# 2020 ANNUAL AIRFIELD *PAVEMENT REHABILITATION*

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

*DENVER INTERNATIONAL AIRPORT*

*DEN CONTRACT NO.*XXXXXXX

*FAA NO.* 3-08-0086-101-2020

JANUARY 14, *2020*

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CHAPTER 1

# OVERVIEW

The Construction Safety and Phasing Plan (CSPP) sets forth requirements for the project to ensure and maintain safety during periods of construction.

Guideline requirements for the CSPP are developed from Advisory Circular No. 150/5370-2G, FAR Part 139, and TSR 1542 except as herein modified, Rules and Regulations Governing the Denver Municipal Airport System – Traffic & 20 - Conduct of Persons Using the Denver Municipal Airport System, Project Specifications Division I Section 013520, and Construction Plan Sheets 3,4,and 17-20.

The CSPP is a single document to be used by all personnel involved in the project. This CSPP covers the actions of not only the construction personnel and equipment, but also the actions of inspection personnel and airport staff.

The construction safety and phasing plan has been developed to mitigate the adverse impacts of construction on aeronautical operations on the airport. Strict adherence to the provisions of the construction safety and phasing plan by all personnel assigned to or visiting the construction site is mandatory for all construction projects. In the event contractor activities are not in conformance with the provisions of the construction safety and phasing plan, the Contractor shall immediately cease those operations involved in the violation of the provisions of the construction safety and phasing plan and conduct a safety meeting. The DEN Project Manager may direct the Contractor, in writing, to immediately cease those operations involved in the violation of the provisions of the construction safety and phasing plan. The Contractor shall not resume construction operations until appropriate action is taken as determined by the DEN Project Manager.

CHAPTER 2

# GENERAL INFORMATION

## 2.1 Scope of Work

Denver International Airport (DEN) has requested professional engineering services to produce design and construction documents and construction administration for the 2020 Annual Airfield Pavement Rehabilitation of the Runway Contract No.: xxxxxxx, dated 2-15-2020.

Construction of the 2020 Annual Airfield Pavement Rehabilitation project will include the following components:

1. Full depth demolition of existing PCC Pavements
2. Disposal of concrete
3. Removal of existing pavement markings
4. Removal of taxiway centerline lights, transformers and electrical cable and runway approach signs, sign pad and accompany electrical equipment
5. Installation of pavement
6. Installation of pavement markings
7. Installation of west airfield runway approach signs

## 2.2 RESPONSIBILITY

The General Conditions state that the Contractor shall always abide by the Construction Safety and Phasing Plan (CSPP), Safety Plan Compliance Document (SPCD) and DEN security plan as specified in the contract. The primary goal of this plan is to protect the flying public and the integrity of the airport/aircraft operation area.

The Contractor is responsible for the health and safety of its employees, agent's, subcontractors and their employees as well as other persons on the work site, for the protection and preservation of the work and all the materials and equipment to be incorporated therein, and for the work site and the area surrounding the work site. The Contractor shall take all the necessary and reasonable precautions and actions to protect all such persons and property.

This document shall be interpreted, in its broadest sense, for the protection of people and property by the Contractor. No action shall relieve the Contractor of any of its obligations and duties hereunder.

## 2.3 SUBMITTAL

Refer to Technical Specifications Sections 013300 for the process. The Contractor's SPCD shall be submitted and approved under the general contract prior to commencing any work. If a Task Order is issued where the work is not covered by the approved safety plan, then a revision to the plan specific for

the work in the task order shall be resubmitted for approval. NOTE: NO PROGRESS PAYMENT SHALL BE APPROVED UNTIL THE SAFETY PLAN HAS BEEN ACCEPTED BY THE PROJECT MANAGER.

## 2.4 DEN PROJECT MANAGER'S REVIEW

The Contractor shall provide six (6) copies of its Work Plan (operational plan) and SPCD to the DEN Project Manager for review at least ten (10) days before on-site construction begins. The Contractor's program must meet, as a minimum, all applicable federal, state and local government requirements.

CHAPTER 3

# PLAN REQUIREMENTS

## 3.1 PROJECT COORDINATION

Airport Operators, or tenants conducting construction on their leased properties, should use pre-design, pre-bid, and pre-construction conferences to introduce the subject of airport operational safety during construction.

Operational safety should be a standing agenda item for discussion during progress meetings throughout the project.

Changes in the scope or duration of the project may necessitate revisions to the CSPP and review and approval by the airport operator and the FAA.

Early coordination by the DEN Project Manager(s) with FAA ATO is required to schedule airway facility shutdowns and restarts. Relocation or adjustments to NAVAIDs, or changes to final grades in critical areas, may require an FAA flight inspection prior to restarting the facility. Flight inspections must be coordinated and scheduled well in advance of the intended facility restart. Flight inspections may require a reimbursable agreement between the airport operator and FAA ATO. Reimbursable agreements should be coordinated a minimum of 12 months prior to the start of construction. See "Notification of Construction Activities" Section for required FAA notification regarding FAA owned NAVAIDs

The Contractor will be required to coordinate work to satisfy clearance requirements for arrival and departure of scheduled aircraft and maintain compliance with the FAA's Advisory Circular 150/5370-2 current edition, "Operational Safety on Airports During Construction". The Advisory Circular sets forth guidelines for maintaining desired levels of operational safety during construction. All construction personnel should become familiar with the contents of this Advisory Circular.

Potentially hazardous conditions, which may occur during airport construction, include, but are not limited to, the following:

1. Excavation adjacent to runways, taxiways, and aprons.
2. Mounds of earth, construction materials, temporary structures, and other obstacles near any open runway, taxiway, or taxilane; in the related object-free area and aircraft approach or departure areas/zones; or obstructing any sign or marking.
3. Runway resurfacing projects resulting in lips exceeding 3 inches (7.6 cm) from pavement edges and ends.
4. Heavy equipment (stationary or mobile) operating or idle near AOAs, in runway approaches and departures areas, or in OFZs.
5. Equipment or material near NAVAIDs that may degrade or impair radiated signals and/or the monitoring of navigational and visual aids. Unauthorized or improper vehicle operations in localizer or glide slope critical areas, resulting in electronic interference and/or facility shutdown.
6. Tall and especially relatively low visibility units (i.e., equipment with slim profiles)—cranes, drills, and similar objects—located in critical areas, such as OFZs and approach zones.

7. Improperly positioned or malfunctioning lights or unlighted airport hazards, such as holes or excavations, on any apron, open taxiway, or open taxilane or in a related safety, approach, or departure area.
8. Obstacles, loose pavement, trash, and other debris on or near AOAs. Construction debris (gravel, sand, mud, paving materials, etc.) on airport pavements may result in aircraft propeller, turbine engine, or tire damage. Also, loose materials may blow about, potentially causing personal injury or equipment damage.
9. Inappropriate or poorly maintained fencing during construction intended to deter human and animal intrusions into the AOA. Fencing and other markings that are inadequate to separate construction areas from open AOAs create aviation hazards.
10. Improper or inadequate marking or lighting of runways (especially thresholds that have been displaced or runways that have been closed) and taxiways that could cause pilot confusion and provide a potential for a runway incursion. Inadequate or improper methods of marking, barricading, and lighting of temporarily closed portions of AOAs create aviation hazards.
11. Wildlife attractants—such as trash (food scraps not collected from construction personnel activity), grass seeds, or ponded water—on or near airports.
12. Obliterated or faded markings on active operational areas.
13. Misleading or malfunctioning obstruction lights. Unlighted or unmarked obstructions in the approach to any open runway pose aviation hazards.
14. Failure to issue, update, or cancel Notice to Airmen (NOTAMs) about airport or runway closures or other construction related airport conditions.
15. Failure to mark and identify utilities or power cables. Damage to utilities and power cables during construction activity can result in the loss of runway/taxiway lighting; loss of navigational, visual, or approach aids; disruption of weather reporting services; and/or loss of communications.
16. Restrictions on Aircraft Rescue and Fire Fighting (ARFF) access from fire stations to the runway taxiway system or airport buildings.
17. Lack of radio communications with construction vehicles in airport movement areas.
18. Objects, regardless of whether they are marked or flagged, or activities anywhere on or near an airport that could be distracting, confusing, or alarming to pilots during aircraft operations.
19. Water, snow, dirt, debris, or other contaminants that temporarily obscure or derogate the visibility of runway/taxiway marking, lighting, and pavement edges. Any condition or factor that obscures or diminishes the visibility of areas under construction.
20. Spillage from vehicles (gasoline, diesel fuel, oil, etc.) on active pavement areas, such as runways, taxiways, ramps, and airport roadways.
21. Failure to maintain drainage system integrity during construction (e.g., no temporary drainage provided when working on a drainage system).
22. Failure to provide for proper electrical lockout and tagging procedures. At larger airports with multiple maintenance shifts/workers, construction contractors should make provisions for coordinating work on circuits.
23. Failure to control dust. Consider limiting the amount of area from which the Contractor is allowed to strip turf.
24. Exposed wiring that creates an electrocution or fire ignition hazard. Identify and secure wiring and place it in conduit or bury it.

25. Site burning, which can cause possible obscuration.
26. Construction work taking place outside of designated work areas and out of phase.

Safety area encroachments, improper ground vehicle operations, and unmarked or uncovered holes and trenches in the vicinity of aircraft operating surfaces are the three (3) most recurring threats to airside safety during construction.

In the event of an aircraft emergency, the Contractor's personnel and /or equipment may be required to immediately vacate the area. Notification will first come from the Airport Operations Manager via the operations radio being monitored by the Contractor.

## 3.2 PHASING

The work to be performed under this Contract is described in the Contract Documents, Technical Specifications and Drawing set. Construction phasing for this project has been coordinated with the Airport Project Manager, local Air Traffic personnel and airport users. The sequenced construction phases established in this CSPP have been incorporated into the project design and are reflected in the contract drawings and specifications. The Contractor shall complete all Administrative and Mobilization act The Contractor shall complete the Work within 150 Calendar Days from Notice to Proceed 1 (NTP1).

The project areas are represented graphically in exhibits located in Appendix A of this document.

The Work to be performed under the contract is divided into four (4) Areas. The areas identified have been evaluated and planned to provide the Contractor adequate room to work to save costs and reduce construction duration. The performance of work for the phases will require the reduction of aircraft access, re-routing of aircraft around the project work area, and closures of various airfield surfaces. Exhibits showing the overall phasing layout and the safety and security elements associated with the phases have been provided in Appendix A of this report. In addition, reference Section 3.3 *Areas of Operations Affected by the Construction Activity* of this document for additional information regarding affected operations on the airfield by phase.

### 3.2.1 Phase Elements

The sequence of construction for this project has been phased to maximize the performance and safety of construction activity and to maintain aircraft operations at an acceptable level of efficiency at the airport for the duration of this contract. General elements of this sequencing and phasing are as follows:

Contractor staging and proposed batch plant areas – Reference Appendix A, for general safety and security notes as well as staging and batch plant area locations. Construction staging areas, batch plant areas and contractor employee parking areas are to remain outside of all Object Free and Safety Areas for all active airfield surfaces.

Construction access and haul routes – Reference Appendix A for routing layouts. Applicable control along contractor haul routes for both safety and security must always be maintained. This is especially considered at those locations that require the Contractor to cross or move through active airfield surfaces. Reference Section 3.16 *Marking and Signs for Access Routes*, and Section 3.18 *Protection of Runway and Taxiway Safety Areas* of this document for additional information.

Aircraft access routes – Reference Appendix A for phase specific proposed aircraft routing. Aircraft routing around construction areas has been coordinated to maintain aircraft operations at an acceptable level of efficiency during the project.

ARFF access routes – Emergency ARFF access in and around the site will be maintained by the Contractor, as required, for the duration of this project. Construction contractors must prominently mark open trenches and excavations within the construction site, with approval from Airport Operations and Engineering, and light them with red lights during hours of restricted visibility or darkness.

Required hazard marking and lighting – Low profile barricades, closed runway and taxiway markings, signs, lighting and/or safety flag details and usage requirements are provided in the attached exhibits, reference Appendix A. In addition, reference Section 3.16 *Marking and Signs for Access Routes,* Section 3.17 *Hazard Marking and Lighting*, and Section 3.18 *Protection of Runway and Taxiway Safety Areas* of this document for additional information.

Lead times for required notifications – The Contractor is required to coordinate this with DEN Airport Engineering and Airfield Operations. Lead times for required notifications shall be established at the pre-construction meeting.

Milestone specific elements addressed and taken into consideration during the development of the construction phasing for this project are as follows:

**Milestone 1- Area 1 – 21 Calendar Days**

1. Work shall begin immediately after NTP and shall be completed within 21 consecutive calendar days.
2. Areas closed to aircraft operations
    a. Taxiway AA and Vandriver street
3. Contractor Routes – Work within this phase will require the Contractor to use haul routes on active airfield pavements. Haul route monitors will be required to prevent construction vehicles from entering active airfield pavements when aircraft are in the vicinity

4. Runways
    a. Runway 17R-35L – Closed
    b. Runway 17L-35R – Open
    c. Runway 16L – 34R – Open
    d. Runway 16R – 34L – Open
    e. Runway 7-25 – Open
    f. Runway 8-26 – Open

**Milestone 2 – Area 2 – 50 Calendar Days**

1. Work shall begin immediately after Milestone 1 (Area 1 work) is completed and shall be completed within 50 consecutive calendar days from start.
2. Areas closed to aircraft operations
    a. Taxiway AS and Vandriver street
3. Runways
    a. Runway 17R-35L – Closed
    b. Runway 17L-35R – Open
    c. Runway 16L – 34R – Open
    d. Runway 16R – 34L – Open
    e. Runway 7-25 – Open
    f. Runway 8-26 – Open

**Milestone 3 – Area 3 – 50 Calendar Days**

4. Work shall begin 47 days after Milestone 1 (Area 1 work) is started and shall be completed within 50 consecutive calendar days from start.
5. Areas closed to aircraft operations
    a. Taxiway AN and Vandriver street

6. Runways
    b. Runway 17R-35L – Closed
    c. Runway 17L-35R – Open
    d. Runway 16L – 34R – Open
    e. Runway 16R – 34L – Open
    f. Runway 7-25 – Open
    g. Runway 8-26 – Open

7. Runways
    h. Runway 17R-35L – Closed
    i. Runway 17L-35R – Open
    j. Runway 16L – 34R – Open
    k. Runway 16R – 34L – Open
    l. Runway 7-25 – Open
    m. Runway 8-26 – Open

**Milestone 4 - Area 4 – 50 Calendar Days**

1. Work shall begin immediately after Milestone 1 (Area 1 work) is completed and shall be completed within 5 consecutive calendar days from start.
2. Areas closed to aircraft operations
    a. Taxiway CN and Vandriver street
3. Runways
    a. Runway 17R-35L – Closed
    b. Runway 17L-35R – Open
    c. Runway 16L – 34R – Open
    d. Runway 16R – 34L – Open
    e. Runway 7-25 – Open
    f. Runway 8-26 – Open

### 3.2.2 Construction Safety Drawings

Graphical exhibits specifically indicating operational safety procedures and methods in areas affected by construction activities associated with this project have been provided with this CSPP and incorporated into the project drawing set. Reference Appendix A Exhibits of this document.

## 3.3 AREAS OF OPERATIONS AFFECTED BY THE CONSTRUCTION ACTIVITY

Runways, taxiways, and other airfield surfaces shall remain in use by aircraft to the maximum extent possible without compromising safety. The performance of this contract will require the partial and full closures of several airfield surfaces on a scheduled and phased basis. These areas are graphically illustrated in the attached exhibits, reference Appendix A. In addition, reference the previous section, Section 3.2 *Phasing*.

### 3.3.1 Identification of Affected Areas

Taxiways will be closed for 150 calendar days will require closures at different phases during this project. These areas are graphically illustrated in the attached exhibits, reference Appendix A, sheets 3,4,17-20. In addition, reference the previous section, Section 3.2 *Phasing*.

### 3.3.2 Mitigation of Effects

This CSPP has established specific requirements and operational procedures necessary to maintain the safety and efficiency of airport operations during the construction of this project.
All coordination pertaining to airport operations during construction will go through the Airport Engineer and the Operations Manager. Any required NOTAM's to be issued will be sent through the Engineer and issued by the Airport Operations Manager.

#### 3.3.2.1 Temporary Changes to Runway and/or Taxiway Operations

The affected taxiways identified in Section 3.3.1 identified as being closed entirely to aircraft traffic, will be barricaded using low profile, lighted barricades placed as shown in the exhibits provided in Appendix A. In addition, required NOTAM's shall be issued on the various temporary changes to aircraft access through the affected areas. Lastly, closed runways will have a lighted "X" placed at both ends for the duration of the closure.

#### 3.3.2.2 Maintenance of Essential Utilities

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

#### 3.3.2.3 Temporary Changes to Air Traffic Control Procedures

Changes to air traffic control procedures must be coordinated with airport ATO.

## 3.4 PROTECTION OF NAVIGATION AIDS (NAVAIDS)

Special consideration must be made for construction activities, materials/equipment storage, and vehicle parking near electronic Navigational Aids (NAVAIDS) because they may interfere with signals essential to air navigation, obstruct the line-of-sight from the ATCT, and/or limit access to the equipment and instruments for maintenance.

Additionally, construction staging and material stockpile locations have been identified in the plans in locations that limit airfield and vehicle interference. However, this plan should be discussed by Airport Operations and the Contractor before commencing any construction activities.

## 3.5 SECURITY REQUIREMENTS

### 3.5.1 Airport Security

Participant guidelines are outlined in Denver Municipal Airport System Rules and Regulations Part 20. A Contractor must be sponsored by an Air Carrier, Tenant or by the City and County of Denver. Once a

Contractor Company has been sponsored they must designate an Authorizing Agent. Each Contractor (or Subcontractor) requiring access to the Restricted Area, Sterile Area, or Secured Area shall become a "Participant" in the Airport Security Program and remain in good standing in order to retain Airport Security privileges.

The sponsorship establishes that a Contractor (including Subcontractors) has legitimate business at the Airport. All construction contractors must submit a Participant Sponsorship form signed by their sponsor. A company sponsoring a Participant shall immediately notify Airport Security when any sponsorship is terminated.

A Sub-contractor Company working under its own entity must be sponsored by a Contractor Company. The Sub-contract Company must designate its own Authorizing Agent(s).

Each Participant shall designate an Authorizing Agent to ensure the Participant's compliance with the Airport Security Program and act as the point of contact between the Participant and Airport Security. The Authorizing Agent shall be designated in writing to Airport Security by the Participant.

The Authorizing Agent(s) is responsible for signing and verifying all information on the Denver International Airport Fingerprinting and Badge Applications. All submitted applications must be an original. It is the Authorizing Agent(s) responsibility to ensure that Airport Security maintains valid contact information. The Authorizing Agent must maintain a current and valid Airport Identification Badge.

The security status of the Airport is subject to change without notice. These security requirements are applicable to the current security status of the Airport. Should the security status of the Airport change at any time during the term of the Agreement, a written notice shall be issued to the Contractor detailing all applicable security modifications. The Contractor must take immediate steps to comply with those security modifications.

The Contractor shall return to the City, at Agreement completion or termination, or upon demand by the City, all access keys and Airport ID Badges issued to it by the City to Restricted Areas of the Airport. If the Contractor fails to return any such Airport ID Badge(s) or Airport Security Key(s) at the Agreement completion or termination or upon demand by the City, the Contractor shall be liable to the City for all the City's costs, including the City's labor costs for re-coring doors and any other work which is required to prevent compromise of the Airport security system. In order to collect such costs hereunder, the City may withhold funds in such amount from any amounts due and payable to the Contractor under the Agreement.

### 3.5.2 Airport ID Badge Requirements

All individuals employed at the Airport with Restricted Area access, or working in the Terminal, Concourses, or Parking and Ground Transportation facilities, must obtain an Airport Identification (ID) Badge. Airport ID Badges will be issued by Airport Security and if deemed necessary by Airport Security, may require a deposit. All such identification badges shall be and remain the property of the Airport. The Airport ID Badge must be surrendered on demand to Airport Operations and/or a Contract Security

Guard. An individual employed by more than one company, or changing employers, must obtain an Airport ID Badge for each company. Badge Color indicates general areas of authorization in relationship with direct support of an individual's job function. Badge Color does not determine access. The respective classes of Airport ID Badges, indicated by badge color and associated driving privilege icon, describe driving privileges in direct correlation with their job function.

The individual must complete a Denver International Airport Fingerprinting and Badge Application, on a form prepared and currently approved by Airport Security. Two valid forms of identification must be presented with the application, one of which must be government issued photo identification. The second form of identification must verify proof of citizenship (i.e., birth certificate or legal residency with work authorization). All information regarding the individual's name, age, gender, and other vital statistics on both forms of identification must be consistent and verifiable.

A Denver International Airport Fingerprinting and Badge Application, Security Threat Assessment (STA) and Criminal History Record Check (CHRC) must be completed for each individual requesting an Airport Identification Badge. Denver International Airport Fingerprinting and Badge Application are available from the Airport Security Offices.

The individual must view a training film on Denver Municipal Airport System Rules and Regulations, as they pertain to overall security, and pass a corresponding test to assure understanding of the Rules and Regulations.

If the individual requests Driver Authorization, a valid driver's license must be presented, and the individual must view a training film on Denver Municipal Airport System Rules and Regulations, as they pertain to overall Movement of Vehicles in the Restricted Area, and pass a corresponding test to assure understanding of the Rules and Regulations.

A construction orientation specific to the project must be conducted. A designated time for this session must be coordinated with Planning and Development and Airport Operations.

Every individual requesting an Airport ID Badge must complete a Criminal History Record Check (CHRC) and a Security Threat Assessment (STA) for unescorted access to the Restricted Area.

If an applicant has been convicted or found guilty by reason of insanity or has been arrested for any felony and/or any of the disqualifying crimes and is awaiting judicial proceedings he/she may be ineligible to obtain an Airport Identification badge. A list of the disqualifying crimes may be found in 49 C.F.R. 1542.209.

Allow adequate time for processing of the Security Threat Assessments (STA) and Criminal History Record Check (CHRC).

A lost or stolen badge must be immediately reported to Airport Security. For a replacement badge a new Denver International Airport Fingerprinting and Badge Application must be completed and signed by the Company(s) Authorizing Agent. A non-refundable fee must be paid for a replacement badge.

If for any reason the Airport Identification Badge becomes inoperable or damaged, the Airport Identification Badge holder shall return that badge to Airport Security, and a replacement badge will be issued. A replacement fee may be assessed should the damage be attributable to the negligence of the employee who was issued the badge.

When an employee is terminated, the Contractor Company shall immediately notify Airport Security. This notification must be followed by the return of the badge and written confirmation of this information. The Contractor Company must recover badges from individuals whose employment at the Airport has been terminated. The Contractor Company shall notify Airport Security in writing, when a Subcontractor is no longer under their sponsorship. All Airport Identification Badges must be return to Airport Security.

An employee possessing a valid Airport Identification Badge may escort other individuals into the Restricted Area under the conditions listed in the Rules and Regulations Section 20.

If the project is extended, the City and County Airport Project Manager must submit a new Sponsorship Form with a new expiration date. This can be accomplished thirty (30) calendar days prior to expiration of the Airport Identification Badge. An application revision must be completed for each employee still required on the project, if the badges have expired.

### 3.5.3 Background Checks

Every individual requesting an Airport ID Badge must complete a Criminal History Record Check (CHRC) and a Security Threat Assessment (STA) for unescorted access to the Restricted Area.
If an applicant has been convicted or found guilty by reason of insanity or has been arrested for any felony and/or any of the disqualifying crimes and is awaiting judicial proceedings he/she may be ineligible to obtain an Airport Identification badge. A list of the disqualifying crimes may be found in 49 C.F.R. 1542.209.

### 3.5.4 Vehicles in the Restricted Area

All Contractor Employees who are required to drive in the Restricted Area to perform their jobs are required to complete a training film on Denver Municipal Airport System Rules and Regulations, as they pertain to overall movement of vehicles in the Restricted Area and pass a corresponding test to assure understanding of the Rules and Regulations.

All unescorted vehicles must display a current Denver International Airport Contractor Vehicle Permit. Contractor Vehicle Permits are available from Airport Security. An application form must be completed for each permit requested, and it must be signed by the Authorizing Agent. A permit is required for all vehicles driving into the Restricted Area and vehicle permits are not transferable.

The Contractor shall purchase and maintain in force a minimum of $10,000,000, in combined single limit automobile insurance for bodily injury and property damage liability per accident or occurrence. Coverage must include a thirty (30) calendar day notice of cancellation to Airport Security. Prior to receiving a Contractor Vehicle Permit, the Contractor shall provide Airport Security with certificates of insurance evidencing the above coverage, which identify the City and County of Denver as additionally insured.

## 3.6 CONTRACTOR ACCESS

The Contractor will separate the construction area from the active taxiway and apron areas by placing barricades with red flashing lights as shown on the plans. Barricades and delineators shall be installed at locations shown on the plans just prior to the approved construction phase start date. In addition, temporary signage indicating "No Contractor Access" and delineators shall be installed at locations shown on the plans in an attempt to stop Contractor employees from entering the remaining taxiway object free areas.

No equipment or personnel may enter the open runways or taxiways adjacent to the project without the proper clearance, flagging, and/or escort as defined by Airfield Operations.

1. Airfield Operations will close the Runways and Taxiways when any work activity, equipment and/or personnel are going to be within the Runway and Taxiway Safety and Object Free Areas.
    a. All lighting systems and signs in closed areas shall be de-energized. All lighting systems directing traffic to closed areas shall be de-energized.
    b. All signs in closed areas shall be de-energized and securely covered.
    c. All signs or portions of signs outside the closed area directing aircraft to closed areas shall be completely and securely covered. The methodology for covering the signs shall be coordinated with the DEN Project Manager and approved by the Airport Operations.
    d. Please reference FAA advisory Circular 150/5370-2G
2. The Contractor will submit a Closure Schedule to the Project Manager prior to starting the project for work known to require access in the Runway and Taxiway Safety and Object free areas.
3. The Contractor shall schedule no work in the Runway Safety Areas and Taxiway Object Free Areas without prior coordination with the Project Manager and approval from Airport Operations.
4. Work within the Runway Safety Areas and Taxiway Object Free Areas adjacent to the project shall require the Runway and Taxiway to be closed to aircraft traffic for the duration of that work period.
5. No penetration shall be made into any Taxilane, Taxiway, or Runway Approach Surface without coordination with Project Manager and approval from Airport Operations.

The Contractor's primary access for the project will be through Gate P-TBD. See Plan SHEET #4, Construction Access and Safety Plan for additional information. All personnel and materials accessing the airfield complex will move in and out of the AOA at this point.

1. The contractor employees and their subcontractor employees Privately Owned Vehicles (POVs) shall be parked at the contractor staging area or off airport property. Contractor employee and

subcontractor POVs shall not enter the AOA.

2. The Contractor will submit a schedule to the Project Manager, 24 hours in advance, of any additional gate requirements, extraneous movement outside the Construction Area, orsituations that would require additional clearances.
3. The Contractor, it's employees and its subcontractors, vendors, suppliers, and all those vested in the project through the general contractor are to remain in the project area at all times. Movement on the AOA outside of the Construction Area Envelope is prohibited except when accessing the area or otherwise cleared by Airfield Operation.

All construction equipment and vehicles shall be marked as indicated in the Rules and Regulations Governing the Denver Municipal Airport System.

The Contractor shall stage all vehicles and equipment on the runway pavement, within the phase closure area, when not in use. Contractor may stage slow moving equipment such as tracked equipment and steel drum rollers on or near runway pavements. Equipment stored on or near runway pavements shall be consolidated into a minimum number of groups, coned off with construction delineators, and lit with light carts at night.

Prior to start of construction, the Contractor shall submit a Haul Plan to the DEN Project Manager, for FAA, and Airport Operations for approval.

The Contractor shall be responsible for maintaining all haul roads and access roads and completing rehabilitation work as necessary upon completion of the work.

The Contractor shall establish controls to limit erosion per Technical Specification section 015719 and approved Stormwater Management Plan (SWMP).

The maximum allowable height of equipment working on the project area is 25 feet in all project areas unless approval to exceed this height is provided through prior coordination with the DEN Project Manager, an approved FAA Form 7460-1, or approval from Airport Operations. The Contractor shall ensure that the equipment working on the site does not exceed the height limit, as specified.

The construction equipment associated with the project will need to remain below the horizontal surface which is set at 5,584, or 150 feet above the airport elevation of 5,434 feet as measured in NAVD88.

No person or equipment is allowed outside of the designated haul route or beyond the construction areas indicated on the drawings without prior coordination with the DEN Project Manager and approval from the Manager of Airport Operations.

1. The Contractor shall not block or restrict access to active Runways or Taxiways at any time.
2. If and when cleared for work activity outside the Construction Area, the Barricades shall be moved to the new limits and then re-established at the conclusion of the day's work session or a closure area set-up under the direction and approval of Airfield Operations; using 36" orange cones with reflective tape or reflective weighted orange candlestick type cones. If the closure occurs in hours of darkness then the cones must be supplemented with a red flashing light.

The Contractor will be required to maintain aircraft operations on the open runways and taxiways at all times except as specified in the Contract and all closures shall be identified in the Construction Schedule and submitted to the DEN Project Manager and Airport Operations Manager prior to starting work on the project. During (SMGCS) low visibility conditions, the Airport Operations Manager will call to have will coordinate aircraft activities on the taxiways.

Flaggers for Haul Roads and Gates will be CDOT certified. If on the AOA they will be DEN certified. All employees operating vehicles within the AOA must comply with all applicable rules and regulation listed in the Rules and Regulations Governing the Denver Municipal Airport System; see Section 3.5.4 for Driver Training requirements. Construction vehicles and personnel are restricted to the immediate work area specified by the contact for this project. At no time will vehicles or personnel enter portions of the secure AOA or Terminal Buildings that are outside the contract area unless permitted under the guidelines of Access Services or accompanied by an Airport approved escort.

1. Crossings: If approved by the Airport Operations Manager, vehicle and pedestrian crossings of active taxiways and high-use or congested ramp areas may be permitted when the following provisions are met:
    a. The Airport Operations Manager is notified before any activity begins and when the activity ends every day.
    b. Airport Operations has coordinated the activity with Air Traffic Control and has advised the DEN Project Manager when to cross.
    c. An Airport Operations Manager is available to contact Air Traffic Control if there are any problems.

All personnel must yield to all aircraft. Aircraft always have the right of way.

Haul Routes Crossing Active Aircraft Operation Areas:

1. The Contractors shall provide a minimum of one broom truck to continuously clean the surface of all pavements of any foreign object debris (FOD) or other objectionable materials that may result from hauling or other construction activities. Additional broom trucks may be required to expedite the cleanup process for landside haul routes.
2. Opening the taxiway, taxilane or apron to aircraft operations shall only be approved after a visual inspection of the pavement surface by DEN Airport Operations.
3. The Contractor shall provide at all times a flag person at each location as indicated on the plans or as directed by the DEN Project Manager. Flaggers will need to be equipped with radios and monitor communications with DEN Airport Operations. Flaggers will control vehicular traffic only.
4. A contractor haul route in and around the Taxiways will not include the paved shoulders.
5. The Contractor may not enter the Safety Area of an active Taxiway or Taxilane without prior coordination with the DEN Project Manager and final approval from the Airport Operations Manager. All construction equipment and vehicles shall be flagged for high daytime visibility and if appropriate, lighted for nighttime operations. Vehicles, which are not marked and lighted, shall be escorted by a vehicle that is equipped with the appropriate marking and lighting devices. Marking and lighting shall be in conformance with FAA AC 150/5210-5, current issue.

All construction equipment, vehicles, personnel and supplies must be cleared from the taxiway safety area when directed by the DEN Project Manager or Airport Operations Management. All Contractor and Subcontractor employees must be aware of the types of safety problems and hazards associated with aircraft operations and construction activities.

During performance of this contract, the airport runways, taxiways, taxilanes, and aircraft parking aprons shall remain in use by aircraft to the maximum extent possible, CONSISTENT WITH CONTINUAL SAFETY. Aircraft use of areas near the contractor's work will be controlled to minimize disturbance to the contractor's operation. However, AIRCRAFT HAVE RIGHT OF WAY AT ALL TIMES. The Contractor shall not allow employees, subcontractors, suppliers, or any other unauthorized persons or equipment to enter or remain in any airport area, which would be hazardous to others or to aircraft operations.

Contractor personnel, airport staff and field inspectors directly involved in airport construction shall:

1. Be aware of the types of conditions, safety problems, and/or hazards identified each day at the airport. To ensure that all personnel are aware, daily meetings between management and supervisory personnel and their employees shall be scheduled prior to any work commencing on the shift.
2. Inspect all work, and/or storage areas daily for which they are responsible to be aware of current conditions.
3. Promptly take all steps necessary to remedy any unsafe or potentially unsafe condition(s) discovered. Coordinate with the DEN Project Manager to insure immediate corrective action is undertaken.
4. Before commencement of construction activity, the Airport Operations Manager, through coordination with the DEN Project Manager and the Contractor, shall give notice using the NOTAM system, of construction on the airport. In addition, a NOTAM shall be issued for the completion of construction on the airfield.
5. Construction Area Marking: Runway closed crosses, temporary lighting, barricades, delineators, and flagging are required as shown on the plans. Flaglines, delineators, edge lights, and/or signs shall be used as necessary:
    a. To clearly separate all construction from other parts of air operations area,
    b. To identify isolated hazards, such as open manholes, excavations, areas under repair, stockpiled material, waste areas, etc.

Vehicle and pedestrian access routes used for airport construction shall be controlled to prevent any unauthorized entry of persons, vehicles or animals.

Vehicle parking areas for contractor employees shall be designated in advance to minimize traffic in open/active aircraft movement areas.

Contractor vehicles and equipment shall be flagged for high daytime visibility and if appropriate, lighted for nighttime operations. Vehicles, which are not marked and lighted, shall be escorted by one that is

equipped with appropriate marking and lighting devices. Marking and lighting shall be in conformance with FAA AC 150/5210-5, current edition, or as outlined in Section 011430 – *Vehicle and Equipment Permitting* of the contract documents.

The Contractor will be required to conform to the specific requirements as outlined in Section 011420 – *Security Requirements and Sensitive Security Information (SSI)* of the contract documents.

## 3.7 WILDLIFE MANAGEMENT

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

1. Trash must be collected from construction personnel activity
2. Standing water shall not be allowed to collect and pool for more than any single 24-hour period
3. Tall grass
4. Lower quality seeds that attract birds
5. Poorly maintained fences and gates
6. Disruption of existing wildlife habitat

## 3.8 FOREIGN OBJECT DEBRIS (FOD) MANAGEMENT

Construction contractors must not leave or place FOD on or near active aircraft movement areas. Materials capable of creating FOD must be continuously removed during the construction project and prior to opening any pavement surfaces. A vacuum sweeper will be used to clean the affected pavement surfaces, especially in areas where haul routes cross active taxiway pavements, to ensure all material and FOD are removed from the work site.

## 3.9 HAZARDOUS MATERIALS (HAZMAT) MANAGEMENT

Contractors operating construction vehicles and equipment on the airport must be prepared to expeditiously contain and clean-up spills resulting from fuel or hydraulic fluid leaks.

## 3.10 NOTIFICATION OF CONSTRUCTION ACTIVITIES

The Contractor shall work with the DEN Project Manager regarding the construction schedule and planned activities which may require airfield pavement closures or potentially hazardous situations. The DEN Project Manager will work with Airport Operations initiate or cancel NOTAMs. The DEN Airport Operations must coordinate the issuance, maintenance, and cancellation of NOTAMs about airport conditions resulting from construction activities with tenants and the local air traffic facility (control tower, approach control, or air traffic control center), and must provide information on closed or hazardous conditions on airport movement areas to the FAA Flight Service Station (FSS) so it can issue a NOTAM. The airport operator must file and maintain a list of authorized representatives with the FSS. Refer to AC 150/5200-28, current edition, Notices to Airmen NOTAMs on shutdown or irregular operation of FAA owned facilities. Any person having reason to believe that a NOTAM is missing, incomplete, or inaccurate must notify the airport operator.

Direct coordination between the Contractor and the DEN Project Manager will be required to foresee closures or other hazardous conditions resulting from construction activities. This information will be discussed during the weekly progress meetings.

This CSPP requires that the Contractor notify Airport Operations in advance of any required utility shutdown or disruption, and hazardous materials on the airport.

In project areas where planned closures or placement of barricades will redirect, or partially interfere with ARFF operations, DEN Airport Operations will inform the ARFF personnel and the ARFF personnel will conduct practice runs with each ARFF shift after the barricades have been installed.

No part of this project has been designed to penetrate the Part 77 surfaces during or after construction. The FAA shall be notified if any proposed construction or alteration of objects that affect navigable airspace, as defined in Part 77. This includes construction equipment, batch plants, material stockpiles, and proposed parking areas for this equipment (i.e. cranes, graders, other equipment) on airports. FAA Form 7460-1, Notice of Proposed Construction or Alteration, can be used for this purpose and submitted to the appropriate FAA Airports or Regional or District Office. Further guidance is available on the FAA website at https://oeaaa.faa.gov/oeaaa/external/portal.jsp

With some exceptions, Title 14 CFR Part 157, Notice of Construction, Alteration, Activation, and Deactivation of Airports, requires that the airport operator notify the FAA in writing whenever a non-Federally funded project involves the construction of a new airport; the construction, realigning, altering, activating, or abandoning of a runway, landing strip, or associated taxiway; or the deactivation or abandoning of an entire airport. Notification involves submitting an FAA Form 7480-1, Notice of Landing Area Proposal, to the nearest FAA Airports Regional or District Office.

For emergency (short notice) notification about impacts to both airport owned and FAA owned NAVAIDs, contact 866-432-2622.

1. Airport owned/FAA maintained. If construction operations require a shutdown of more than 24 hours, or more than 4 hours daily on consecutive days, of a NAVAID owned by the airport but maintained by the FAA, provide a 45-day minimum notice to FAA ATO/Technical Operations prior to facility shutdown.
2. FAA owned
    a. General: The airport operator must notify the appropriate FAA ATO Service Area Planning and Requirements (P&R) Group a minimum of 45 days prior to implementing an event that causes impacts to NAVAIDs. (Impacts to FAA equipment covered by a Reimbursable Agreement (RA) do not have to be reported by the airport operator.)
    b. Coordinate work for an FAA owned NAVAID shutdown with the local FAA ATO/Technical Operations office, including any necessary reimbursable agreements and flight checks. Detail procedures that address unanticipated utility outages and cable cuts that could impact FAA NAVAIDs. In addition, provide seven days' notice to schedule the actual shutdown.

### 3.10.1 Points of Contact/List of Responsible Representatives

Airport Phone Numbers

1. Fire, Rescue: Operations Communications Center: 303.342.4200
2. Police: Denver Police Dept (dispatch): 303.342.4211
3. Information and Compliance - Construction Office
   Project Manager 303.342.2736
4. Access Services:
   ID Badging: 303.342.4300
   Airport Security: 4307
   Vehicle Permits: 4308
   Driver Qualification: 4310

## 3.11 INSPECTION REQUIREMENTS

### 3.11.1 Daily (or more Frequent) Inspections

Inspections shall be conducted by the Contractor at least daily, but more frequently if necessary, to ensure conformance with the CSPP. In addition to the Contractor's required inspections, Airport Operations will inspect the construction site to ensure compliance with the CSPP and the SPCD.

### 3.11.2 Final Inspections

A final inspection with the airport, the Contractor, and the FAA shall take place when the project has reached substantial completion.

## 3.12 UNDERGROUND UTILITIES

Special attention should be given to preventing unscheduled interruption of utility services and facilities. The location of all cables and utilities should be identified prior to construction activities.

1. The Contractor shall coordinate with the DEN Project Manager, DEN Operations, FAA, National Weather Service, utility companies, and any other appropriate entity or organization as necessary to locate and identify all utilities in the project area where demolition or excavation is to occur prior to demolition or digging operations. NAVAIDS, Weather Service facilities, electric cables, and other utilities must be fully protected during the entire construction time.
2. Power, communication and control cables leading to and from any FAA NAVAIDS, Weather Service, and other facilities will be marked in the field by the appropriate individuals as identified in Section 011810 – *Utilities Interface* of the contract documents for the information of the Contractor before any work in their general vicinity is started. Thereafter, through the entire duration of construction, they shall be protected from any possible damage, including crossing with unauthorized equipment.

## 3.13 PENALTIES

Any employer not regulated under 49 C.F.R. Part 1544, Aircraft Operator, will be responsible for payment or reimbursement to the City & County of Denver of any Civil Penalties imposed by the Transportation

Security Administration (TSA) for individual security violations by their employees for violations under 49 C.F.R. Part 1542.

An employee may be personally subject to Civil Penalties imposed by the Transportation Security Administration (TSA) for individual security violations they commit under 49 C.F.R Part 1542.

Each individual who is issued an Airport ID Badge shall comply with all Security Advisories, Denver Municipal Airport System Rules and Regulations, the Manager's Directives, and DEN Standard Policies and Procedures regarding Airport Safety, Security, and Operations. The failure of any individual to comply with such Security Advisories, rules and directives will result in the issuance of a Violation Notice and may result in the assessment of a Federal Civil Penalty and/or the denial, suspension, or revocation of Airport ID Badges.

No individual to whom an Airport ID Badge or Security Key(s) (including Intellikey(s)) has been issued shall intentionally perform any of the following acts as described in Denver Municipal Airport System Rules and Regulations Part 20.04-16. The intentional commission of any such acts, due to their critical negative effect on the safety and security of Airport employees and the traveling public, is reason for immediate confiscation and suspension (and possible permanent revocation) of the Airport ID Badge, issuance of a Violation Notice, and a Violation Notice Hearing in accordance with Section 20.04-8.

Denver International Airport
Airport Security
8500 Pena Blvd #451
Denver, CO 80249
Office: 303-342-4300
Fax: 303-342-4319

## 3.14 SPECIAL CONDITIONS

In the event of an aircraft emergency, the Contractor's personnel and/or equipment may be required to immediately vacate the area. The Contractor will receive notification from Airport Operations and/or den Project Manager when special conditions require the construction site to be vacated. In any event, extreme care shall be exercised should construction personnel identify any ARFF (Airport Rescue and Fire-Fighting) vehicle with emergency lights displayed. This will generally mean that an emergency is imminent. Reference 3.10 Notification of Construction Activities.

## 3.15 RUNWAY AND TAXIWAY VISUAL AIDS

Runway and taxiway visual aids include marking, lighting, signs, and other visual NAVAIDs on the airfield. Those areas where aircraft will be operating shall be clearly and visibly separated from construction areas, including closed runways. Throughout the duration of the construction project, the Contractor shall inspect and verify that these areas remain clearly marked and visible always and that marking, lighting, signs, and visual NAVAIDs remain in place and operational, see AC 150/5370-2G and plane sheets 41,42,43,44 and 45.

### 3.15.1 General

All closed airfield pavement areas associated with this project will be barricaded as shown in the project phasing drawings. All runway and taxiway centerline, edge lights, and signage leading traffic into the closed areas will be turned off or covered as shown in the electrical phasing drawings. Marking modifications for taxiway closures are not necessary, and barricades will be placed at the taxiway/taxiway intersections to denote closed taxiways. Barricade locations are shown on sheet C0051A-C0053D

### 3.15.2 Lighting and Visual NAVAIDS

All taxiway edge lights in those sections of taxiways closed to aircraft traffic will be either de-energized or blacked out by use of an appropriately cut length of PVC pipe. Centerline lighting that conflicts with the temporarily relocated or closed taxiway routing shall be either de-energized, removed from the circuit by use of jumpers or as detailed in the project drawing set. Reference Appendix A for locations and details.

The removal of this NAVAID and lighting systems from service will require the prior issuance of a NOTAM. Reference Section 3.10 Notification of Construction Activities on procedures associated with the issuance of a NOTAM.

### 3.15.3 Signs

Airfield signage directing aircraft into the closed airfield surfaces for this project will be blacked out see AC 150/5370-2G and plane sheets 41,42,43,44 and 45,.

## 3.16 MARKING AND SIGNS FOR ACCESS ROUTES

See Section 3.6 - *Contractor Access*

## 3.17 HAZARD MARKING AND LIGHTING

The proposed construction areas and phases will be completely shut down to aircraft traffic through the use of barricades and lighting and sign outages as described above and in the phasing drawings.

Barricades will be utilized at appropriate phase limits, installed per phase requirements as shown in sheets C0051A-C0053D, in order to delineate to both the Contractor's personnel and the airport user the physical limits of the project work site currently under construction. Barricades shall also be placed across closed taxiway pavement surfaces, spanning from the outside edge of the shoulder to the outside edge of the opposite shoulder to indicate that that airfield pavement is closed to aircraft traffic. All barricades will contain red steady burning or flashing lights continuously linked with no spaces.

### 3.17.1 Purpose

Hazard marking, and lighting prevents pilots from entering areas closed to aircraft, and prevents construction personnel from entering areas open to aircraft traffic. To that end, comprehensible warning indicators for any area affected by construction that is normally accessible to aircraft, personnel, or vehicles shall be installed and maintained by the Contractor for the duration of construction operations.

### 3.17.2 Equipment

Type 1 - Low Profile Barricades of the type detailed in the project drawings with omnidirectional flashing red lights and orange and alternating white flags shall be placed outside the safety area of intersecting taxiways at the edge of the closed airfield surfaces and the project work limits. Layout locations for this equipment are as shown in the project drawing set and in the attached exhibits, reference Appendix A, Exhibits. The Contractor shall have a person on call 24 hours a day for emergency maintenance of airport hazard lighting and barricades. The Contractor must file the contact person's information with the Airport. Lighting shall be checked for proper operation at least once per day, preferably at dusk.

## 3.18 PROTECTION OF RUNWAY AND TAXIWAY SAFETY AREAS

All construction within the project area will be completed outside and/or underneath the associated taxiway and runway object free areas.

## 3.19 OTHER LIMITATIONS ON CONSTRUCTION

Prohibitions:

1. Equipment height limited to 25 feet on all project areas.
2. No use of open flame welding or torches unless fire safety precautions are provided and the airport operator has approved their use
3. No use of electrical blasting caps or other explosives on or within 1,000 ft of the airport property
4. No use of flare pots within the AOA

## 3.20 CONTRACTOR'S SAFETY PLAN COMPLIANCE DOCUMENTS (SPCD)

1. The Contractor is responsible for developing and providing a Safety Plan Compliance Document (SPCD) as described in FAA AC 150/5300-2G and in Part 1 of Technical Specifications Section 01111. The Contractor is required to comply with the Construction Safety and Phasing Plan and their Safety Plan Compliance Document.

2. The Contractor shall provide six copies of its SCPD to the DEN Project Manager for review at least ten days before on-site construction begins. The Contractor's program must meet as a minimum all applicable federal, state and local government requirements.

3. The Contractor must, as part of the Contractor's Work Plan, submit six copies of the following information for review and acceptance by the DEN Project Manager prior to construction:
   a. Name of the Contractor's site safety representative.
   b. If the Contractor is running multiple shifts or working more than 40 hours per week, the name of an assistant Contractor's safety representative who can act in the absence of the site safety representative.
   c. Name of the Contractor's Construction Safety and Phasing Plan (CSPP) and Safety Plan Compliance Document (SPCD) representative and alternates (if different that the site safety representative) who will be on-site at all times construction activities are taking place. The representative will be responsible for monitoring compliance with the CSPP and SPCD.

d. Methodology of familiarizing all Contractor and subcontractor personnel with the safety procedures and regulations on the airport. Provide a point of contact and alternate who will coordinate an immediate response to correct any construction-related activity that may adversely affect the operational safety of the airport. The point of contact or alternate must be available to supply 24-hour coverage.
e. Inspection plan to conduct inspections sufficiently frequently to ensure construction personnel comply with the CSPP and SPCD and that there are no altered construction activities that could create potential safety hazards.
f. Methods of restricting movement of construction vehicles and personnel to permitted construction areas by flagging, barricading, erecting temporary fencing, or providing escorts, as appropriate and as specified in the CSPP and SPCD.
g. Twenty-four hours per day emergency phone numbers of Contractor site management to be used in case of injury or accident. Provide at least four contacts.
h. The Contractor's method of ditching and trenching excavation to be used including how slopes will be stabilized with calculations showing the slope stability. The Contractor shall also show how material will be stored beside the excavation. Stored material will include the excavated and backfilled material.
i. How injuries or accidents will be handled including samples of the forms used to report injurie or accidents.
j. How employees will be handled who are unable to safely perform their duties, including how the Contractor will determine whether an employee is unable to safely perform his duties.
k. How and when equipment will be checked to see that it is safe, that all safety guards are in place and that the equipment is being used for its designed purpose and within its rated capacity.
l. How and when all electric devices will be checked for proper grounding and insulation. What system will be used to lock out electric systems that should not be energized.
m. How trash and human organic waste will be disposed.
n. How snow and ice will be removed from the project area.
o. How concrete forms will be anchored to ensure their stability, including calculations showing that the forms will safely hold the maximum construction loads.
p. How flammable materials will be stored and handled, and how any spills will be cleaned up and removed for disposal.
q. What system will be used to prevent fires, and if fires do occur who will be trained to fight them. Also, what firefighting equipment will the Contractor have available and how will this equipment's condition be monitored.
r. How materials will be received, unloaded, stored, moved and disposed of.
s. How personnel working above ground level will be protected from falling.
t. How people working underneath work will be protected.
u. What will be done to protect personnel in case of severe weather?
v. How adequate lighting will be provided and monitored.
w. How air quality will be monitored, and personnel removed or protected from air that is hazardous for humans.

x. How the safety of work platforms, man lifts, material lifts, ladders, shoring, scaffolding, etc. will be ensured relating to load capacity and the protection of personnel using or working around them.
y. How employees will be protected from the effects of jet blast.

4. The Contractor shall provide complete copies of its Hazard Communication Program to the DEN Project Manager for review and acceptance at least 30 days before on-site construction begins that involves any hazardous material.

5. The DEN Project Manager will use the OSHA regulations as the framework for reviewing the Contractor's construction safety programs.

6. Prior to the start of any work by a contractor or subcontractor employee, the Contractor shall provide the DEN Project Manager with a list of its employees, subcontractor's employees and other personnel the Contractor has requested to work at Denver International Airport, who have signified in writing that they have been briefed on, or have read and understand, the Contractor's Safety Plan.

7. Implement the approved Contractor's SPCD as described in Part 1 of Technical Specifications 01111. If the Contractor experiences a lost time or injury rate greater than 75 percent of the national average for all construction, the Contractor shall audit its safety procedures and submit a plan to reduce its rates. If at any time the lost time or injury rates experienced by the Contractor is 150 percent or more of the national average for construction the Contractor shall immediately hire an independent safety professional who shall audit the Contractor's procedures and operations and make a report of changes that the Contractor should implement to reduce the rate including changing personnel. This report shall be submitted to the DEN Project Manager. The Contractor shall immediately begin implementing the recommendations. A weekly report shall be submitted by the Contractor on the status of the implementations of the recommendations. Failure to comply with these requirements is a basis to withhold a portion of progress payments.

# *APPENDIX A*