. Step ladder locked properly							
8. Extension ladder taken apart for single ladder prohibited							
9. Transferring from step ladder prohibited							
10. Job Built ladder built correctly							
11. Ladder coral installed							

15. Maintenance of Traffic	CONTRACTOR OBSERVED	COMPLIANT / NON-COMPLIANT OBSERVATIONS		ACTION TAKEN Y / N	ISSUE OPEN / CLOSED	NEAR MISS	COMMENTS/ PHOTOS/ ADDITIONAL INFORMATION
A. Drive through observations							
1. Difficult or unexpected maneuvers							
2. Adequate signs / warning of hazards							
3. Traffic control devices visible							
4. Road conditions ok, pot holes, ruts, etc.							
5. MOT Plan followed							
B. Signage							
1. Clearly visible and understandable							
2. Sign support adequate / ballast needed							
3. Proper size, color, shape, location							
4. Temporary vs. permanent is evident							
C. Portable changeable message signs							
1. Appropriate message, concise text							
2. Visible, not blocked, proper height							
3. PCMS delineated (barrels / cones)							
D. Arrow Panel							
1. Placed in proper location / protected							
2. All bulbs working and aligned properly.							
3. Arrow board dims at night							
E. Drums & cones							
1. Proper taper length							
2. Correct spacing and aligned properly							
3. Clean & proper reflective bands							
4. Additional devices required							
5. Proper ballast to prevent turnover							
F. Traffic barriers							
1. Proper adjustments, clean, no damage							
2. Proper flairs / attenuator							
3. Barrier pinned as required 2 feet back if over 4 feet in depth							
4. Warning lights / reflectors clean							
G. Type III barricades							
1. Properly placed, clean & free of defects							
2. Directional chevrons in proper direction							
H. Flaggers							
1. Adequate advanced sign placement							
2. Proper sign spacing							

3. Flagger provided / positioned correctly							
4. Flagger highly visible, proper PPE Class E pants							
5. Flagger properly trained and certified							
6. Flagger station illuminated							
I. Street controls							
1. Roads clean free of stones/ gravel							
2. Steel plates secured and reflective tape on corners of plates							
J. Work Zones							
1. Evidence of accidents (properly reported)							
2. Adequate acceleration / deceleration lanes							
3. Tools, equipment, materials off roadway							
4. TMA within 80 - 120 feet of workers							
5. All workers protected by TMA							
6. MOT Plan Followed							

16. Medical / Emergency	CONTRACTOR OBSERVED	COMPLIANT / NON-COMPLIANT OBSERVATIONS		ACTION TAKEN Y / N	ISSUE OPEN / CLOSED	NEAR MISS	COMMENTS/ PHOTOS/ ADDITIONAL INFORMATION
1. Potable drinking water							
2. 1st aid kit							
3. 1st Aid/CPR on site							
4. Emergency numbers posted							
5. Emergency products supplied							
6. Emergency Eyewash available and inspected							
7. Map to medical facility / bi-lingual							
8. Project Emergency / Crisis Mgmt. Plan							
9. Team contact numbers Posted							

17. Motorized Equipment	CONTRACTOR OBSERVED	COMPLIANT / NON-COMPLIANT OBSERVATIONS		ACTION TAKEN Y / N	ISSUE OPEN / CLOSED	NEAR MISS	COMMENTS/ PHOTOS/ ADDITIONAL INFORMATION
1. Spotter(s) Present and controlling/Shall be identified by different colored hard hat							
2. Back up alarm functioning/ or spotter if alarm not working							
3. Flagman / correct PPE / trained							
4. Glass free of obstructions							
5. Horn functioning							
6. Operator appears competent							

7. Seat belts used							
8. Training docs available							

18. PPE	CONTRACTOR OBSERVED	COMPLIANT / NON-COMPLIANT OBSERVATIONS		ACTION TAKEN Y / N	ISSUE OPEN / CLOSED	NEAR MISS	COMMENTS/ PHOTOS/ ADDITIONAL INFORMATION
1. Face Shields/Safety Goggles							
2. Safety Glasses / clean scratch free, appropriate for area-no dark tint in building(s)							
3. Gloves/ appropriate for task/ cut resistant gloves 3 plus for cutting activities or working with sharp metals/ no gloves rotary tools/Kevlar sleeves shall be worn around sharps							
4. Long Hair protected							
5. Hard Hats / reflective for road exposure / brim forward / no bump caps allowed							
6. Hearing protection as required per task							
7. Metatarsal protection							
8. Proper Clothing for task / Class 3 vest, etc.							
9. Respiratory protection (shall be properly fitted and approved by physician)							
10. Visitor PPE available							
11. Work Boots / minimum ankle high							
12. Flaggers Class 3 vest and class E pants for night work							
13. Hot Work PPE shall be non-flammable: Class 3 vest prohibited when welding							
14. Appropriate face protection for task / goggles, face shield							

19. Scaffolds	CONTRACTOR OBSERVED	COMPLIANT / NON-COMPLIANT OBSERVATIONS		ACTION TAKEN Y / N	ISSUE OPEN / CLOSED	NEAR MISS	COMMENTS/ PHOTOS/ ADDITIONAL INFORMATION
1. Competent Person identified and available							
2. Bracing and pins in place							
3. Compatible components used							
4. Base plates used in stairwells / wheels prohibited							
5. Guardrails in place / 4’ and above / toe boards required above 10’							
6. Inspected daily (Green or Red Placard signed)							
7. Outriggers installed based on height base ratio							
8. Properly secured to structure							
9. Proper access to platforms							

10. Proper height to base ratio							
11. Proper loading of materials							
12. Safe work distances							
13. Sills, plates, jacks installed							
14. Surface in safe condition							
15. Wheels locked							
16. Scaffold properly decked, fully planked, no more than inch opening							
17. PFAS when erecting and dismantling scaffold / approved by manufacturer of scaffold to tie off.							
20. Scissor / Aerial Lifts	**CONTRACTOR OBSERVED**	**COMPLIANT / NON-COMPLIANT OBSERVATIONS**		**ACTION TAKEN Y / N**	**ISSUE OPEN / CLOSED**	**NEAR MISS**	**COMMENTS/ PHOTOS/ ADDITIONAL INFORMATION**
1. Competent Person Provided							
2. Equipment loaded properly							
3. Gate or chain secured							
4. Harness and tie off according to MFGR's requirements							
5. Nothing to increase height							
6. Operating on flat surface							
7. Operator/occupants trained and documentation available							
8. Safe work distances / avoid pinch points							
9. Operating surface free of holes / openings / debris							
10. Retract boom to ground to move lift							
11. Climbing rails of lift prohibited							
12. Hoisting materials on top rail prohibited / Only MFGR approved attachment for material lifting							

21. Site / Public Protection	**CONTRACTOR OBSERVED**	**COMPLIANT / NON-COMPLIANT OBSERVATIONS**		**ACTION TAKEN Y / N**	**ISSUE OPEN / CLOSED**	**NEAR MISS**	**COMMENTS/ PHOTOS/ ADDITIONAL INFORMATION**
1. Adequate lighting							
2. Barricades installed properly							
3. Company rep present / available							
4. Excavations protected with anchored barriers							
5. Falling object / overhead protection provided							
6. Perimeter fences secured / in good condition							
7. Public protection signage							

8. Security system in place							
9. Street closure identified							
10. Traffic Control plan in place							

22. Steel Erection	CONTRACTOR OBSERVED	COMPLIANT / NON-COMPLIANT OBSERVATIONS		ACTION TAKEN Y / N	ISSUE OPEN / CLOSED	NEAR MISS	COMMENTS/ PHOTOS/ ADDITIONAL INFORMATION
1. Competent Person identified and available							
2. Anchorage points meet requirements							
3. CDZ/warning lines/safety monitors prohibited							
4. Erector notify of modification							
5. Fall protection training provided							
6. Falling object protection							
7. Christmas Treeing prohibited							
8. Proper anchorage of columns / beams							
9. Site layout / sequence plan							
10. Structural flooring requirements posted							
11. P.E. approved concrete strength available							
12. Steel cable guardrails marked every 6' with high visibility material							
13. Guardrails installed after decking in place with Mesh from toe board to top rail							
14. All penetrations > 2" protected							

23. Welding and Cutting	CONTRACTOR OBSERVED	COMPLIANT / NON-COMPLIANT OBSERVATIONS		ACTION TAKEN Y / N	ISSUE OPEN / CLOSED	NEAR MISS	COMMENTS/ PHOTOS/ ADDITIONAL INFORMATION
1. Cylinders upright / capped / secured							
2. Flash arrestors on torch hoses at regulators and torch. (Need Both)							
3. Fire extinguisher present / inspected							
4. Bottles protected from point of operation							
5. Flash protection available							
6. Gauges working properly							
7. Leads in good condition / protected / out of water							
8. Proper PPE in use / welding helmet attached to hardhat							
9. Proper Storage of Cylinders / Separated properly							
10. Torch hoses good condition							
11. Weld machine ventilated / grounded per MFGR							

12. Welding terminals protected with boot caps							
13. No welding near intake vents							
14. Grounding leads attached to the work							
15. Tanks stored in cages outside the building							

Note: The contractor can add items to the above inspection list as it pertains to their work. The green column is for compliant observations and the red column is for non-compliant observations. Please put a number in the column of the number of observations observed.

APPENDIX C

SAFETY PROGRAM CONTRACTOR'S PLAN REQUIREMENTS

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EXAMPLE – Minimum Requirements Provided

The contractor is responsible to review the specific requirements of the contract, analyze the planned methods of operation, incorporate any additional specific or unique safety requirements in the written plan, and ensure that all applicable safety regulations are addressed. **The written contractor safety plan shall follow the sequence in the outline provided or will be sent back as revise and resubmit.** The "Contractor's Safety Plan" shall include, but is not limited to, the following guidelines:

General Provisions

1. **Policy Statement.** The contractor will state that they are committed to provide a safe and healthy working environment that is free from recognized hazards for all employees. This policy is to be reinforced by upper management and implemented by all project managers. In addition, the contractor, and their subcontractors will state and sign a document that they have read and understand the Airports Authority Construction Safety Manual. The controlling contractor's subcontractors shall follow their safety policies.

2. **Compliance.** Contractor's plan to comply with the specific safety requirements identified in the Airports A*ACSM*, including the procedures for completing and forwarding to the COTR/RE and RCPD all on-site accident and incident reports.

3. **Medical Treatment.** Providing medical services. A copy is to be posted at the work site first aid station. The following emergency numbers shall be included for the given work area:

Ronald Reagan Washington National Airport

703-417-2400 Fire or Ambulance
703-417-2400 Police

Washington Dulles International Airport

703-572-2400 Fire or Ambulance
703-572-2400 Police

Employee Clinic Address and Phone Number

Employees shall call 911 for life threatening emergency and give FD # location.

4. **OSHA Requirements and MWAA Personal Protection Requirements.** Safety and health provisions for providing adequate lighting, ventilation, noise control, and personal protective equipment, company housekeeping rules, which construction areas shall be designated "Hard Hat Areas," and where warning signs will be posted at all entry points.

5. **Personnel Instruction.** The contractor shall identify the greatest number of employees to be working at any one time during peak construction periods, the company policies for initial safety indoctrination of all employees, and company plans for continued safety education for all employees, including weekly safety meetings. Contractor orientation programs including Airports Authority safety orientation information (provided to the contractor) and weekly training meetings should be able to accommodate the various

language groups.

6. **Responsibilities.** Acknowledgment that the contractor is totally responsible for compliance with OSHA and VOSH requirements and relevant FAA, Authority or other applicable rules and orders. Additionally, the plan will require a place of employment that is free of unsanitary or hazardous conditions that would harm an employee's health or safety.

7. **Safety Inspections.** The frequency at which safety inspections will be conducted by the contractor's safety engineer or other assigned safety personnel. Using Airports Authority Safety Inspection Check List (provided to the contractor).

8. **Safety Personnel.** State the name of the contractor's safety engineer and his/her qualifications. Indicate his/her authority to direct work stoppage and expend funds to eliminate imminent hazardous conditions. Submit resume of contractor's safety staff. This includes alternate safety professionals.

9. **Safety Requirements, Electrical.** Checking and testing of electrical tools, appliances for the required ground, and the installation of electrical circuits in accordance with the National Electric Code.

10. **Safety Requirements, Equipment.** Testing and inspecting of equipment, and the provision for backup alarms for tractors, backhoes, dozers, motor graders, etc.

11. **Safety Requirements, Ladders.** Types of ladders for specific uses and the anchoring to be utilized with each type.

12. **Site Layout.** The following shall be included in all site layout drawings:

    a. Fire/rescue apparatus access roads and fire lanes
    b. Fire hydrant locations
    c. Fixed/portable fire equipment locations
    d. Building entry/egress routes
    e. Topographic hazards (excavations, etc.)
    f. Hazardous materials and wastes storage
    g. Flammable/combustible liquid storage
    h. Compressed gas cylinder storage
    i. Temporary heating equipment and fuel source locations
    j. Utility system(s) control valve(s)
    k. Evacuation assembly points
    l. Material Safety Data Sheet (SDS) storage location
    m. Eyewash station location
    n. Laydown Area

13. **Storage.** Requirements for storage of flammable and combustible liquids or gases, including paints.

14. **Toilets.** Provision of toilets, including frequency at which toilet will be cleaned with soap and water, and sterilized (Refer to Sanitation Policy).

15. **Traffic Control.** How the traffic will be controlled and marked for hazards, such as haul roads, highways, intersections, utilities, pedestrian walkways, and prohibited areas.

16. **Accident Investigation.** There are four types of incidents or accidents that shall be investigated, workman's compensation injury, auto accidents, vehicle liability, and general liability. A detailed report shall be provided in a timely manner explaining what happened, why, who, when, where, etc., and the corrective measures taken to prevent future occurrence.

Special Provisions

Depending on the type of construction, additional items shall be incorporated into the Contractor's Safety Plan. When applicable, include the following:

1. **Blasting Plan.** Complete Blasting Plan which includes procedures for blasting, permits, explosives handling, explosive storage, explosive transportation, hole loading, blast signals, and blaster qualifications.

2. **Confined Space Entry.** Procedures for confined space entry and work operations in and around confined spaces, as well as, emergency retrieval measures (Refer to Confined Space Policy and Procedures).

3. **Competent Person Documentation &Training.** Contractors shall submit a list of competent persons for the work their performing. Training documentation shall be included. This includes required 30-hour OSHA and 10 Hour OSHA certified employees.

4. **Cranes.** Use of cranes or derricks and the testing and inspection thereof, including hook latches, cables, boom stops, load tables, warning devices, fire extinguishers, and where the illustration of crane operation signals shall be posted on the job site (Refer to Crane Policy for additional crane requirements).

5. **Demolition**. Submit demolition plan for review if in scope of work.

6. **EMR Rates**: Contractors with an Experience Modification Rate (EMR) rating over 1.0 of the recent completed year shall provide a Safety Mitigation Plan addressing the safety issues that the contractor has had over the past three years also including the current year.

7. **Excavations.** Excavation plans shall indicate slope angle and protection, shoring, guarding, barricades, excavation access, and excavated material storage (Refer to Excavation Policy and Procedures).

8. **Fall Protection.** The use of full-body harnesses, life lines, and lanyards when necessary.

9. **Fire Code Enforcement Plan.** Send plan to MWAA Fire Marshal

10. **Formwork.** Procedure for submitting formwork and falsework drawings for review and approval. This item should also be indicated on the contractor's progress schedule to prevent submittal delay which could hold up project.

11. **Hazard Communication Program.** Policy for following the hazard communication program, including the location of SDSs on the job site. Global Harmonization Training Program.

12. **Identification Sticker Program**. Identification (hard hat stickers) shall be required to identify trained employees on equipment and tool use (e.g. forklift operators, powder actuated tools, scaffolds, scissor lifts).

13. **Interruption of Fire/Security Systems.** Plans shall include measures and/or procedures to provide interim fire and security protection to facilities or areas affected by interruptions. These include automatic detection devices and alarms, automatic sprinkler systems, fire pumps, fire hydrants, applicable water supplies and reservoirs.

14. **Lockout/Tagout.** Procedures for lockout/tagout and the control of energy during work operations.

15. **Safety Nets.** Use of safety nets in areas where the use of full-body harnesses and life lines or scaffolds is not practical.

16. **Scaffolding.** Planking size, cleats, guardrails, toe boards, anchor points, putlogs, section pins, fall protection, and access points.

17. **Silica**. Plan on controlling silica exposure.

18. **Welding Protection.** How welding protection will be provided, including shields, fire extinguishers, ventilation, hot work permits and fire watches.

19. **Respiratory Program.** How and when respiratory protection will be provided and monitored.

20. **Disciplinary Program.** The contractor shall provide an outline of disciplinary action regarding safety violations, for example;

    first offense - written notice
    second offense - one day off
    third offense - three days off
    fourth offense - removal from company
    Airports Authority NCN Fine Schedule/ Policies

21. **Substance Abuse Policy.** Policy Statement - e.g., pre-employment drug testing, post-accident, random testing, etc.

22. **Emergency Evacuation and Rescue Plan.** The contractor's plan for steps to take if a crisis/serious injury or incident occurs. This plan should be developed with assistance from Program Management Consultant, Airport Operations, and the Airports Authority's Fire Department. A drawing of the site should be submitted to Authority's Fire, Police, and Operations departments. If site conditions that may affect this plan change during construction, the contractor shall submit a revised plan for approval. This plan should be made available in English as well as other languages as necessary, so that all employees can understand and react accordingly. Controlling contractor shall keep an accurate man count of employees on site (e.g. man count on white board of each contractor).

23. **Signage.** At all construction sites, the contractor will install signs that are clearly visible from 50 feet that identify any hazardous or dangerous condition. Signs shall be white with red lettering.

24. **Pre-Task Work Plan Program.** The contractor shall submit a program that identifies any upcoming work activities which pose a potential safety hazard. This program should be documented into definable and manageable components whenever the risk of personal injury exists as a result of hazardous tasks or activities. These will be submitted fifteen (15) working days prior to initiating the task. In addition, daily pre-task planning shall be required for work to be performed (Refer PTWP Form Appendix E and PTWP Policy).

25. **Return to Work Program**. Contractor and their subcontractors shall establish a "Return to Work" policy in compliance with OSHA standards. This is mandatory for all controlling contractors and their subcontractors.

APPENDIX D

ELECTRICAL SAFE CLEARANCE FORMS

Metropolitan Washington Airports Authority
UTILITY OUTAGE REQUEST - Dulles International

Must be submitted and approved by Electrical and Utilities Services Division Office four (4) business days before requested outage date.

Project Name (Print or Type)			**Contract No.**		
Requestor			**Company Name**		
Address			**Phone No.**	**E-mail**	
REQUEST SYSTEM OUTAGE FOR: ☐ **Electrical** ☐ **Gas** ☐ **Water** ☐ **Sprinkler** ☐ **Sewer** ☐ **HVAC** ☐ **BAS** ☐ **Other (Specify)**			☐ **Fire Alarm** The FACP shall be returned to normal operating conditions at the end of each day.		
START DAY	DATE	TIME (24 HR)	**COMPLETION** DAY	DATE	TIME (24 HR)

DESCRIPTION

PURPOSE (Indicate project and describe specific tasks to be performed. Attach additional documentation if necessary.)

AFFECTED BUILDINGS, TENANTS AND SYSTEM (Attach additional documentation if necessary.)

CONCURRENCES

(Requestor to obtain the following concurrences, where applicable, before submitting outage form for final approval. Sign and print all approval signatures.)

Affected Tenants/Owners	DATE	**Resident Engineer/Project Manager**	DATE
Fire Code Official	DATE	**Interior Electric Supervisor**	DATE
Fire Watch Required ☐		**Electronics/AEM Supervisor**	DATE
Fire Watch Attendant:		**Exterior Electric Supervisor**	DATE
Phone Number:			
Fire Alarm Installer Qualifications:		**Utility Supervisor**	DATE
Fire Alarm Installer Name:		**Plumbing Supervisor**	DATE

FINAL APPROVAL/REJECTION BY ELECTRICAL AND UTILITIES SERVICES DIVISION OFFICE

Outage Request Approved/Rejected for indicated date and time: ☐ APPROVED ☐ REJECTED	CONTROL NO.	DATE
Approval/Rejection comments:		

Airports Authority/Resident Engineer/Project Manager Use Only

Resident Engineer Name:	Project Manager Name:
Resident Engineer E-mail:	Project Manager E-mail:

MWAA Form EM-27 (2017) * Exception to the four day approval-Based on impact to Airport business continuity and/or the complexity of the job, a detailed work plan will be required and the approval time extended as needed, for review of work plan.

Metropolitan Washington Airports Authority

WASHINGTON RONALD REAGAN NATIONAL AIRPORT

UTILITY OUTAGE REQUEST

(*Must be submitted and approved three business days (72 hours) before requested outage date.)

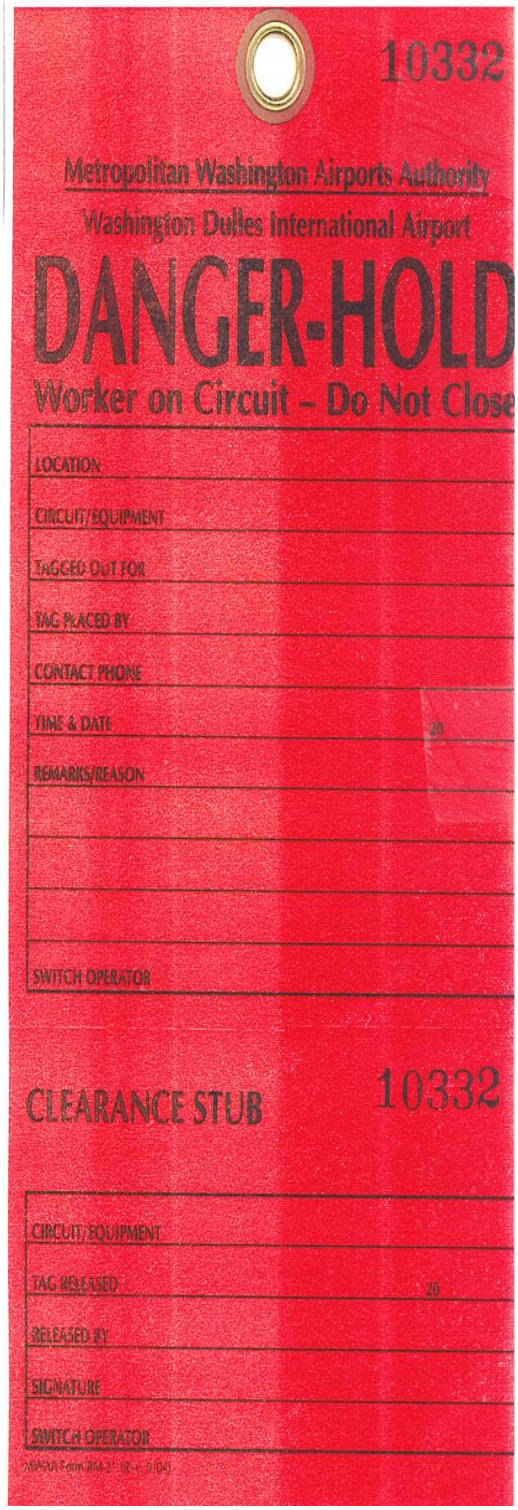
(NFPA 10.4.2.3 - The system installer shall provide evidence of their qualifications and or certifications when requested by the AHJ)

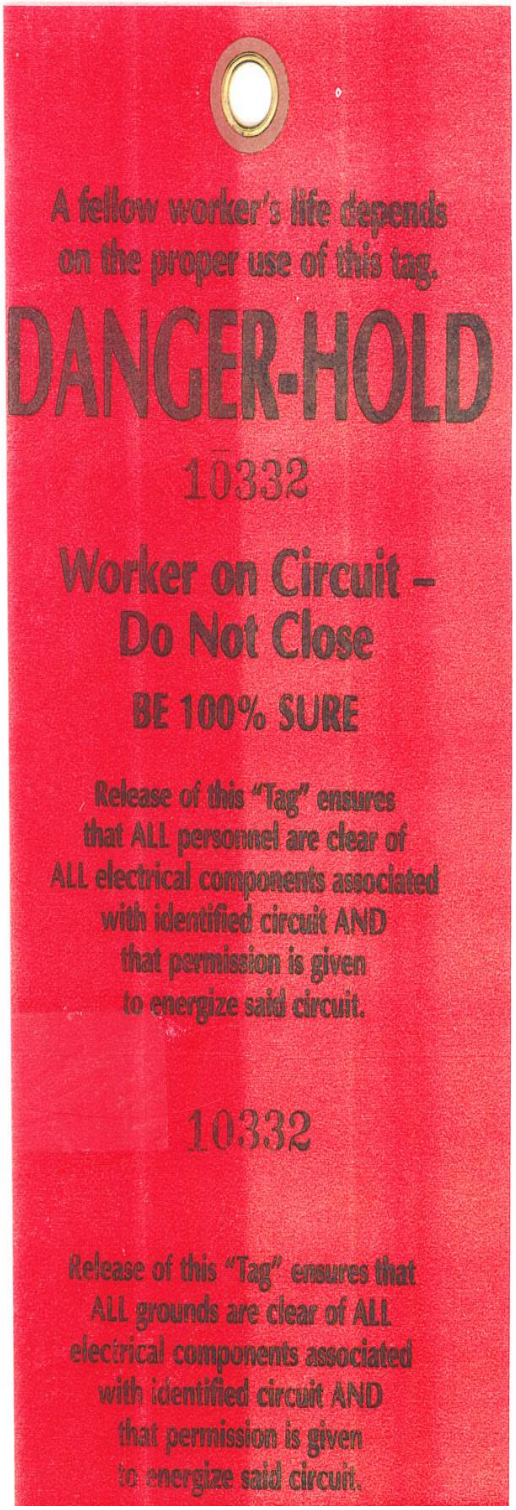
PROJECT NAME (Print or Type)			CONTRACT NO. / WORK ORDER NO. /PERMIT NO.		
REQUESTER (Trades performing work)			COMPANY		
ADDRESS			PHONE NO.	FAX NO./ EMAIL	
REQUEST SYSTEM OUTAGE OF ☐ Electrical ☐ Gas ☐ Water ☐ Sewer ☐ HVAC ☐ BAS			☐ Fire Alarm. The FACP shall be returned to normal operating conditions at the end of each day. Fire Alarm installer certification number: Fire Alarm installer name:		
START DAY	DATE	TIME (24 HR)	**COMPLETION** DAY	DATE	TIME (24 HR.)
PURPOSE (Indicate project and describe specific tasks to be performed)					
POSSIBLE AFFECTED BUILDINGS/TENANTS (To be supplied by requester)					
TENANT/OWNER				DATE	
RESIDENT ENGINEER (MWAA/PMC/Other)				DATE	
FIRE CODE OFFICIAL (MA-320, dust, smoke, circuit interruption.)				DATE	
MWAA ELECTRICAL/UTILITY SUPERVISOR			CONTROL NO.	DATE	
COMMENTS					

COPY (as appropriate)	**FOR INTERNAL USE ONLY**	
☐ Operations, MA-110	Form Location : http://www.mwaa.com/293.htm http://livelink.mwaa.com/livelink/livelink.exe/open/OutageRequestForm_doc	TOTAL HOURS
☐ Fire & Rescue, MA-321/MA-322	AFFECTED EQUIPMENT (To be completed by MWAA Post Action)	
☐ Resident Engineer		
☐ Electrical Supervisor		
☐ Utility Supervisor		
☐ Factory Mutual		
☐ Other: All supervisors, MA-126,		

MWAA Form EM-27 (2013) * Exception to three day approval - if an outage impacts the operation of the airport, contract language addresses two week requirement with approved work plan.

EXAMPLE DANGER-HOLD TAGS





Energized Electrical Work Permit

Electrical Permit required when electrical power cannot be de-energized

PART I: TO BE COMPLETED BY THE REQUESTER

1) Detailed job description procedure to be used in performing the above described work:

2) Description of the Safe Work Practices to be employed:

3) Justification of why the circuit/equipment cannot be de-energized or the work deferred until the next scheduled outage:

Requester Name/Title: Date:

PART II: TO BE COMPLETED BY THE ELECTRICALLY QUALIFIED PERSONS DOING WORK:

1) Detailed job description procedures to be used in performing the above description work:

2) Description of the Safe Work Practices to be employed:

3) Results of the Shock Hazard Analysis:

4) Determination of Shock Protection Boundaries:

5) Results of the Flash Hazard Analysis:

6) Determination of the Flash Protection Boundary:

7) Necessary personal protective equipment to safely perform the assigned task:

Identify the protective clothing or equipment required for the job: Note all equipment shall have current test and/or certification.

__ Safety Glasses and/or Face Shield
__ Certified Rubber Gloves and Leather Protective
__ Dielectric Blanket and Insulated Mats
__ Respiratory Equipment
__ Other: Cal rated clothing, etc.
__ Non-Conductive Hard Hats
__ Insulating Sleeves and Aprons
__ Hearing Protection
__ Insulated Tools.

8) Means employed to restrict the access of unqualified persons from the work area:

9) Evidence of completion of a Job Briefing including discussion of any job-specific hazards:

Confirmation of Electrical Workers' Training and Qualifications:

The employee(s) shall have successfully completed formal employer-approved training in the following subjects:

	Date Completed
Electrical Safety	_____
Lockout-Tagout	_____
CPR	_____
First Aid	_____
70E Standard	_____

10) Do you agree the above described work can be done safely? Yes No (If no, return to requester)

Electrically Qualified Person(s): Date:

11) Safety Checklist for Live Electrical Work:

Specific work areas shall be cordoned to prevent unauthorized access to the live work area.

A. A minimum of two equally qualified workers shall be present when the live work is accomplished.

B. An individual certified in First Aid and CPR shall be immediately available to the area.

C. All persons in the work areas should remove all jewelry.

D. If ladder access is required, only fiberglass ladders are authorized.

E. If access to the live work is in a wet area, place wood planking or it's equivalence on the floor.

F. Work boots for persons performing the live work should be ANSI approved for electrical work.

G. Insulated gloves worn by workers performing the live work shall have a current dielectric test date.

H. All work shall comply with OSHA 1926(Subpart K, NEC, 70 E standards and applicable NIOSH Polices.

PART III: ACCEPTANCE TO PERFORM THE WORK WHILE ELECTRICALLY ENERGIZED:

Contractor Requesting Electrical Permit: _____
Contractor Electrical Permit Plan Prepared By: _____ **Date:** _____
Contractor Electrical Permit Plan Reviewed By: _____ **Date:** _____
Contractor Safety Engineer/Manager Reviewed By: _____ **Date:** _____

Reviewed by the Airports Authority Construction Program Safety Manager: _____
Signature: _____
Date: _____

Contractor responsible for accurate calculations

NFPA 70E Job Briefing and Planning Checklist

Identify

What are the hazards?
What voltage levels are involved?
What skills are required?
"Foreign" voltage source present?
Potential for arc flash
Unusual work conditions
Is this a multiple -person project?
Notes:

Ask

Can the equipment be de-energized? Y or N
Are there possible back feeds of the circuits to be worked on?
Is a "standby person" required?
Notes:

Check

Job Plans
One Lines and vendor prints
Status Board For up-to-date information on system and resources.
Safety procedures
Vendor information
Individuals familiar with facility?
Notes:

Know

What is the Job?
Who is in charge?
Who else needs to know? Communicate!
Notes:

Think

The extra event …. What if?
Lock - Tag - Test - Try
Test for voltage first.
Install and remove grounds
Us the right tools, equipment and PPE
Install barriers and barricades
What else…?
Notes:

Prepare for an Emergency

Who is First Aid/CPR Trained?
Telephone location?
Fire alarm locations?
Confined space rescue available if required?
Emergency telephone numbers. Available?
Exact work location.
Shut off in case of emergency.
Location of emergency equipment.
Is required emergency equipment
Radio communications available?

Fire extinguisher
Notes:

APPENDIX E

AIRPORTS AUTHORITY PRE-TASK WORK PLANNING FORM (PTWP)

Airports Authority Pre-Task Work Plan (PTWP)

Date:

Time to Perform Work: **Day** **Night** (*circle one*)

Activity/Work Task:

Project Name:

Contractor Name:

Contract number:

Location of work (Provide Specific Location):

Prepared by:

Reviewed by GC Safety Engineer/Manager:

Work Plan Description (Include Quality Control Specification Description):

Please Provide PPE Requirements (Submit SDS with each PTWP):

Safety Management System FAA Airports (ARP) Safety Risk Assessment

Safety Risk Assessment (SRA) Code Matrix

Severity

Severity	Probability				
	3.0 Frequent	4.0 Probable	5.0 Remote	Extremely Remote	Extremely Improbable
Catastrophic	E	E	H	H	M
Hazardous	E	H	H	M	L
Major	H	M	M	L	L
Minor	M	L	L	L	L
Minimal	L	L	L	L	L

"Probability" is the likelihood to cause an incident, near miss, or accident as: Frequent, Probable, Remote, Extremely Remote, or Extremely Improbable.

"Severity" is the outcome/degree if an incident, near miss, or accident did occur and identified as: Catastrophic, Hazardous, Major, Minor, or Minimal.

Step 1: Review each "Hazard" with identified safety "Controls" and determine SRA Code (See above).

Step 2: Identify the SRA Code (probably/Severity) as E, H, M, or L for each "hazard" on PTP work plan.

Step 3: Put Letter of SRA Code in SRA Column for each task (See below).

SRA Code Chart

E = Extremely High Risk

H = High Risk

M = Moderate Risk

L = Low Risk

Work Area Evaluation

(Circle Yes or No)

Has Air Operations been notified of the work plan if working on AOA?	Yes	No	Do you have adequate lighting in the work area?	Yes	No
If excavating, has Miss Utility been called?	Yes	No	Is a respirator required for the task?	Yes	No
Does this work expose the public to hazards, if so, provide abatement plan?	Yes	No	Have you met the requirements to wear a respirator if used (fit test/medical evaluation)?	Yes	No
Has the Safety Data Sheets (SDS) been reviewed?	Yes	No	Have all tools/equipment been inspected before use?	Yes	No
Have SDS hazards been reviewed and coordinated with other trades?	Yes	No	Do you have a fall protection plan if working above 6 feet?	Yes	No
Are work permits/checklist required (Confined Space, Excavation, Hot work, electrical)?	Yes	No	If using a crane has air operations/FAA been notified?	Yes	No
Have PPE requirements been met?	Yes	No	Has the work plan been coordinated with other trades/contractors?	Yes	No

List Tools and Equipment Being Used (Submit cut sheets on equipment used):

List documented safety training given to perform task:

Task Hazards

(Circle/Highlight All That Apply)

1. Caught In/Between	10. Falls From Elevations	19. Line Breaking	28. Sharp Tools/Objects	37.
2. Chemical Burns	11. Fire/Explosion	20. Lock Out/Tag out	29. Slip trip Hazards	38.
3. Chemical Spills	12. Hazardous Chemicals	21. Manual Lifting	30. Struck By	Describe Hazards of Task:
4. Compressed Gases	13. Heat Exhaustion/Stress	22. Mechanical Lifting	31. Thermal Burns	
5. Confined Space	14. High Noise Levels	23. Mobile Equipment	32. Radiation	
6. Critical Lift	15. Hot Work	24. Particles in the Eyes	33. Rigging	
7. Electrical Shock	16. Inadequate Access	25. Plant Operations	34. Utilities	
8. Elevated work	17. Inhalation Hazard	26. Poor Housekeeping	35. Exposure to public	
9. Excavations/Trench	18. Ladders	27. Scaffolding	36. Other Hazards	

Description of Steps to be Performed	Hazards Associated with Each Step	Required to Eliminate or Control the Hazard	SRA Code
1.	1.	1.	
2.	2.	2.	
3.	3.	3.	
4.	4.	4.	
5.	5.	5.	

INSTRUCTIONS: 1. Identify each task and write the steps of each task. 2. List all possible hazards involved in each task and write out hazards per step. 3. List the corrective actions that will be taken to prevent the hazards.
4. Use Airports Authority & OSHA safety guidelines and the PTWP as a control measure. 5. Continual improvement, see what works and what does not work and make changes to improve the process.

Description of Steps to be Performed	Hazards Associated with Each Step	Required to Eliminate or Control the Hazard	SRA Code
6.	6.	6.	
7.	7.	7.	
8.	8.	8.	
9.	9.	9.	
10.	10.	10.	

INSTRUCTIONS: 1. Identify each task and write the steps of each task. 2. List all possible hazards involved in each task and write out each hazard per step. 3. List the corrective actions that will be taken to prevent the hazards.
4. Use Airports Authority & OSHA safety guidelines and the PTWP as a control measure. 5. Continual improvement, see what works and what does not work and make changes to improve the process.

Required: Project Manager or General Superintendent Signature: _____ **Date:** _____

Required: Competent Person Name, Title and Signature: _____ **Date:** _____

Required: Work Crew Employee Signatures: _____ **Date:** _____

_____ **Date:** _____

_____ **Date:** _____

_____ **Date:** _____

_____ **Date:** _____

_____ **Date:** _____

APPENDIX F

AIRPORTS AUTHORITY EXCAVATION & TRENCHING CHECK LIST

Excavation & Trenching Check List

Miss Utility Permit #:

Date: _____

Section 1 – Preparation (Contractor Safety Manager Completes Section 1)

Job Name:				
Name of Contractor:				
Location of The Excavation Work:				
Description of Excavation Work:				
Subsurface Engineering Utility Locating Company Name:				Locater Employee Name:
Communication Verification Signature:				
MWAA Utilities Verification Signatures; Electrical Shop:				Pipe Shop:
FAA Utility Verification Signature:				Fuel Utility Verification Signature:
Following Items Listed Below Shall Be Done Prior To Digging an Excavation				
Pre-Planning Meeting with MWAA		Yes		No
GIS Plans Reviewed for Existing Utilities		Yes		No
Utility Grid Sweep Conducted of the "**Entire"** Excavation Area and 5 feet beyond marked excavation perimeter.		Yes		No
Utilities Marked and Utilities Physically /Visually Located (hand dig, pot hole, hydro)		Yes		No

Section 2 – Excavation (Contractor Competent Person Completes Section 2)

Competent Person Name:		
Soil Type:	Slope Ratio:	Protective System Used (Tabulated Data Submitted to MWAA):
Excavation/Trench Depth:	Excavation/Trench Width:	
Note: All soils are classified as "C" type soils on Airport Authority Construction Projects		

Section 3 – Hazard Assessment and Control (Contractor Competent Person Completes Section 3)

	Controls to be Implemented *(Contractor shall perform excavation work in accordance with OSHA and VOSH Unique Excavation Standards).*	**Completed**	**N/A**
Personnel & Property Safety Issues	Competent Person has inspected excavation, adjacent areas, and protective systems prior to employees performing work in the excavation/trench.		
	Professional Engineer was obtained to approve excavation of >20' depth.		
	Trench/excavation area shall be protected by an anchored physical barrier for vehicle traffic and guardrails at the unprotected edges sheer wall of the trench/excavations, if the trench/excavation is **over 6 feet** in depth. Barrier 6 feet back is required for pedestrian traffic.		
	Employees protected from loose rock/soil that could pose a hazard by falling or rolling into the excavation/trench.		
	Trench is shored and/or sloped per CFR 1926 Subpart requirements.		
	Trench is free from standing water and other contaminants.		
	Excavated material, equipment and other items will be placed at least 2' from edge of trench.		
	Employees are prohibited working under suspended loads.		
	Walkways and bridges over excavations/trenches **6 feet** or more in depth shall have standard guardrails and toe boards.		
	Trench box system meets all regulatory requirements. Sloped at open ends of trench boxes		
	Underground utilities protected, supported or removed when excavation is open (P.E. stamp shall be required for supporting critical utilities that could impact airport operations).		
	Wood used for shoring or bracing is in good condition and free from defects.		
	Ladder provided in trench >**4' depth** with ladder extending at least 3' above top of trench.		
	Ladder, ramp, or stair is provided within **25'** of all personnel working in trench.		
	Air testing was performed at **4' depth** or more (Oxygen, LEL, Toxics). Results:		
	If an excavation/trench is **4 feet** in depth or above shoring, sloping , or shields are required		
	Is Support of Excavation required? if so attach to the excavation checklist.		

Section 4 – Approvals – I have reviewed this Permit and all conditions and agree that work can proceed safely.

Contractor Project Manager/General Superintendent Name & Signature:	*Date:*
Competent Person Name, Title & Signature:	*Date:*

APPENDIX G

VISITOR RELEASE FORM

METROPOLITAN WASHINGTON AIRPORTS AUTHORITY
VISITOR RELEASE FORM

PARTICIPANT'S NAME_____

DATE OF VISIT_____

While participating in a site visit at _____Airport, I agree to conduct myself in an appropriate manner with respect to the rules and regulations of the Metropolitan Washington Airports Authority and any other entity conducting business on the property of the Metropolitan Washington Airports Authority. I also agree to stay with any designated escort during my visit and follow instructions throughout my visit. In the event that an accident or damage occurs, I agree not to hold the Metropolitan Washington Airports Authority, its agents, and contractors responsible since this visit is conducted for my benefit. I also agree to assume the risk associated with my visit and accept all financial responsibility in consideration of the benefit associated with the visit. In consideration therefore I, for myself, my heirs, personal representatives or assigns, do hereby release, waive, discharge and covenant not to sue the Metropolitan Washington Airports Authority, its officers, employees and agents from liability from any and all claims, including the negligence of the Metropolitan Washington Airports Authority, resulting in personal injury, accidents or illnesses(including death), and property loss arising from, but not limited to, participation in the visit.

ACKNOWLEDGEMENT OF UNDERSTANDING: I have read this contract including terms waiving liability and assumption of risk, fully understanding its terms, and understand that I am by matter of contract giving up substantial rights in exchange for the benefit of this visit to me. I acknowledge that I am signing the agreement freely and voluntarily, and intend my signature to be a contractual release of liability to the greatest extent allowed by law.

Visitors Name_____.

Visitor's Signature_____. Date_____.

Witness_____

APPENDIX H

NOTICE OF NON-COMPLIANCE VIOLATION FINE SCHEDULE

APPENDIX H

NCN Violation Fine Schedule

Repeat Violations will be doubled per occurrence and Third Repeat Violations will be fined Triple the fine amount per occurrence and so forth. A safety mitigation plan will be required to be submitted after the third repeat occurrence

AOA & NON- AOA Safety Violations	Withholding
1. Incursion or surface incident of Aircraft	$5,000 per occurrence
2. Encroachment of RSA	$5,000 per occurrence
3. Violation of not having flagging operations on active runways	$1,000 per occurrence
4. Failure to follow MWAA Utility Locating Procedures	$1,000 per occurrence
5. Violation of MWAA Excavation Policy	$5,000 per occurrence
6. Exposure to Live Electrical Parts / Not Following MWAA LOTO Procedures or NFPA 70 E Requirements	$5,000 per occurrence
7. Violation of MWAA Confined Space Procedures & Policies	$1,000 per occurrence
8. Violation of MWAA Fall Protection Policy	$2,000 per occurrence
9. Violation of Escort Procedures on the AOA	$1,000 per occurrence
10. Violation of Airport Security Policies & Procedures	$1,000 per occurrence
11. Violation of MWAA Fire Prevention Procedures/Hot Work Policies & Procedures	$1,000 per occurrence
12. Violation of MWAA Crane Policies & Procedures / FAA Requirements	$7,000 per occurrence
13. Violation of not providing safety representation on the job site	$1,000 per occurrence
14. Violation of not following and maintaining MOT Plan	$500 per occurrence
15. Violation of creating an imminent danger situation	$7,000 per occurrence
16. Violation of MWAA Scaffolding Policy	$1,000 per occurrence
17. Violation of MWAA Material Handling Policy	$500 per occurrence
18. Violation of MWAA Safety Construction Manual Policies & Procedures	$500 per occurrence
19. Violation of exposing the public to construction hazards	$ 5000 per occurrence
20. Violation of not reporting an incident or accident	$ 1000 per occurrence

APPENDIX I

MONTHLY SAFETY MANHOUR REPORT

(1) **Project Name:** #REF!

(2) **Project Location:** #REF!

(3) **Project Number:** #REF!

MWAA Incident Rate Report

	Year 2016							
	Monthly Hours	Cumulative Project Hours	Recordables by Month	Cum. Project Incidents	Cum. Inc/Rate	Loss Time by Month	Cum. Loss Time	Cum. LT/Rate
January	0.00	0.00		0	#DIV/0!		0	#DIV/0!
February		0.00		0	#DIV/0!		0	#DIV/0!
March		0.00		0	#DIV/0!		0	#DIV/0!
April		0.00		0	#DIV/0!		0	#DIV/0!
May		0.00		0	#DIV/0!		0	#DIV/0!
June		0.00		0	#DIV/0!		0	#DIV/0!
July		0.00		0	#DIV/0!		0	#DIV/0!
August		0.00		0	#DIV/0!		0	#DIV/0!
September		0.00		0	#DIV/0!		0	#DIV/0!
October		0.00		0	#DIV/0!		0	#DIV/0!
November		0.00		0	#DIV/0!		0	#DIV/0!
December		0.00		0	#DIV/0!		0	#DIV/0!
2016 Totals	0.00	0.00	0	0	**#DIV/0!**	0	0	**#DIV/0!**

	Year 2017							
	Monthly Hours	Cumulative Project Hours	Incidents by Month	Cum. Project Incidents	Cum. Inc/Rate	Loss Time by Month	Cum. Loss Time	Cum. LT/Rate
January	0.00	0.00		0	#DIV/0!		0	#DIV/0!
February		0.00		0	#DIV/0!		0	#DIV/0!
March		0.00		0	#DIV/0!		0	#DIV/0!
April		0.00		0	#DIV/0!		0	#DIV/0!
May		0.00		0	#DIV/0!		0	#DIV/0!
June		0.00		0	#DIV/0!		0	#DIV/0!
July		0.00		0	#DIV/0!		0	#DIV/0!
August		0.00		0	#DIV/0!		0	#DIV/0!
September		0.00		0	#DIV/0!		0	#DIV/0!
October		0.00		0	#DIV/0!		0	#DIV/0!
November		0.00		0	#DIV/0!		0	#DIV/0!
December		0.00		0	#DIV/0!		0	#DIV/0!
2017 Totals	0.00	0.00	0	0	**#DIV/0!**	0	0	**#DIV/0!**

	Year 2018							
	Monthly Hours	Cumulative Project Hours	Incidents by Month	Cum. Project Incidents	Cum. Inc/Rate	Loss Time by Month	Cum. Loss Time	Cum. LT/Rate
January	0.00	0.00		0	#DIV/0!		0	#DIV/0!
February		0.00		0	#DIV/0!		0	#DIV/0!
March		0.00		0	#DIV/0!		0	#DIV/0!
April		0.00		0	#DIV/0!		0	#DIV/0!
May		0.00		0	#DIV/0!		0	#DIV/0!
June		0.00		0	#DIV/0!		0	#DIV/0!
July		0.00		0	#DIV/0!		0	#DIV/0!
August		0.00		0	#DIV/0!		0	#DIV/0!
September		0.00		0	#DIV/0!		0	#DIV/0!
October		0.00		0	#DIV/0!		0	#DIV/0!
November		0.00		0	#DIV/0!		0	#DIV/0!
December		0.00		0	#DIV/0!		0	#DIV/0!
2018 Totals	0.00	0.00	0	0	**#DIV/0!**	0	0	**#DIV/0!**

	Current Totals			
	Project Cumulative Hours	Number of Incidents	**Project Incident Rate**	2019 Industry Avg. (BLS Stats for SIC 154)
Cumulative Incident Rate	#REF!	#REF!	**#REF!**	3.10

	Project Cumulative Hours	Number of Lost-Time Incidents	**Loss-Time Incident Rate**	2019 Industry Avg. (BLS Stats for SIC 154)
Cumulative Lost-Time Rate	#REF!	#REF!	**#REF!**	1.20

Safety Manager _____

Prepared by: _____

Date: _____

Incident Log Summary

Project Name: Project Name
Project Location: City
Project Number: ####

#	Date	Report Type	Subcontractor Name	Employee Name	Trade	Description of Incident	Description of Injury or Illness	Name of Treatment Location	Date Return to Work	Number of Loss Days	Date Return to Full Duty	Number of Restricted Work Days	Notification to OSC	Status Open or Closed	Post Accident Drug Test Conducted	Notes
(A)	(B)	(C)	(D)	(E)	(F)	(G)	(G)	(H)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)
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25																
26																
27																
28																
29																
30																

Date	Day of Week	Employer	Contractor/Prime, Contract No.	Description	Injury Type	Accident Type	Craft	Body Part	Spanish Speaking	Classification

Tool Box Tracking Log

Subcontractor	Toolbox Topic	Date									

Project Name: #REF!
Project Location: #REF!
Project Number: #REF!

SUBCONTRACTOR SAFETY CONTRACT ITEMS LIST

Subcontractor	OCIP Enrollement Date	First Aid Employees	Date First Aid Card Expires	Submitted SDS (Site Specific)	OSHA 30 Employee Onsite	Date OSHA 30 Complete	Subcontractor Competent people					

APPENDIX J

INCIDENT/ACCIDENT INVESTIGATION FORMS

INCIDENT/ACCIDENT INVESTIGATION FORM

Report Prepared By: _____ Print **Name**: _____
Date of Incident: _____ Time **of incident: _____**
Location_____
Name of Injured: _____ Occupation: _____
Contractor: _____ Job **No.**: _____
Injury/Incident Description: _____

Recordable □ **First Aid** □ **Lost Time** □ **Near Miss** □**Property Damage**

Synopsis:

Statement of Facts:

Conclusions: (Direct and Indirect Causes of the Incident)

Corrective Action(s) Taken: (To Prevent Future Occurrence)

Contractor Management Review and Corrective Action:

Safety Manager / Engineer, Signature_____ **Date: _____**

Superintendent Review, Signature: _____ Date: _____

Project Manager Review, Signature: _____ Date: _____

ROOT CAUSE ANALYSIS CHECKLIST

Project Name: **Contract #:**
Location: **Contact Phone #:**
Contractor: **Contractor Foreman:**
Contractor Safety Engineer/Manager: **Date of Incident/Accident:**
Description of Incident/Accident: **Time of Incident/Accident:**
Report Prepared By:

The following elements will be useful in the investigation efforts to understand and identify the root causes of incidents. This form will be used for the incident review meeting with Airports Authority. When completing the checklist, the Site Contractor Safety Engineer/ Contractor Safety Manager should evaluate all items with an "X" in the shaded box to determine if it significantly contributed to the incident.

Safe Work Procedures	Yes	No	N/A	Notes
Is there a written Pre-Task Work Plan (PTWP) established for the work being performed?				
Is the PTWP current and does it address the specific tasks/hazards being performed?				
Is formal training required for the task being performed?				
Is there a formal process to train employees in new or revised Safety Task Assessment?				
Has the employee received documented training (Toolbox Training) for the task being performed?				
Was the safe work procedure understood?				
Were "Daily Huddles" held where the Pre-Task Work Plan was reviewed with crew members and posted?				
Were there any Lock-Out/Tag-Out issues associated with this task?				
Were there any Confined Space issues associated with this task?				
Were there any Fall Protection issues associated with this task?				
Any other issues related to Safety Task Assessment?				
Was there a plan that protects the public from harm and construction exposures?				

Process Issues	Yes	No	N/A	Notes
Is this the employee's regularly assigned job?				
Is this the employee's regular crew?				

Is this the employee's regular shift?				
What was the employee's work schedule for the previous 7 days?				

ROOT CAUSE ANALYSIS CHECKLIST

Has the process been significantly changed recently?				
Were the process changes reviewed for safety issues?				
Were there any Hazardous Materials issues associated with this task?				
Was training conducted on process changes?				
Is there another way of performing the task with less risk?				
Any other process issues?				

Physical Hazards	**Yes**	**No**	**N/A**	**Notes**
Did any of the following cause or contribute to this incident?				
Visibility – blind spots				
Road or aisle condition				
Walking/working surface				
Lighting				
Ventilation				
Temperature				
Noise				
Poor housekeeping				
Sharp edges				
Hot surfaces				

Protruding objects				
Fall hazards				

ROOT CAUSE ANALYSIS CHECKLIST

Fire/explosion hazards				
Electrical hazards				
Unstable objects				
Any other environmental conditions?				

Tools, Machinery & Equipment	**Yes**	**No**	**N/A**	**Notes**
Were the proper tools available and used?				
Were the tools or equipment in good condition?				
Is there a daily inspection process or checklist in place?				
Was the daily inspection performed and Followed?				
Was equipment operating properly?				
Were guards in place and operable?				
Note and record position of controls				
Are all relevant controls marked?				
Any other conditions related to tools, machinery, or equipment?				
Ergonomic hazards				
Pinch points				

Mobile Equipment	**Yes**	**No**	**N/A**	**Notes**
Is a license required to operate this equipment?				

Was the operator licensed to operate this equipment?				

ROOT CAUSE ANALYSIS CHECKLIST

Was the operator experienced in operating this equipment? Years of experience?				
Was the accident caused by equipment malfunctions? If yes, brand name of equipment and serial number				
Was the accident caused by operational error?				

Employee Behaviors	**Yes**	**No**	**N/A**	**Notes**
Was the Safety Task Assessment followed?				
Was a Safety Task Assessment rule violated?				
Was required PPE being worn (gloves, sleeves, face shield, etc.)? Condition of PPE?				
Did the PPE fit properly?				
If employee requires RX glasses, were they being worn?				
Is the employee fatigued? Average hours per week?				
Is the employee working through any personal issues?				
Is the employee on any medication that might have affected their abilities? Name of medication.				
Was employee(s) drug tested?				
Should alcohol or drugs be considered as factors?				
Has the employee been involved in similar incidents in the past 3 years?				
Did one or more of these states contribute to a critical error?				
Rushing				

ROOT CAUSE ANALYSIS CHECKLIST

Fatigue				
Frustration				
Complacency				
Did one or more of these critical errors cause or contribute to this incident?				
Eyes not on task				
Mind not on task				
In line of fire				
Loss of balance, traction or grip				
Any other issues related to employee behaviors?				

Expectations & Accountability	**Yes**	**No**	**N/A**	**Notes**
Were safe work expectations established?				
Were the safe work expectations understood?				
Were the safe work expectations followed?				
Are the safe work expectations consistently enforced?				
Are effective consequences implemented for violations of safe work expectations?				
Is there a formal system to identify and correct hazards?				
Is the hazard corrective system effectively implemented?				

Fatigue				
Frustration				
Complacency				
Did one or more of these critical errors cause or contribute to this incident?				
Eyes not on task				
Mind not on task				
In line of fire				
Loss of balance, traction or grip				
Any other issues related to employee behaviors?				

Expectations & Accountability	**Yes**	**No**	**N/A**	**Notes**
Were safe work expectations established?				
Were the safe work expectations understood?				
Were the safe work expectations followed?				
Are the safe work expectations consistently enforced?				
Are effective consequences implemented for violations of safe work expectations?				
Is there a formal system to identify and correct hazards?				
Is the hazard corrective system effectively implemented?				

ROOT CAUSE ANALYSIS CHECKLIST

Other Items to Consider	Yes	No	N/A	Notes
Have unsafe conditions or unsafe practices associated with this activity been recorded on inspections in the past three (3) months? If yes, describe trends				

SUMMARY		
Direct Causes:	**1.**	**4.**
	2.	**5.**
	3.	**6**
Indirect Causes	**1.**	**4.**
	2.	**5.**
	3.	**6.**

Corrective Actions:	Item	Date
	1.	
	2.	
	3.	

Completed by: _____ **Date:** _____

Attach Incident/ Accident Review Meeting Attendance Sheet

APPENDIX K

AIRPORTS AUTHORITY CRANE LIFT PLAN FORM

Airports Authority Crane Lift Plan Form

Date:	Operator Hours Experience with Crane as Configured?
Subcontractor/ Rigging Company:	
Responsible Person/Contact:	
Crane Company:	
Responsible Person/Contact:	
Project:	**Lift Location:**

1. Crane Information							
Make		Model		S/N			
Size (Capacity in Tons)							
Type	Hydraulic	☐ Friction	☐ Lattice	Truck	☐ Rough Terrain	☐ All Terrain	☐ Crawler
Boom Length		Jib Used?	☐ Yes ☐ No	Length	Offset, if Used		
Load Line # of Parts:		Lift Block Capacity:					
Confirm Outriggers shall be fully extended?							
Will Lift Plan be based on 360° chart? If not, please explain:							
Will this plan require more than one crane, either for a dual-lift or for material handling? Please explain:							
Will crane(s) need to "walk" with loads? If so, please explain:							
For a dual-lift, an engineered composite Lift Plan (all figures, calculations, and drawings for both cranes on the same Lift Plan) shall be completed. For multiple cranes to be used on the same project, please complete a separate lift plan for each crane, to be submitted together.							

2. Load Characteristics		
Will this plan cover more than one pick?		
Description of Load(s)		
Dimensions of Max Load. Provide information on both the HEAVIEST and the LARGEST volume load:		
Weight of Max Load How was this determined? Please insert or attach calculations.		
Location of load Center of Gravity: How was this determined?		
Maximum Boom Length Required	Minimum Boom Angle Required	Maximum Radius Required
Will any load be upended? If so, please explain WHY and HOW - multi-drum, dual crane, lift/block/lift, etc. (**provide a detailed sketch and documentation from manufacturer supporting such use):		

3. Rigging Information:
List Rigging Components Please be specific – number, type, size, length, capacity, differing pick configurations. Provide Sketches .Provide crane diagrams, Provide Rigging Diagrams Provide Rigger 2 Certifications for crane picks and Master Rigger for Critical Picks:
Minimum Capacity Component (describe, and show capacity):
Worst Case Weight of All Rigging:
Will a Lifting Beam or other similar component be used? Please provide capacity, PE certification, and drawing.
Other Weights to be Considered to Determine Gross Load:

Max Load:	
Rigging:	
Jib:	
Jib Hook:	
Hook Block:	
Load Line:	
Other:	
Maximum Gross Load:	

5.1.1 4. Crane Location/Clearances
a. Provide a to-scale plot plan showing crane location, adjacent buildings, pipe racks, and other significant obstructions within load swing radius. Indicate direction and span of swing.
b. Provide a to-scale elevation depicting crane, adjacent structures, and load
c. What is the horizontal distance from the crane center pin to the nearest structure?
d. What is the minimum clearance from boom to highest point of structure during a pick?
e. What is the minimum clearance from load to highest point of structure during a pick?
f. What is the minimum distance from boom to load during a pick?
g. Will the load or any part of the crane be over any active piping, tanks, building, or equipment during a pick? Please explain:
h. Have underground site utilities been identified and located?
i. Will outriggers be located over underground utilities? If so, please explain protective measures to be taken:
j. Describe signaling procedure – who will be responsible for signaling? Will hand or radio signals be used?
K. Provide Ground Bearing Pressure Calculations / Soil Analysis Testing Results

5.1.2 5. Summary "Worst Case Lift Scenario"				
Max Radius	Min Boom Angle	Max Gross Load	Max Chart Capacity	% of Capacity Max Gross Load/Max Capacity

5.1.3 6. Attachments Provided (All shall be checked):				
☐ Plot Plan w/Crane Location	☐ Elevation Plan	☐ Load Calculations	☐ Rigging Lists	☐ Crane Charts (including any applicable Notes)
☐ 3rd Party Annual Inspection Report	☐ Operator's License (copy)	☐ Rigging Diagram (spreader beams, eccentric CG, multiple pick points, etc.	☐ Deficiency Report	☐ Soil Analysis Testing Results

Be sure you have considered the following (all shall be checked or marked N/A):

5.1.4 The Following Items are in the Crane Cab:				
☐ Hand Signal Chart	☐ Fire Extinguisher	☐ Complete Load Capacity Charts with Notes	☐ 3rd Party Annual Inspection Report required if crane is assembled on site.	☐ Completed Daily Inspection Sheet, last three-Monthly Inspection Reports
☐ Operators Manual	☐ State Crane License/Registration	☐ All other required paperwork, equipment	☐ NCCO Crane Operator's License	☐
5.1.5 Check the Following:				
☐ Anti-two Block Operational	☐ Overhaul Ball Capacity Marked	☐ Wedge Socket/Becket Properly Installed	☐ Backup alarm working	☐ All warning placards in place
☐ Boom Angle Indicator Functioning Properly	☐ Boom High Limit Functioning Properly (lattice boom)	☐ No broken or fogged glass	☐ Boom light/beacon if boom is required at night and orange white checkered flag required on highest point of crane	☐ Contact Air Operations for crane erection
☐ Slings and Rigging Inspected	☐ All wire rope inspected	☐ Chains and chain slings are prohibited	☐ All hooks inspected for wear and deformation	☐ Safety Latches in Place
☐ Dunnage/Blocking Available to Secure Loads. Mat sized correctly based on ground bearing pressure result	☐ Demolition Plan Submitted and Reviewed (if applicable)	☐ Bracing/ Temporary Supports Available for Use (will loads need to be secured during demolition?)	☐ FAA Permit Application/Approval 7460 form	☐ Proximity to power lines or transmitting towers

5.1.6 Be prepared to confirm the following additional items:				
☐ Crane Configuration in Compliance with Lift Plan	☐ Maximum Radius Confirmed (MEASURED) Without Load	☐ Maximum Load Confirmed Prior to Achieving Maximum Radius	☐ All Pick Points Vertically Above Load Center of Gravity (NO SIDE LOADS)	☐ Taglines to be Used
☐ Outrigger Floats & Dunnage Installed (Minimum 4 X4 30 ton and below 6x6 above 30 ton) or engineered mats accepted by PSM Size:	☐ Outriggers Fully Extended Position: Computer Set at:	☐ Lift Area and Equipment Inspected	☐ Counterweight Swing Radius Barricaded	☐ Load Swing Radius Barricaded
☐ Copy of the Demolition Plan in the Cab of Crane (if applicable)	☐ Lift Plan and Crane Permit in Cab of Crane	☐ Lift Plan and Crane Permit Reviewed with Rigging, Erector or Demolition Crew	☐	☐

ALL sections SHALL be filled out before ANY crane may be brought to its work location.
Subcontractor/Rigger and Operator are Responsible for the Accuracy of all Calculations and Inspections.
Review is to Ensure Completion of Form ONLY. Use Attachments for Continuations/Explanations. Please Reference Section Number.

5.1.7 Signatures			
Crane Company Responsible Person	Name: Signature:	Subcontractor/Rigger Responsible Person	Name: Signature:
Phone #		Phone #	
Project Rep		Signature	
Safety Rep		Signature	

APPENDIX L

RIGGING CERTIFICATION REQUIREMENTS

RIGGING LEVELS

Certified Rigger Level - I

APPLICABLE STANDARDS:
OSHA 1926.251- Rigging Equipment for Material Handling
COMAR 09.12.26 Crane Safety
EM 385-1-1, Section 15 Rigging

Rigger I- Trained in the safe application, use and limitations of the rigging equipment as applicable to the work being performed.

Has basic knowledge of: Voice & radio communication.
Specific knowledge of crane operations
Personal Fall Protection measures
Emergency procedures

Knows standard hand signals as defined in ASME B30.3/B30.5/B30.6

Knows rigging & hardware including:
Hooks & similar attaching devices
Shackles, clips & clamps
Taglines
Synthetic/wire rope slings and common load configurations

Knows the requirement for hazards and restrictions associated with working adjacent to overhead electric lines and equipment.

- **Perform daily inspections of equipment.**
- **Recognize the all hazardous conditions and apply applicable requirements.**
- **Establish a Rigging Plan**

Certified Rigger Level - II

APPLICABLE STANDARDS:
OSHA 1926.251- Rigging Equipment for Material Handling
COMAR 09.12.26 Crane Safety
EM 385-1-1, Section 15 Rigging

Rigger II - Trained in the safe application, use and limitations of the rigging equipment as applicable to the work being performed.

Has been trained in the use of:

Come-along/chain hoist operations	**Lifting Points**
Rigging hitches & knots	**Dollies & Trollies**
Anchor points	**Manual & power tuggers and winches**
Synthetic ropes & slings for rigging	**Bars & levers**
Wire rope	**Fiber ropes for rigging jacks, jacking systems and rams**
Chains	**Links & rings**
Reeving	**Plate clamps**
Spreader Bars & Equalizing beams	**Softeners**
Cable dogs/grips	

- **Perform daily inspections of my equipment.**
- **Recognize the all hazardous conditions and apply applicable requirements.**
- **Establish a Rigging Plan**

Certified Master Rigger

APPLICABLE STANDARDS:
OSHA 1926.251- Rigging Equipment for Material Handling
COMAR 09.12.26 Crane Safety
EM 385-1-1, Section 15 Rigging

Master/Lead Rigger- In conjunction with Level I & II Rigger, The Master/Lead Rigger shall be Trained in the safe application, use and limitations of the rigging equipment including:

Blind Hoist
Work in close quarters
Load dynamics
Load indicator devices
Mechanical advantages
Effects of angles or indirect pulling
Drum/diameter (D/d) ratios
Boom angles and road radius
Traveling with loads
Personnel lifting procedures
Load weight estimation or determination
Capacity and load charts
Center of gravity
Equipment capacity computations
Vectors and angles

Specific criteria from the manufacturer or equipment representative in the safe and appropriate methods of erecting, dismantling, jumping and reconfiguring of cranes.

Special criteria for lifting a single load with multiple cranes

Riggers and signal man shall be certified by one of the following; NCCCO, Crane Tech, Crane Institute of America

APPENDIX N

PRE-START REQUIRED GC/SUBCONTRACTOR CHECKLIST

Pre-Start Required GC/Subcontractor Information Package Checklist

Name of Subcontractor: _____

- ☐ Document signed by subcontractor stating that they have read and understand the Airports Authority Construction Safety Manual (AACSM) and that they will follow the Airports Authority's CSM and the Contractors Site Specific Safety Plan.
- ☐ Emergency Contact names and numbers for senior Company managers. (Include President, Project Manager and Safety Director)
- ☐ Experience Modification Rate (EMR). Submit the last completed EMR year. If EMR is over 1.0 or greater, submit the OSHA 300 Logs for the past three (3) years, plus the current calendar year as well as a Safety Mitigation Plan addressing the safety issues that the contractor has had over the past three (3) years also including the current year.
- ☐ Safety and Health Program – to include Site Specific Safety program to the general contractor. (Include applicable job-related Programs, I.E. Confine Spaces, Electrical, LOTO, Hazard Communication Program, Erection, Lifts, Site Specific Fall Protection, Respiratory, Erection & Demolition Plans, Substance Abuse Program, and Emergency Response etc.)
- ☐ Return to Work/Light Duty Program (mandatory)
- ☐ Safety Data Sheets (SDS) Sheets and Site-Specific Chemical Inventory List (Separate Binder). Global Harmonization Training required for all employees.
- ☐ Documentation with employee signatures on company letterhead establishing training for personnel in Fall Protection, Equipment Operators, Hazard Communication and General Construction Safety, at a minimal and other job related subjects: i.e. Confine space training if you are required to enter a confine space, operators training if operating heavy equipment or scaffold training if required to work off scaffolds, Power actuated tools.
- ☐ Contractor enrollment into OCIP Insurance Program (if required by the contract). Provide information from OCIP Portal of enrollment status.
- ☐ Definable Features of Work list to be submitted along with a Pre-Task Work Plan (PTWP) for all known work activities. The Pre-Task Work Plan (PTWP) Form included in Appendix E of the CSM. PTWP required in addition to DFOW prior to any work onsite. Be very detailed on this plan. PTWP's shall also be submitted separately in word document for review via email to PSM. The PSM will provide highlighted comments and then submit to the COTR in PDF format.
- ☐ Management personnel 30-hour OSHA personnel (Name and Contact #) (provide Copy of Card). All workers are required to have 10-hour OSHA (provide copy of card).
- ☐ CPR/First Aid Qualified Personnel Cards with Expiration Dates (provide copy of card).
- ☐ List of Competent Persons per OSHA definitions with Contact Numbers and credentials of each. Provide training certificates – documentation for each competent employee (see below).
- ☐ List of Equipment to Be Used on Site (Update as Necessary). All equipment shall identify owner Company. Provide Training Records and cut sheets on equipment being used.
- ☐ Cranes: Annual Inspect. NCCCO Certified Crane Operators Card - qualifications; Riggers training and certification card, Signalman training and Certification card, Airports Authority Crane Lift Plan Form, Narrative Plan See Crane Submittal requirements in AACSM Crane Policies (Provide Copies).
- ☐ Fork Lift, Lull, Power Actuated, Aerial, & Scissor lifts Authorization Cards/List. Provide training records.

Submit this completed checklist with each subcontractor information package. Follow the sequence of the GC/ subcontractor check list when submitting to expedite review process.