

SUBMITTED TO:
Alaska Department of
Transportation & Public
Facilities Central Region
P.O. Box 196900
Anchorage, Alaska 99519

BY:
Shannon & Wilson, Inc.
2355 Hill Road
Fairbanks, Alaska 99709

(907) 479-0600
www.shannonwilson.com

CONSTRUCTION SAFETY AND PHASING PLAN
Dillingham Airport Initial PFAS Site
Characterization
DILLINGHAM, ALASKA

PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING

Submitted To: Alaska Department of Transportation & Public Facilities Central Region
P.O. Box 196900
Anchorage, Alaska 99519
Attn: Michael Cook, C.M. and Sammy Cummings

Subject: CONSTRUCTION SAFETY AND PHASING PLAN, DILLINGHAM AIRPORT
INITIAL PFAS SITE CHARACTERIZATION, DILLINGHAM, ALASKA

Shannon & Wilson prepared this Construction Safety and Phasing Plan (CSPP) on behalf of the Alaska Department of Transportation & Public Facilities (DOT&PF). This CSPP is a supplement to the *DOT&PF Statewide General Work Plan Revision 1* (GWP) dated July 2020 and *General Work Plan Addendum DOT&PF Statewide Addendum 005-DLG-01* (Addendum 005-DLG-01) dated March 23, 2021. The Addendum 005-DLG-01 provides details regarding initial site characterization activities associated with per- and polyfluorinated alkyl substances (PFAS) at the Dillingham Airport (DLG). This document has been revised in response to DOT&PF comments.

The information provided in this CSPP is meant to assist in coordinating field activities between DOT&PF, the Federal Aviation Administration (FAA), and Shannon & Wilson and minimize disruptions of airport operations while maintaining airport and contractor safety. The site characterization effort is tentatively scheduled for mid-June 2021.

Initial PFAS site characterization is addressed by our proposal dated March 11, 2021 and authorized on April 12, 2021 by NTP 2-7 under Professional Services Agreement Number 25-19-013 Per- and Polyfluorinated Substances (PFAS) Related Environmental & Engineering Services. Shannon & Wilson appreciates the opportunity to be of service to you on this project. If you have questions concerning this report, or we may be of further service, please contact us.

This CSPP was prepared and reviewed by:

Marcy Nadel
Geologist, Project Manager

Chris Darrah, CPG, CPESC
Vice President, Contract Manager

DHF:MDN:KRF:CBD/kdm

CONTENTS

- 1 Coordination.....1
 - 1.1 Project Overview2
 - 1.2 Scope or Schedule Change2
- 2 Phasing3
 - 2.1 Closures4
 - 2.2 Emergency Access Routes.....4
 - 2.3 Lead Times for Required Notifications.....4
- 3 Areas and Operations Affected by Project Activity5
 - 3.1 Identification of Affected Areas5
 - 3.1.1 Approach/Departure Surfaces Affected by Heights of Objects5
 - 3.1.2 Project Areas Near Airport Operation Areas (AOAs)5
 - 3.2 Mitigation of Effects.....6
- 4 Protection of NAVAIDS and Visual Aids.....6
- 5 Contractor Access.....6
 - 5.1 Vehicle and Pedestrian Operations6
 - 5.1.1 Authorized Vehicles.....6
 - 5.1.2 Authorization to Operate Contractor Vehicle7
 - 5.1.3 Situational Awareness7
 - 5.1.4 Access Media Issuance for DLG.....7
 - 5.1.5 Staging, Stockpile, and Parking Areas8
 - 5.2 Two-Way Radio Communications8
 - 5.3 Airport Security8
 - 5.3.1 Authorized Personnel.....9
 - 5.3.2 Fencing and Gates10
- 6 Wildlife Management.....10
 - 6.1 Trash.....11
 - 6.2 Disruption of Existing Wildlife Habitat.....11
- 7 Foreign Object Debris Management.....11
- 8 Hazardous Materials Management11
- 9 Notification of Construction Activities12

- 9.1 Points of Contact12
- 9.2 Notices to Airmen13
- 9.3 Emergency Notification Procedures.....13
- 9.4 FAA Notification.....13
- 10 Inspection Requirements.....13
- 11 Underground Utilities14
- 12 Penalties.....14
- 13 Special Conditions14
 - 13.1 Emergency Landings14
 - 13.2 Weather Delays.....15
- 14 Runway and Taxiway Visual Aids.....15
- 15 Marking and Signs for Access Routes.....15
- 16 Hazard Marking and Lighting15
- 17 Protection of Safety Areas.....15
 - 17.1 Runway Safety Area16
 - 17.2 Runway Object Free Area16
 - 17.3 Taxiway Safety Area.....16
 - 17.4 Taxiway Object Free Area.....16
 - 17.5 Obstacle Free Zone.....16
- 18 Other information16
 - 18.1 Prohibitions.....16
 - 18.2 Restrictions.....17
 - 18.2.1 Use of Tall Equipment17
 - 18.2.2 Use of Tools with Open Flames.....17
- Exhibits
- Exhibit 1-1: Project Team.....1
- Exhibit 2-1: Site Characterization Phases.....3
- Exhibit 3-1: Shannon & Wilson Contacts.....5
- Exhibit 9-1: DOT&PF Contacts.....12

Figures

- Figure 1: Phase 1 Site Characterization Activities
- Figure 2: Phase 2 Site Characterization Activities
- Figure 3: Phase 3 Purge Water Discharge Location

Appendices

- Appendix A: Safety and Phasing Plan Checklist
- Important Information

ACRONYMS

AOA	Airport Operation Areas
ARFF	Airport Rescue and Fire Fighting
CSPP	Construction Safety and Phasing Plan
CTAF	Common Traffic Advisory Frequency
DLG	Dillingham Airport
DOT&PF	Alaska Department of Transportation & Public Facilities
FAA	Federal Aviation Administration
FOD	foreign object debris
GWP	DOT&PF Statewide General Work Plan Revision 1
IDMS	Identification Management System Portal
NAVAIDS	navigation aids
NOTAM	Notice to Airmen
OFZ	Obstacle Free Zone
PFAS	per- and polyfluorinated alkyl substances
POC	point of contact
ROFA	Runway Object Free Area
RSA	Runway Safety Area
SIDA	Security Identification Display Area
STA	Security Threat Assessment
TOFA	Taxiway Object Free Area
TSA	Taxiway Safety Area

1 COORDINATION

Initial PFAS site characterization activities at the DLG will require coordination with multiple parties. The project team and their associated responsibilities are summarized in Exhibit 1-1 below.

Exhibit 1-1: Project Team

Affiliation	Responsibility	Representative	Contact Number
DOT&PF	Client – Regional POC	Michael Cook, C.M.	(907) 269-0767
	Client – Statewide PFAS POC	Sammy Cummings	(907) 888-5671
	Dillingham Airport Manager	Jon Taylor	(907) 842-5511
	Aviation Safety and Security	Josh Stuckey, C.M.	(907) 269-0751
DEC Contaminated Sites	Regulatory agency POC	Robert Burgess	(907) 451-2153
Shannon & Wilson	Principal-in-charge	Chris Darrah	(907) 458-3143
	Statewide Project Manager	Kristen Freiburger	(907) 458-3146
	Dillingham Project Manager	Marcy Nadel	(907) 458-3150
Eurofins TestAmerica, Sacramento	PFAS analytical laboratory services	David Alltucker	(916) 374-4383
SGS North America, Inc.	Additional analytical laboratory services	Jennifer Dawkins	(907) 474-8656
Subcontractors	Monitoring well installation	GeoTek Alaska, Inc. or Discovery Drilling, Inc.	(907) 569-5900 or (907) 569-5900
	Surveying	Southwest Alaska Surveying or Lounsbury & Associates, Inc.	(907) 272-5451 or (907) 373-5775

POC = point of contact

Project preparation requires coordination, notification, and contact or other interaction with airport management, the FAA, maintenance and operations, Airport Rescue and Fire Fighting (ARFF) personnel, airport tenants, airport users, and the general public. Such activities shall be done through or with the approval of the following DOT&PF staff:

- Jon Taylor, Airport Manager, for DLG personnel;
- Sammy Cummings, PFAS Program Manager, for airport tenants and the general public.

Contact information for DOT&PF personnel can be found in Exhibit 9-1.

1.1 Project Overview

This CSPP focuses on Shannon & Wilson's initial PFAS site characterization efforts within the DLG fenced area. Activities that will take place on other portions of the DLG and off airport property are not discussed.

Shannon & Wilson will:

- advance soil borings using a drill rig at either end of the runway (see Figure 1);
- install groundwater monitoring wells outside the Runway Safety Area (RSA) and Taxiway Safety Areas (TSAs), near the northwest and southeast corners of the least lot area, near Taxiway B, and at the former ARFF training area towards the south end of the runway (see Figure 2);
- sample existing monitoring wells within and near the lease lot area (see Figures 1 and 2);
- collect surface soil, water, and sediment samples along the length of the runway and near the former fire training areas towards the south end of the runway and north side of the lease lot area (see Figures 1 and 2).

Appendix A, Safety and Phasing Plan Checklist, includes a completed copy of the checklist found in Appendix C of the FAA's 2017 Advisory Circular for construction phasing. Runway closure is not anticipated, therefore several CSPP subsections are omitted.

Several air carriers operate daily flights to and from DLG in the summer, including but not limited to Alaska Airlines/Horizon Air and Grant Aviation. Everts Air Cargo operates scheduled flights three days per week. Daily flight traffic is greatest around noon. The DLG has one runway, two taxiways, and several hangars and businesses located along the main apron in the Lease Lot (Figure 1). Shannon & Wilson will avoid conducting work near the runway during times of high flight traffic.

1.2 Scope or Schedule Change

Shannon & Wilson shall schedule and sequence the drilling and sampling work in accordance with the *General Work Plan Addendum DOT&PF Statewide Addendum 005-DLG-01* and Section 2 of this CSPP.

Pending regulatory approval, FAA approvals, and contractor availability, initial PFAS site characterization activities can begin in mid-June 2021. This schedule is subject to change. If major changes to the schedule are required, Shannon & Wilson will inform the Airport Manager as soon as possible.

2 PHASING

DLG initial PFAS site characterization activities include drilling to advance soil borings, installing groundwater monitoring wells, developing and sampling monitoring wells, and collecting surface soil, water, and sediment samples from within the fenced area. In addition to site characterization activities within the DLG fence, Shannon & Wilson will enter DOT&PF property outside the fence and off-site to collect surface soil, surface water, groundwater, and sediment samples. This CSPP is prepared for site characterization activities within the fenced portion of the DLG only. Please refer to Figures 1 and 2 for soil boring, monitoring well, and other sampling locations. Below is a summary of applicable project phases from most to least complex.

Exhibit 2-1: Site Characterization Phases

Name	Personnel	Time of Day
Phase 1	Shannon & Wilson, drilling subcontractor, and DOT&PF escort	Drilling and site characterization activities within movement areas. Staff will be escorted by DOT&PF.
Phase 2		Drilling and site characterization activities in non-movement areas.
Phase 3	Shannon & Wilson and drilling subcontractor	Investigation-derived waste handling in non-movement areas.

Phase 1 will involve drilling at two locations within the RSA near the north and south ends of the runway (Figure 1). The RSA location at DLG is described in Section 17.1. We estimate this will require up to one hour per location, not including transit time. Phase 1 will also include sampling one monitoring well, collecting seven surface soil and five surface water samples. These tasks are expected to take less than one hour per location. This work will be conducted inside the airport fence within movement areas. DOT&PF will escort Shannon & Wilson staff and the drilling subcontractor when there is little or no scheduled plane traffic.

Phase 2 will involve drilling at six locations near the Lease Lot area and west of the runway (Figure 2). Four of these soil boring locations will include the installation of long-term groundwater monitoring well nests. We estimate that soil borings will require up to one hour and monitoring well nests will require up to eight hours per location, not including transit time. In addition, Phase 2 will involve developing and/or sampling up to ten monitoring wells, expected to take up to two hours per well. This work will be conducted inside the airport fence in non-movement areas only. Shannon & Wilson staff will obtain proper authorization to conduct work in non-movement areas without an escort.

Phase 3 of this project will involve the handling and treatment of investigation-derived waste. Investigation-derived waste will consist of soil cuttings (if petroleum-contaminated soil is encountered), monitoring well purge water, and decontamination water. Water that has been filtered through granular activated carbon will be transported to the north end of the runway for discharge to Outfall G using the access road indicated in Figure 3, outside the RSA. We were advised to discharge filtered purge water to Outfall G per the Central Region M&O Environmental Analyst. Soil cuttings will be containerized and transported off-site. Shannon & Wilson will secure a DOT&PF escort if we need to cross movement areas to transport investigation-derived waste.

2.1 Closures

We do not anticipate scheduled closures will be required for this project. DOT&PF will escort Shannon & Wilson and their drilling subcontractor in movement areas when there is little or no scheduled air traffic.

2.2 Emergency Access Routes

Emergency access routes will remain open at all times. Shannon & Wilson and their contractor will vacate the RSA with 30-minutes notice, if needed.

No closing of emergency access routes or ARFF routes is anticipated. The scope of this project will not prevent access to any area of the airport or surrounding properties. Storage and staging areas will be determined by local DOT&PF personnel. We will access the main apron, taxiway, main runway, and south runway through Gate 4, the west end of the Lease Lot area through Gate 2, and the north end of the runway through Gate 6 or other access points as indicated by DOT&PF. No interruption of utilities or lighting is required for this project.

2.3 Lead Times for Required Notifications

Shannon & Wilson will submit an FAA 7460 airspace permit 45 days before the Phase 1 effort will commence. This CSPP will be submitted for FAA review concurrently.

The Airport Manager may elect to issue a Notice to Airmen (NOTAM) at least 72 hours before the start of Phase 1 activities. We understand our planned drilling activities do not require the submission of a NOTAM because the runway will remain open.

3 AREAS AND OPERATIONS AFFECTED BY PROJECT ACTIVITY

3.1 Identification of Affected Areas

No closure or partial closure of runways, taxiways, or aprons is anticipated. DLG Operations personnel will escort Shannon & Wilson during Phase 1 work in movement areas. DLG Operations personnel will be able to contact Shannon & Wilson personnel using the information provided below.

Exhibit 3-1: Shannon & Wilson Contacts

Role	Name	Contact Phone	Contact Email
Drilling Contact	TDB	Cell: (907) 371-9022*	TDB
Project Manager	Marcy Nadel	Cell: (907) 322-9156 Office: (907) 458-3150	MDN@shanwil.com
Office Contact	Kasey Montoto	(907) 479-0600	KDM@shanwil.com
Statewide Project Manager	Kristen Freiburger	(907) 458-3146	KRF@shanwil.com
Principal-in-charge	Chris Darrah	(907) 458-3143	CBD@shanwil.com

* 24-hour contact information for emergencies – (907) 371-9022.

3.1.1 Approach/Departure Surfaces Affected by Heights of Objects

The proposed work will include the use of a drill rig and vehicles near the runway. The drill rig mast height will be up to 16 feet above the ground surface. Water and soil sampling will be completed using an approximately-7-foot tall truck. The use and movement of this equipment is subject to approval and will require coordination with the Airport Manager so that our work does not disrupt regular airport operations. Refer to Section 18.2.1 below for additional restrictions regarding tall equipment.

3.1.2 Project Areas Near Airport Operation Areas (AOAs)

The staging area for the drill rig will be kept away from aircraft operation areas (AOAs), where possible. During Phases 1 and 2, the drill rig and other equipment will be staged outside the runway object free area (ROFA) or at least 400 feet from the runway center line when not actively in use. The ROFA is described in Section 17.2. Sampling-related materials, including 55-gallon drums, will be staged outside the ROFA.

3.2 Mitigation of Effects

We do not anticipate changes to runway or taxi operations will be required in response to this project. Site characterization activities will be coordinated with the Airport Manager.

4 PROTECTION OF NAVAIDS AND VISUAL AIDS

No impacts to navigation aids (NAVAIDS) and visual aids are anticipated.

5 CONTRACTOR ACCESS

DOT&PF contractors for this project include Shannon & Wilson, a drilling subcontractor, and a survey subcontractor.

5.1 Vehicle and Pedestrian Operations

5.1.1 Authorized Vehicles

All contractor vehicles requiring access to DLG fenced area shall be registered with the DLG badging office and/or Airport Manager. Each vehicle will display a ramp vehicle permit as issued and instructed by the DLG, if required. Temporary ramp permits shall be returned upon completion of work or expiration of the ramp permit(s), whichever occurs first. The project will require issuance of vehicle permits to Shannon & Wilson and their subcontractors.

All vehicles shall be in good operating condition and free of fluid leaks. The badging office and/or Airport Manager may refuse to permit access or direct the removal of any vehicles not meeting these requirements.

Shannon & Wilson staff will undergo non-movement area driver training. During Phase 1, Shannon & Wilson and contractor vehicles must travel within aircraft movement areas. Project staff will be escorted by DOT&PF personnel in a properly marked, lighted, and permitted DOT&PF vehicle with a working aviation-band, two-way radio, and an airport-issued ID badge with the proper endorsement/s. Project staff will stay within sight and auditory range of the DOT&PF escort who is to monitor the Common Traffic Advisory Frequency (CTAF). During Phase 2, Shannon & Wilson or DOT&PF will escort the survey subcontractor to their work areas.

All vehicles must meet the following conditions, as specified in AC 150/5210-5. Vehicles may be any color or combination of colors other than solid black or white, in accordance with AC 150/5210-5 paragraph 3f.

In AOAs, vehicles not escorted by a properly lighted vehicle shall be identified by a flashing amber hazard light. Lights must flash at 75 ± 15 flashes per minute with a peak effective intensity of 40 to 400 candelas in accordance with AC150/5210-5d(4)(d)(2)(3). Shannon & Wilson will supply a magnetic flashing light for use with rental vehicles.

In AOAs, vehicles not escorted by an appropriately marked vehicle will display an at least 3-foot by 3-foot checkered flag or decal. The flag or decal will be a square having a checkered pattern of international orange and white squares at least 1-foot on each side in accordance with AC150/5210-5d(4)(d)(2)(3). Shannon & Wilson will supply the required flag for use with rental vehicles. All obstructions except stakes or hazard markers shall be removed during non-working hours.

5.1.2 Authorization to Operate Contractor Vehicle

Vehicle operators must present a valid Driver's License to the DLG badging office and/or Airport Manager to receive authorization to operate contractor vehicles in the fenced area. Shannon & Wilson and subcontractor employees who operate vehicles will receive a driving endorsement on their badge, as required. Training records will be maintained by the DOT&PF for each authorized driver.

5.1.3 Situational Awareness

Vehicle drivers will confirm by personal observation that no aircraft are approaching their position (either by air or ground) when escorted by DOT&PF across a runway, taxiway, or any other area open to airport operations. In addition, it is the responsibility of the escort vehicle driver to verify the movement/position of all escorted vehicles at any given time. At non-towered airports such as the DLG, all aircraft movements and flight operations rely on aircraft operators to self-report their positions and intentions. However, there is no requirement for aircraft to have radio communications. Because aircraft do not always radio their positions or intentions, situational awareness is critical to site safety.

5.1.4 Access Media Issuance for DLG

The DLG badging office and/or Airport Manager will issue access media to enable Shannon & Wilson and the drilling subcontractor to access the DLG Restricted Areas. Shannon & Wilson and the drilling subcontractor shall not duplicate any access media issued or allow any person other than those authorized to receive and use these devices. Shannon & Wilson

will be responsible for lost or unrecovered access media and must pay all costs associated with lock replacement, or re-keying, at the Airport Manager's discretion.

5.1.5 Staging, Stockpile, and Parking Areas

Shannon & Wilson will coordinate vehicle parking, equipment and materials stockpiles, and staging areas for field staff with the DLG Airport Manager. Temporary use and staging areas will be located outside the ROFA. The ROFA is described in Section 17.2. Shannon & Wilson will limit parking and driving on vegetated, unimproved surfaces where possible. Overnight material and equipment storage may include the drill rig, drilling materials (casing, sand, grout, etc.), empty 55-gallon drums, and/or sampling equipment.

5.2 Two-Way Radio Communications

DOT&PF staff will escort Shannon & Wilson in movement areas and will monitor the CTAF frequency while personnel or equipment is near the runway. DOT&PF staff will communicate with any pilots, Flight Service Station and DLG operations staff, and with the work crew.

- **Radio Frequency:** Common Traffic Advisory Frequency – 123.6 MHz

Personnel engaged in activities involving unescorted operation on aircraft non-movement areas will be trained by the DLG badging office. Shannon & Wilson staff members will not be equipped with CTAF or DOT&PF communications radios.

5.3 Airport Security

Federal Regulations require the DOT&PF (as the owner/operator of DLG) to control access and prevent unauthorized persons from entering the Security Identification Display Area (SIDA) and the AOA. To comply with this requirement, the DOT&PF has established procedures to authorize or deny access to Restricted Areas, and to identify and control persons and vehicles while in these areas. For this project, limited access to the AOA and gates will be required. SIDA access will not be required or permitted. Any unsecured gates must be manned by a person with an airport issued ID badge, radio, Stop List and the ability to contact a law enforcement officer. The gate guard must be able to restrict access by unauthorized personnel.

Transportation Security Administration regulations require that everyone with access to an AOA undergo a Security Threat Assessment (STA) and display an approved identification media. An STA typically takes at least 7 to 10 business days before approval is granted. Further delays could result from improperly completed badge applications or shortfalls in the presentation of proper identification documentation (see U.S. Government I-9 Form). An

additional Criminal History Records Check, which requires fingerprinting, is needed to access the SIDA or other Restricted Areas. Persons without approved airport identification media must be provided with a qualified, badged escort. Escorted persons must be within sight and auditory range of an approved escort at all times when working within the SIDA or AOA. Only persons meeting these requirements are permitted access to Restricted Areas.

The Contractor must provide completed airport photo identification badge applications online using the Identification Management System Portal (IDMS) for each Contractor and Subcontractor employee requiring access to Restricted Areas. Coordinate with the Airport Manager for photo identification fingerprints scanned, and background check submission. No person will be granted access inside of a Restricted Area until the application and badging processes are complete. The security badging process has to be started and completed in DLG, along with training required by the Airport Manager. SIDA and AOA familiarization training, completion of the Airport SIDA – Vehicle/Key and Lock Application Form, and an Airport Badge are required for all personnel seeking access to Restricted Areas. Security violations may result in an \$11,000 fine, or any other amount as assessed by the Transportation Security Administration and any fine assessed to the airport will be the responsibility of the contractor or subcontractor. Persons found in Restricted Areas not in compliance with these requirements will be removed from the area, and action will be taken against violators as appropriate under Alaska Administrative Code. The Airport Manager has full authority for control of access to Restricted Areas. Proper individual access applications, airport issued photo identification badges, vehicle operator authorizations, vehicle registrations and ramp permits, and issuance of gate keys and locks must be obtained through the Airport Manager before entering Restricted Areas.

5.3.1 Authorized Personnel

All Contractor and Subcontractor personnel seeking access to Restricted Areas must complete, pass security clearance checks, and receive familiarization training before authorization from the Airport Manager will be granted to enter Restricted Areas.

Assign a responsible person the duty of Authorized Signatory. The Authorized Signatory must meet all security clearance requirements for the types of badges they will sign (i.e., the Authorized Signatory needs to be badged for the types of badges they will sign):

- AOA = STA (Security Threat Assessment)
- SIDA = STA and Criminal History Record Check
- Signatory training and security training

The Authorized Signatory will be trained under the DOT&PF approved Authorized Signatory Training. Prior to sending any applicants to the Airport Manager, the Authorized

Signatory will be responsible to review each photo identification badge application for completeness, each applicant has the correct documents that provide identity and work authorization, and the applicant has the correct badge application fees. The Authorized Signatory will then sign the photo identification badge application. The Authorized Signatory will be responsible for maintaining control of all badges issued to the Contractor.

The Contractor, through the use of the Authorized Signatory, will ensure that badges are returned to the Airport Manager at the completion of the project, or upon termination of any employee badge holder. Notify the Airport Manager immediately of lost or unaccounted badges. Also notify the Airport Manager immediately whenever an authorized person is terminated. The following badging fees will be borne by the Contractor and paid to the Airport Manager at the time of badge issuance:

- Security Process Fee
- Airport Photo Identification Badge (including STA) - \$50
- Criminal Records History Check - \$31
- Lost or unaccounted badges - \$200

5.3.2 Fencing and Gates

Maintain airfield security by manning gates that must be kept open for hauling or construction. Fences or gates that are damaged by construction activities or Contractor negligence must be repaired immediately at no cost to DOT&PF. All repairs are subject to inspection and approval of the Airport Manager. Close and lock all gates that are not actively being used, and report all fences or gate damages to the Airport Manager, whether caused by Contractor activities or otherwise observed. Secure fence and gate openings with temporary fencing when a dedicated gate guard is not on duty.

Shannon & Wilson does not anticipate DLG gates will need to be left open, requiring a gate guard.

6 WILDLIFE MANAGEMENT

The primary wildlife safety concern at the DLG is birds. Birds are attracted by possible sources of food, standing water, or areas that may provide shelter. Of secondary concern are mammals such as bears, moose, foxes, or other animals that would constitute a danger to operating aircraft, or possibly cause damage to airfield fences and other equipment. Shannon & Wilson will report any damage to fencing or gates observed during project work.

Project staff will report the presence of birds or animals within the AOAs to the DLG badging office or other DLG personnel in accordance with the airport's wildlife hazard management plan. Shannon & Wilson will not attempt to disperse birds or other animals.

6.1 Trash

Shannon & Wilson and their drilling subcontractor will contain trash within the work areas. It is the responsibility of all personnel who work at DLG to pick up trash and debris on and off the airfield. Fish or animal carcasses can also attract birds or wildlife, causing a safety hazard. Project staff will report the presence of carcasses to DLG staff so they can be removed.

6.2 Disruption of Existing Wildlife Habitat

Disruption of existing wildlife habitat is not anticipated and will not be allowed. Site characterization activities will not create new standing water bodies or impact areas of tall grass and seeds. If a large animal approaches the site, workers will keep their distance and seek shelter in the vehicles or buildings, as appropriate. Unusual sightings or questions/concerns regarding wildlife can be referred to the Anchorage Fish and Wildlife Field Office at (907) 271-2871.

7 FOREIGN OBJECT DEBRIS MANAGEMENT

Control of foreign object debris (FOD) is a primary concern to safe airport operation. All debris must be removed from operational surfaces upon discovery or notification. Shannon & Wilson and the drill crew will keep a clean workspace to prevent work supplies and trash from being blown away by the wind.

Shannon & Wilson will participate in inspections as defined by Section 10, below. Field staff will take immediate action as required to clean up and prevent FOD on operational surfaces.

8 HAZARDOUS MATERIALS MANAGEMENT

Hazardous waste regulations established by the U.S. Environmental Protection Agency are presented in 40 CFR 261 through 270. Hazardous waste regulated under the Resource Conservation and Recovery Act are classified as either listed or characteristic wastes. Listed wastes are considered hazardous regardless of their concentration. Characteristic wastes are considered hazardous due to their ignitability, corrosivity, reactivity, and toxicity. Shannon & Wilson and their contractors do not expect to produce hazardous waste during site

characterization activities. PFAS-impacted investigation-derived waste is not classified as hazardous at this time.

Shannon & Wilson will manage non-hazardous waste appropriately by being prepared to readily contain and clean up spills from fuel or hydraulic fluid leaks. The drilling subcontractor will have a spill kit available to address any such spills, if they occur. In the event of a spill, the DEC Central Region Response Team Office should be contacted. The DEC’s spill notification phone number is (907) 269-3063 during normal business hours or (1-800) 478-9300 outside business hours. DEC notification is required for any spill of oil or petroleum greater than 1 gallon to land, or any amount to water.

If any construction vehicle or equipment is operated within airport property, the Contractor must be adequately prepared to expeditiously contain and clean-up spills resulting from fuel or hydraulic fluid leaks or other potentially hazardous material spills. Special care must also be taken when handling or transporting potentially hazardous materials on airport property. Heavy equipment will not be staged on dirt surfaces without a drip pan.

9 NOTIFICATION OF CONSTRUCTION ACTIVITIES

9.1 Points of Contact

Below is a list of DOT&PF employees that field staff may contact during site characterization activities. Shannon & Wilson contact information is included in Exhibit 3-1.

Exhibit 9-1: DOT&PF Contacts

Department	Interest	Contact Name	Contact Phone	Contact Email
Airport	Manager	Jon Taylor	(907) 842-5511 or (907) 843-0915*	jon.taylor@alaska.gov
Maintenance & Operations	Central Region Contact	Michael Cook, C.M.	(907) 269-0767	michael.cook@alaska.gov
Statewide Aviation	Safety and Security	Josh Stuckey, C.M.	(907) 269-0751 or (907) 717-5065*	josh.stuckey@alaska.gov
Airport Badging	Administration	Anna Bartholomew	(907) 842-5511	anna.bartholomew@alaska.gov
Aviation	PFAS Coordinator	Sammy Cummings	(907) 888-5671	sammy.cummings@alaska.gov
Environmental	Environmental Permitting and Compliance	Renée Goentzel	(907) 269-0714	renee.goentzel@alaska.gov
	Soil Contamination	Erik Norberg	(907) 465-6964	erik.norberg@alaska.gov

* 24-hour contact information for emergencies – (907) 843-0915.

9.2 Notices to Airmen

The Airport Manager may issue a NOTAM at their discretion. Shannon & Wilson will coordinate with the Airport Manager to provide information necessary for a NOTAM, if needed.

9.3 Emergency Notification Procedures

For all non-airport related emergencies staff will dial 911. This includes required medical, fire, or police response on or off airport property. Under emergency conditions involving immediate loss of human life, or threat to wellbeing, project personnel may allow access to DLG Restricted Areas by uniformed emergency services.

In matters involving airport safety and security, field staff will contact the Airport Manager and Josh Stuckey, C.M., at the phone numbers included in Exhibit 9-1. The project team will notify the Airport Manager immediately following a 911 emergency call or upon discovery of any other airport related safety or security concern. The Airport Manager will coordinate with DLG ARFF personnel as needed.

In the event of an oil or hazardous substance spill, the contractor will contact the Airport Manager and report qualifying releases to DEC as referenced in Section 8, Hazardous Materials Management.

9.4 FAA Notification

Shannon & Wilson will coordinate with the FAA on DOT&PF's behalf. FAA permitting is discussed in Section 2.3, Lead Times for Required Notifications, and Section 18.2.1, Use of Tall Equipment.

10 INSPECTION REQUIREMENTS

Shannon & Wilson and their subcontractor driller will inspect their work area daily to ensure that there is no unattended trash or debris left from site characterization activities. Refer to Section 7 for a discussion of FOD management. We do not anticipate runway closure, so interim and final inspections will not be required.

11 UNDERGROUND UTILITIES

DOT&PF will be responsible for locating, identifying, and marking buried utilities that belong to DOT&PF including lighting, traffic, gas, and fuel lines. Shannon & Wilson will submit an Alaska Digline utility locate request ten business days prior to the planned drilling effort and meet with locators to identify non-DOT&PF utilities. Buried electrical and/or communication lines operated by the FAA will be located by FAA personnel prior to drilling. DOT&PF will provide Shannon & Wilson with contact information for local FAA personnel. Shannon & Wilson will work with DLG personnel to change drilling locations, where required, if conflicts with underground utilities are identified. Shannon & Wilson will not begin drilling until utility locates are complete.

12 PENALTIES

All Contractor, and Subcontractor personnel must abide by this CSPP, and other contract requirements. Penalties can include payment of any fines levied by any federal, state, or local agency having authority, suspension of the contract, and individual workers are subject to removal from the project as stated in section 80-05, third paragraph:

The Contractor shall comply with any written order by the Engineer to remove workers, who, in the opinion of the Engineer, violate operational regulations, violate construction safety plan requirements, violate security plan requirements, perform the work in an unskilled manner, who are intemperate or disorderly, or who jeopardize the safety of the public, other workers or Engineer's personnel. The Contractor shall allow removed workers to return to the project only with the Engineer's written permission. The Engineer may suspend the work if the Contractor fails to furnish suitable and sufficient personnel necessary to perform the work, or fails to remove any worker at the Engineer's order.

13 SPECIAL CONDITIONS

13.1 Emergency Landings

The project team shall be prepared to exit the RSA in the event of an aircraft emergency. Shannon & Wilson and their contractors will require a minimum of 30 minutes notice to remove equipment and personnel from the RSA. Refer to Exhibit 3-1 for emergency contact information.

13.2 Weather Delays

Shannon & Wilson will coordinate with the Airport Manager to reschedule Phase 1 in the event of high winds, storms, fog, or weather conditions that result in low runway visibility.

14 RUNWAY AND TAXIWAY VISUAL AIDS

Runway and taxiway visual aids will remain in operation during site characterization activities. We do not anticipate runway or taxiway closures. No temporary lighting will be required, and NAVAIDS will not be affected by this project.

15 MARKING AND SIGNS FOR ACCESS ROUTES

Shannon & Wilson will coordinate required markings, signs, cones, and flagging with the DLG badging office prior to commencing site characterization activities. Visual aids will be used to indicate work areas near airport access routes. These materials will be supplied by DOT&PF staff at the DLG. Staff will follow the Airport Manager and DLG staff instructions for accessing work areas.

16 HAZARD MARKING AND LIGHTING

Refer to Section 5.1.1 for discussion on marking and lighting for vehicles and other equipment.

17 PROTECTION OF SAFETY AREAS

Protection of RSAs and TSAs, ROFAs and taxiway object free areas (TOFAs), obstacle free zones (OFZs), and approach surfaces includes limitation of the location and height of equipment in these areas. Phase 1 site characterization activities will not occur within the RSA or TSA while the associated runway or taxiway is in use by aircraft. Please refer to Sections 3.1.1 and 18.2.1 for additional information related to equipment height. Refer to Figures 1 and 2 for locations of proposed soil borings, temporary well points, monitoring wells, and surface soil and surface water sampling activities.

The long-term monitoring wells will be completed using flush mount monuments set at ground level. There will be no change to the height of objects in the AOA upon project completion.

17.1 Runway Safety Area

The RSA is 500 feet wide, 350 feet from the runway center line to the northwest and 150 feet to the southeast. Phase 1 of Shannon & Wilson's site characterization efforts requires entrance into the RSA. Shannon & Wilson and their subcontractors will be escorted by DOT&PF staff for work within the RSA. The drill rig, sampling equipment, 55-gallon drums, and other work materials will be removed from the RSA when they are not actively in use. Staff will exit the RSA during active aircraft operations.

17.2 Runway Object Free Area

The ROFA width is 800 feet, centered on the runway centerline. Phases 1 through 3 will require entrance into the ROFA. Equipment and materials will be removed from the ROFA when they are not in use.

17.3 Taxiway Safety Area

The TSAs are 118 feet, centered on Taxiway A or Taxiway B centerline. We do not anticipate that taxiways will require closure for site characterization activities. DOT&PF staff will escort Shannon & Wilson and their contractors through the TSA to access sample locations, where required. Personnel and equipment will vacate the TSA when the taxiway is in use for aircraft operations.

17.4 Taxiway Object Free Area

The width of the TOFA is 186 feet, centered on the taxiway centerline. Phase 1 and 2 of Shannon & Wilson's site characterization efforts may require entrance into the TOFA. The drill rig, sampling equipment, 55-gallon drums, and other work materials will be removed from the TOFA when they are not actively in use.

17.5 Obstacle Free Zone

The OFZ width is 400 feet, centered on the runway centerline. Sampling related equipment and materials will be removed from the OFZ when they are not actively in use.

18 OTHER INFORMATION

18.1 Prohibitions

Crossing of an active runway during any phase will not be allowed without prior authorization from the Airport Manager. Shannon & Wilson and their contractors will stay

within sight and auditory range of a DOT&PF staff member monitoring the CTAF during Phase 1 characterization activities.

18.2 Restrictions

18.2.1 Use of Tall Equipment

Use of tall equipment that must routinely operate more than 16 feet above ground level requires inclusion on form 7460-1 as specified under 14 CFR part 77. Shannon & Wilson will provide specific equipment heights for FAA airspace review in their completed 7460-1 form. A determination letter from the FAA acknowledging equipment heights within the project area is required before project activities may commence. The drill rig will be lowered to be as close to ground level as practical when not actively employed, including when parked outside the RSA.

The long-term monitoring wells will be completed using flush mount monuments; there will be no change to the height of objects in the AOA upon project completion.

18.2.2 Use of Tools with Open Flames

Open-flame welding or torch cutting operations are permitted only with the approval of the Airport Manager and only when adequate fire safety precautions are in place.

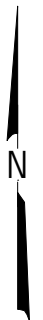
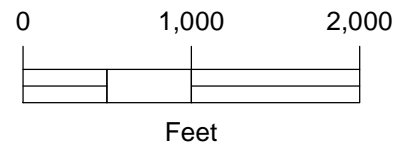
Shannon & Wilson intends to use a gasoline-powered 2,000 or 3,200-watt generator to provide power to an inertial groundwater pump. The generator does not have an open flame and will be used outside of the RSA.



Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

LEGEND

- Aircraft Rescue and Firefighting (ARFF) Site
- Aircraft Rescue and Firefighting (ARFF) Site
- Airport Boundary
- Phase 1 Sample Locations**
- Surface Soil
- Surface Water
- ⊕ Soil Boring
- ⊕ Existing Monitoring Well



Dillingham Airport
Construction Safety and Phasing Plan
Dillingham, Alaska

PHASE 1 SITE CHARACTERIZATION ACTIVITIES

April 2021 102581-009

SHANNON & WILSON, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

Figure 1



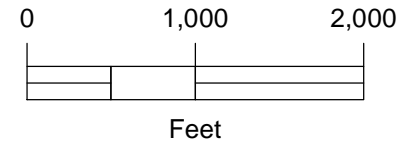
LEGEND

- Aircraft Rescue and Firefighting (ARFF) Site
- ARFF Site

- Airport Boundary

Phase 2 Sample Locations

- Surface Soil
- Surface Water
- ⊕ Soil Boring
- ⊗ Monitoring Well Nest
- ⊕ Existing Monitoring Well



Soil boring and surface soil sample grid

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Dillingham Airport
Construction Safety and Phasing Plan
Dillingham, Alaska

PHASE 2 SITE CHARACTERIZATION ACTIVITIES

April 2021

102581-009

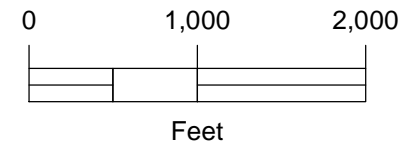
SHANNON & WILSON, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

Figure 2



LEGEND

 Airport Boundary



Dillingham Airport
Construction Safety and Phasing Plan
Dillingham, Alaska

**PHASE 3 PURGE
WATER DISCHARGE LOCATION**

April 2021

102581-009

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

SHANNON & WILSON, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

Figure 3

Appendix A

Safety and Phasing Plan Checklist

APPENDIX A: SAFETY AND PHASING PLAN CHECKLIST

APPENDIX C. SAFETY AND PHASING PLAN CHECKLIST

This appendix is keyed to Chapter 2. In the electronic version of this AC, clicking on the paragraph designation in the Reference column will access the applicable paragraph. There may be instances where the CSPP requires provisions that are not covered by the list in this appendix.

This checklist is intended as an aid, not a required submittal.

Table C-1. CSPP Checklist

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
General Considerations					
Requirements for predesign, prebid, and preconstruction conferences to introduce the subject of airport operational safety during construction are specified.	<u>2.5</u>	Yes			We will contact DOT&PF on an as-needed basis to discuss airport safety during site characterization activities. Contact information is provided in the CSPP.
Operational safety is a standing agenda item for construction progress meetings.	<u>2.5</u>			N/A	Construction progress meetings will not be required.
Scheduling of the construction phases is properly addressed.	<u>2.6</u>	Yes			
Any formal agreements are established.	<u>2.5.3</u>			N/A	
Areas and Operations Affected by Construction Activity					
Drawings showing affected areas are included.	<u>2.7.1</u>	Yes			See Figures 1 - 3.
Closed or partially closed runways, taxiways, and aprons are depicted on drawings.	<u>2.7.1.1</u>			N/A	We do not anticipate runway closure.
Access routes used by ARFF vehicles affected by the project are addressed.	<u>2.7.1.2</u>			N/A	Project activities will not block airport vehicle access.
Access routes used by airport and airline support vehicles affected by the project are addressed.	<u>2.7.1.3</u>			N/A	
Underground utilities, including water supplies for firefighting and drainage.	<u>2.7.1.4</u>			N/A	Utilities will not be affected by drilling activities.

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
Approach/departure surfaces affected by heights of temporary objects are addressed.	<u>2.7.1.5</u>	Yes			We will coordinate with DOT&PF and the FAA re: drill rig height.
Construction areas, storage areas, and access routes near runways, taxiways, aprons, or helipads are properly depicted on drawings.	<u>2.7.1</u>			N/A	Storage areas will be determined by DOT&PF.
Temporary changes to taxi operations are addressed.	<u>2.7.2.1</u>			N/A	Taxiway operations will not be affected.
Detours for ARFF and other airport vehicles are identified.	<u>2.7.2.2</u>			N/A	Detours will not be required.
Maintenance of essential utilities and underground infrastructure is addressed.	<u>2.7.2.3</u>			N/A	Utilities and underground infrastructure will not be affected.
Temporary changes to air traffic control procedures are addressed.	<u>2.7.2.4</u>			N/A	
NAVAIDs					
Critical areas for NAVAIDs are depicted on drawings.	<u>2.8</u>			N/A	NAVAIDs will not be affected by project activities.
Effects of construction activity on the performance of NAVAIDs, including unanticipated power outages, are addressed.	<u>2.8</u>			N/A	
Protection of NAVAID facilities is addressed.	<u>2.8</u>			N/A	
The required distance and direction from each NAVAID to any construction activity is depicted on drawings.	<u>2.8</u>			N/A	
Procedures for coordination with FAA ATO/Technical Operations, including identification of points of contact, are included.	<u>2.8, 2.13.1, 2.13.5.3.1, 2.18.1</u>			N/A	
Contractor Access					
The CSPP addresses areas to which contractor will have access and how	<u>2.9</u>	Yes			

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
the areas will be accessed.					
The application of 49 CFR Part 1542 Airport Security, where appropriate, is addressed.	<u>2.9</u>	Yes			
The location of stockpiled construction materials is depicted on drawings.	<u>2.9.1</u>			N/A	Materials will be stored in a location designated by DOT&PF.
The requirement for stockpiles in the ROFA to be approved by FAA is included.	<u>2.9.1</u>			N/A	Materials will be stored outside the ROFA.
Requirements for proper stockpiling of materials are included.	<u>2.9.1</u>	Yes			
Construction site parking is addressed.	<u>2.9.2.1</u>	Yes			
Construction equipment parking is addressed.	<u>2.9.2.2</u>	Yes			
Access and haul roads are addressed.	<u>2.9.2.3</u>	Yes			
A requirement for marking and lighting of vehicles to comply with <i>AC 150/5210-5, Painting, Marking and Lighting of Vehicles Used on an Airport</i> , is included.	<u>2.9.2.4</u>	Yes			
Proper vehicle operations, including requirements for escorts, are described.	<u>2.9.2.5, 2.9.2.6</u>	Yes			
Training requirements for vehicle drivers are addressed.	<u>2.9.2.7</u>	Yes			
Two-way radio communications procedures are described.	<u>2.9.2.9</u>	Yes			
Maintenance of the secured area of the airport is addressed.	<u>2.9.2.10</u>	Yes			
Wildlife Management					
The airport operator's wildlife management procedures are addressed.	<u>2.10</u>	Yes			

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
Foreign Object Debris Management					
The airport operator's FOD management procedures are addressed.	<u>2.11</u>	Yes			
Hazardous Materials Management					
The airport operator's hazardous materials management procedures are addressed.	<u>2.12</u>	Yes			
Notification of Construction Activities					
Procedures for the immediate notification of airport user and local FAA of any conditions adversely affecting the operational safety of the airport are detailed.	<u>2.13</u>	Yes			
Maintenance of a list by the airport operator of the responsible representatives/points of contact for all involved parties and procedures for contacting them 24 hours a day, seven days a week is specified.	<u>2.13.1</u>	Yes			
A list of local ATO/Technical Operations personnel is included.	<u>2.13.1</u>			N/A	
A list of ATCT managers on duty is included.	<u>2.13.1</u>			N/A	DLG is not a towered airport.
A list of authorized representatives to the OCC is included.	<u>2.13.2</u>			N/A	
Procedures for coordinating, issuing, maintaining and cancelling by the airport operator of NOTAMS about airport conditions resulting from construction are included.	<u>2.8, 2.13.2, 2.18.3.3.9</u>	Yes			
Provision of information on closed or hazardous conditions on airport movement areas by the airport operator to the OCC is specified.	<u>2.13.2</u>			N/A	Shannon & Wilson does not anticipate runway closure will be required.
Emergency notification procedures for medical, fire fighting, and police	<u>2.13.3</u>	Yes			

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
response are addressed.					
Coordination with ARFF personnel for non-emergency issues is addressed.	<u>2.13.4</u>			N/A	
Notification to the FAA under 14 CFR parts 77 and 157 is addressed.	<u>2.13.5</u>	Yes			
Reimbursable agreements for flight checks and/or design and construction for FAA owned NAVAIDs are addressed.	<u>2.13.5.3.2</u>			N/A	NAVAIDs will not be affected by project activities.
Inspection Requirements					
Daily and interim inspections by both the airport operator and contractor are specified.	<u>2.14.1, 2.14.2</u>	Yes			Interim inspections are addressed, but not required.
Final inspections at certificated airports are specified when required.	<u>2.14.3</u>			N/A	Final inspections are not required.
Underground Utilities					
Procedures for protecting existing underground facilities in excavation areas are described.	<u>2.15</u>	Yes			
Penalties					
Penalty provisions for noncompliance with airport rules and regulations and the safety plans are detailed.	<u>2.16</u>	Yes			
Special Conditions					
Any special conditions that affect the operation of the airport or require the activation of any special procedures are addressed.	<u>2.17</u>	Yes			
Runway and Taxiway Visual Aids - Marking, Lighting, Signs, and Visual NAVAIDs					
The proper securing of temporary airport markings, lighting, signs, and visual NAVAIDs is addressed.	<u>2.18.1</u>			N/A	
Frangibility of airport markings, lighting, signs, and visual NAVAIDs is specified.	<u>2.18.1, 2.18.3, 2.18.4.2, 2.20.2.4</u>			N/A	

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
The requirement for markings to be in compliance with <u>AC 150/5340-1</u> , <i>Standards for Airport Markings</i> , is specified.	<u>2.18.2</u>			N/A	
Detailed specifications for materials and methods for temporary markings are provided.	<u>2.18.2</u>			N/A	
The requirement for lighting to conform to <u>AC 150/5340-30</u> , <i>Design and Installation Details for Airport Visual Aids</i> ; <u>AC 150/5345-50</u> , <i>Specification for Portable Runway and Taxiway Lights</i> ; and <u>AC 150/5345-53</u> , <i>Airport Lighting Certification Program</i> , is specified.	<u>2.18.3</u>			N/A	
The use of a lighted X is specified where appropriate.	<u>2.18.2.1.2</u> , <u>2.18.3.2</u>			N/A	
The requirement for signs to conform to <u>AC 150/5345-44</u> , <i>Specification for Runway and Taxiway Signs</i> ; <u>AC 150/5340-18</u> , <i>Standards for Airport Sign Systems</i> ; and <u>AC 150/5345-53</u> , <i>Airport Lighting Certification Program</i> , is specified.	<u>2.18.4</u>			N/A	
Marking and Signs For Access Routes					
The CSPP specifies that pavement markings and signs intended for construction personnel should conform to <u>AC 150/5340-18</u> and, to the extent practicable, with the MUTCD and/or State highway specifications.	<u>2.18.4.2</u>			N/A	We do not anticipate that runway closure will be required. Signs will be provided by DOT&PF on an as-needed basis.
Hazard Marking and Lighting					
Prominent, comprehensible warning indicators for any area affected by construction that is normally accessible to aircraft, personnel, or vehicles are specified.	<u>2.20.1</u>			N/A	

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
Hazard marking and lighting are specified to identify open manholes, small areas under repair, stockpiled material, and waste areas.	<u>2.20.1</u>			N/A	Materials will not be stored in areas that require hazard marking.
The CSPP considers less obvious construction-related hazards.	<u>2.20.1</u>	Yes			
Equipment that poses the least danger to aircraft but is sturdy enough to remain in place when subjected to typical winds, prop wash and jet blast is specified.	<u>2.20.2.1</u>			N/A	Equipment will not be stored in these areas.
The spacing of barricades is specified such that a breach is physically prevented barring a deliberate act.	<u>2.20.2.1</u>			N/A	
Red lights meeting the luminance requirements of the State Highway Department are specified.	<u>2.20.2.2</u>			N/A	
Barricades, temporary markers, and other objects placed and left in areas adjacent to any open runway, taxiway, taxi lane, or apron are specified to be as low as possible to the ground, and no more than 18 inch high.	<u>2.20.2.3</u>			N/A	
Barricades are specified to indicate construction locations in which no part of an aircraft may enter.	<u>2.20.2.3</u>			N/A	
Highly reflective barriers with lights are specified to barricade taxiways leading to closed runways.	<u>2.20.2.5</u>			N/A	
Markings for temporary closures are specified.	<u>2.20.2.5</u>			N/A	
The provision of a contractor's representative on call 24 hours a day for emergency maintenance of airport hazard lighting and barricades is specified.	<u>2.20.2.7</u>	Yes			

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
Work Zone Lighting for Nighttime Construction					
If work is to be conducted at night, the CSPP identifies construction lighting units and their general locations and aiming in relationship to the ATCT and active runways and taxiways.	<u>2.21</u>			N/A	
Protection of Runway and Taxiway Safety Areas					
The CSPP clearly states that no construction may occur within a safety area while the associated runway or taxiway is open for aircraft operations.	<u>2.22.1.1</u> , <u>2.22.3.1</u>	Yes			
The CSPP specifies that the airport operator coordinates the adjustment of RSA or TSA dimensions with the ATCT and the appropriate FAA Airports Regional or District Office and issues a local NOTAM.	<u>2.22.1.2</u> , <u>2.22.3.2</u>			N/A	The proposed work will not require adjustments to the RSA or TSA/TWSA dimensions.
Procedures for ensuring adequate distance for protection from blasting operations, if required by operational considerations, are detailed.	<u>2.22.3.3</u>			N/A	There will not be blasting operations.
The CSPP specifies that open trenches or excavations are not permitted within a safety area while the associated runway or taxiway is open, subject to approved exceptions.	<u>2.22.1.4</u>			N/A	There will not be open trenches or excavations.
Appropriate covering of excavations in the RSA or TSA that cannot be backfilled before the associated runway or taxiway is open is detailed.	<u>2.22.1.4</u>			N/A	
The CSPP includes provisions for prominent marking of open trenches and excavations at the construction site.	<u>2.22.1.4</u>			N/A	
Grading and soil erosion control to maintain RSA/TSA standards are	<u>2.22.3.5</u>			N/A	There will not be grading.

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
addressed.					
The CSPP specifies that equipment is to be removed from the ROFA when not in use.	<u>2.22.2</u>	Yes			
The CSPP clearly states that no construction may occur within a taxiway safety area while the taxiway is open for aircraft operations.	<u>2.22.3</u>	Yes			
Appropriate details are specified for any construction work to be accomplished in a taxiway object free area.	<u>2.22.4</u>	Yes			
Measures to ensure that personnel, material, and/or equipment do not penetrate the OFZ or threshold siting surfaces while the runway is open for aircraft operations are included.	<u>2.22.4.3.6</u>	Yes			
Provisions for protection of runway approach/departure areas and clearways are included.	<u>2.22.6</u>	Yes			
Other Limitations on Construction					
The CSPP prohibits the use of open flame welding or torches unless adequate fire safety precautions are provided and the airport operator has approved their use.	<u>2.23.1.2</u>	Yes			
The CSPP prohibits the use of electrical blasting caps on or within 1,000 ft (300 m) of the airport property.	<u>2.23.1.3</u>			N/A	Blasting will not occur as part of this project.

Important Information

About Your Report

IMPORTANT INFORMATION

CONSULTING SERVICES ARE PERFORMED FOR SPECIFIC PURPOSES AND FOR SPECIFIC CLIENTS.

Consultants prepare reports to meet the specific needs of specific individuals. A report prepared for a civil engineer may not be adequate for a construction contractor or even another civil engineer. Unless indicated otherwise, your consultant prepared your report expressly for you and expressly for the purposes you indicated. No one other than you should apply this report for its intended purpose without first conferring with the consultant. No party should apply this report for any purpose other than that originally contemplated without first conferring with the consultant.

THE CONSULTANT'S REPORT IS BASED ON PROJECT-SPECIFIC FACTORS.

A geotechnical/environmental report is based on a subsurface exploration plan designed to consider a unique set of project-specific factors. Depending on the project, these may include the general nature of the structure and property involved; its size and configuration; its historical use and practice; the location of the structure on the site and its orientation; other improvements such as access roads, parking lots, and underground utilities; and the additional risk created by scope-of-service limitations imposed by the client. To help avoid costly problems, ask the consultant to evaluate how any factors that change subsequent to the date of the report may affect the recommendations. Unless your consultant indicates otherwise, your report should not be used (1) when the nature of the proposed project is changed (for example, if an office building will be erected instead of a parking garage, or if a refrigerated warehouse will be built instead of an unrefrigerated one, or chemicals are discovered on or near the site); (2) when the size, elevation, or configuration of the proposed project is altered; (3) when the location or orientation of the proposed project is modified; (4) when there is a change of ownership; or (5) for application to an adjacent site. Consultants cannot accept responsibility for problems that may occur if they are not consulted after factors that were considered in the development of the report have changed.

SUBSURFACE CONDITIONS CAN CHANGE.

Subsurface conditions may be affected as a result of natural processes or human activity. Because a geotechnical/environmental report is based on conditions that existed at the time of subsurface exploration, construction decisions should not be based on a report whose adequacy may have been affected by time. Ask the consultant to advise if additional tests are desirable before construction starts; for example, groundwater conditions commonly vary seasonally.

Construction operations at or adjacent to the site and natural events such as floods, earthquakes, or groundwater fluctuations may also affect subsurface conditions and, thus, the continuing adequacy of a geotechnical/environmental report. The consultant should be kept apprised of any such events and should be consulted to determine if additional tests are necessary.

MOST RECOMMENDATIONS ARE PROFESSIONAL JUDGMENTS.

Site exploration and testing identifies actual surface and subsurface conditions only at those points where samples are taken. The data were extrapolated by your consultant, who then applied judgment to render an opinion about overall subsurface conditions. The actual interface between materials may be far more gradual or abrupt than your report indicates. Actual conditions in areas not sampled may differ from those predicted in your report. While nothing can be done to prevent such situations, you and your consultant can work together to help reduce their impacts. Retaining

your consultant to observe subsurface construction operations can be particularly beneficial in this respect.

A REPORT'S CONCLUSIONS ARE PRELIMINARY.

The conclusions contained in your consultant's report are preliminary, because they must be based on the assumption that conditions revealed through selective exploratory sampling are indicative of actual conditions throughout a site. Actual subsurface conditions can be discerned only during earthwork; therefore, you should retain your consultant to observe actual conditions and to provide conclusions. Only the consultant who prepared the report is fully familiar with the background information needed to determine whether or not the report's recommendations based on those conclusions are valid and whether or not the contractor is abiding by applicable recommendations. The consultant who developed your report cannot assume responsibility or liability for the adequacy of the report's recommendations if another party is retained to observe construction.

THE CONSULTANT'S REPORT IS SUBJECT TO MISINTERPRETATION.

Costly problems can occur when other design professionals develop their plans based on misinterpretation of a geotechnical/environmental report. To help avoid these problems, the consultant should be retained to work with other project design professionals to explain relevant geotechnical, geological, hydrogeological, and environmental findings, and to review the adequacy of their plans and specifications relative to these issues.

BORING LOGS AND/OR MONITORING WELL DATA SHOULD NOT BE SEPARATED FROM THE REPORT.

Final boring logs developed by the consultant are based upon interpretation of field logs (assembled by site personnel), field test results, and laboratory and/or office evaluation of field samples and data. Only final boring logs and data are customarily included in geotechnical/environmental reports. These final logs should not, under any circumstances, be redrawn for inclusion in architectural or other design drawings, because drafters may commit errors or omissions in the transfer process.

To reduce the likelihood of boring log or monitoring well misinterpretation, contractors should be given ready access to the complete geotechnical engineering/environmental report prepared or authorized for their use. If access is provided only to the report prepared for you, you should advise contractors of the report's limitations, assuming that a contractor was not one of the specific persons for whom the report was prepared, and that developing construction cost estimates was not one of the specific purposes for which it was prepared. While a contractor may gain important knowledge from a report prepared for another party, the contractor should discuss the report with your consultant and perform the additional or alternative work believed necessary to obtain the data specifically appropriate for construction cost estimating purposes. Some clients hold the mistaken impression that simply disclaiming responsibility for the accuracy of subsurface information always insulates them from attendant liability. Providing the best available information to contractors helps prevent costly construction problems and the adversarial attitudes that aggravate them to a disproportionate scale.

READ RESPONSIBILITY CLAUSES CLOSELY.

Because geotechnical/environmental engineering is based extensively on judgment and opinion, it is far less exact than other design disciplines. This situation has resulted in wholly unwarranted claims

IMPORTANT INFORMATION

being lodged against consultants. To help prevent this problem, consultants have developed a number of clauses for use in their contracts, reports, and other documents. These responsibility clauses are not exculpatory clauses designed to transfer the consultant's liabilities to other parties; rather, they are definitive clauses that identify where the consultant's responsibilities begin and end. Their use helps all parties involved recognize their individual responsibilities and take appropriate action. Some of these definitive clauses are likely to appear in your report, and you are encouraged to read them closely. Your consultant will be pleased to give full and frank answers to your questions.

The preceding paragraphs are based on information provided by the ASFE/Association of Engineering Firms Practicing in the Geosciences, Silver Spring, Maryland