

Stormwater Pollution Prevention Plan

for:

Dillingham Airport
Dillingham, Alaska
(907) 842-5511

SWPPP Contact(s):

Alaska DOT&PF
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Contents

SECTION 1: FACILITY DESCRIPTION AND CONTACT INFORMATION	1
1.1 Facility Information	1
1.2 Contact Information/Responsible Parties.....	2
1.3 Stormwater Pollution Prevention Team	3
1.4 Activities at the Facility	3
1.5 General Location Map	4
1.6 Site Map.....	4
SECTION 2: POTENTIAL POLLUTANT SOURCES	4
2.1 Industrial Activity and Associated Pollutants	5
2.2 Spills and Leaks.....	5
2.3 Non-Stormwater Discharges Documentation	6
2.4 Salt Storage	6
2.5 Sampling Data Summary.....	6
SECTION 3: STORMWATER CONTROL MEASURES	6
3.1 Minimize Exposure.....	7
3.2 Good Housekeeping.....	10
3.3 Maintenance.....	11
3.4 Spill Prevention and Response.....	11
3.5 Erosion and Sediment Controls	13
3.6 Management of Runoff	13
3.7 Salt Storage Piles or Piles Containing Salt	14
3.8 MSGP Sector-Specific Non-Numeric Effluent Limits	14
3.9 Employee Training	15
3.10 Non-Stormwater Discharges	15
3.11 Waste, Garbage and Floatable Debris	15
3.12 Dust Generation and Vehicle Tracking of Industrial Materials	16
SECTION 4: SCHEDULES AND PROCEDURES FOR MONITORING	17
SECTION 5: INSPECTIONS	18
SECTION 6: DOCUMENTATION TO SUPPORT ELIGIBILITY CONSIDERATIONS UNDER OTHER FEDERAL LAWS	21
6.1 Documentation Regarding Endangered Species.	21
6.2 Documentation Regarding Historic Properties.....	21
6.3 Documentation Regarding NEPA Review (if applicable)	21
SECTION 7: SWPPP CERTIFICATION	22
SECTION 8: SWPPP MODIFICATIONS	15
SWPPP APPENDICES	16
Appendix A – General Location Map and Site Map(s)	
Appendix B – 2008 MSGP	
Appendix C – NOI and Letters	
Appendix D – Visual Assessments	
Appendix E – Inspections	
Appendix F – Corrections	
Appendix G – Training	

Appendix H – Annual Report
Appendix I – Blank Forms
Appendix J – Miscellaneous
Appendix K – SPCC Plan (Dillingham)

SECTION 1: FACILITY DESCRIPTION AND CONTACT INFORMATION

1.1 Facility Information

Facility Information

Name of Facility: Dillingham Airport

Street: 803 Airport Road

City: Dillingham

State: AK

ZIP Code: 99576

County or Similar Subdivision: Dillingham Census Area

Permit Tracking Number: _____ (if covered under a previous permit)

Latitude/Longitude (Use **one** of three possible formats, and specify method)

Latitude:

Longitude:

1. 59 ° 02 ' 37.07 " N (degrees, minutes, seconds)

1. 158 ° 30 ' 25.41 " W (degrees, minutes, seconds)

2. ° . ' N (degrees, minutes, decimal)

2. ° . ' W (degrees, minutes, decimal)

3. __. ____ ° N (decimal)

3. __. ____ ° W (decimal)

Method for determining latitude/longitude (check one):

USGS topographic map (specify scale: _____)

EPA Web site

GPS

X Other (please specify): Google Earth

Is the facility located in Indian Country? **No**

If yes, name of Reservation, or if not part of a Reservation, indicate "not applicable." N/A _____

Is this facility considered a Federal Facility? **No**

Estimated area of industrial activity at site exposed to stormwater: 91 acres

Discharge Information

Does this facility discharge stormwater into an MS4? **No**

If yes, name of MS4 operator: _____

Name(s) of water(s) that receive stormwater from your facility: adjacent unnamed wetlands, squaw creek, Nushagak River and ultimately Bristol Bay

Are any of your discharges directly into any segment of an "impaired" water? **No**

If Yes, identify name of the impaired water (and segment, if applicable): _____

Identify the pollutant(s) causing the impairment: _____

For pollutants identified, which do you have reason to believe will be present in your discharge? _____

For pollutants identified, which have a completed TMDL? _____

Do you discharge into a receiving water designated as a Tier 2 (or Tier 2.5) water? No

Are any of your stormwater discharges subject to effluent guidelines? No

If Yes, which guidelines apply? _____

Primary SIC Code or 2-letter Activity Code: 4581 (refer to Appendix D of the permit)

Identify your applicable sector and subsector: Sector S / S1

1.2 Contact Information/Responsible Parties

Facility Operator (s):

Name: [Alaska DOT&PF – Central Region](#)
Address: [Dillingham Airport, Box 250](#)
City, State, Zip Code: [Dillingham, AK 99576](#)
Telephone Number: [\(907\) 842-5511](#)
Email address: Norman.Heyano@alaska.gov
Fax number: [\(907\) 842-3011](#)
Cell number: [\(907\) 842-7133](#)

Facility Owner (s):

Name: [Alaska DOT&PF – Central Region; Southwest District](#)
Address: [4111 Aviation Drive](#)
City, State, Zip Code: [Anchorage, AK 99519](#)
Telephone Number: [\(907\) 269-0751](#)
Email address: troy.larue@alaska.gov
Fax number: [\(907\) 269-0750](#)

SWPPP Contact:

Name: [Dillingham Airport Manager](#)
Telephone number: [\(907\) 842-5511](#)
Email address: Norman.Heyano@alaska.gov
Fax number: [\(907\) 842-3011](#)
Cell number: [\(907\) 842-7133](#)

SWPPP Preparer:

Name: [Environmental Impact Analyst](#)
Telephone number: [\(907\) 269-0714](#)

Email address: jennifer.hillman@alaska.gov

Qualifications: Jennifer has a B.S. in Environmental Policy, 4 years of experience working in a wide range of federal and state environmental policy issues, has achieved AK-CESCL certification (ID#10036), and completed SWPPP trainings through EPA including 'EPA's New Industrial Stormwater Permit: What You Need to Know about the MSGP 2008' and 'Monitoring and reporting for the 2008 MSGP'.

1.3 Stormwater Pollution Prevention Team

Staff Names*	Individual Responsibilities
DISTRICT SUPERINTENDENT	Oversight of Airport Operations; SWPPP Implementation
AIRPORT MANAGER	Airport Operations, Control Measures and Corrective Actions, and Facility Inspections
CENTRAL REGION M&O ENVIRONMENTAL ANALYST	SWPPP Development, Facility Inspections and Annual Report
CENTRAL REGION M&O ENVIRONMENTAL SPECIALIST	SPCC Plan and Facility Inspections

*See Appendix J for list of current staff names associated with the above titles and responsibilities.

1.4 Activities at the Facility

The Dillingham Airport is located near Dillingham, AK, on Airport Road approximately 0.2 mile north of the Nushagak River (Appendix A). The facility consists of one 6,404-foot-long asphalt-surfaced runway (1/19) and two 515-foot-long paved taxiways perpendicular to the runway connect to the main apron that is located west of the runway. Leased apron areas, both paved and gravel surfaced, are located on the west side of the runway. Other facilities include an Aircraft Rescue Fire Fighting (ARFF)/Snow Removal Equipment building, Chemical Storage Building, sand storage building, a City of Dillingham building, and several other leased buildings. Equipment fueling occurs outside from a 4,000-gallon, diesel aboveground storage tank (AST) located to the west of the equipment building. Gasoline is purchased off-site from a private supplier. Equipment maintenance takes place indoors, primarily at the aircraft, rescue, and fire/equipment storage building. Snow removal equipment is washed inside the equipment storage building. The washing process includes a pressure washer and potable water to clean the equipment. The wash water drains into the building floor drains, which lead to an oil/water separator and then into the city sewer system. Runway maintenance and deicing also occur at the Dillingham Airport. Runway maintenance is limited to repainting runway markings (once a year) and sealing stress cracks in the asphalt surface (as necessary). These activities are performed in accordance with DOT&PF procedures and require dry weather. Deicing activities include application of urea, potassium acetate, and sand on runways, taxiways, and aprons. Average annual usage of urea is approximately 50 tons with 20,000 gallons of potassium acetate used on runways.

Drainage patterns for the Dillingham Airport are shown on figure(s) in Appendix A. In general, stormwater runoff at the airport either drains to vegetated areas or into several ditches which are connected to culverts and discharge at outfalls from the airport property. Subsurface drains and associated catch basins are

located on the eastern portion of the leased apron areas. Four separate drainage areas, designated as Watersheds A – G2, and associated outfalls are depicted on Figure 1 in Appendix A.

1.5 *General Location Map*

The general location map for this facility has been placed in Appendix A.

1.6 *Site Map*

Site map(s) for this facility are placed in Appendix A.

SECTION 2: POTENTIAL POLLUTANT SOURCES

2.1 Industrial Activity and Associated Pollutants

Industrial Activity	Associated Pollutants
DOT&PF Runway deicing	Urea and potassium Acetate (E36), sand, sediment
DOT&PF Equipment fueling	Diesel fuel, gasoline
DOT&PF Snow removal	Hydraulic fluid, diesel fuel
DOT&PF Building heating	Fuel Oil
DOT&PF Fire fighting	Purple K (Potassium Bicarbonate)
DOT&PF Runway sanding/sweeping	Sand and sediment, hydraulic fluid, oils
DOT&PF Equipment maintenance	Hydraulic fluid, oil, diesel, anti-freeze
DOT&PF Float plane airport de-vegetation	Diesel fuel, hydraulic fluid
DOT&PF Runway maintenance	Paint, paint thinner, tar*, asphalt solvent, concrete*, crack sealant*
Tenant aircraft deicing	Propylene glycol
Tenant aircraft fueling & lubricants	Aviation fuel, lubricants

*Purchased commercially.

DOT&PF maintains Material Safety Data Sheets (MSDS) at the maintenance and airport stations which discloses uses and hazards associated with chemicals to prevent harm to human health and the environment including proper uses, clean-up, storage, and disposal.

2.2 Spills and Leaks

Areas of Site Where Potential Spills/Leaks Could Occur

Location	Outfalls
Vehicle fueling area	Watershed A – outfall A and Watershed C – outfall C1 and C2
Snow storage area between apron and runway and in safety areas	Outfalls B, D, E, F, G1 and G2

Description of Past Spills/Leaks

Date	Description	Outfalls
	No significant spills or leaks within last 3 years	

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2.3 *Non-Stormwater Discharges Documentation*

The 2008 MSGP provides limitations on stormwater discharges under Subpart S 8.S.1. The MSGP ‘authorizes stormwater discharges from only those portions of the air transportation facility that are involved in vehicle maintenance (including vehicle rehabilitation, mechanical repairs, painting, fueling and lubrication), equipment cleaning operations or deicing operations.’

Specifically prohibited under Sector S (Air transportation) coverage of the MSGP is “discharge of aircraft, ground vehicle, runway and equipment washwaters; nor the dry weather discharge of deicing chemicals.” Discharges associated with snowmelt are not dry weather discharges.

- Date of evaluation: July 2010
- Description of the evaluation criteria used: Visual inspection of airport, airport perimeter, and all outfall locations during regular business hours.
- List of the outfalls or onsite drainage points that were directly observed during the evaluation: Outfalls A-G1 were observed, we were unable to locate G2 though it is known to be off the northwest end of the runway.
- Different types of non-stormwater discharge(s) and source locations: Limited opportunity for non-stormwater discharge observation because the majority of non-storm water discharge is deicing fluids used during the winter season and no rain event for observation of stormwater.
- Action(s) taken, such as a list of control measures used to eliminate unauthorized discharge(s), if any were identified: No unauthorized discharges were observed at this time. Necessary action is to locate and verify Outfall G2.

2.4 *Salt Storage*

No salt is used at the airport facility for deicing purposes because these products are corrosive to aircraft surfaces and mechanical parts. Bags of calcium chloride to be used only on State maintained roads are stored on wooden pallets inside the unheated storage building (see Appendix A).

2.5 *Sampling Data Summary*

Because this is the initial permit term for this facility, no stormwater discharge sampling data is available to report at this time.

SECTION 3: STORMWATER CONTROL MEASURES

3.1 *Minimize Exposure*

Due to the high average snowfall (approximately 65 inches/year) and relatively moderate coastal climate, urea is the primary deicing compound (average annual usage of 20 tons/year). Sand is also used, alone or mixed with the deicers, to provide aircraft traction and to stretch deicers. The deicers are primarily only used on the runway itself, on an as-needed basis; mechanized clearing is the preferred method when weather conditions are suitable. Urea is stored in the new warm chemical storage facility located west of the ARF and equipment storage building (see Appendix A). The bags are stored on pallets with bags of calcium chloride, which is used on State maintained roads. Sand is stored in the sand storage building located to the west of the equipment storage building. Additional sand is stored in a stockpile east of the sand storage building as it awaits transfer to a sanding truck for application.

DOT&PF airport equipment is stored and maintenance is performed indoors at the aircraft, rescue, and fire/equipment storage building. Equipment is kept in good working condition (minimizes leaks) and older equipment is replaced.

A spill kit available at the equipment storage building and an SPCC Plan is in place to minimize potential for fuel spills (Appendix K).

Best Management Practice (BMP)	
Minimizing Exposure – Vehicle and Equipment Maintenance Areas	<ol style="list-style-type: none"> 1. Perform all cleaning operations indoors or under covering when possible. Conduct the cleaning operations in an area with a concrete floor with no floor other than those to approved disposal methods (including sanitary sewers or treatment facilities, oil/water separators, etc.) – if operations are uncovered, perform them on a concrete pad that is impervious and contained. 2. Park vehicles and equipment indoor or under a roof whenever possible and maintain proper control of oil leaks/spills. 3. Check vehicles closely for leaks and use pans to collect fluid when leaks occur. 4. Use berms, curbs, grassed swales, or other diversion measures to ensure that stormwater runoff from other parts of the facility does not flow over the maintenance area. 5. Discharge vehicle wash or rinse water to the sanitary sewer (if allowed by sewer authority), wastewater treatment, a land application site, or recycle on-site. Do not discharge washwater to a storm drain or to surface water. 6. Inspect the maintenance area regularly to ensure BMPs are implemented.

	<ol style="list-style-type: none"> 7. Train employees on waste control and disposal procedures. 8. Inspect the maintenance area regularly for proper implementation of control measures.
<p>Minimizing Exposure – Vehicle and Equipment Storage Areas</p>	<ol style="list-style-type: none"> 1. Store vehicles and equipment indoors, when possible. 2. Store vehicles and equipment awaiting maintenance in designated areas, when possible. 3. Park leaking deicing trucks in a designated area. 4. Use absorbents to cleanup spills and leaks. 5. Use drip pans under all vehicles and equipment for the collection of fluids. 6. Clean pavement surfaces to remove oil and grease without using large amounts of water. 7. Regularly sweep area to minimize debris on the ground. 8. Provide dust control if necessary. When controlling dust, sweep and/or apply water or materials that will not impact surface or groundwater. 9. Train employees on procedures for storage and inspection items.
<p>Minimizing Exposure –Materials Storage Areas</p>	<ol style="list-style-type: none"> 1. Store materials indoors, when possible. 2. Maintain good integrity of all storage containers (e.g., used oil, hydraulic fluids, solvents, waste aircraft fuel). 3. Create a centralized storage area for waste materials. 4. Cover and/or enclose chemical storage areas (including temporary cover such as a tarp that prevents contact with precipitation). 5. Inspect storage tanks and piping systems (pipes, pumps, flanges, couplings, hoses, and valves) for failures or leaks and perform preventative maintenance. 6. Plainly label containers. 7. Provide fluid level indicators. 8. Properly dispose of chemicals that are no longer in use. 9. Store and handle reactive, ignitable, or flammable liquids in compliance with applicable local fire codes, local zoning codes, and the National Electric Code. 10. Provide drip pads/pans where chemicals are

	<p>transferred from one container to another to allow for recycling of spills and leaks.</p> <ol style="list-style-type: none"> 11. Develop and implement spill plans or spill prevention, containment and countermeasure (SPCC plans). 12. Train employees in spill prevention and proper materials management.
<p>Minimizing Exposure – Fuel System and Fueling Areas</p>	<ol style="list-style-type: none"> 1. Develop and implement a system to report any spill exceeding 5 feet in any direction or which has entered the storm drainage system. 2. Use fueling hoses with check valves to prevent hose draining after filling. 3. Provide spill kits on all fuel trucks, at fueling stations, at strategic locations. Each kit should be properly stocked and maintained. Store used materials in individual sealed container and labeled to ensure proper handling and disposal as a hazardous material. 4. Keep spills cleanup materials readily available. 5. Clean up spills and leaks immediately. 6. Use dry cleanup methods for fuel areas rather than hosing down the fuel area. Sweep up absorbents as soon as spilled substances have been absorbed. 7. Use spill and overflow protection devices. 8. Provide curbing or posts around fuel pumps to prevent collisions from vehicles. 9. Regularly inspect and perform preventative maintenance on fuel storage tanks to detect potential leaks before they occur. 10. Inspect the fueling area for leaks and spills. 11. Do not allow "topping off" of the fuel in the receiving equipment. 12. Train personnel on vehicle fueling BMPs.
<p>Minimizing Exposure – Storing Liquid Fuels</p>	<ol style="list-style-type: none"> 1. Develop and implement spill plans. 2. Train employees in spill prevention and control. 3. For ASTs – provide secondary containment, such as dikes, with a height sufficient to contain a spill. 4. For ASTs – use double walled tanks with overflow protection. 5. For ASTs – Keep liquid transfer nozzle/hoses in secondary containment area. 6. Store drums indoors when possible. 7. Clearly label drums with contents.
<p>Minimizing Exposure – Equipment Cleaning Areas</p>	<ol style="list-style-type: none"> 1. Confine activities to designated areas outside

- drainage pathways and away from surface waters.
- 2. If washing outdoors, cover the cleaning operation and ensure that all washwaters drain to the intended collection system.

3.2 *Good Housekeeping*

Due to weather conditions, waste materials generated are kept indoors and/or in containers prior to proper disposal. Fuel tanks are fairly new and in good condition. Tanks and fueling area are regularly monitored for leaks and spills.

DOT&PF practices food housekeeping measures to prevent potential stormwater pollution before it starts. Inspections, sweeping, and regular maintenance are some examples.

Best Management Practice (BMP)	
Good Housekeeping – Vehicle and Equipment Maintenance Areas	<ol style="list-style-type: none"> 1. Eliminate floor drains that are connected to the storm or sanitary sewer. 2. Prevent and contain spills and drips 3. Perform all cleaning at a centralized station so the solvents stay in one area. 4. Remove any parts that are dipped in liquid slowly to avoid spills. 5. Use drip pans, drain boards, and drying racks to direct drips back into fluid holding tank for reuse. 6. Drain all parts of fluids prior to disposal. Oil filters can be crushed and recycled. 7. Transfer used fluids to the proper container promptly; do not leave full drip pans or other containers around the shop. Empty and clean drip pans and containers. 8. Clean up leaks, drips, and other spills without using large amounts of water. Use absorbents for dry cleanup whenever possible. 9. Prohibit the practice of hosing down an area where the practice would result in the discharge of pollutants to a stormwater system. 10. Prohibit pouring liquid waste into floor drains, sinks, outdoor storm drain inlets, or other storm drains or sewer connections. 11. Maintain an organized inventory of materials. 12. Eliminate or reduce the number and amount of hazardous materials and waste by substituting

	<p>nonhazardous or less hazardous waste materials.</p> <p>13. Store batteries and other significant materials inside.</p> <p>14. Dispose of greasy rags, oil filters, air filters, batteries, spent coolant, and degreasers in compliance with environmental regulations.</p>
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3.3 Maintenance

DOT&PF M&O facility has an SPCC Plan, which is in use and dated January 2011. A spill kit is kept stocked and on-site. Fuel tanks are inspected to ensure compliance, and the staff trained to inspect for leaks by the Airport Manager.

Equipment is regularly maintained and kept in proper working order, to minimize leak potential.

Runways are swept and priority is placed on anti-icing activities when possible. All material swept from the runway is brushed into vegetated low areas.

Best Management Practice (BMP)	
Maintenance – Vehicle and Equipment Monitoring and Repairs	<ol style="list-style-type: none"> 1. Regularly inspect vehicles for leaks and maintenance 2. Vehicles are kept in good working condition and monitored for leaks to prevent discharges 3. Leaking equipment is kept indoors until repairs can be made with drip pans and absorbents in place as necessary. 4. Equipments maintenance is conducted indoors 5. All storage containers are monitored for leaks and stored indoors when possible. 6. Fuel tanks are inspected regularly for leaks and integrity.
Maintenance – Deicing/anti-icing runways and pads	<ol style="list-style-type: none"> 1. Evaluate and optimize present chemical application rates. 2. Use sand where possible to enhance friction. 3. Plow and broom runways prior to application of deicing chemicals. 4. Heat solid deicers and sand prior to application. 5. Install and calibrate devices to meter the amount of pavement deicer being applied. 6. Emphasize anti-icing operations which minimize the need to deice.

7. Pre-wet with liquid deicers to improve adhesion of solid deicers to the iced surface.
8. When possible, use deicers which have less of an environmental impact (e.g. sodium formate and potassium acetate opposed to urea and glycol.)
9. Ensure proper handling and disposal of unused deicing chemicals in vehicles.
10. Use ice detection systems.
11. Use airport traffic flow strategies and departure slot allocation systems.

3.4 *Spill Prevention and Response*

Structural Controls (Inspection Procedures)

Tanks, lines, and pumps are inspected in accordance with the SPCC plan (see Appendix K). A spill kit is staged in the equipment storage building, and all oil-handling employees are trained annually in spill prevention, control, and countermeasures.

Container Labeling

All containers with new products are labeled with the manufacturer's labeling. Container labeling is standard operating procedure at the airport and all containers are labeled when generated. Containers such as drums are labeled with USED OIL or Non-Hazardous Waste labels. No hazardous waste is generated during airport maintenance and operational activities. All tank containers are labeled with both the product type and tank number.

Preventative Measures

All equipment fuel tanks have secondary containment (double walled tanks), overfill prevention, and valves that prevent equipment overfills. Bollards surround the tanks providing additional spill protection. A spill kit is located in the equipment storage building. In addition, equipment fuel tanks are situated away from any roadways. Heating oil is stored in a 3,000-gallon AST outside the equipment storage building. Used oil from equipment maintenance is stored indoors in 55-gallon steel drums at the aircraft, rescue, and fire/equipment storage building and unheated storage building.

Spill Response Procedures

1. Assess the situation. Confirm there is no potential risk from fires, confined spaces, safety hazards. If the cause of the spill can be fixed quickly (tank overfill), stop the release.
2. Get help. If you are alone at the site, find someone to assist you.
3. If possible, stop the spill. Spill kit(s) contain tank repair putty.
4. If stopping the spill is not possible, then contain the spill. Spill kit(s) contain booms or spill socks. The goal is to reduce the amount of ground surface that gets contaminated.
5. If there is equipment available, an earthen berm can stop the flow of oil.
6. **Report the spill to Environmental Specialist, and then your supervisor.** If the spill is a reportable quantity (see below), **DOT&PF will need to notify the ADEC Response Team.** Even if the spill is not reportable, log the spill and our response in the SPCC Plan.

Notification Procedures

The supervisor will notify ADEC immediately of any discharge of hazardous substance or oil to surface water. In the event of a release to land, the supervisor will notify ADEC immediately of a discharge of oil in excess of 55 gallons, or of any discharge of a hazardous substance. The supervisor will notify ADEC within 48 hours of a discharge of oil in excess of 10 gallons, but less than 55 gallons. If a discharge of oil from 1 to 10 gallons occurs, the supervisor will notify ADEC by writing within 30 days. The supervisor will notify ADEC within 48 hours of discharge in excess of 55 gallons to an impermeable secondary containment area or structure.

A spill kit is located in the equipment storage building. The airport has a SPCC plan in place dated January 2011.

3.5 Erosion and Sediment Controls

Although the airport gets a fair amount of precipitation annually, significant potential for erosion does not currently exist at the Dillingham Airport. A series of drainage ditches and culverts is in place to concentrate conveyances. Subsurface drains and associated catch basins are located on the eastern portion of the leased apron areas to minimize sediment conveyance.

Appropriate BMPs during maintenance work that includes ground disturbance or potential discharges, followed by re-seeding will be enacted as additional erosion and sediment controls (see Appendix L for examples of typical BMPs).

3.6 Management of Runoff

The Dillingham area get moderate precipitation, with an average annual precipitation of approximately 26 inches distributed throughout the year. In general, stormwater runoff at the airport either drains to vegetated areas or into several ditches which are connected to culverts and discharge at outfalls from the airport property. Subsurface drains and associated catch basins are located on the eastern portion of the leased apron areas. Four separate drainage areas, designated as Watersheds A – G2, and associated outfalls are depicted on Figure 1 in Appendix A. In the winter, runway and taxiways are plowed to the edge. Snow is stored in the Safety Areas of the runways, and taxiways. Snow from the aprons is stored in the grassy areas between apron and runway.

Best Management Practice (BMP)	
Management of Runoff	<ol style="list-style-type: none"><li data-bbox="857 1682 1409 1787">1. Maintain as much vegetation as possible in maintenance areas and areas where stormwater leaves impermeable surfaces.<li data-bbox="857 1787 1446 1860">2. Utilize velocity dissipaters such as; vegetation, rock outfalls, and check dams.<li data-bbox="857 1860 1422 1896">3. Create opportunities for filtration and settling

such as gently sloped vegetated ditches.

3.7 Salt Storage Piles or Piles Containing Salt

Because salts are corrosive to aircraft surfaces and mechanical parts, salt is not used on airport facilities for deicing activities. Bags of calcium chloride to be used only on State maintained roads are stored on wooden pallets inside the unheated storage building (see Appendix A).

See Section 2.4 for additional discussion.

3.8 MSGP Sector-Specific Non-Numeric Effluent Limits

In general, stormwater runoff at the airport either drains to vegetated areas or into several ditches which are connected to culverts and discharge at outfalls from the airport property. Subsurface drains and associated catch basins are located on the eastern portion of the leased apron areas. Four separate drainage areas, designated as Watersheds A – G, and associated outfalls are depicted on Figure 1 in Appendix A.

8.S.3.1.1 – Aircraft, Ground Vehicle and Equipment Maintenance Areas. All equipment maintenance takes place indoors.

8.S.3.1.2 – Aircraft, Ground Vehicle and Equipment Cleaning Areas. Dust and dirt is occasionally sprayed from equipment during the summer, as needed.

8.S.3.1.3 – Aircraft, Ground Vehicle and Equipment Storage Areas. Equipment is stored indoors the vast majority of the time. Exceptions would be occasionally parking equipment outside during the summer. Equipment utilized is relatively new and kept in proper working order.

8.S.3.1.4 – Material Storage Areas. Loading and unloading of materials occurs inside in the maintenance bays. Heating oil is stored in a 3,000-gallon AST outside the equipment storage building. Bags of calcium chloride to be used only on State maintained roads are stored on wooden pallets inside the unheated storage building. Urea is stored inside the storage building (see Appendix A figure) in reinforced plastic bags with a capacity of about 1.5 tons each. Paint is also stored in the storage building. Sand is stored in the sand storage building located to the west of the equipment storage building. Additional sand is stored in a stockpile south of the sand storage building as it awaits transfer to a sanding truck for application.

8.S.3.1.5 – Airport Fuel System and Fueling Areas. The equipment fuel tanks (located at the M&O facility) are relatively new and properly maintained, with an automatic shut-off device. A spill kit is on-site and an SPCC Plan in place.

8.S.3.1.6 – Source Reduction. Mechanical means are used to keep the runway clear of snow and ice, when possible. Sand is also utilized for traction. Urea is utilized when necessary to keep the runway safe due to climatic conditions. Sand is to stretch deicer use when possible.

8.S.3.1.7 – Management of Runoff. The Dillingham area gets moderate levels of precipitation, with an average annual precipitation of approximately 26 inches distributed throughout the year. In general, stormwater runoff at the airport either drains to vegetated areas or into several ditches which are connected to culverts and discharge at outfalls from the airport property. Subsurface drains and associated catch basins are located on the eastern portion of the leased apron areas. Four separate drainage areas, designated as Watersheds A – G, and associated outfalls are depicted on Figure 1 in Appendix A. In the winter, runway and taxiways are plowed to the edge and blown off the runway pad. Snow from the apron area is stored in the vegetated swales in the infield area between the apron and runway.

8.S.3.2 – Deicing Season. The deicing season typically runs from mid-October through mid-May. Deicing chemical usage falls below the usage threshold required for benchmark monitoring.

3.9 Employee Training

Storm water training for airport staff will take place annually during the deicing season and will coincide with an inspection of the airport facility. In addition to training on the inspection process, training will include any updates to MSGP requirements, procedures for Quarterly Visual Assessment and discussion of operational activities at the airport facility. Training for airport staff will also include fuel handling and spill reporting procedures. Besides scheduled annual training, new staff will be trained on an as-needed basis. Staff training logs area found in Appendix G.

The level of training provided will be commensurate with each worker's assignments and responsibilities. Training may be accomplished in a number of ways:

- Through workshops, classes, working groups, conference calls, and/or shop level tailgate briefings.
- Through discussions and presentations at pollution prevention team meetings, periodic environmental compliance briefings, and similar group gatherings.
- Through signs/posters posted in significant locations in facilities.
- Through providing written copies of BMPs.
- Through online training such as EPA webcasts.

3.10 Non-Stormwater Discharges

See Section 2.3 for discussion

3.11 Waste, Garbage and Floatable Debris

Wastes and debris are covered and/or stored indoors prior to landfill disposal. Garbage is stored in covered dumpsters. Shop waste water passes through an oil/water separator and then is treated through the Dillingham waste water treatment. Human waste is also treated through the municipal facility.

Best Management Practice (BMP)	
Waste, Garbage, and Floatable Debris	<ol style="list-style-type: none">1. Waste and debris are stored in cover containers or indoors and removed regularly.2. Maintenance and airport areas are kept clear of debris and clutter.3. The oil water separator is cleaned out annually.4. Human waste and all water is treated through a waste water facility.

3.12 *Dust Generation and Vehicle Tracking of Industrial Materials*

Airport runway, taxiways, and apron areas (except a portion of the leased apron area which is gravel surfaced) are paved and swept to reduce harm to aircraft from dust and debris.

SECTION 4: SCHEDULES AND PROCEDURES FOR MONITORING

For each type of monitoring, your SWPPP must include a description of:

1. **Sample Location(s).** Describe where samples will be collected, including any determination that two or more outfalls are substantially identical. **Sampling locations are all concentrated flows (Outfalls A,B, C, D, F, G1 and G2) that are likely to contain deicing chemicals and petroleum products.**
2. **Pollutant Parameters to be Sampled.** Include a list of the pollutant parameters that will be sampled and the frequency of sampling for each parameter. **Sector S parameters of concern are Biological Oxygen Demand (BOD), Chemical Oxygen Demand (COD), Ammonia, and pH – however, until documentation can show that less than 100,000 gallons of glycol-based deicing chemicals and/or 100 tons or more of urea is used on an average annual basis for the entire airport (single permittee or combination of permitted facilities) analytical monitoring must be completed on an annual basis (MSGP, Part 6). Threshold limits can be found in table 8.S-1 of the 2008 MSGP. Benchmark monitoring is not applicable for this facility (MSGP, Part 6).**
3. **Monitoring Schedules.** Include the schedule you will follow for monitoring your stormwater discharge, including where applicable any alternate monitoring periods to be used for facilities in climates with irregular stormwater runoff (MSGP, Part 6.1.6). **Quarterly visual monitoring is to be conducted within the months listed below during storm/melt events. In the event that frozen conditions persist sampling will be made at the next possible time.**

Quarters are defined as

- January 1 – March 31
- April 1 – June 30
- July 1 – September 30
- October 1 – December 31.

4. **Numeric Limitations.** List here any pollutant parameters subject to numeric limits (effluent limitations guidelines), and which outfalls are subject to such limits. Note that numeric limits are only included for Sectors A, C, D, E, J, K, L, and O. **Numeric limits are not applicable to Sector S.**
5. **Procedures.** Describe procedures you will follow for collecting samples, including responsible staff who will be involved, logistics for taking and handling samples, laboratory to be used, etc. **Collect a grab sample within the first 30 minutes from a discharge resulting from a measurable storm event or as soon as practicable after the first 30 minutes. If the 30 minute period is exceeded, document it in the SWPPP explaining why it was not possible to take a sample within the first 30 minutes. A measurable storm event is one that results in a discharge from the outfall. The storm event is preceded by at least 72 hours of dry weather (or 72 hours since the last measurable storm event). In the case of snowmelt, the monitoring must be performed at a time when a measurable discharge occurs. For each monitoring event, except snowmelt monitoring, identify the date and duration (in hours) of the rainfall event, rainfall total (in inches) for that rainfall event, and time (in days) since the previous measurable storm event. For snowmelt monitoring, you must identify the date of the sampling event. When adverse weather conditions prevent the collection of samples, take a substitute sample during the next qualifying storm event. Sampling needs to take place during the second quarter and performed annually. Samples should be sent to a qualified lab in Anchorage, Alaska. Contact the environmental analyst for locations and payment.**

Substantially identical outfall exception (if applicable)

If you plan to use the substantially identical outfall exception for your benchmark monitoring and/or quarterly visual assessment requirements, include the following information here to substantiate your claim that these outfalls are substantially identical:

- Location of each of the substantially identical outfalls:
- Description of the general industrial activities conducted in the drainage area of each outfall:
- Description of the control measures implemented in the drainage area of each outfall:
- Description of the exposed materials located in the drainage area of each outfall that are likely to be significant contributors of pollutants to stormwater discharges:
- An estimate of the runoff coefficient of the drainage areas (low=under 40%; medium=40 to 65%; high =above 65%):
- Why the outfalls are expected to discharge substantially identical effluents:

Outfalls G1 and G2 are considered substantial identical outfalls. Both outfalls are part of watershed G and are concentrated flows that leave the north end of the runway: G1 leaves the north east and G2 leaves the northwest (see watershed map in Appendix A). Both outfalls are limited to runway anti-icing and deicing activities including sweeping, plowing, sanding and the use of chemical deicers. Control measures include the use of mechanical deicing before/over chemical, when possible. Equipment maintenance is performed regularly to reduce potential for petroleum and diesel based contaminants. Snow is plowed into gently vegetated areas where possible to reduce concentrated flows. Outfall G1 and G2 drain approximately 40 percent of watershed G. The proximity and identical activity as described support the classification as substantially identical outfalls. Outfall G1 will be used as the sample location.

SECTION 5: INSPECTIONS

For the routine facility inspections and the comprehensive site inspections to be performed at your site, include a description of the following:

- The names of the person(s), or the positions of the person(s), responsible for inspection: [Airport Manager](#)
- The schedules to be used for conducting inspections. Include here any tentative schedule that will be used for facilities in climates with irregular stormwater runoff discharges (MSGP, Part 4.2.3): [Routine inspections will take place monthly during the deicing season \(typically mid-October through mid-May\), as denoted in table below. An additional routine inspection will take place when stormwater discharge is occurring, during the months of July – September as site conditions warrant. The annual comprehensive inspection will take the place of a routine inspection during the deicing season, likely in March or April when day length is longer and sufficient time remains to complete annual reporting \(due by end of September of each permit year\).](#)

Month	Deicing Season	Inspection Schedule
January	x	Routine
February	x	Routine
March	x	Routine
April	x	Comprehensive
May	x	Routine
June		
July		One additional
August		routine inspection
September		during quarter
October	x	Routine
November	x	Routine
December	x	Routine

and

- Specific areas of the facility to be inspected, including schedules for specific outfalls: [Areas that are subject to deicing due to aircraft operations will be inspected during each inspection, as will equipment fueling, deicing material storage areas, and snow storage areas. Additionally, during the summer routine inspection, any potential discharges and drainages will also be inspected.](#)

For the quarterly visual assessments to be performed at your site, include a description of the following:

- The names of the person(s), or the positions of the person(s), responsible for inspection: [Airport Manager](#).
- The schedules to be used for conducting inspections. Include here any tentative schedule that will be used for facilities in climates with irregular stormwater runoff discharges (MSGP, Part 4.2.3): [Due to the long winter season, the four quarterly visual assessments will all take place during the period of April – October, with two in April – June and two in July – October. If frozen conditions persist for an entire quarter, preventing visual inspection two visual inspections will be conducted during the following quarter. It is anticipated that a visual assessment during April will capture snowmelt discharge.](#)

Month	Visual Assessment Schedule
January	-
February	-
March	-
April	Take break-up plus
May	one quarterly
June	visual assessment
July	Take two
August	quarterly
September	visual
October	assessments
November	-
December	-

and

- Specific areas of the facility to be inspected, including schedules for specific outfalls: [Visual assessment samples will be collected at stormwater discharge locations at Outfalls A-G1 \(see Appendix A figure\).](#)

Inactive and Unstaffed sites exception (if applicable)

If you are invoking the exception for inactive and unstaffed sites for your routine facility inspections and quarterly visual assessments, include information to support this claim. N/A

SECTION 6: DOCUMENTATION TO SUPPORT ELIGIBILITY CONSIDERATIONS UNDER OTHER FEDERAL LAWS

6.1 Documentation Regarding Endangered Species.

In checking the ESA Listed Species Consultation Guide, Anchorage Fish and Wildlife Field Office, it was determined that the Dillingham Airport is not within the range of any listed species. The airport is over 0.5 miles from the coast of Alaska and no critical habitat is present for listed species. The “action area” for the airport is limited to locations where deicing activities take place and their outfalls, as well as where maintenance activities and petroleum/chemical storage takes place and the associated outfalls. Deicing activities are further limited to seasonal activities approximately mid-October to mid-April. The action area is defined as the airport and the immediate surrounding areas.

Steller’s Eiders may pass through the area during the winter time and during their migration north during the spring. Steller’s eiders are diving ducks that feed on mussels in the marine waters of Alaska’s southwestern coast and the Aleutian chain during the winter months. During the summer, they migrate north to feed on insect larvae in freshwater ponds. Dillingham is not within the critical habitat areas designated for the Steller’s Eider and their presence is unlikely. In addition, birds and waterfowl are controlled within the immediate vicinity of the airport to prevent the loss of human life and airplane accidents.

Eligibility Criterion A of the MSGP is met, no federally-listed threatened or endangered species or their designated critical habitat are likely to occur in the action area. No further action is required.

6.2 Documentation Regarding Historic Properties

No subsurface disturbances resulting from building or installing control measures are occurring at this facility, therefore discharge-related activities do not have the potential to have an effect on historic properties. Eligibility Criterion A of the MSGP is met, no further action is required.

6.3 Documentation Regarding NEPA Review (if applicable)

No operations related to New Source Performance Standards (NSPS) take place at this facility.

SECTION 7: SWPPP CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name: Norman Heywood Title: Airport Manager

Signature:  Date: 1/10/11

	<p>STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES</p>
<p>DELEGATION OF SIGNATURE AUTHORITY, SWPPP AND OTHER NPDES MSGP RELATED REPORTS AND DOCUMENTS</p> <p>Airport Name: Dillingham</p>	
<p>I, Robert A. Campbell, P.E. hereby designate the Airport Manager, Norman Heyano, assigned to Dillingham Airport to be the DOT&PF duly authorized representative for the purpose of overseeing compliance with the NPDES Multi-Sector General Permit, at the Dillingham Airport. By signing this authorization, I confirm that I meet the requirements to make such a designation as set forth in Appendix B, Subsection 11.A of EPA's Multi-Sector General Permit (MSGP), and that the designee above meets the definition of a "duly authorized representative" as set forth in Appendix B, Subsection 11.B.</p> <p>I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.</p>	
<p>Name: Robert A. Campbell, P.E. Title: Regional Director Signature: <u><i>Robert A. Campbell</i></u> Date: <u>January 24, 2011</u></p>	

SWPPP APPENDICES

Attach the following documentation to the SWPPP:

Appendix A – General Location Map & Site Map(s)

Appendix B – Permit

Appendix C – NOI and Letters

Appendix D – Visual Assessments

Appendix E – Inspections

Appendix F – Corrections

Appendix G – Training

Appendix H – Annual Report

Appendix I – Blank Forms

Appendix J – Miscellaneous

Appendix K – SPCC Plan (Dillingham)

Appendix L – Example Typicals for Stormwater Pollution Prevention

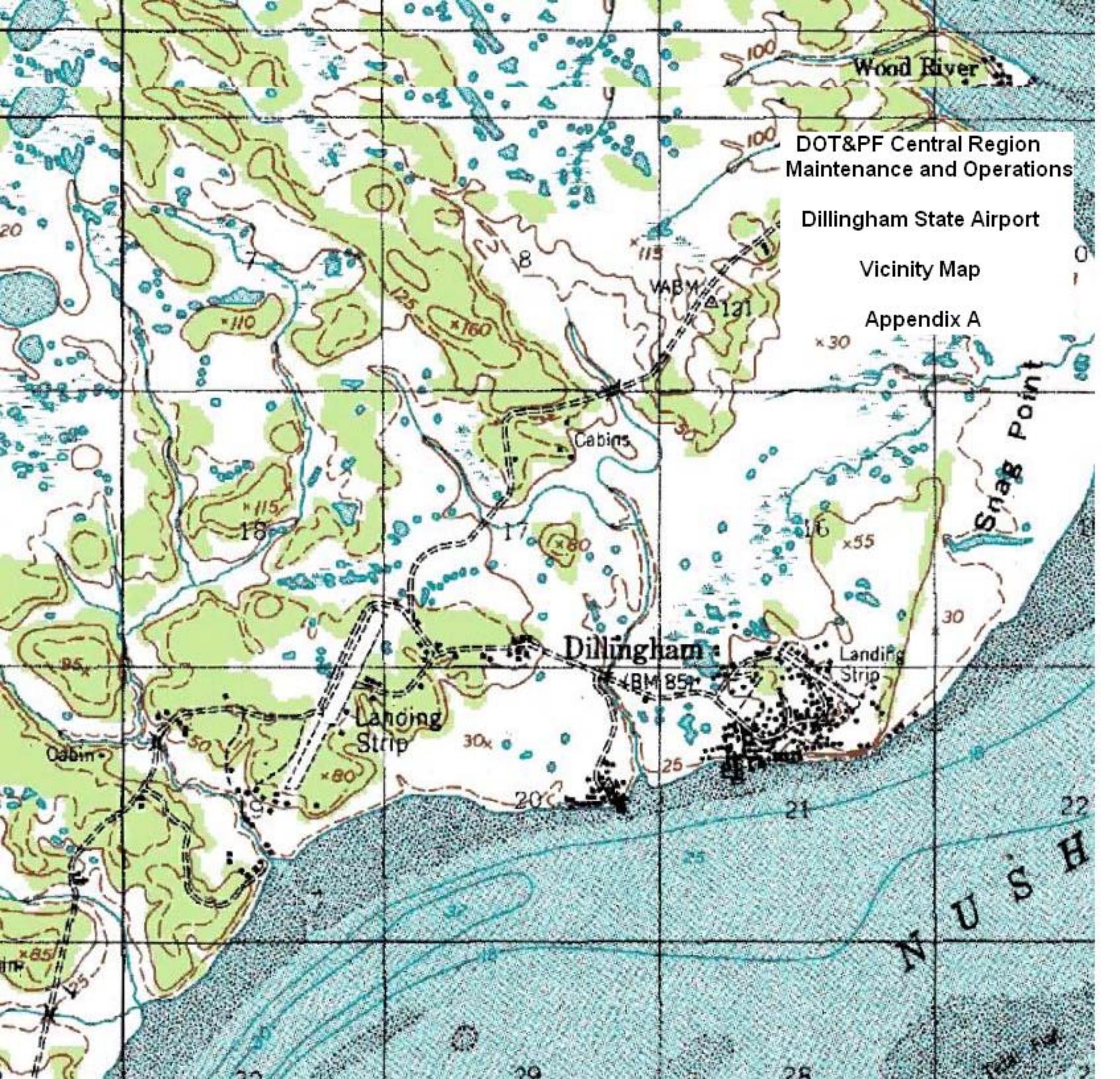
Appendix A – General Location Map & Site Map(s)

Dillingham State Airport Location Map

Dillingham Airport Aerial Photo

Dillingham Airport Watershed Map

Dillingham Airport Layout Plan



DOT&PF Central Region
Maintenance and Operations

Dillingham State Airport

Vicinity Map

Appendix A

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Dillingham, AK

DOT&PF Central Region
Maintenance and Operations

Dillingham State Airport

Location and Aerial Photo

4425 ft

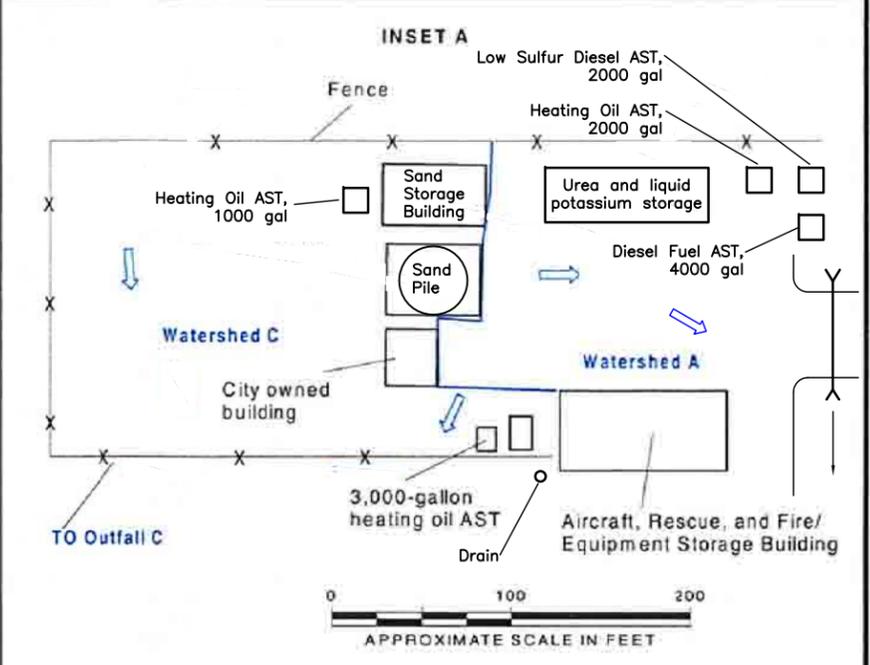
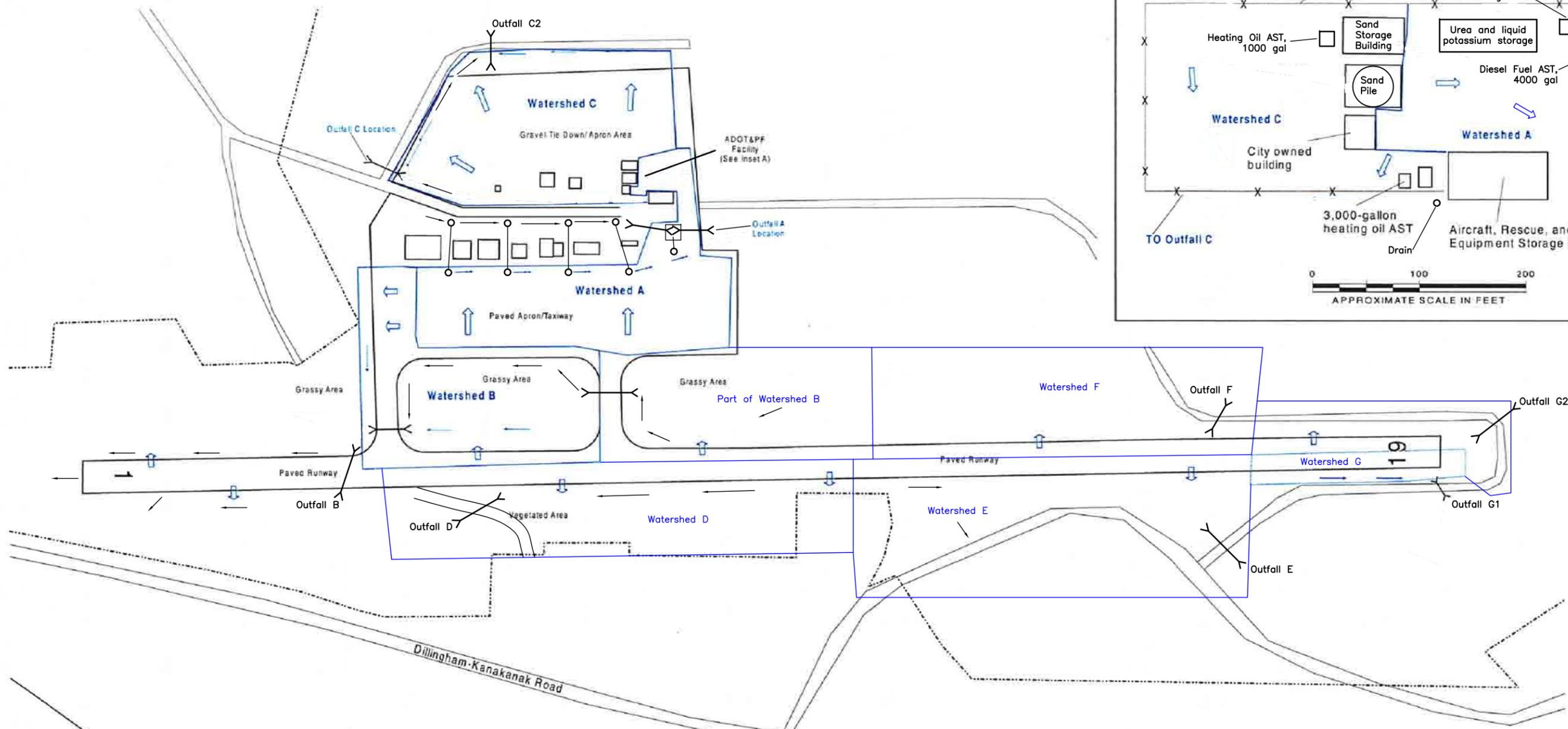
Image © 2011 DigitalGlobe

©2008 Google

Imagery Date: Apr 27, 2006

59°02'23.54" N 158°29'07.02" W elev 34 ft

Eye alt 15286 ft

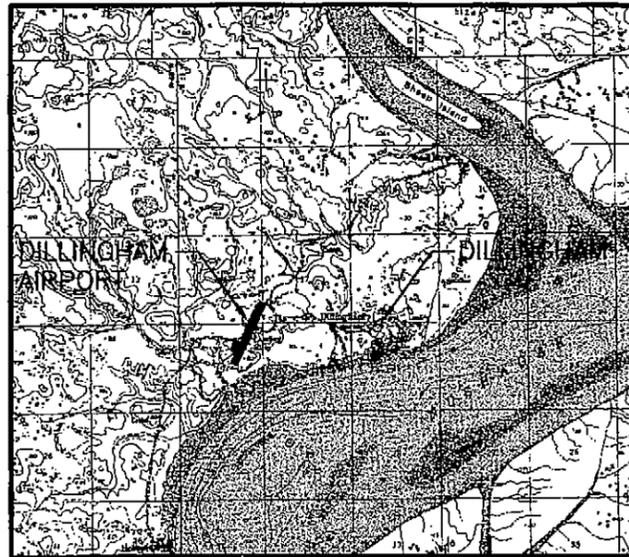


LEGEND

- Estimated Areas and Direction of Sheet Flow Runoff
- Approximate Locations and Flow Direction of Channelized Runoff
- Approximate Locations and Flow Direction of Subsurface Storm Drains with Periodic Catch Basins
- Approximate Airport Boundary
- Estimated Watershed Area Boundary. Areas not included in boundary flow to isolated detention areas or do not include potential pollution sources.
- Culvert
- Drains



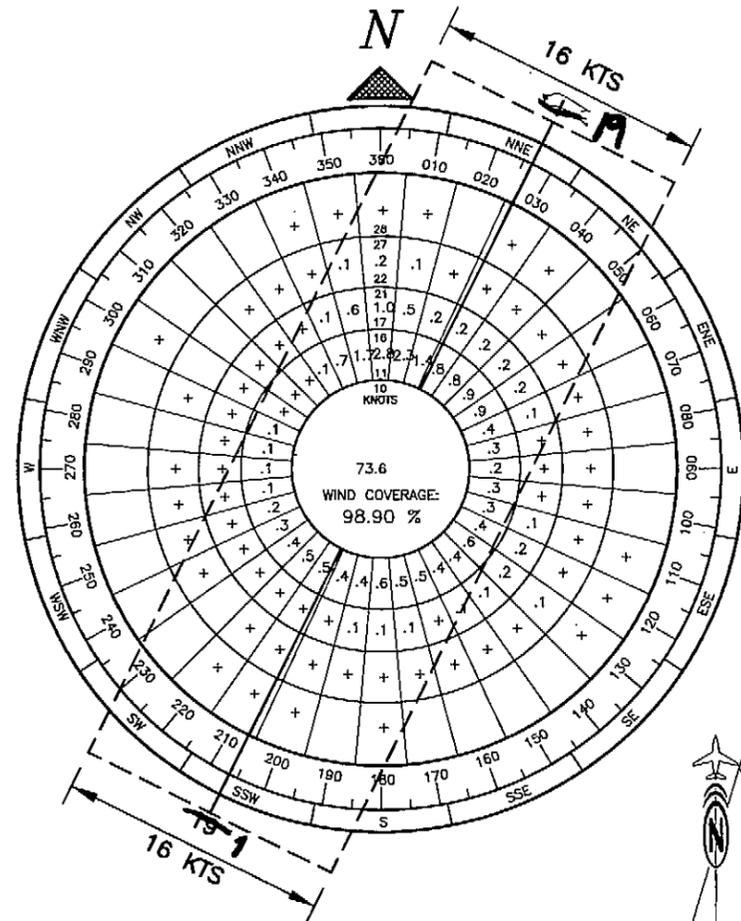
Storm Water Pollution Prevention Plan Dillingham Airport, Alaska	
SITE PLAN	
May 2000	Y-6313
SHANNON & WILSON, INC. Geotechnical & Environmental Consultants	Fig. 1



VICINITY MAP

1"=1 MILE
T 13 S, R 55 W, SEC. 17, 18, 19, 20
SEWARD MERIDIAN
USGS DILLINGHAM (A-7), ALASKA

MAGNETIC DECLINATION 16°48'E
JUNE 2002, NOAA



WIND DATA

RW 1/19 WIND COVERAGE: 16 KNOTS 98.90%
SOURCE: WIND STUDY, 1992 - 1999, CONDUCTED BY ENRI,
UNIVERSITY OF ALASKA-ANCHORAGE CLIMATE CENTER.
NOTE: WIND COVERAGE LESS THAN 10 KNOTS IS 73.6%.
PERIOD: 1992-1999

MAGNETIC DECLINATION 16°48'E
JUNE 2002, NOAA

NON-STANDARD CONDITIONS

ITEM	EXISTING	STANDARD	FUTURE
R/W 1-19 SAFETY AREA	200'x6,893'	500'x8,404'	
R/W 1-19 5' LINE OF SITE	NO	YES	
R/W 1-19 PART 77 PENETRATIONS. SEE SHEET 7	YES	NO	
R/W 1-19 EAST SIDE STRUCTURES INSIDE B.R.L.	YES	NO	
R/W 1-19 APPROACH SLOPE PENETRATION (EXISTING)	YES	NO	
R/W 1-19 OBJECT FREE AREA	300'x7,600'	800'x8,404'	

BASIC DATA TABLE

RUNWAY DATA	
ITEM	EXISTING
EFFECTIVE GRADE	0.26%
% WIND COVERAGE	16 KNOTS 98.9
INSTRUMENT RUNWAY	NPI
RUNWAY SURFACE	A.C. PAVING
PAVEMENT STRENGTH	(LBS. x 1000) * S50, T115, ST155
	* 50' KEEL ONLY
APPROACH SURFACES	34:1
VISIBILITY MINIMUM	1 MILE
RUNWAY LIGHTING	H.I.L.
RUNWAY MARKING	NON-PRECISION
	VOR/DME LOC/DME
	DDALS (1B) VASI-4
	REILS
AIRCRAFT APPROACH CATEGORY	C
AIRCRAFT DESIGN GROUP	III
RUNWAY DIMENSION	150'x6,404'
RUNWAY SAFETY AREA DIMENSION	200'x6,893'
RUNWAY OBJECT FREE AREA DIMENSION	300'x7,604'
RUNWAY OBSTACLE FREE ZONE DIMENSION	300'x8,804'
GEODETC POSITIONS (N.A.D. 83)	
RUNWAY 1 THRESHOLD	LAT. 59°02'12.59"N
	LONG. 158°30'47.18"W
RUNWAY 19 THRESHOLD	LAT. 59°03'08.95"N
	LONG. 158°29'52.80"W
RUNWAY PROTECTION ZONE DIMENSION	
INNER WIDTH	500'
OUTER WIDTH	1,010'
LENGTH	1,700'
AIRPORT DATA	
ITEM	EXISTING
AIRPORT ELEVATION (M.S.L.)	88
AIRPORT REFERENCE POINT (A.R.P.)	LAT. 59°02'43.49"N
	LONG. 158°30'12.02"W
TAXIWAY LIGHTING	M.I.L.
RAMP LIGHTING	M.I.L.
MEAN MAX. TEMPERATURE, HOTTEST MONTH (JULY)	17°C (62.5°F)
MAGNETIC DECLINATION, YEAR	16°48'E, 2002 -0'11" PER YR
AIRPORT REFERENCE CODE	C-III
TERMINAL NAVIGATION AIDS	VOR/DME ROT. BEACON
	DF

AIRPORT DATA

CONVERSION FACTORS FOR SI UNITS

TO CONVERT FROM	TO	MULTIPLY BY
STATION	METER (m)	30.48
MILE	KILOMETER (km)	1.609344
MILE	METER (m)	1,609.344
FOOT	METER (m)	0.3048
FOOT	MILLIMETER (mm)	304.8
INCH	MILLIMETER (mm)	25.4
SQUARE FOOT	SQUARE METER (m ²)	0.09290304
SQUARE YARD	SQUARE METER (m ²)	0.8361274
ACRE	SQUARE METER (m ²)	4,046.873
CUBIC FOOT	CUBIC METER (m ³)	0.02831685
CUBIC YARD	CUBIC METER (m ³)	0.7645549
GALLON (US LIQUID)	CUBIC METER (m ³)	0.003785412
M. GAL.	CUBIC METER (m ³)	3.785412
POUND-MASS (LBM)	KILOGRAM (kg)	0.4535924
TON (SHORT)	KILOGRAM (kg)	907.1847
POUND-FORCE (LBF)	NEWTON (n)	4.448222
FOOTCANDLE	LUX (lx)	10.76391
DEGREE FAHRENHEIT	DEGREE CELSIUS (°C)	T°C=(T°F-32)/1.8

LEGEND

ITEM	EXISTING	FUTURE
PROPERTY LINE	---	---
BUILDING RESTRICTION LINE	---	---
AVIGATION & HAZARD EASEMENT	---	---
AIRPORT REFERENCE POINT (A.R.P.)	(A)	(A)
WIND CONE AND SEGMENTED CIRCLE	(C)	(C)
CONTOURS	100	100
ROADWAYS	---	---
BUILDINGS	---	---
ROTATING BEACON	(R)	(R)
SHORELINE	---	---
ANTENNA	(A)	(A)
VASI	---	---
BLUFF	---	---
FENCE	X X X	X X X
MALSF	o o o o	o o o o
REIL	o	o
THRESHOLD LIGHTS	---	---
RUNWAY PROTECTION ZONE	---	---
RUNWAY SAFETY AREA	RSA	RSA
OBJECT FREE AREA	OFA	OFA
OBSTACLE FREE ZONE	OFZ	OFZ
TREES	---	---
RUNWAY GUIDANCE SIGNS	---	---

AIRPORT LAYOUT PLAN CONDITIONAL APPROVAL
SUBJECT TO ALP APPROVAL LETTER DATED 6/30/03
By: *Pat O'Neil* DATE: 6/30/03
FAA, AIRPORTS DIVISION
ALASKAN REGION, AAL-800
F.A.A. AIRSPACE REVIEW NUMBER: 03-AAL-30NRA

BY	DATE	REVISIONS

STATE OF ALASKA
**DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES**
CENTRAL REGION

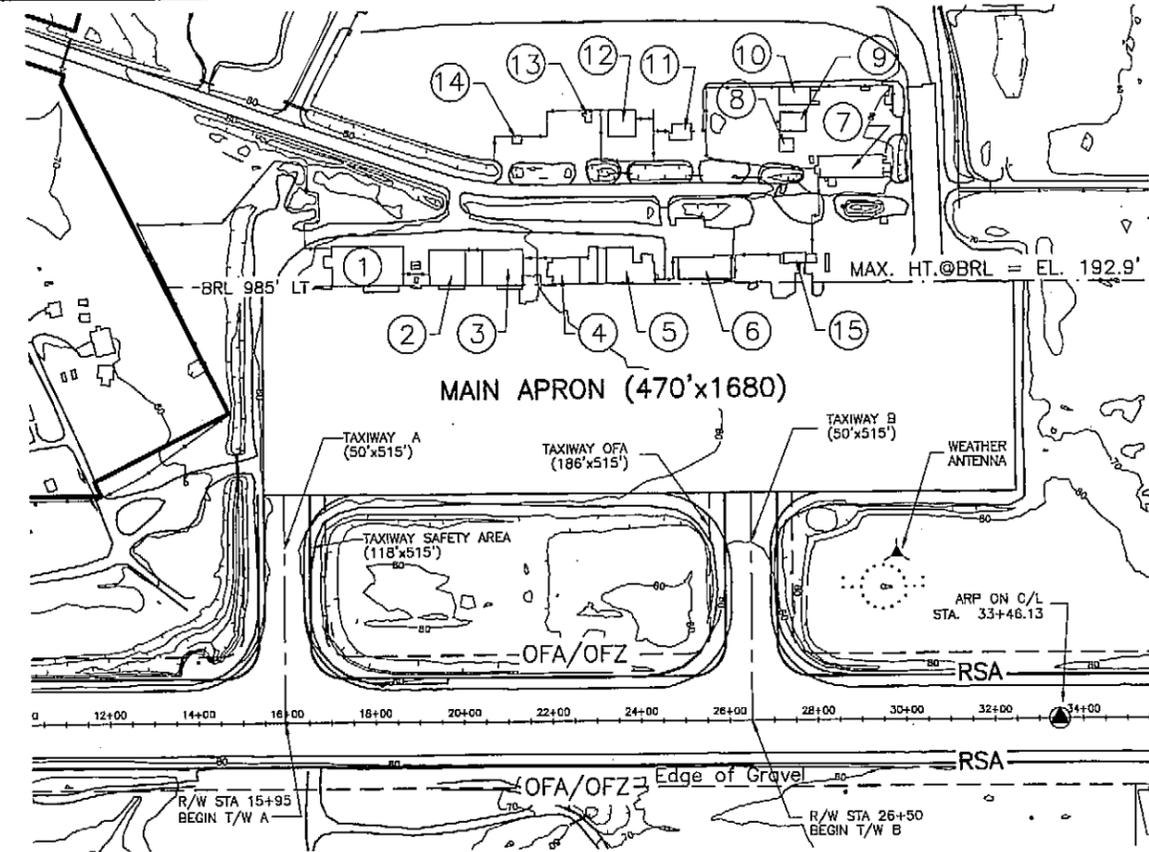
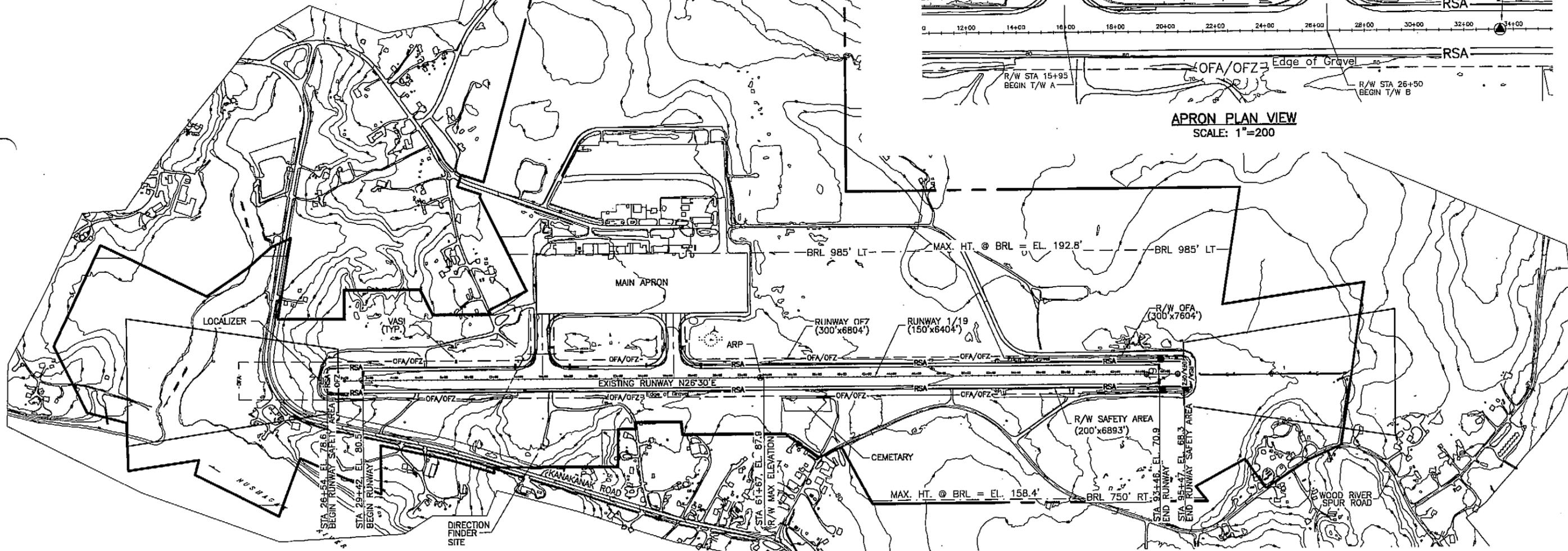
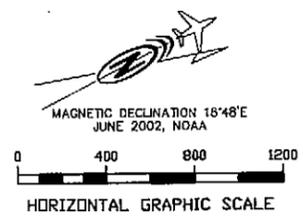
APPROVED: *Stephen M. Rival* DESIGN SECTION CHIEF
STEPHEN M. RIVAL, P.E.
APPROVED: *Harvey M. Douthit* PROJECT MANAGER
HARVEY M. DOUTHIT, P.E.

DATE: 4/24/03
DESIGN: JLO
DRAWN: JLO
CHECKED: SRP

DILLINGHAM AIRPORT
INTERIM AIRPORT LAYOUT PLAN
VICINITY MAP AND DATA TABLES

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OF
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BUILDING TABLE			
BUILDING NUMBER	DESCRIPTION	ELEV. AT TOP OF STRUCTURE	OBSTRUCTION MARKING
1	YUTE AIR ALASKA, HAEGELAND AVIATION AND LARRY'S FLYING SERVICE	111.9'	NO
2	FRESHWATER ADVENTURES	104.4'	NO
3	ALASKA AIRLINES AND PENAIR	104.2'	NO
4	PENINSULA AIRWATS, INC.	100.9'	NO
5	STARFLITE, INC.	105.8'	NO
6	GRANT AVIATION, FSS, TWIN DRAGON RESTAURANT, FRONTIER FLYING SERVICE, ARTIC CIRCLE AIR	104.0'	NO
7	ARFF / SRE BUILDING	106.1'	NO
8	CITY OF DILLINGHAM	N/A	NO
9	STATE SHOP	N/A	NO
10	SAND STORAGE	N/A	NO
11	TUCKER AVIATION	N/A	NO
12	US FISH AND WILDLIFE SERVICES	N/A	NO
13	BRISTOL BAY AIR SERVICES, INC.	N/A	NO
14	TOGIAK TRANSPORTATION, INC.	N/A	NO
15	ALASKA CARGO SERVICES	91.1'	NO



APRON PLAN VIEW
SCALE: 1"=200

AIRPORT LAYOUT PLAN CONDITIONAL APPROVAL
SUBJECT TO ALP APPROVAL LETTER DATED 6/30/03
By: *[Signature]* DATE: 6/30/03
FAA, AIRPORTS DIVISION
ALASKAN REGION, AAL-600
F.A.A. AIRSPACE REVIEW NUMBER: 03-AAL-304RA

BY	DATE	REVISIONS

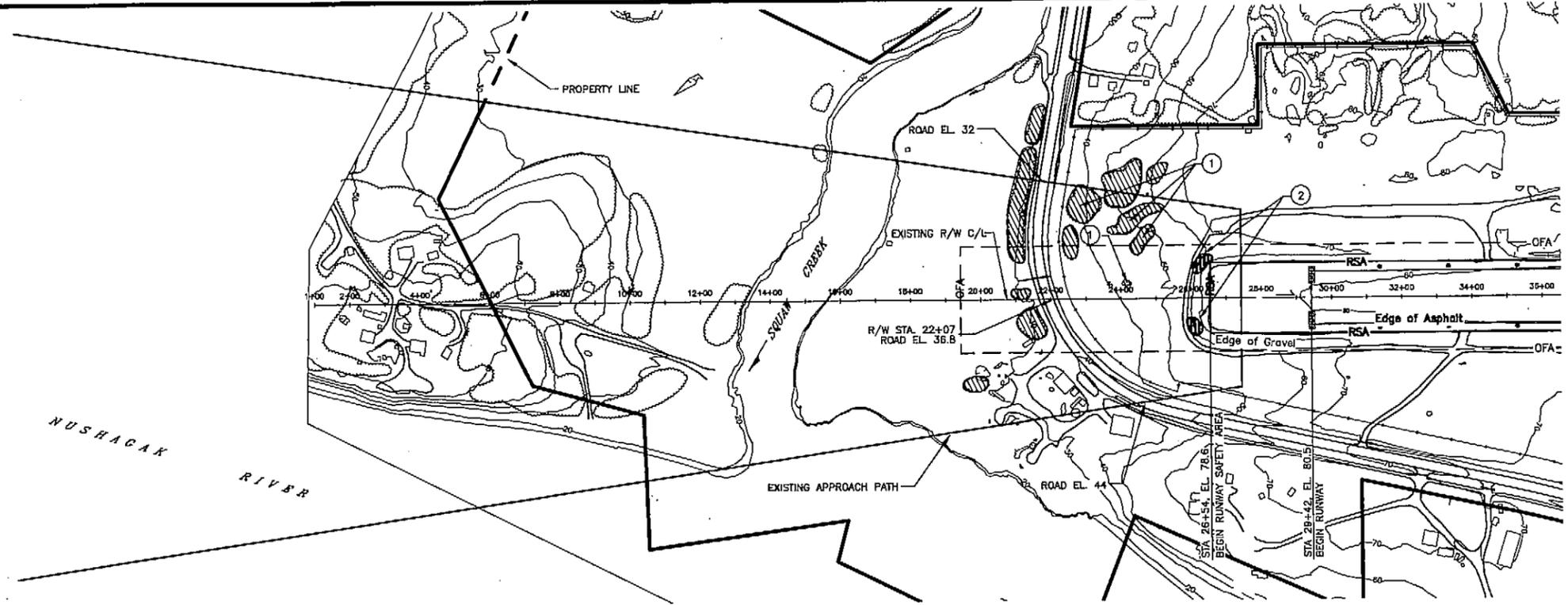
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION
APPROVED: *[Signature]* DESIGN SECTION CHIEF
STEPHEN M. RYAN, P.E.
APPROVED: *[Signature]* PROJECT MANAGER
HARVEY W. DOUTHETT, P.E.

DATE 4/24/03
DESIGN JLO
DRAWN JLO
CHECKED SRP

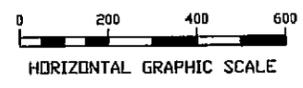
DILLINGHAM AIRPORT
INTERIM AIRPORT LAYOUT PLAN
AIRPORT LAYOUT

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OF
7

FILE: g:\data\
DATE: 01/17/2003



RUNWAY 1 PLAN



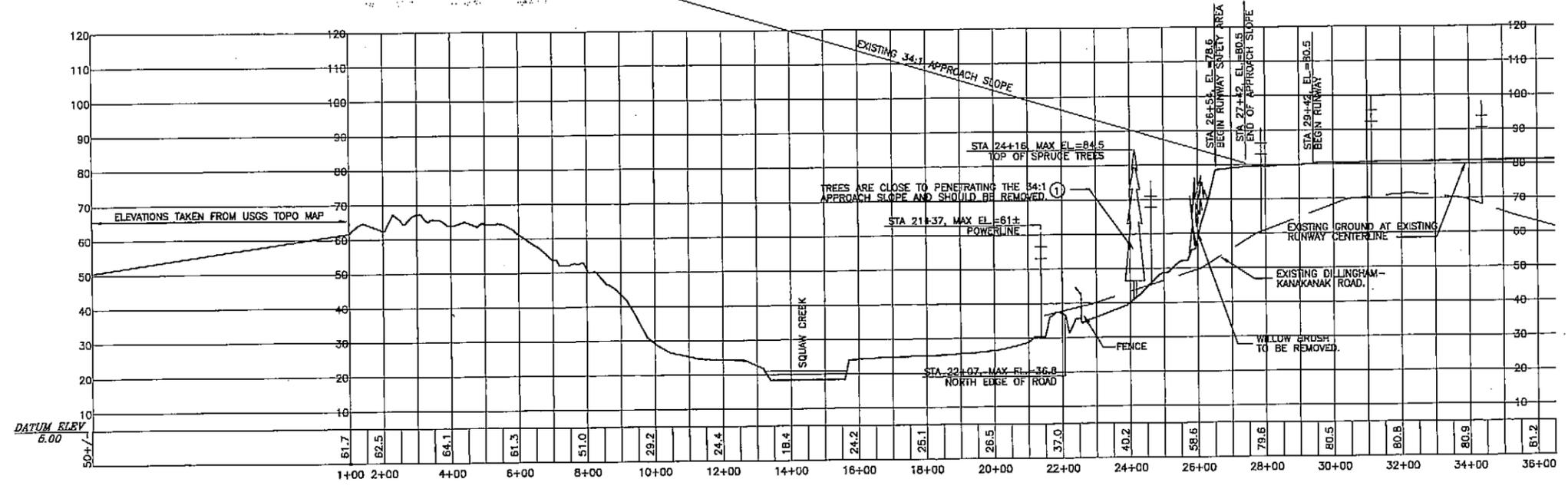
MAGNETIC DECLINATION 16°48'E
JUNE 2002, NOAA

- ① SPRUCE TREE (NON-PENETRATION/REMOVAL)
- ② WILLOW (NON-PENETRATION/REMOVAL)

AIRSPACE OBSTRUCTION TABLE

NO.	DESCRIPTION	AMOUNT OF PENETRATION	PROPOSED DISPOSITION
①	SPRUCE TREES	NONE	REMOVE
②	WILLOW	NONE	REMOVE

NOTE: ALL ELEVATIONS PRIOR TO R/W STATION 1+00 AND AFTER STATION 111+00, WERE TAKEN FROM THE 1954 USGS QUAD MAP FOR DILLINGHAM. POWERLINE LOCATIONS ARE ALL ESTIMATED FROM 1988 ALP.



RUNWAY 1 PROFILE

AIRPORT LAYOUT PLAN CONDITIONAL APPROVAL
SUBJECT TO AIP APPROVAL LETTER DATED 6/30/03
By: Pat O'Neil DATE: 6/30/03
FAA, AIRPORTS DIVISION
ALASKAN REGION, AAL-800
F.A.A. AIRSPACE REVIEW NUMBER: 03-AAL-30402A

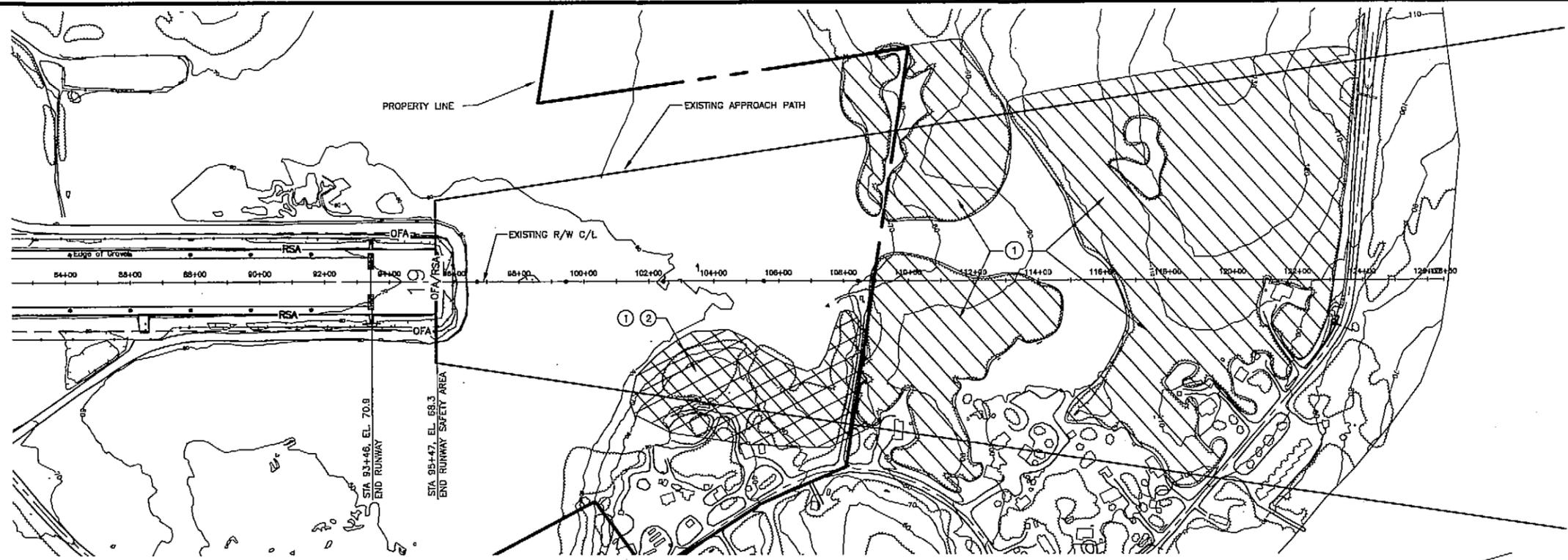
BY	DATE	REVISIONS

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION
APPROVED: [Signature]
STEPHEN M. ROAN, P.E. DESIGN SECTION CHIEF
APPROVED: [Signature]
HARVEY M. DOUTHIT, P.E. PROJECT MANAGER

DATE 4/24/03
DESIGN JLO
DRAWN JLO
CHECKED SRP

DILLINGHAM AIRPORT
INTERIM AIRPORT LAYOUT PLAN
RUNWAY 1 PLAN AND PROFILE

SHEET
4
OF
7



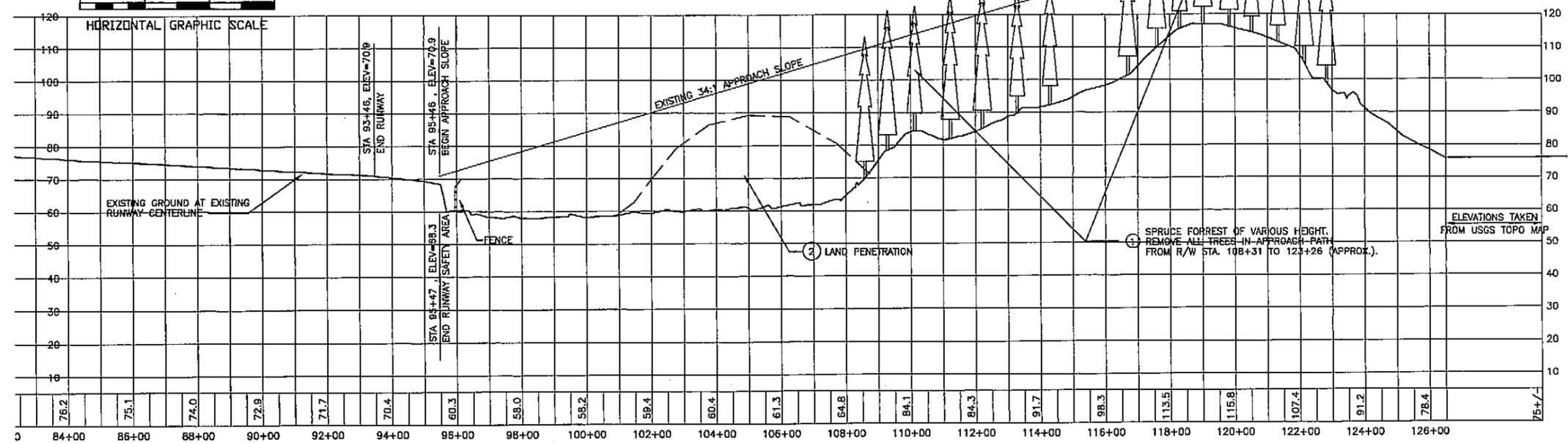
- LEGEND:
- ① TREE PENETRATION
 - ② LAND PENETRATION

AIRSPACE OBSTRUCTION TABLE

NO.	DESCRIPTION	AMOUNT OF PENETRATION	PROPOSED DISPOSITION
①	SPRUCE TREES	N/A	REMOVE
②	LAND PENETRATION	15' +/-	NO REMOVAL



MAGNETIC DECLINATION 16°48'E
JUNE 2002, NOAA



NOTE: ALL ELEVATIONS PRIOR TO R/W STATION 1+00 AND AFTER STATION 111+00, WERE TAKEN FROM THE 1952 USGS TOPO MAP FOR DILLINGHAM (A-7).

RUNWAY 19 PROFILE

AIRPORT LAYOUT PLAN CONDITIONAL APPROVAL
SUBJECT TO ALP APPROVAL LETTER DATED 6/30/03
By: [Signature] DATE: 6/30/03
FAA, AIRPORTS DIVISION
ALASKAN REGION, AAL-600
F.A.A. AIRSPACE REVIEW NUMBER: 03-AAL-309RA

BY	DATE	REVISIONS

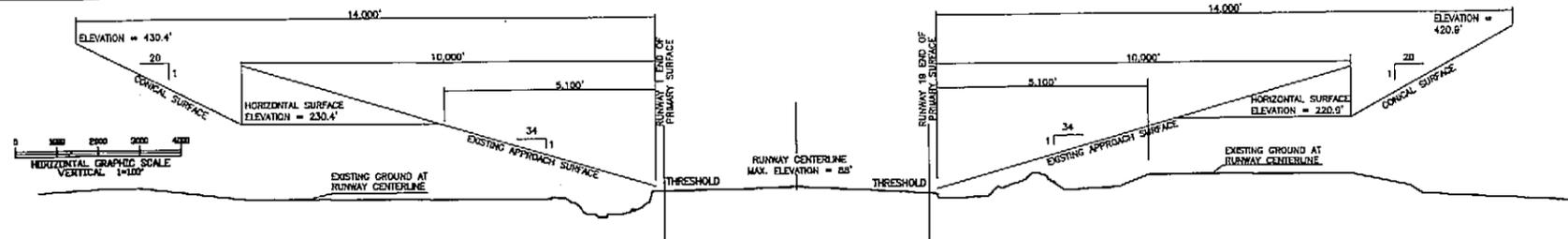
STATE OF ALASKA
**DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES**
CENTRAL REGION

APPROVED: [Signature] DESIGN SECTION CHIEF
STEPHEN M. RYAN, P.E.
APPROVED: [Signature] PROJECT MANAGER
HARVEY M. DOUTHETT, P.E.

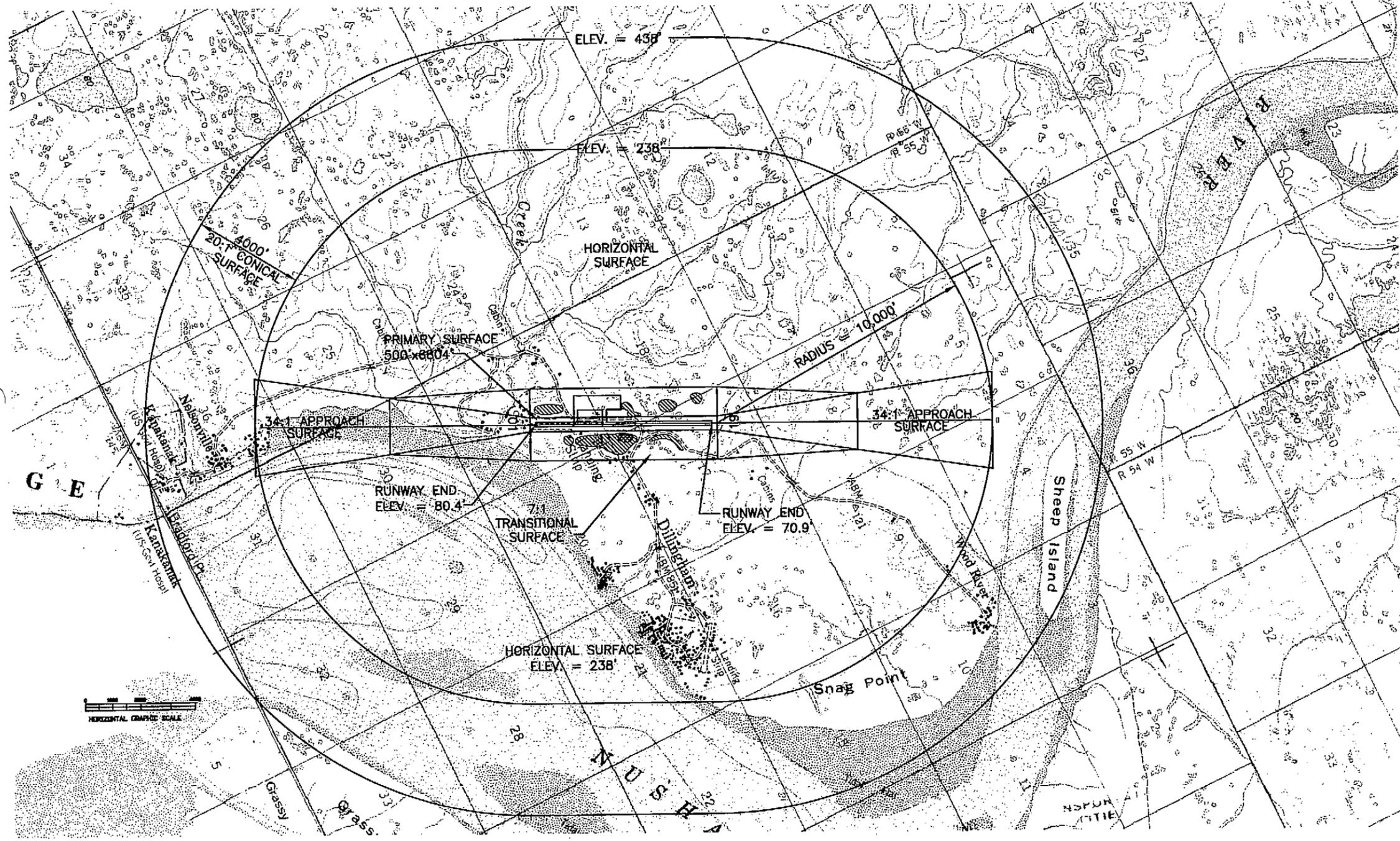
DATE 4/24/03
DESIGN JLO
DRAWN JLO
CHECKED SRP

DILLINGHAM AIRPORT
INTERIM AIRPORT LAYOUT PLAN
RUNWAY 19 PLAN AND PROFILE

SHEET
5
OF
7



MAGNETIC DECLINATION 16°48'E
JUNE 2002, NOAA



LEGEND:

	① TREE PENETRATION
	② LAND PENETRATION

AIRSPACE OBSTRUCTION TABLE

NO.	DESCRIPTION	AMOUNT OF PENETRATION	PROPOSED DISPOSITION
①	TREE PENETRATION	VARIABLE	REMOVE
②	LAND PENETRATION	5'+/-	NO REMOVAL

NOTE: VERTICAL DATUM FOR THIS SHEET IS MAD 83.
REFER TO THE INNER PORTION OF THE APPROACH SURFACE PLAN VIEW
DETAILS FOR CLOSE-IN OBSTRUCTIONS.
ESTABLISHED AIRPORT ELEV.=88.0'
R/W 19 THRESHOLD ELEV.=70.9'
R/W 1 THRESHOLD ELEV.=80.4'

AIRPORT LAYOUT PLAN CONDITIONAL APPROVAL
SUBJECT TO ALP APPROVAL LETTER DATED **6/30/03**
By: **Pat Ovi** DATE: **6/30/03**
FAA, AIRPORTS DIVISION
ALASKAN REGION, AAL-600
F.A.A. AIRSPACE REVIEW NUMBER: **03-AAL-3088A**

BY	DATE	REVISIONS

STATE OF ALASKA
**DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES**
CENTRAL REGION

APPROVED: **Stephen M. Ryan, P.E.** DESIGN SECTION CHIEF
APPROVED: **Harvey M. Douthitt, P.E.** PROJECT MANAGER

DATE 4/24/03
DESIGN JLO
DRAWN JLO
CHECKED SRP

DILLINGHAM AIRPORT
INTERIM AIRPORT LAYOUT PLAN
F.A.R. PART 77 SURFACE

SHEET
6
OF
7

FILE: q:\data\
DATE: 01/17/2003

PURPOSE

THIS NARRATIVE REPORT IS INCLUDED WITH THE AIRPORT LAYOUT PLAN (ALP) FOR DILLINGHAM, ALASKA, IN ACCORDANCE WITH THE FEDERAL AVIATION ADMINISTRATION (FAA) ADVISORY CIRCULAR 150/5300-13, CHANGE 6, APPENDIX 7 AND THE FAA ALASKAN REGION AIRPORT LAYOUT PLAN CHECKLIST. THIS ALP DOES NOT REFLECT ANY NEW FACILITY DESIGN UPGRADES. FUTURE EXPANSION OF THE DILLINGHAM AIRPORT WILL BE PART OF THE MASTERPLAN, WHICH IS BEING UPDATED AS OF JUNE 2003.

INTRODUCTION

DILLINGHAM IS LOCATED IN SOUTHWEST ALASKA AT THE EXTREME NORTHERN END OF NUSHAGAK BAY IN NORTHERN BRISTOL BAY, AT THE CONFLUENCE OF THE WOOD AND NUSHAGAK RIVERS. IT LIES 327 MILES FROM ANCHORAGE. THE REGION HAS THREE MAJOR MOUNTAIN RANGES: THE KILBUCK MOUNTAINS TO THE NORTHWEST, THE TALYOR MOUNTAINS TO THE NORTH, AND THE ALEUTIAN RANGE TO THE EAST. THE CLIMATE IS MARITIME, AND USUALLY COOL, HUMID, AND WINDY.

DILLINGHAM IS THE ECONOMIC, TRANSPORTATION, AND PUBLIC SERVICE CENTER FOR WESTERN BRISTOL BAY. DILLINGHAM RELIES HEAVILY ON THE COMMERCIAL FISHING INDUSTRY.

THE COMMUNITY IS EVENLY MIXED WITH NATIVE AND NON-NATIVE RESIDENTS, WITH AN APPROXIMATE POPULATION OF 2,466 PEOPLE. THE DEPARTMENT OF COMMUNITY AND ECONOMIC DEVELOPMENT RECORDS INDICATE A 18.2% POPULATION GROWTH RATE FROM 1990 TO 2000.

THE EXISTING AIRPORT RUNWAY IS APPROXIMATELY 6,404 FEET LONG AND 150 FEET WIDE, AND IS ORIENTED IN A NORTHEAST-SOUTHWEST DIRECTION. PROBLEMS IDENTIFIED WITH THE EXISTING AIRPORT ARE:

- 1) RUNWAY AND SAFETY AREAS ARE DEFICIENT IN LENGTH AND WIDTH;
- 2) THERE IS NO PARALLEL TAXIWAY, PLANES MUST TAXI ON THE RUNWAY;
- 3) LINE-OF-SIGHT ALONG RUNWAY DOES NOT MEET FAA REQUIREMENTS;
- 4) TREES AND OTHER OBJECTS ACT AS OBSTRUCTIONS TO AIR NAVIGATION;
- 5) WIND COVERAGE FOR SMALL PLANES DOES NOT MEET FAA RECOMMENDATIONS;
- 6) THERE IS LIMITED AIRCRAFT PARKING AND ENCLOSED PARKING FACILITIES;
- 7) VEHICLE PARKING FOR PASSENGER AND VISITOR VEHICLES IS INSUFFICIENT;
- 8) INSUFFICIENT FENCING AROUND THE AIRFIELD;
- 9) INADEQUATE TERMINAL BUILDING.

AS OF 2002, ALASKA AIRLINES, PENAIR, GRANT AVIATION, FRONTIER AVIATION, HAGELAND AVIATION, LARRY'S FLYING SERVICE, NORTHERN AIR CARGO, AIR CARGO EXPRESS, LYNDEN AIR CARGO, AND ALASKA CENTRAL EXPRESS HAD EITHER DAILY SCHEDULED FLIGHTS OR CHARTER SERVICES TO DILLINGHAM.

AIRPORT USAGE AND FORECASTS

THE ALASKA AVIATION SYSTEM PLAN (AASP) CLASSIFIES DILLINGHAM AIRPORT AS A REGIONAL CENTER AIRPORT. A REGIONAL CENTER AIRPORT IS DEFINED AS THE PRIMARY INTRASTATE ACCESS POINT TO A REGION WITH A POPULATION OF OVER 1,000 AND SERVES AS A SIGNIFICANT TRANSFER OR TRANSHIPMENT POINT TO THE REST OF THE REGION. DILLINGHAM IS PROJECTED TO REMAIN A REGIONAL CENTER AIRPORT IN THE FUTURE.

DILLINGHAM AIRPORT IS THE TRANSHIPMENT HUB FOR PASSENGERS AND CARGO BETWEEN ANCHORAGE AND COMMUNITIES IN THE REGION. TERMINAL AREA FORECASTS ESTIMATED 64,200 OPERATIONS FOR THE YEAR 2000, INCLUDING 59,542 OPERATIONS BY GENERAL AVIATION AIRCRAFT.

THERE ARE 100 BASED AIRCRAFT AT DILLINGHAM. THE FLEET MIX FOR BASED AIRCRAFT IS PROJECTED TO REMAIN 95 PERCENT SINGLE-ENGINE AND 5 PERCENT MULTI-ENGINE. THE CRITICAL AIRCRAFT FOR THE DILLINGHAM AIRPORT IS THE BOEING 737-200 COMBI (C-III). AS WELL AS THE BOEING 737-200C, THE AIRPORT CURRENTLY SERVES THE SAAB 340, FAIRCHILD METROLINER, TURBOPROP BEECH 1900, NAVAJO CHIEFTAIN, CESSNA 208 CARAVAN, AND PIPER SARATOGA AIRCRAFT.

TABLE 1 - OPERATIONS SUMMARY AND FORECAST

AIRCRAFT OPERATIONS FORECAST				
OPERATIONS FORECAST AT 0.8% ANNUAL GROWTH				
OPERATION TYPE	YEAR			
	2000	2005	2010	2020
LOCAL	9,603	9,963	10,420	11,117
AIR TAXI	2,528	3,414	3,686	3,958
ITINERANT	52,069	54,217	56,665	60,332
TOTAL	64,200	67,594	70,771	75,407
ENPLANEMENT DATA				
FUTURE ENPLANEMENTS @2.4% GROWTH*	40,647	48,073	53,737	65,065
CRITICAL AIRCRAFT				
AIRCRAFT	APRCH SPEED (KNOTS)	WING SPAN (FEET)	GROSS WEIGHT (LBS)	ARC
BOEING 737-200C	137	93.0	115,500	C-III

DESIGN RATIONALE

THE PRIMARY OBJECTIVE OF THIS AIRPORT DEVELOPMENT IS TO REHABILITATE THE EXISTING SUB-STANDARD AIRPORT TO MEET CURRENT FAA STANDARDS. THE AIRPORT DEVELOPMENT WILL MEET THE FORECASTED FUTURE NEEDS OF THE VILLAGE OF DILLINGHAM AND INCREASE THE SAFETY OF OPERATIONS AT THE AIRPORT.

AIRPORT REFERENCE CODE

THE EXISTING AIRPORT IS A SUB-STANDARD C-III FACILITY THAT SHOULD BE UPGRADED TO MEET FAA DESIGN CATEGORY STANDARDS.

PROPOSED DEVELOPMENTS

THIS ALP CONTAINS NO NEW DEVELOPMENTS. AN UPDATED ALP IS TO BE COMPLETED ONCE THE MASTERPLAN (AIP# ?) IS FINALIZED.

PROPERTY STATUS

PROPERTY PLAN. IT WAS DETERMINED THAT AN UPDATED PROPERTY PLAN WAS NOT NEEDED FOR THIS INTERIM ALP.

MODIFICATIONS TO STANDARDS

OBSTRUCTIONS AND ENCROACHMENTS INTO F.A.R. PART 77 SURFACES

THERE ARE A NUMBER OF OBSTRUCTIONS PENETRATING THE FAR PART 77 IMAGINARY SURFACES. GROUND, GRAVE MARKERS, AND TREES WITHIN THE CEMETARY EAST OF THE RUNWAY PENETRATE THE PRIMARY SURFACE. THE PERIMETER FENCE AND EAST DILLINGHAM ROAD PENETRATE THE PRIMARY SURFACE AT THE NORTH END. AT THE SOUTH END THE LOCALIZER AND DME (DISTANCE MEASURING EQUIPMENT) PENETRATE THE PRIMARY SURFACE. TREES AND TERRAIN PENETRATE THE RUNWAY 19 APPROACH SURFACE.

WIND COVERAGE

FOR SMALL AIRCRAFT, THE EXISTING RUNWAY PROVIDES LESS THAN 95 PERCENT WIND COVERAGE, WHICH IS THE FAA'S RECOMMENDED MINIMUM WIND COVERAGE.

RUNWAY LINE-OF-SIGHT

IN THE YEARS SINCE IT WAS BUILT, THE NORTH END OF THE RUNWAY HAS BEEN SINKING, SO THERE IS NOW A PROBLEM WITH LINE-OF-SIGHT ALONG THE RUNWAY. IT DOES NOT MEET THE FAA REQUIREMENT FOR VISIBILITY, FROM END TO END, AT 5 FEET ABOVE THE RUNWAY SURFACE.

TABLE 2 - AIRPORT DESIGN STANDARDS

DILLINGHAM AIRPORT DESIGN STANDARDS	
ITEM	RUNWAY 1/19
	EXISTING
RUNWAY DIMENSION	150' x 6,404'
RUNWAY SAFETY AREA DIMENSION	200' x 6,893'
RUNWAY OBJECT FREE AREA DIMENSION	300' x 7,604'
RUNWAY OBSTACLE FREE ZONE DIMENSION	300' x 6,804'
TAXIWAY DIMENSION	50' x 515'
TAXIWAY SAFETY AREA DIMENSION	118' x 515'
TAXIWAY OFA DIMENSIONS	186' x 515'
APRON SETBACK DIST (FROM RUNWAY CENTERLINE)	515'
PARKING APRON	470' x 1,680'
APPROACH SLOPE	34:1
RUNWAY PROTECTION ZONE DIMENSIONS	
INNER WIDTH	500'
OUTER WIDTH	1010'
LENGTH	1700'

AIRPORT LAYOUT PLAN CONDITIONAL APPROVAL
SUBJECT TO AIP APPROVAL LETTER DATED 6/24/03

BY: *[Signature]* DATE: 6/30/03

FAA AIRPORTS DIVISION
ALASKAN REGION, AAL-800

F.A.A. AIRSPACE REVIEW NUMBER: 03-AAL-300RA

BY DATE REVISIONS

STATE OF ALASKA
**DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES**
CENTRAL REGION

APPROVED: *[Signature]* DESIGN SECTION CHIEF
STEPHEN M. RYAN, P.E.
APPROVED: *[Signature]* PROJECT MANAGER
HARVEY M. DOUTHIT, P.E.

DATE 4/24/03
DESIGN JLO
DRAWN JLO
CHECKED SRP

DILLINGHAM AIRPORT
INTERIM AIRPORT LAYOUT PLAN
NARRATIVE REPORT

SHEET
7 OF 7

Appendix B –Multi-Sector General Permit

Sector S Specifications from MSGP

A disc with an electronic version of the 2008 MSGP is located in the back of this binder or can be found at:

http://www.epa.gov/npdes/pubs/msgp2008_finalpermit.pdf

Part 8 – Sector-Specific Requirements for Industrial Activity

Subpart S – Sector S – Air Transportation.

You must comply with Part 8 sector-specific requirements associated with your primary industrial activity and any co-located industrial activities, as defined in Appendix A. The sector-specific requirements apply to those areas of your facility where those sector-specific activities occur. These sector-specific requirements are in addition to any requirements specified elsewhere in this permit.

8.S.1 Covered Stormwater Discharges.

The requirements in Subpart S apply to stormwater discharges associated with industrial activity from Air Transportation facilities identified by the SIC Codes specified under Sector S in Table D-1 of Appendix D of the permit.

8.S.2 Limitation on Coverage

8.S.2.1 *Limitations on Coverage.* This permit authorizes stormwater discharges from only those portions of the air transportation facility that are involved in vehicle maintenance (including vehicle rehabilitation, mechanical repairs, painting, fueling and lubrication), equipment cleaning operations or deicing operations.

Note: “deicing” will generally be used to imply both deicing (removing frost, snow or ice) and anti-icing (preventing accumulation of frost, snow or ice) activities, unless specific mention is made regarding anti-icing and/or deicing activities.

8.S.2.2 *Prohibition of Non-Stormwater Discharges.* (See also Part 1.1.4 and Part 8.S.3) This permit does not authorize the discharge of aircraft, ground vehicle, runway and equipment washwaters; nor the dry weather discharge of deicing chemicals. Such discharges must be covered by separate NPDES permit(s). Note that a discharge resulting from snowmelt is not a dry weather discharge.

8.S.3 Additional Technology-Based Effluent Limits.

8.S.3.1 *Good Housekeeping Measures.* (See also Part 2.1.2.2)

8.S.3.1.1 Aircraft, Ground Vehicle and Equipment Maintenance Areas. Minimize the contamination of stormwater runoff from all areas used for aircraft, ground vehicle and equipment maintenance (including the maintenance conducted on the terminal apron and in dedicated hangers). Consider the following practices (or their equivalents): performing maintenance activities indoors; maintaining an organized inventory of material used in the maintenance areas; draining all parts of fluids prior to disposal; prohibiting the practice of hosing down the apron or hanger floor; using dry cleanup methods; and collecting the stormwater runoff from the maintenance area and providing treatment or recycling.

8.S.3.1.2 Aircraft, Ground Vehicle and Equipment Cleaning Areas. (See also Part 8.S.3.6) Clearly demarcate these areas on the ground using signage or other

appropriate means. Minimize the contamination of stormwater runoff from cleaning areas.

- 8.S.3.1.3 Aircraft, Ground Vehicle and Equipment Storage Areas. Store all aircraft, ground vehicles and equipment awaiting maintenance in designated areas only and minimize the contamination of stormwater runoff from these storage areas. Consider the following control measures, including any BMPs (or their equivalents): storing aircraft and ground vehicles indoors; using drip pans for the collection of fluid leaks; and perimeter drains, dikes or berms surrounding the storage areas.
- 8.S.3.1.4 Material Storage Areas. Maintain the vessels of stored materials (e.g., used oils, hydraulic fluids, spent solvents, and waste aircraft fuel) in good condition, to prevent or minimize contamination of stormwater. Also plainly label the vessels (e.g., “used oil,” “Contaminated Jet A,” etc.). Minimize contamination of precipitation/runoff from these areas. Consider the following control measures (or their equivalents): storing materials indoors; storing waste materials in a centralized location; and installing berms/dikes around storage areas.
- 8.S.3.1.5 Airport Fuel System and Fueling Areas. Minimize the discharge of fuel to the storm sewer/surface waters resulting from fuel servicing activities or other operations conducted in support of the airport fuel system. Consider the following control measures (or their equivalents): implementing spill and overflow practices (e.g., placing absorptive materials beneath aircraft during fueling operations); using only dry cleanup methods; and collecting stormwater runoff.
- 8.S.3.1.6 Source Reduction. Minimize, and where feasible eliminate, the use of urea and glycol-based deicing chemicals, in order to reduce the aggregate amount of deicing chemicals used and/or lessen the environmental impact. Chemical options to replace ethylene glycol, propylene glycol and urea include: potassium acetate; magnesium acetate; calcium acetate; and anhydrous sodium acetate.
- 8.S.3.1.6.1 Runway Deicing Operation: Minimize contamination of stormwater runoff from runways as a result of deicing operations. Evaluate whether over-application of deicing chemicals occurs by analyzing application rates, and adjust as necessary, consistent with considerations of flight safety. Also consider these control measure options (or their equivalents): metered application of chemicals; pre-wetting dry chemical constituents prior to application; installing a runway ice detection system; implementing anti-icing operations as a preventive measure against ice buildup.
- 8.S.3.1.6.2 Aircraft Deicing Operations. Minimize contamination of stormwater runoff from aircraft deicing operations. Determine whether excessive application of deicing chemicals occurs and

adjust as necessary, consistent with considerations of flight safety. This evaluation should be carried out by the personnel most familiar with the particular aircraft and flight operations in question (versus an outside entity such as the airport authority). Consider using alternative deicing/anti-icing agents as well as containment measures for all applied chemicals. Also consider these control measure options (or their equivalents) for reducing deicing fluid use: forced-air deicing systems, computer-controlled fixed-gantry systems, infrared technology, hot water, varying glycol content to air temperature, enclosed-basket deicing trucks, mechanical methods, solar radiation, hangar storage, aircraft covers, and thermal blankets for MD-80s and DC-9s. Also consider using ice-detection systems and airport traffic flow strategies and departure slot allocation systems.

8.S.3.1.7 Management of Runoff. (See also 2.1.2.6) Where deicing operations occur, implement a program to control or manage contaminated runoff to minimize the amount of pollutants being discharged from the site. Consider these control measure options (or their equivalents): a dedicated deicing facility with a runoff collection/ recovery system; using vacuum/collection trucks; storing contaminated stormwater/deicing fluids in tanks and releasing controlled amounts to a publicly owned treatment works; collecting contaminated runoff in a wet pond for biochemical decomposition (be aware of attracting wildlife that may prove hazardous to flight operations); and directing runoff into vegetative swales or other infiltration measures. Also consider recovering deicing materials when these materials are applied during non-precipitation events (e.g., covering storm sewer inlets, using booms, installing absorptive interceptors in the drains, etc.) to prevent these materials from later becoming a source of stormwater contamination. Used deicing fluid should be recycled whenever possible.

8.S.3.2 *Deicing Season.* You must determine the seasonal timeframe (e.g., December-February, October - March, etc.) during which deicing activities typically occur at the facility. Implementation of control measures, including any BMPs, facility inspections and monitoring must be conducted with particular emphasis throughout the defined deicing season. If you meet the deicing chemical usage thresholds of 100,000 gallons glycol and/or 100 tons of urea, the deicing season you identified is the timeframe during which you must obtain the four required benchmark monitoring event results for deicing-related parameters, i.e., BOD, COD, ammonia and pH. See also Part 8.S.6.

8.S.4 Additional SWPPP Requirements.

An airport authority and tenants of the airport are encouraged to work in partnership in the development of a SWPPP. If an airport tenant obtains authorization under this permit and develops a SWPPP for discharges from his own areas of the airport, prior to authorization, that SWPPP must be coordinated and integrated with the SWPPP for the entire airport. Tenants of the airport facility include air passenger or cargo companies, fixed based operators and other parties

who have contracts with the airport authority to conduct business operations on airport property and whose operations result in stormwater discharges associated with industrial activity.

- 8.S.4.1 *Drainage Area Site Map.* (See also Part 5.1.2) Document in the SWPPP the following areas of the facility and indicate whether activities occurring there may be exposed to precipitation/surface runoff: aircraft and runway deicing operations; fueling stations; aircraft, ground vehicle and equipment maintenance/cleaning areas; storage areas for aircraft, ground vehicles and equipment awaiting maintenance.
- 8.S.4.2 *Potential Pollutant Sources.* (See also Part 5.1.3) In your inventory of exposed materials, describe in your SWPPP the potential for the following activities and facility areas to contribute pollutants to stormwater discharges: aircraft, runway, ground vehicle and equipment maintenance and cleaning; aircraft and runway deicing operations (including apron and centralized aircraft deicing stations, runways, taxiways and ramps). If you use deicing chemicals, you must maintain a record of the types (including the Material Safety Data Sheets [MSDS]) used and the monthly quantities, either as measured or, in the absence of metering, as estimated to the best of your knowledge. This includes all deicing chemicals, not just glycols and urea (e.g., potassium acetate), because large quantities of these other chemicals can still have an adverse impact on receiving waters. Tenants or other fixed-based operations that conduct deicing operations must provide the above information to the airport authority for inclusion with any comprehensive airport SWPPPs.
- 8.S.4.3 *Vehicle and Equipment Washwater Requirements.* Attach to or reference in your SWPPP, a copy of the NPDES permit issued for vehicle/equipment washwater or, if an NPDES permit has not been issued, a copy of the pending application. If an industrial user permit is issued under a local pretreatment program, include a copy in your SWPPP. In any case, if you are subject to another permit, describe your control measures for implementing all non-stormwater discharge permit conditions or pretreatment requirements in your SWPPP. If washwater is handled in another manner (e.g., hauled offsite, retained onsite), describe the disposal method and attach all pertinent documentation/information (e.g., frequency, volume, destination, etc.) in your SWPPP.
- 8.S.4.4 *Documentation of Control Measures Used for Management of Runoff:* Document in your SWPPP the control measures used for collecting or containing contaminated melt water from collection areas used for disposal of contaminated snow.

8.S.5 Additional Inspection Requirements.

- 8.S.5.1 *Inspections.* (See also Part 4.1) At a minimum conduct routine facility inspections at least monthly during the deicing season (e.g., October through April for most mid-latitude airports). If your facility needs to deice before or after this period, expand the monthly inspections to include all months during which deicing chemicals may be used. The Director may specifically require you to increase inspection frequencies.
- 8.S.5.2 *Comprehensive Site Inspections.* (See also Part 4.3) Using only qualified personnel, conduct your annual site inspection during periods of actual deicing operations, if possible. If not practicable during active deicing because of weather, conduct the

inspection during the season when deicing operations occur and the materials and equipment for deicing are in place.

8.S.6 Sector-Specific Benchmarks. (See also Part 6 of the permit.)

Monitor per the requirements in Table 8.S-1.

Subsector (You may be subject to requirements for more than one sector/subsector)	Parameter	Benchmark Monitoring Concentration
For airports where a single permittee, or a combination of permitted facilities use more than 100,000 gallons of glycol-based deicing chemicals and/or 100 tons or more of urea on an average annual basis, monitor the first four parameters in ONLY those outfalls that collect runoff from areas where deicing activities occur (SIC 4512-4581).	Biochemical Oxygen Demand (BOD ₅) ¹	30 mg/L
	Chemical Oxygen Demand (COD) ¹	120 mg/L
	Ammonia ¹	2.14 mg/L
	pH ¹	6.0 - 9.0 s.u.

¹ These are deicing-related parameters. Collect the four benchmark samples, and any required follow-up benchmark samples, during the timeframe defined in Part 8.S.3.2 when deicing activities are occurring.

Appendix C –NOI

Acknowledgement of Coverage under MSGP

Notice of Intent

STATE OF ALASKA

DEPT. OF ENVIRONMENTAL CONSERVATION

DIVISION OF WATER WASTEWATER DISCHARGE AUTHORIZATION

SEAN FARNELL, GOVERNOR

355 Cordova Street
Anchorage, AK 99501
Phone: (907)269-6283
Fax: (907)334-3415
William.ashton@alaska.gov

February 11, 2011

ADOT&PF
Attn: Jennifer Hillman
PO Box 106000
Anchorage, AK 99519

Facility:
Dillingham State Airport
803 Airport Road/ PO Box 250
Dillingham, AK 99570

SUBJECT: Acknowledgment of Coverage /Assigned Permit Number

HIGH IMPORTANCE: Your Permit Tracking Number is AKR05DB07.

This letter acknowledges that you have submitted a complete Notice of Intent form to be covered under the Alaska Pollutant Discharge Elimination System (APDES) Multi-Sector General Permit for Stormwater Discharges associated with industrial activity (MSGP) on January 21, 2011. Coverage under this permit begins at the conclusion of your sixty day waiting period, on March 21, 2011. This is not a determination of the validity of the information you provided which your eligibility for coverage under the MSGP is based on. An important aspect of certification requires that you correctly determine whether you are eligible for coverage under this permit. Your signature on the Notice of Intent certifies that you have read, understand, and are implementing all of the applicable requirements.

The Multi-Sector General Permit requires you to have developed and begun implementing a Storm Water Pollution Prevention Plan (SWPPP) and outlines important inspection and record keeping requirements. You must also comply with any additional location-specific requirements applicable to your area. A copy of the MSGP must be kept with your SWPPP. An electronic copy of this permit and additional guidance materials can be viewed and downloaded at <http://www.dec.state.ak.us/water/wmpage/stormwater/stormwater.htm>.

If you have general questions regarding the storm water program or your responsibilities under the MSGP, please call (907) 269-6283.

Thank you and sincerely,



Samantha Hunt for William Ashton

MEMORANDUM

State of Alaska

Department of Transportation & Public Facilities
Central Region - Division of Maintenance & Operations

To: William Ashton
Storm Water and Wetlands Manager
ADEC

Date: January 21, 2011

From: Jennifer Hillman
Environmental Impact Analyst
ADOT&PF

Project Name: Dillingham State Airport

Project No: Maintenance and Operations

Subject: NOI Form

Attached is the Notice of Intent (NOI) form for coverage under the Alaska Pollutant Discharge Elimination System (APDES) Multi-Sector General Permit (MSGP) for stormwater discharges associated with industrial activity at the Dillingham Airport, Dillingham, Alaska (see attached area map).

An interagency journal entry is being processed for this permit.

If you have questions regarding this permit application, please contact me at 907-269-0714 and Jennifer.Hillman@alaska.gov.

Attachments:

1. NOI Form
2. Area Map

cc: Robert A. Campbell, P.E., Regional Director, ADOT&PF



Notice of Intent (NOI) For Storm Water Discharges Associated With Industrial Activity Under the APDES Multi-Sector General Permit

Submission of this completed Notice of Intent (NOI), constitutes consent for the applicant identified in Section I of this form to discharge pollutants as described in Section II of this form from the facility to the waters of the State of Alaska under the APDES Multi-Sector General Permit (MSGP) for industrial activity under Subchapter 05 of the MCGP regulations that follow the ADEP and the facility identified in Section III of this form meets the discharge conditions of Part 1 of the MCGP. These conditions include compliance with all applicable requirements, including the requirement to prepare a water quality pollution prevention plan. Refer to the attachment in the left of this form to complete your NOI.

Section I: Operator Information

Organization: **Alaska Department of Transportation and Public Facilities (DOT&PF)**

Contact Person: **M&O Environmental Analyst (Jennifer Hillman)**

Mailing Address:

Street (PO Box): **P.O. Box 196900**

City: **Anchorage** State: **Alaska** Zip: **99519**

Phone: **907-269-0714** Fax: _____

Email: **jennifer.hillman@alaska.gov**

Section II Billing Contact Information

Organization: **Alaska Department of Transportation and Public Facilities (DOT&PF)**

Contact Person: **Administrative Officer (Barbara Griffin)**

Mailing Address:

Street (PO Box): _____

City: _____ State: _____ Zip: _____

Phone: **907-269-0758** Fax: _____

Email: **barbara.jordan@alaska.gov**

Check here if Billing or Operator information

Section III: Facility Information

Facility Name: **Dillingham Airport**

Have storm water discharges from your site been covered previously under an NPDES or APDES Permit? Yes No

a. If Yes, provide the Trading Number if you have coverage under EPA's MSGP 2000 or the NPDES permit number if you had coverage under an EPA individual permit.

b. If no, was your facility in operation and discharging storm water prior to October 30, 2005? Yes No

c. If no to "b", did your facility commence discharging after October 30, 2005 and before January 1, 2009? Yes No

Location Address:

Street: **803 Airport Road / P.O. Box 250**

City: **Dillingham** State: **Alaska** Zip: **99576**

Borough or similar government subdivision: **Dillingham Census Area**

Latitude: **59 ° 02 ' 37.07 " N** Longitude: **158 ° 30 ' 25.41 " W**

Determined By: GPS USGS topographic map Other

If you used a USGS topographic map, what was the scale? _____

Estimated area of industrial activity at your site exposed to storm water: **91** (acres)

Is this a Federal facility? Yes No

Section IV. Discharge Information

Does your facility discharge into a Municipal Separate Storm Sewer System (MS4)? Yes No

If yes, name of MS4 operator: _____

Resisting Water and Wetlands Information: (If additional space is needed for this question, fill last Attachment I.)

A. What is the name(s) of your existing wetland that receive storm water directly or indirectly through a MS4?		B. Are any of your discharge points, including any segment of an "impervious" water?	C. If the wetland area is protected, does it meet the following three questions:		
If your existing wetland is depicted, this should be a copy of the original segment. If applicable, it should show the following information:			1. What is the name and location of the wetland?	2. Has the wetland been delineated during the appropriate project at your discharge?	3. Has the wetland been delineated during the appropriate project at your discharge?
unnamed wetlands		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
		<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
		<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
		<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
		<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
		<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
		<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No

Water Quality Mandates (for new dischargers only)

Are any of your discharges into any portion of a receiving water designated by the state under its antidegradation policy as a Tier 1 (or Tier 2) water (water quality exceeds levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water)? Yes No

Has the receiving water(s) been designated by the state under its antidegradation policy as Tier 3 water (Outstanding Natural Resource Water)? Yes No

Federal Effluent Limitation Guidelines and Sector-Specific Requirements

1. Are you requesting permit coverage for any storm water discharges subject to effluent limitation guidelines? Yes No

2. If yes, which effluent limitation guidelines apply to your storm water discharge?

40 CFR Part/Subpart	Eligible Discharge	Affected MS4 Sector	Check if applicable
Part 412, Subpart C	Runoff from material storage piles at cement manufacturing facilities.	F	<input type="checkbox"/>
Part 416, Subpart A	Runoff from atmospheric fertilizer manufacturing facilities that come into contact with any raw material, finished products, by-products, or waste products (40 CFR 416.4).	G	<input type="checkbox"/>
Part 420	Coal pile runoff at steam electric generating facilities.	H	<input type="checkbox"/>
Part 425, Subpart I	Discharges resulting from spillage or intentional dumping of eggs at wet duck storage areas.	J	<input type="checkbox"/>
Part 426, Subpart B, C, or D	Mine dewatering discharges at crushed stone mines, construction and gravel mines, or industrial sand mines.	K	<input type="checkbox"/>
Part 442, Subpart A	Runoff from asphalt emission facilities.	L	<input type="checkbox"/>
Part 445, Subparts A & B	Runoff from residential areas and non-residential waste transfer.	M	<input type="checkbox"/>

3. If you are a State 5-Air Transportation facility, do you anticipate using more than 100,000 gallons of diesel fuel during the long chemical order 100 days or more of use on an average annual basis? Yes No

Identify the 4 digit Standard Industrial Classification (SIC) code or 2-digit Activity Code that best represents the products produced or services rendered for which your facility is primarily engaged, as defined in 40CFR _____ Primary SIC Code: **4531** Activity Activity Code: _____

Identify the applicable sector(s) and subsector(s) of industrial activity, including co-located industrial activity, for which you are requesting permit coverage:

1. Sector: g	Subsector: g1	4. Sector: _____	Subsector: _____	5. Sector: _____	Subsector: _____
2. Sector: _____	Subsector: _____	3. Sector: _____	Subsector: _____	6. Sector: _____	Subsector: _____

Is your site presently inactive or unstaffed? Yes No

4. If yes, is your site expected to be inactive and unstaffed for the entire permit term? Yes No

5. If no to 4, then indicate the length of time that you expect your facility to be inactive and unstaffed: _____

Section V. Storm-water Pollution Prevention Plan (SWPPP) Contact Information

SWPPP Contact Name: **DOT&PF M&O Environmental Impact Analyst (Jennifer Hillman)**

Phone: **907-269-0714** Email: **jennifer.hillman@alaska.gov**

URL of SWPPP (if applicable): **N/A**

Section VI. Endangered Species Protection

Using the instructions in Appendix 2 of the MSEP, under which criterion listed in Part 1.2.4.1 are you eligible for coverage under this permit?

A B C D E F

If you select criterion E from Part 1.2.4.1:

What Federally-listed species or Federally-designated critical habitat are involved? (attach map)

List the pollutants expected to be present in your discharge:

If you are an existing discharger, do you have effluent monitoring data from EPA's MSEP 2000 or another permit? Yes No

1. If no, why not? No monitoring required for my activity inactive/unstaffed site Other _____

2. Do you have any other data (e.g. monitoring pollutants in your storm water) (Number)? _____

3. If you have benchmark monitoring data, did you exceed any of the applicable benchmarks? Yes No

4. Did you exceed any applicable effluent limitation guidelines or cause or contribute to an exceedance of a state water quality standard? Yes No

5. If you answered "yes" to either question 3 or 4 above, for what pollutant(s)? _____

Attach documentation supporting criterion E eligibility. Documentation should address species and habitat listed above and the potential effects of pollutants in your discharge on the listed species and habitat.

If you select criterion F from Part 1.2.4.1, provide the operator's NPDES Trading Number under which you are certifying eligibility: _____

Section VII. Historic Preservation

Using the instructions in Appendix 1 of the MSEP, under which criterion listed in Part 1.2.4.2 are you eligible for coverage under this permit? A B C D

Section VIII: Certification Information	
I certify under penalty of the perjury that the documents and all attachments were prepared under the direction of the signatory in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. I am a duly sworn officer of the State of Alaska and I am the signatory or those persons directly responsible for gathering the information. The information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.	
Printed Name: Robert A. Campbell, P.E.	 Regional Director
Signature: 	Date: _____ Email: robert.campbell@alaska.gov
NOI Preparer (Complete if NOI was prepared by someone other than the signatory)	
Prepared by: DOT&PF M&O Environmental Impact Analyst, Jennifer Hillman	
Organization: DOT&PF	
Phone: 907-269-0714	Email: jennifer.hillman@alaska.gov

Instructions for Completing the Notice of Intent for Storm-water Discharges Associated with INDUSTRIAL ACTIVITY under the Multi-Sector General Permit (MSGP)

NOI Submittal Deadlines/Discharge Authorization Dates		
Category	NOI Deadline	Discharge Authorization Date
Existing Discharges – In operation as of October 15, 2011 and authorized for coverage under ADEC 2011	February 15, 2012	December 31, 2012 (you can file your NOI application until the NOI 2011 is eventually renewed and another two-year coverage authorization period commences on December 31, 2012)
New Discharges – New commercial discharges (Industrial Control #1, 200 and 300) after 10/15/2011	As soon as possible but no later than 10/15/2011	As soon as ADEC receives NOI
New Discharges – New Non-commercial discharges after 10/15/2011	As soon as possible after you commission, operation of the facility or a discharge of storm water (NOI is not to be filed until the permit and the permit address is 100% complete. SWPPP is provided to the MDEQ)	If you get your SWPPP on on time, 10 days after ADEC gets your NOI (Stormwater discharge NOI) (you can file)
New Under-Discharge of Existing Discharges – Discharge of stormwater from a facility where discharge is authorized under the permit	As soon as a discharge is authorized for the permit	As soon as ADEC receives NOI
Other Mobile Discharges – In operation prior to October 15, 2011 but not covered under the MSGP (DO's under ADEC permit)	Immediately, as soon as the new discharge from the facility will commence its operations	If you get your SWPPP on the time, 10 days after ADEC gets your NOI (Stormwater discharge NOI) (you can file)

¹ Must be a notice of your NOI to other stakeholders. ADEC has this year administered the permit system, with another administrative effort to be an account, it may have coverage under the permit and require administrative application for an individual ADEC permit, or under a MSGP Part 10. In other words, ADEC will send you a notice of the time or the paper for submission of the notice (your application). ADEC will just have NOIs in relation. <http://www.ahec.state.tx.us/industrialcontrol.html>

Who Must File a Notice of Intent with ADEC?

Under section 602(g) of the Clean Water Act (CWA) and regulations at 40 CFR Part 122.26, adopted by reference at 18 AAC 0110(1) storm water discharges associated with industrial activity are prohibited by owners of the United States unless authorized under an Storm Water Pollution Discharge Elimination System (SPDES) permit. You can obtain coverage under the MSGP by submitting a completed NOI if you operate a facility that:

- is located in a jurisdiction where ADEC is the permitting authority, listed in Appendix C of the MSGP.

- discharges storm water associated with industrial activities, identified in Appendix D of the MSGP;
- meets the eligibility requirements in Part 1.1 of the permit;
- develops a storm water pollution prevention plan (SWPPP) in accordance with Part 2 of the MSGP; and
- installs and implements control measures in accordance with Part 2 to meet current and projected effluent limits.

If you are unsure if you meet an ADEC storm water permit, contact your ADEC storm water permit program. Contacts are listed at:

<http://www.ahec.state.tx.us/industrialcontrol.html>
<http://www.ahec.state.tx.us/industrialcontrol.html>

Your NOI must be submitted for each facility or site for which you are seeking permit coverage. You do not need to submit separate NOIs for each type of industrial activity present at your facility, provided your SWPPP covers all activity.

When to File the NOI Form

Do not file your NOI until you have obtained and thoroughly read a copy of the MSGP. A copy of the MSGP is located on the EPA website, <http://www.epa.gov/industrialcontrol/>. The MSGP describes procedures to protect your eligibility, prepare your SWPPP, install and implement appropriate storm water control measures, and complete the NOI form questions – all of which must be done before you sign the NOI certification statement attesting to the accuracy and completeness of your NOI. You will also need a copy of the MSGP once you have obtained coverage so that you can comply with the performance requirements of the permit.

Completing the NOI Form

To complete this form, type or print in the appropriate areas only those entries that you complete all questions. Make sure you make a photocopy for your records before you send the completed form to the address above. You may also use this paper form as a checklist for the information you will need when filing an NOI electronically via ADEC's eNOI system.

Section I. Operator Information

- Provide the name of the contact person and the legal name of the firm, public organization, or any other public entity that operates the facility described in the application. An operator of a facility is a legal entity that controls the operation of the facility.
- Provide the operator's mailing address, telephone number, fax number (optional), and email address. Correspondence will be sent to this address.

Section II. Billing Contact Information

- Provide the name of the contact person and the legal name of the firm, public organization, or any other public entity that is responsible for accounts payable for this facility.
- Provide the billing contact's mailing address, telephone number, fax number (optional), and email address. Correspondence for billing purposes will be sent to this address. If the billing contact address is not same as the operator, check the box and instruct to "Section III Facility Information" has 18 AAC 02.950 for applicable authorization fee to be paid with the estimated fee for NOI.

Section III. Facility Information

- Enter the facility's official or legal name. Unless the name of your facility has changed, please use the name most provided on prior NOIs or permit applications.
- Indicate if industrial storm water discharges from your facility were previously covered by an NPDES or APDES permit.
 - If your facility was covered by EPA's MSGP-2000, please include the tracking number that you received in your

Appendix D – Visual Assessments

Visual Assessment Forms

QUARTERLY VISUAL ASSESSMENT

Visual assessments needed quarterly for each outfall location, with one sample/year taken from snowmelt runoff. Collect sample using clean, clear container within 30 minutes of beginning of discharge event (if not possible, describe situation below). Examine sample in well lit area and record results below.

Name of Facility		Discharge/Outfall Location	
NPDES Tracking No.		Date & Time	
Name of Inspector(s)		Outfall Name	
Weather Conditions			
Additional Notes			
Nature of Discharge	Runoff (Need 3 annually)	Snow Melt (Need 1 annually)	

Observation	Description (Circle)			Comments and/or Source of Contamination
Color	Clear	Cloudy	Dark	
Odor	Absent	Sewage	Rotten Eggs	
Clarity	Clear	Cloudy	Dark	
Floating Solids	Absent	Present		
Settled Solids	Absent	Present		
Suspended Solids	Absent	Present		
Foam	Absent	Present		
Oil Sheen	Absent	Present	Smell	
Stains at Outfall	Absent	Present	Other	
Dry Weather Flow	Absent	Present		
Dead Vegetation	Absent	Present		
Sample taken in clean, clear container?			Yes	No
Sample inspected in well lit area?			Yes	No

If applicable, describe why it was not possible to take samples within the first 30 minutes of precipitation event:

Inspector Name/Title: _____

Signature: _____

Appendix E – Inspections

Inspection Forms

Appendix F – Corrections

Corrections Log

Appendix G – Training

Annual Employee Training Log

TRAINING RECORD

Training Date		
Training Description		
Trainer		
	Employee(s) trained	Employee signature

Training Date		
Training Description		
Trainer		
	Employee(s) trained	Employee signature

Training Date		
Training Description		
Trainer		
	Employee(s) trained	Employee signature

Appendix H –Annual Report

MSGP Annual Reporting Form



Alaska Department of Environmental Conservation

MSGP Annual Reporting Form

Section I. General Information

Facility Name:			
APDES Permit Tracking Number:			
<u>Facility Physical Address</u>			
Street:			
City:	State: Alaska	Zip:	
Lead Inspector's Name:		Title:	
Additional Inspectors Names:			
Contact Person:		Title:	
Phone:		Email:	
Inspection Date:			

Section II. General Inspection Findings

1. As part of this comprehensive site inspection, did you inspect all potential pollutant sources, including areas where industrial activity may be exposed to storm water? Yes No

If NO, describe why not:

Note: Complete Section III of this form for each industrial activity area inspected and included in your SWPPP or as newly defined, in Section II parts 2 and 3 below, where pollutants may be exposed to storm water.

2. Did this inspection identify any storm water or non-storm water outfalls not previously identified in your SWPPP? Yes No

If YES, for each location, describe the sources of those storm water and non-storm water discharges and any associated control measures in place:

3. Did this inspection identify any sources of storm water or non-storm water discharges not previously identified in your SWPPP? Yes No

If YES, describe these sources of storm water or non-storm water pollutants expected to be present in these discharges, and any control measures in place:

4. Did you review storm water monitoring data as part of this inspection to identify potential pollutant hotspots? Yes No NA, no monitoring performed

If YES, summarize the findings of that review and describe any additional inspection activities resulting from this review:

5. Describe any evidence of pollutants entering the drainage system or discharging to surface waters, and the condition of and around outfalls, including flow dissipation measure to prevent scouring:

6. Have you taken or do you plan to take and corrective actions, as specified in Part 3 of the permit, since your last annual report submission (or since you received authorization to discharge under this permit if this is your first annual report), including any corrective actions identified as a result of this annual comprehensive site inspection?

Yes No

If YES, how many conditions requiring review for corrective active as specified in Parts 3.1 and 3.2 of the MSGP were addressed by these corrective actions?

Note: Complete the attached Corrective Action Form (Section IV) for each condition indentified, including any conditions identified as a result of this comprehensive storm water inspection.

Section III. Industrial Activity Area Specific Findings

Complete one block for each industrial activity area where pollutants may be exposed to storm water. Copy this page for additional industrial activity areas.

In reviewing each area, you should consider:

- Industrial materials, residue, or trash that may have or could come into contact with storm water;
- Leaks or spills from industrial equipment, drums, tanks, and other containers;
- Offsite tracking of industrial or waste materials from areas of no exposure to exposed areas; and
- Tracking or blowing of raw, final, or waste material from areas of no exposure to exposed areas.

Industrial Activity Area:

1. Brief Description:

2. Are any control measures in need of maintenance or repair? Yes No

3. Have any control measures failed and require replacement? Yes No

4. Are any additional/revised control measures necessary in this area? Yes No

If YES to any of these three questions, provide a description of the problem: (Any necessary corrective actions should be described on the attached Corrective Action Form.)

Industrial Activity Area:

1. Brief Description:

2. Are any control measures in need of maintenance or repair? Yes No

3. Have any control measures failed and require replacement? Yes No

4. Are any additional/revised control measures necessary in this area? Yes No

If YES to any of these three questions, provide a description of the problem: (Any necessary corrective actions should be described on the attached Corrective Action Form.)

Industrial Activity Area:

1. Brief Description:

2. Are any control measures in need of maintenance or repair? Yes No

3. Have any control measures failed and require replacement? Yes No

4. Are any additional/revised control measures necessary in this area? Yes No

If YES to any of these three questions, provide a description of the problem: (Any necessary corrective actions should be described on the attached Corrective Action Form.)

Note: Copy this page and attach additional pages as necessary.

Industrial Activity Area:

1. Brief Description:

2. Are any control measures in need of maintenance or repair? Yes No

3. Have any control measures failed and require replacement? Yes No

4. Are any additional/revised control measures necessary in this area? Yes No

If YES to any of these three questions, provide a description of the problem: (Any necessary corrective actions should be described on the attached Corrective Action Form.)

Industrial Activity Area:

1. Brief Description:

2. Are any control measures in need of maintenance or repair? Yes No

3. Have any control measures failed and require replacement? Yes No

4. Are any additional/revised control measures necessary in this area? Yes No

If YES to any of these three questions, provide a description of the problem: (Any necessary corrective actions should be described on the attached Corrective Action Form.)

Industrial Activity Area:

1. Brief Description:

2. Are any control measures in need of maintenance or repair? Yes No

3. Have any control measures failed and require replacement? Yes No

4. Are any additional/revised control measures necessary in this area? Yes No

If YES to any of these three questions, provide a description of the problem: (Any necessary corrective actions should be described on the attached Corrective Action Form.)

Section V. Annual Report Certification

Compliance Certification

Do you certify that your annual inspection has met the requirements of Part 4.2 of the permit, and that, based upon the results of this inspection, to the best of your knowledge, you are in compliance with the permit? Yes No

If No, summarize why you are not in compliance with the permit:

Annual Report Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name of Authorized Representative: _____ Title: _____

Signature: _____ Date Signed: _____ Email: _____

Appendix I – Blank Forms

MSGP Industrial Discharge Monitoring Report (MDMR)

Airport Deicer Tracking Form



Alaska Department of Environmental Conservation

MSGP Industrial Discharge Monitoring Report (MDMR)

Reason(s) for Submission (Check all that apply):		
Submitting monitoring data (fill in all Sections).		
Reporting no discharge for all outfalls for this monitoring period (fill in Sections I, II, III, IV, and VI).		
Reporting that your site status has changed to inactive and unstaffed (fill in Sections I, II, VI and include date of status change in comments field in Section V).		
Reporting that your site status has changed to active (fill in all sections and include date of status change in comments field in Section V).		
Reporting that no further pollutant reductions are achievable for all outfalls and for all pollutants via Part 6.2.1.2 of the MSGP (fill in Sections I, II, and VI).		
Section I. Permit Information		
Permit Tracking Number:		
Section II. Facility Information		
Facility Name:		
<u>Facility Physical Address</u>		
Street:		
City:	State: Alaska	Zip:
Contact Name:	Email:	
MDMR Preparer (Complete if MDMR was prepared by someone other than the person signing the certification in Section VI):		
Prepared By:	Organization:	
Email:	Phone:	
Section III. Discharge Information		
Identify Monitoring Period:	Check here if proposing alternative monitoring periods due to irregular storm water runoff. Identify alternative monitoring schedule and indicate for which alternative period you are reporting monitoring data.	
Quarter 1 (April 1 – June 30)	Quarter 1: From	To
Quarter 2 (July 1 – September 30)	Quarter 2: From	To
Quarter 3 (October 1 – December 31)	Quarter 3: From	To
Quarter 4 (January 1 – March 31)	Quarter 4: From	To
Are you required to monitor for cadmium, copper, chromium, lead, nickel, silver, or zinc?		Yes No (Skip to Section IV)
What is the hardness level of the receiving water?	mg/L	
Section IV. Outfall Information		
How many outfalls are identified in your SWPPP?		List names of outfalls required to be monitored in the table below.
Do any of your outfalls discharge substantially identical effluents?		Yes No
If YES, for each monitored outfall, indicate outfall names that are substantially identical in the table below.		
a. Monitored Outfall Name*	b. Substantially Identical Outfalls [List name(s) of outfall(s) that are substantially identical to outfall in a.]	c. No Discharge?

*Reference attachment if additional space is needed to complete the table.

Instructions for Completing the MSGP Industrial Discharge Monitoring Report (MDMR)

Who Must Submit A Discharge Monitoring Report to ADEC?

An operator or owner of a facility covered under the Multi-Sector General Permit (MSGP or permit) that are required to monitor pursuant to Parts 6.2, 6.3, and 8 of the permit must submit the MSGP Discharge Monitoring Report (MDMR) consistent with the reporting requirements specified in Part 7.1 of the permit.

Completing the Form

Type or print, in the appropriate areas only. "NA" can be entered in areas that are not applicable. If you have any questions about how or when to use this form, contact the ADEC Storm Water Program at (907) 269-6285 or online at <http://www.dec.state.ak.us/water/wppspc/stormwater/stormwater.htm>.

Reasons for Submission

Indicate your reason(s) for submitting this MDMR by checking all boxes that apply. The reasons for submission are defined as follows:

- *Submitting monitoring data:* For each storm event sampled, submit one MDMR form with data for all outfalls sampled. Select this reason even if you only have monitoring data for some of your outfalls (i.e., some outfalls did not discharge). If you select this reason, you are required to complete all Sections of the form.
- *Reporting no discharge for all outfalls for this monitoring period:* Indicates that there were no discharges from all outfalls during this monitoring period. If you select this reason, you are only required to complete Sections I, II, III, IV, and VI.
- *Reporting that your site status has changed to inactive and unstaffed:* Indicates that your facility is currently inactive and unstaffed (See Part 6.2.1.3 of the permit for more information). If you select this reason, you are only required to complete Sections I, II, and VI and include date of status change in the comment field in Section V.
- *Reporting that your site status has changed from inactive to active:* Indicates that your facility is currently active (See Part 6.2.1.3 of the permit for more information). If you select this reason, you are required to complete all Sections of the form and include date of status change in the comment field in Section V.
- *Reporting that no further reductions are achievable for all outfalls and for all pollutants via Part 6.2.1.2 of the permit:* Indicates that your facility has determined that no further pollutant reductions are technologically and economically practicable in light of best industry practice to meet the technology-based effluent limitations or are necessary to meet the water-quality-based effluent limitations in Parts 2 of the permit (See Part 6.2.1.2 of the permit for more information). If you select this reason, you are required to complete Sections I, II and VI. However, if you can make this finding for some outfalls and pollutants, but not for others, you cannot select this reason; you will instead be able to identify which outfalls and which pollutants you can make this finding for in Section V.

Section I. Permit Tracking Number

Enter the APDES or NPDES tracking number assigned by ADEC's or EPA's Storm water Program to the facility. If you do not know the tracking number, you can find the tracking number assigned to your facility on ADEC's Water Permit Search www.dec.state.ak.us/water/WaterPermitSearch/Search.aspx or EPA's Notice of Intent (NOI) Search website (www.epa.gov/npdes/noisearch) if you submitted your NOI on EPA's website.

Section II. Facility Information

- Enter the facility's official or legal name. Unless the name of your facility has changed, please use the same name provided on your NOI. You can use ADEC's Water Permit Search, www.dec.state.ak.us/water/WaterPermitSearch/Search.aspx or EPA's NOI Search website (www.epa.gov/npdes/noisearch) to view your NOI if you submitted your NOI on the EPA website.
- Enter the street address, including city, state, and zip code of the actual physical location of the facility. Do **not** use a P.O. Box.
- Identify the name, telephone number, and email address of the person who will serve as a contact for ADEC on issues related to monitoring at your facility. This person should be able to answer questions related to storm water discharges and monitoring or have immediate access to individuals with that knowledge. This person does not have to be the facility operator but should have intimate knowledge of monitoring activities at the facility.
- If the form was prepared by someone other than the person who is signing the certification statement in Section VI (for example, if the MDMR was prepared by a member of the facility's storm water pollution prevention team or a consultant for the certifier's signature), include the name, organization, telephone number, and email address of the MDMR preparer.

Section III. Discharge Information

- Indicate the appropriate monitoring period (Quarter 1, 2, 3, or 4) covered by the MDMR. "Alternative" monitoring periods can apply to facilities located in arid and semi-arid climates or in areas subject to snow or prolonged freezing. To use alternative monitoring periods, you must provide a revised monitoring schedule here in the first monitoring report submitted and indicate for which alternative monitoring period you are reporting monitoring data. If using alternative monitoring periods, identify the first day of the monitoring period through the last day of the monitoring period for each of the four periods. The dates should be displayed as month (Mo) / day (Day). See Parts 6.1.6 and 6.1.7 of the permit for more information.
- If you are submitting benchmark monitoring data, identify if your facility is required to collect benchmark samples for one or more hardness-dependent metals (i.e., cadmium, copper, lead, nickel, silver, and zinc). If you select "yes" to this question you must also complete the table in Section III, and if you select "no" to this question, you may skip to Section IV.
- If you selected "yes" for the previous question, then you are required to submit to ADEC with your first benchmark report a hardness level established consistent with the procedures in Appendix J of the permit, which is representative of your receiving water. If your outfalls discharge to more than one receiving water, as reported in your NOI form, you should report hardness for the receiving water with the lowest hardness values. Hardness values must be reported in milligrams per liter (mg/L).

Section IV. Outfall Information

- Enter the total number of outfalls identified in your SWPPP. Outfalls are locations where storm water exits the facility, including pipes, ditches, swales, and other structures used to remove storm water from the facility.
- Indicate if your facility has two or more outfalls that you believe discharge substantially identical effluents (i.e., storm water), based on the similarities of the general industrial activities and control measures, exposed materials that may significantly contribute pollutants to storm water, and runoff coefficients of their drainage areas. See Parts 5.1.5.2 and 6.1.1 of the permit for more information on substantially identical outfalls.
- If you selected "yes" for the previous question, then you must list the outfall name(s) in Column b that you expect to be substantially identical to the corresponding outfall in Column a.
 - Monitored Outfall Name:* List name(s) of outfall(s) you are required to monitor.
 - Substantially Identical Outfalls:* List name(s) of outfall(s) substantially identical to "Monitored Outfall" in Column a. (if applicable).
 - No Discharge:* Check box if you are reporting "No Discharge" for the monitored outfall for the reporting period identified in Section III.

Example:

a. Monitored Outfall Name	b. Substantially Identical Outfall	c. No Discharge
Outfall A	Outfall B; Outfall C	<input type="checkbox"/>
Outfall D		<input checked="" type="checkbox"/>

Reference attachments if additional space is needed to complete the table in Section IV.

Section V. Monitoring Information

- Enter the APDES or NPDES tracking number assigned to the facility reported in Section I.
- For the reported monitoring event, indicate whether the discharge was from a rainfall or snowmelt event. If you select "rainfall", then indicate:
 - the duration (in hours) of the rainfall event;
 - rainfall total (in inches) for that rainfall event; and
 - time (in days) since the previous measurable storm event.
- If the discharge occurs during a period of both rainfall and snowmelt, check both the rainfall and snowmelt boxes and report the appropriate rainfall information in items a-c. To report multiple monitoring events in the same reporting period, copy Page 2 of this Form and enter each monitoring event separately with data for all outfalls sampled.
- For each pollutant monitored at an outfall, you must complete one row in the Table as follows:
 - *Outfall Name:* Provide the outfall name for which you monitored (e.g., Outfall 1, Outfall 2, Outfall 3).
 - *Monitoring Type:* Provide the type of monitoring using the specified codes below:
 - QBM – Quarterly benchmark monitoring;
 - ELG – Annual effluent limitations guidelines monitoring;
 - S – State specific monitoring;
 - I – Impaired waters monitoring; or
 - O – Other monitoring as required by ADEC.

Instructions for Completing the MSGP Industrial Discharge Monitoring Report (MDMR)

- *Parameter(s)*: Enter each "Parameter" (or "pollutant") monitored. For QBM and ELG monitoring, use the same parameter name as in Part 8 of the permit.
- *Quality or Concentration*: Enter sample measurement value for each parameter analyzed and required to be reported. Enter "ND" (i.e., not detected) for any sample results below the method detection limit or "BQL" (i.e., below quantitation limit) for sample results above the detection limit but below the quantitation limit.
- *Units*: Enter the units for sample measurement values (e.g., "mg/L" for milligrams per liter) for each parameter analyzed and required to be reported. For monitoring results reported as ND or BQL, this space will be left blank and the units will be reported under *Results Description*.
- *Results Description*: This section must be completed for any monitoring results reported as ND or BQL in the "Quality or Concentration" column. For ND, report the laboratory detection level and units in this column. For BQL, report the laboratory quantitation limit and units in this column.
- *Collection Date*: Identify the sampling date for each parameter monitoring result reported on this form.
- *Exceedance due to natural background pollutant levels*: Check box if following the first 4 quarters of benchmark monitoring (or sooner if the exceedance is triggered by less than 4 quarters of data) you have determined that the exceedance of the benchmark is attributable solely to the presence of that pollutant in the natural background for that outfall and any substantially identical outfalls. See Part 6.2.4.2 of the permit for more information. Attach supporting rationale for your determination to the submitted MDMR and reference attachment in comments portion of Section V.
- *No further pollutant reductions achievable*: Check box if after collection of 4 quarterly samples (or sooner if the exceedance is triggered by less than 4 quarters of data), the average of the 4 monitoring values for any parameter exceeds the benchmark and you have made the determination that no further pollutant reductions are technologically available and economically practicable and achievable in light of best industry practice to meet the technology-based effluent limitations or are necessary to meet the water-quality-based effluent limitations in Parts 2 of the permit (See Part 6.2.1. of the permit for more information) for that outfall and any substantially identical outfalls. Attach supporting rationale for your determination to the submitted MDMR and reference attachment in comments portion of Section V.
- Where violations of the permit requirements are reported, include a brief explanation to describe the cause and corrective actions taken and reference each violation by date. Also, this section should include any additional comments such as are required when changing site status from inactive and unstaffed to active or vice versa. Attach additional pages if you need more space.

Attach additional copies of Section V as necessary to address all outfalls and parameters.

Section VI. Certification

Enter *Printed Name and Title of Principal Executive Officer or Authorized Agent* with *Signature of Principal Executive Officer or Authorized Agent*, and the *Date* this form was signed and the email address of the "*Principal Executive Officer or Authorized Agent*." If you submit multiple pages of Section V monitoring data, each page must be appropriately signed and certified as described below.

The MDMRs must be signed as follows:

- (1) For a corporation, a responsible corporate officer shall sign the MDMR, a responsible corporate officer means:
 - (A) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation; or
 - (B) the manager of one or more manufacturing, production, or operating facilities, if
 - (i) the manager is authorized to make management decisions that govern the operation of the regulated facility, including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental statutes and regulations;
 - (ii) the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and

(iii) authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

(2) For a partnership or sole proprietorship, the general partner or the proprietor, respectively; or

(3) for a municipality, state, or other public agency, either a principal executive officer or ranking elected official shall sign the application; in this subsection, a principal executive officer of an agency means

(A) the chief executive officer of the agency; or

(B) a senior executive officer having responsibility for the overall operations of a principal geographic unit or division of the agency.

Include the name, title, and email address of the person signing the form and the date of signing. An unsigned or undated MDMR will not be considered valid.

Where to File the MDMR Form

Monitoring data collected pursuant to Parts 6.2, 6.3, and 8 of the permit must be reported on the paper MDMR form and sent to the following address:

If you file by mail, please submit the original form with a signature in ink. ADEC will not accept a photocopied signature. Remember to retain a copy for your records.

MSMRs sent by mail:

Alaska Dept. of Environmental Conservation
Wastewater Discharge Authorization Program
555 Cordova Street
Anchorage, AK 99501
Phone: (907) 269-6285

Appendix J – Miscellaneous

Airport Tennant Letter – 2011

Airport Tennant Letter – 11/9/2010

SWPPP Staff Title and Responsibility Table

Alternate Authority Authorization Letter

STATE OF ALASKA

DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

MAINTENANCE & OPERATIONS – CENTRAL REGION

SEAN PARNELL, GOVERNOR

4111 AVIATION AVENUE
P.O. BOX 196900
ANCHORAGE, ALASKA 99519
TEXT: (907) 269-0473
PHONE: (907) 248-1573
FAX: (907) 269-0760

**In Reply Refer To:
Dillingham Airport SWPPP**

March 28, 2011

Dear Airport Tenant,

As you may already be aware from the letter dated October 27, 2009, which you should have received from the DOT&PF Aviation Leasing Division, the U.S. Environmental Protection Agency (EPA) regulations on stormwater runoff from specific industrial operation have been revised and permitting authority is being transferred to the Alaska Department of Environmental Conservation (ADEC). The Multi-Sector General Permit (MSGP) specifies stormwater management requirements for industrial operations, including Air Transportation (Sector S). As required by these regulations, the Department of Transportation and Public Facilities (DOT&PF) has applied for the general stormwater permit for operation of the airport and common areas. The primary requirement is to write a Stormwater Pollution Prevention Plan (SWPPP).

The SWPPP we have developed for the Dillingham Airport only covers DOT&PF activities, not your activity. Therefore, it is your responsibility to research and determine if a stormwater permit is required for your operations and if so, to comply with the EPA/ADEC rules and the Clean Water Act. Failure to comply could result in a significant penalty.

To assist you in determining your responsibilities, you will also need to review the regulations at <http://cfpub.epa.gov/npdes/stormwater/msgp.cfm>. Each regulated tenant must develop a SWPPP, apply for permit coverage through the Alaska Department of Environmental Conservation (ADEC), and implement the SWPPP. The MSGP permit requires various inspections and training requirements. More information can be found at <http://www.dec.state.ak.us/water/wnpssc/stormwater/MultiSector.htm>. And for airport specific requirements please review the Sector S Industrial Stormwater Factsheet http://www.epa.gov/npdes/pubs/sector_s_airtransmaint.pdf.

If you decide that you are regulated and intend to file for the permit, please check with your airport manager as it is recommended we coordinate our SWPPPs. We are working to have our SWPPP electronically available on the DOT&PF website at <http://dot.alaska.gov/stwdav/SWPPP.shtml>, the SWPPP should be available no later than June 1, 2011. Also, if you perform deicing, the airport manager will be contacting you regarding monthly reporting requirements.

If you prepare a SWPPP, please send an electronic copy of the final plan to our office (either via email or CD). Please call with any questions you may have (907)269-0714 or email me at jennifer.hillman@alaska.gov.

Sincerely yours,

Environmental Impact Analyst, Maintenance and Operations

Attachments:

EPA Stormwater Factsheet

cc:

Norman Heyano, Dillingham Airport Manager
Tim Hilger, Dillingham Airport Leasing Specialist

STATE OF ALASKA

DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

ANCHORAGE OFFICE OF AVIATION LEASING

SEAN PARNELL, GOVERNOR

4111 AVIATION AVENUE
P.O. BOX 196900
ANCHORAGE, AK 99519-6900
(907) 269-0450 FAX: (907) 243-5092

October 27, 2009

Dear Airport Tenant:

As you may already be aware, the U.S. Environmental Protection Agency (EPA) regulations on stormwater runoff from specific industrial operations have been revised. The EPA Multi-Sector General Permit (MSGP) specifies stormwater management requirements for industrial operations, including Air Transportation (Sector S). As required by these EPA regulations, the Department of Transportation and Public Facilities (DOT&PF) has applied for the EPA general stormwater permit for operation of the airport and common areas. The primary requirement is to write a storm water pollution prevention plan (SWPPP).

The SWPPP we have developed only covers DOT&PF activities, not your activity. Therefore, it is your responsibility to research and determine if a stormwater permit is required for your operations and if so, to comply with the EPA rules and the Clean Water Act. Failure to comply could result in a significant penalty.

To assist you in determining your responsibilities, we have attached an EPA fact sheet. You will also need to review the regulations at <http://cfpub.epa.gov/npdes/stormwater/msgp.cfm>. Each regulated tenant must develop a SWPPP, apply for permit coverage, and implement the SWPPP. The MSGP permit requires various inspections and training requirements. For you information, Alaska is located within Region 10 for EPA.

If you decide that you are regulated and intend to file for the permit, please check with your airport manager as it is recommended that we coordinate our SWPPPs. Also, if you perform deicing, the airport manager will be contacting you regarding a monthly reporting requirement.

If you prepare a SWPPP, please send a copy of the final plan to our office. Thank you.

Sincerely yours,



Tina Schimschat
Chief, Central Region Aviation Leasing

cc: Airport Manager
Matt Decaro, Environmental Analyst (269-0714)
Attachment: EPA Industrial Stormwater Fact Sheet (9 pages)

1. The first part of the document discusses the importance of maintaining accurate records of all transactions and activities. It emphasizes that this is crucial for ensuring transparency and accountability in the organization's operations.

2. The second part of the document outlines the various methods and tools used to collect and analyze data. It highlights the need for consistent and reliable data collection processes to support effective decision-making.

3. The third part of the document focuses on the role of technology in data management and analysis. It discusses how modern software solutions can streamline data collection, storage, and reporting, thereby improving efficiency and accuracy.

4. The fourth part of the document addresses the challenges associated with data management, such as data quality, security, and privacy. It provides strategies to mitigate these risks and ensure that data is used responsibly and ethically.

5. The fifth part of the document concludes by summarizing the key findings and recommendations. It stresses the importance of ongoing monitoring and evaluation to ensure that data management practices remain effective and aligned with the organization's goals.

6. The sixth part of the document provides a detailed overview of the data management framework, including the roles and responsibilities of various stakeholders involved in the process.

7. The seventh part of the document discusses the integration of data management with other organizational systems and processes, ensuring a cohesive and integrated approach to data handling.

8. The eighth part of the document offers practical tips and best practices for implementing a successful data management strategy, drawing on real-world examples and case studies.

9. The final part of the document provides a comprehensive list of references and resources for further reading and research on data management topics.

INDUSTRIAL STORMWATER

FACT SHEET SERIES

Sector S: Vehicle Maintenance Areas, Equipment Cleaning Areas, or Deicing Areas Located at Air Transportation Facilities



U.S. EPA Office of Water
EPA-833-F-06-034
December 2006

What is the NPDES stormwater permitting program for industrial activity?

Activities, such as material handling and storage, equipment maintenance and cleaning, industrial processing or other operations that occur at industrial facilities are often exposed to stormwater. The runoff from these areas may discharge pollutants directly into nearby waterbodies or indirectly via storm sewer systems, thereby degrading water quality.

In 1990, the U.S. Environmental Protection Agency (EPA) developed permitting regulations under the National Pollutant Discharge Elimination System (NPDES) to control stormwater discharges associated with eleven categories of industrial activity. As a result, NPDES permitting authorities, which may be either EPA or a state environmental agency, issue stormwater permits to control runoff from these industrial facilities.

What types of industrial facilities are required to obtain permit coverage?

This fact sheet specifically discusses stormwater discharges from airports, airport terminals, airline carriers, and establishments as defined by Standard Industrial Classification (SIC) Major Group 45. Facilities and products in this group fall under the following categories, all of which require coverage under an industrial stormwater permit:

- ◆ Servicing, repairing, or maintaining aircraft and ground vehicles
- ◆ Equipment cleaning and maintenance (including vehicle and equipment rehabilitation mechanical repairs, painting, fueling, lubrication)
- ◆ Deicing/anti-icing operations which conduct the above described activities

The operator and the tenants of the airport that conduct industrial activities as described above and which have stormwater discharges are required to apply for coverage under an NPDES stormwater permit for the discharges from their areas of operation. The airport management and tenants of the airport are encouraged to apply as co-permittees under a permit, and to work in partnership in the development and implementation of a stormwater pollution prevention plan.

Non-stormwater discharges, including discharges from aircraft, ground vehicle and equipment washwaters, dry weather discharges from airport deicing/anti-icing operations, and dry weather discharges resulting from runway maintenance are not required to obtain coverage under an industrial stormwater permit. Dry weather discharges are generated from processes other than those described in the definition of stormwater. The definition of stormwater includes stormwater runoff, snow melt runoff, and surface runoff and drainage.

What does an industrial stormwater permit require?

Common requirements for coverage under an industrial stormwater permit include development of a written stormwater pollution prevention plan (SWPPP), implementation of control measures, and submittal of a request for permit coverage, usually referred to as the Notice of Intent or NOI. The

Sector 5: Vehicle Maintenance Areas, Equipment Cleaning Areas, or Deicing Areas Located at Air Transportation Facilities

SWPPP is a written assessment of potential sources of pollutants in stormwater runoff and control measures that will be implemented at your facility to minimize the discharge of these pollutants in runoff from the site. These control measures include site-specific best management practices (BMPs), maintenance plans, inspections, employee training, and reporting. The procedures detailed in the SWPPP must be implemented by the facility and updated as necessary, with a copy of the SWPPP kept on-site. The industrial stormwater permit also requires collection of visual, analytical, and/or compliance monitoring data to determine the effectiveness of implemented BMPs. For more information on EPA's industrial stormwater permit and links to State stormwater permits, go to www.epa.gov/npdes/stormwater and click on "Industrial Activity."

What pollutants are associated with my facilities activities?

Pollutants conveyed in stormwater discharges from air transportation facilities will vary. Generally, the concern with the use of ethylene and propylene glycols is that they exert high oxygen demands when released into receiving waters. Additionally, the concentration of nitrogen and possibly ammonia are the concern with the respect to deicing/anti-icing operations where urea is used. There are a number of factors that influence to what extent industrial activities and significant materials can affect water quality.

- ◆ Geographic location
- ◆ Topography
- ◆ Hydrogeology
- ◆ Extent of impervious surfaces (e.g., concrete or asphalt)
- ◆ Type of ground cover (e.g., vegetation, crushed stone, or dirt)
- ◆ Outdoor activities (e.g., material storage, loading/unloading, vehicle maintenance)
- ◆ Size of the operation
- ◆ Type, duration, and intensity of precipitation events

The activities, pollutant sources, and pollutants detailed in Table 1 are commonly found at air transportation facilities.

Table 1. Common Activities, Pollutants Sources, and Associated Pollutants at Air Transportation Facilities

Activity	Pollutant Source	Pollutant
Aircraft deicing/anti-icing	Runoff of spent deicing chemicals (e.g. ethylene glycol or propylene glycol) from aircraft exteriors	Biochemical oxygen demand (BOD)
Runway deicing/anti-icing	Runoff of spent deicing chemicals (e.g. ethylene or propylene glycol, urea, potassium or sodium acetate, potassium or sodium formate) from deicing areas	BOD, nitrogen, ammonia
Aircraft servicing	Spills or leaks during servicing	Engine oil, hydraulic fluid, fuel, lavatory waste
Aircraft fueling	Spills and leaks during fuel transfer, spills due to "topping off" tanks, runoff from fueling areas, washdown of fueling areas, leaking storage tanks	Jet fuel, fuel additives, oil, lubricants, heavy metals
Aircraft, ground vehicle, and equipment maintenance and washing	Spills and leaks during maintenance	Engine oils, hydraulic fluids, transmission oil, radiator fluids, and chemical solvents
	Disposal of waste parts	Batteries, oil, fuel filters, oily rags
	Spent washwater	TSS, metals, fuel, hydraulic fluid, oil, lavatory waste
Runway maintenance	Materials removed from runway surface	Tire rubber, oil and grease, paint chips, jet fuel
	Chemicals used to clean the runway surface	Chemical solvents

What BMPs can be used to minimize contact between stormwater and potential pollutants at my facility?

A variety of BMP options may be applicable to eliminate or minimize the presence of pollutants in stormwater discharges from air transportation facilities. You will likely need to implement a combination or suite of BMPs to address stormwater runoff at your facility. Your first consideration should be for pollution prevention BMPs, which are designed to prevent or minimize pollutants from entering stormwater runoff and/or reduce the volume of stormwater requiring management. Prevention BMPs can include regular cleanup, collection and containment of debris in storage areas, and other housekeeping practices, spill control, and employee training. It may also be necessary to implement treatment BMPs, which are engineered structures intended to treat stormwater runoff and/or mitigate the effects of increased stormwater runoff peak rate, volume, and velocity. Treatment BMPs are generally more expensive to install and maintain and include oil-water separators, wet ponds, and proprietary filter devices.

BMPs must be selected and implemented to address the following:

Good Housekeeping Practices

Good housekeeping is a practical, cost-effective way to maintain a clean and orderly facility to prevent potential pollution sources from coming into contact with stormwater. It includes establishing protocols to reduce the possibility of mishandling materials or equipment and training employees in good housekeeping techniques. Common areas where good housekeeping practices should be followed include trash containers and adjacent areas, material storage areas, vehicle and equipment maintenance areas, and loading docks. Good housekeeping practices must include a schedule for regular pickup and disposal of garbage and waste materials and routine inspections of drums, tanks, and containers for leaks and structural conditions. Practices also include containing and covering garbage, waste materials, and debris. Involving employees in routine monitoring of housekeeping practices has proven to be an effective means of ensuring the continued implementation of these measures.

Minimizing Exposure

Where feasible, minimizing exposure of potential pollutant sources to precipitation is an important control option. Minimizing exposure prevents pollutants, including debris, from coming into contact with precipitation and can reduce the need for BMPs to treat contaminated stormwater runoff. It can also prevent debris from being picked up by stormwater and carried into drains and surface waters. Examples of BMPs for exposure minimization include covering materials or activities with temporary structures (e.g., tarps) when wet weather is expected or moving materials or activities to existing or new permanent structures (e.g., buildings, silos, sheds). Even the simple practice of keeping a dumpster lid closed can be a very effective pollution prevention measure.

Erosion and Sediment Control

BMPs must be selected and implemented to limit erosion on areas of your site that, due to topography, activities, soils, cover, materials, or other factors are likely to experience erosion. Erosion control BMPs such as seeding, mulching, and sodding prevent soil from becoming dislodged and should be considered first. Sediment control BMPs such as silt fences, sediment ponds, and stabilized entrances, trap sediment after it has eroded. Sediment control BMPs should be used to back-up erosion control BMPs.

Management of Runoff

Your SWPPP must contain a narrative evaluation of the appropriateness of stormwater management practices that divert, infiltrate, reuse, or otherwise manage stormwater runoff so as to reduce the discharge of pollutants. Appropriate measures are highly site-specific, but may include, among others, vegetative swales, collection and reuse of stormwater, inlet controls, snow management, infiltration devices, and wet retention measures.

Sector 5: Vehicle Maintenance Areas, Equipment Cleaning Areas, or Deicing Areas Located at Air Transportation Facilities

A combination of preventive and treatment BMPs will yield the most effective stormwater management for minimizing the offsite discharge of pollutants via stormwater runoff. Though not specifically outlined in this fact sheet, BMPs must also address preventive maintenance records or logbooks, regular facility inspections, spill prevention and response, and employee training.

All BMPs require regular maintenance to function as intended. Some management measures have simple maintenance requirements, others are quite involved. You must regularly inspect all BMPs to ensure they are operating properly, including during runoff events. As soon as a problem is found, action to resolve it should be initiated immediately.

Implement BMPs, such as those listed below in Table 2 for the control of pollutants at air transportation facilities, to minimize and prevent the discharge of pollutants in stormwater. Identifying weaknesses in current facility practices will aid the permittee in determining appropriate BMPs that will achieve a reduction in pollutant loadings. BMPs listed in Table 2 are broadly applicable to air transportation facilities; however, this is not a complete list and you are recommended to consult with regulatory agencies or a stormwater engineer/consultant to identify appropriate BMPs for your facility.

Table 2. BMPs for Potential Pollutant Sources at Air Transportation Facilities

Pollutant Source	BMPs
Deicing/anti-icing aircraft	<ul style="list-style-type: none"> <input type="checkbox"/> Establish a centralized aircraft deicing station with containment of surface and subsurface drainage. <input type="checkbox"/> To reduce deicing fluid applied: <ul style="list-style-type: none"> - Forced-air deicing systems - Computer-controlled fixed-gantry systems - Infrared technology - Hot water - Varying glycol content to air temperature - Enclosed-basket deicing trucks - Mechanical methods - Solar radiation - Hangar storage - Aircraft covers - Thermal blankets fro MD-80s and DC-9s <input type="checkbox"/> Apply deicing fluid and anti-icer to planes on deicing pads if available. <input type="checkbox"/> Apply anti-icer to aircraft that will be parked overnight to make it easier to remove accumulated snow and ice in the morning. <input type="checkbox"/> Apply anti-icer to aircraft immediately after deicing to provide extended hold-over time prior to take-off. <input type="checkbox"/> Ensure that stormwater inlets are blocked when deicing/anti-icing during dry weather. <input type="checkbox"/> Use mechanical vacuum systems or other devices to collect aircraft deicing runoff from the apron surface for proper disposal. <input type="checkbox"/> Dispose collected aircraft deicing runoff to sanitary sewage facility (if allowed by sewer authority), on-site treatment, or recycle (resell or reuse). <input type="checkbox"/> Use portable tanks, retention and detention ponds for temporary storage of collected deicing runoff. <input type="checkbox"/> Collect contaminated runoff in a wet pond for biochemical decomposition (be aware of attracting wildlife that may prove hazardous to flight operations). <input type="checkbox"/> Recover and recycle/dispose of unused deicing fluids in deicing trucks. <input type="checkbox"/> Recover deicing materials when applied during non-precipitation events (e.g., covering storm sewer inlets, using booms, installing absorptive interceptors in the drains, etc.) to prevent materials from later contaminating stormwater.

INDUSTRIAL STORMWATER FACT SHEET SERIES

Sector 5: Vehicle Maintenance Areas, Equipment Cleaning Areas, or Deicing Areas Located at Air Transportation Facilities

Table 2. BMPs for Potential Pollutant Sources at Air Transportation Facilities (continued)

Pollutant Source	BMPs
Deicing/anti-icing runways and pads	<ul style="list-style-type: none"> <input type="checkbox"/> Evaluate and optimize present chemical application rates <input type="checkbox"/> Use sand where possible to enhance friction. <input type="checkbox"/> Plow and broom runways prior to application of deicing chemicals. <input type="checkbox"/> Heat solid deicers and sand prior to application. <input type="checkbox"/> Install and calibrate devices to meter the amount of pavement deicer being applied. <input type="checkbox"/> Emphasize anti-icing operations which minimize the need to deice. <input type="checkbox"/> Install runway ice detection systems ("pavement sensors") to monitor pavement temperatures. <input type="checkbox"/> Pre-wet with liquid deicers to improve adhesion of solid deicers to the iced surface. <input type="checkbox"/> Use deicers which have less of an environmental impact (e.g. sodium formate and potassium acetate as opposed to urea and glycol). <input type="checkbox"/> Ensure proper handling and disposal of unused deicing chemicals in vehicles. <input type="checkbox"/> Use ice detection systems. <input type="checkbox"/> Use airport traffic flow strategies and departure slot allocation systems.
Aircraft, ground vehicle, and equipment maintenance areas (including aircraft service areas)	<p>Good Housekeeping</p> <ul style="list-style-type: none"> <input type="checkbox"/> Eliminate floor drains that are connected to the storm or sanitary sewer; if necessary, install a sump that is pumped regularly. Collected wastes should be properly treated or disposed of by a licensed waste disposal company. <input type="checkbox"/> Prevent and contain spills and drips. <input type="checkbox"/> Do all cleaning at a centralized station so the solvents stay in one area. <input type="checkbox"/> Remove any parts that are dipped in liquid slowly to avoid spills. <input type="checkbox"/> Use drip pans, drain boards, and drying racks to direct drips back into a fluid holding tank for reuse. <input type="checkbox"/> Drain all parts of fluids prior to disposal. Oil filters can be crushed and recycled. <input type="checkbox"/> Transfer used fluids to the proper container promptly; do not leave full drip pans or other open containers around the shop. Empty and clean drip pans and containers. <input type="checkbox"/> Clean up leaks, drips, and other spills without using large amounts of water. Use absorbents for dry cleanup whenever possible. <input type="checkbox"/> Prohibit the practice of hosing down an area where the practice would result in the discharge of pollutants to a stormwater system. <input type="checkbox"/> Prohibit pouring liquid waste into floor drains, sinks, outdoor storm drain inlets, or other storm drains or sewer connections. <input type="checkbox"/> Maintain an organized inventory of materials. <input type="checkbox"/> Eliminate or reduce the number and amount of hazardous materials and waste by substituting nonhazardous or less hazardous materials. <input type="checkbox"/> Label and track the recycling of waste material (e.g., used oil, spent solvents, batteries). <input type="checkbox"/> Store batteries and other significant materials inside. <input type="checkbox"/> Dispose of greasy rags, oil filters, air filters, batteries, spent coolant, and degreasers in compliance with RCRA regulations.

INDUSTRIAL STORMWATER FACT SHEET SERIES

Sector 5: Vehicle Maintenance Areas, Equipment Cleaning Areas, or Deicing Areas Located at Air Transportation Facilities

Table 2. BMPs for Potential Pollutant Sources at Air Transportation Facilities (continued)

Pollutant Source	BMPs
Aircraft, ground vehicle, and equipment maintenance areas (including aircraft service areas) (continued)	<p>Minimizing Exposure</p> <ul style="list-style-type: none"> <input type="checkbox"/> Perform all cleaning operations indoors or under covering when possible. Conduct the cleaning operations in an area with a concrete floor with no floor drainage other than to sanitary sewers or treatment facilities. <input type="checkbox"/> If operations are uncovered, perform them on a concrete pad that is impervious and contained. <input type="checkbox"/> Park vehicles and equipment indoors or under a roof whenever possible and maintain proper control of oil leaks/spills. <input type="checkbox"/> Check vehicles closely for leaks and use pans to collect fluid when leaks occur. <p>Management of Runoff</p> <ul style="list-style-type: none"> <input type="checkbox"/> Use berms, curbs, grassed swales, or other diversion measures to ensure that stormwater runoff from other parts of the facility does not flow over the maintenance area. <input type="checkbox"/> Collect the stormwater runoff from the cleaning area and provide treatment or recycling. <input type="checkbox"/> Discharge vehicle wash or rinse water to the sanitary sewer (if allowed by sewer authority), wastewater treatment, a land application site, or recycle on-site. DO NOT discharge washwater to a storm drain or to surface water. <p>Inspections and Training</p> <ul style="list-style-type: none"> <input type="checkbox"/> Inspect the maintenance area regularly to ensure BMPs are implemented. <input type="checkbox"/> Train employees on waste control and disposal procedures. <input type="checkbox"/> Inspect the maintenance area regularly for proper implementation of control measures. <input type="checkbox"/> Train employees on proper waste control and disposal procedures.
Aircraft, ground vehicle, and equipment cleaning areas	<ul style="list-style-type: none"> <input type="checkbox"/> Perform all cleaning operations indoors. <input type="checkbox"/> Confine activities to designated areas outside drainage pathways and away from surface waters. <input type="checkbox"/> If washing outdoors, cover the cleaning operation and ensure that all washwaters drain to the intended collection system. <input type="checkbox"/> Use phosphate-free biodegradable detergents. <input type="checkbox"/> Contain and recycle washwaters. <input type="checkbox"/> Collect stormwater runoff from the cleaning area and provide treatment or recycling. <input type="checkbox"/> Inspect cleaning area regularly to ensure BMPs are implemented and maintained. <input type="checkbox"/> Train employees on proper washing procedures.
Aircraft, ground vehicle, and equipment storage areas	<ul style="list-style-type: none"> <input type="checkbox"/> Store aircraft, ground vehicles and equipment indoors. <input type="checkbox"/> Cover the storage area with a roof. <input type="checkbox"/> Store aircraft, ground vehicles, and equipment awaiting maintenance in designated areas only. <input type="checkbox"/> Park leaking deicing trucks in contained areas. <input type="checkbox"/> Install perimeter drains, berms, and dikes around storage areas to limit run-on. <input type="checkbox"/> Use absorbents for dry cleanup for spills and leaks. <input type="checkbox"/> Use drip pans under all vehicles and equipment for the collection of fluid leaks. <input type="checkbox"/> Clean pavement surface to remove oil and grease without using large amounts of water.

INDUSTRIAL STORMWATER FACT SHEET SERIES

Sector 5: Vehicle Maintenance Areas, Equipment Cleaning Areas, or Deicing Areas Located at Air Transportation Facilities

Table 2. BMPs for Potential Pollutant Sources at Air Transportation Facilities (continued)

Pollutant Source	BMPs
Aircraft, ground vehicle, and equipment storage areas (continued)	<ul style="list-style-type: none"> <input type="checkbox"/> Regularly sweep area to minimize debris on the ground. <input type="checkbox"/> Provide dust control if necessary. When controlling dust, sweep and/or apply water or materials that will not impact surface or ground water. <input type="checkbox"/> Inspect the storage yard for filling drip pans regularly to ensure BMPs are implemented. <input type="checkbox"/> Train employees on procedures for storage and inspection items.
Material storage areas	<ul style="list-style-type: none"> <input type="checkbox"/> Store materials indoors. <input type="checkbox"/> Maintain good integrity of all storage containers (e.g., used oils, hydraulic fluids, spent solvents, waste aircraft fuel). <input type="checkbox"/> Create a centralized storage area for waste materials. <input type="checkbox"/> Cover and/or enclose chemical storage areas (including temporary cover such as a tarp that prevents contact with precipitation). <input type="checkbox"/> Provide secondary containment around chemical storage areas. <input type="checkbox"/> If containment structures have drains, ensure that the drains have valves, and that valves are maintained in the closed position. Institute protocols for checking/testing stormwater in containment areas prior to discharge. <input type="checkbox"/> Locate storage areas away from high traffic areas and surface waters. <input type="checkbox"/> Inspect storage tanks and piping systems (pipes, pumps, flanges, couplings, hoses, and valves) for failures or leaks and perform preventive maintenance. <input type="checkbox"/> Plainly label all containers. <input type="checkbox"/> Maintain an inventory of fluids to identify leakage. <input type="checkbox"/> Provide fluid level indicators. <input type="checkbox"/> Properly dispose of chemicals that are no longer in use. <input type="checkbox"/> Store and handle reactive, ignitable, or flammable liquids in compliance with applicable local fire codes, local zoning codes, and the National Electric Code. <input type="checkbox"/> Provide drip pads/pans where chemicals are transferred from one container to another to allow for recycling of spills and leaks. <input type="checkbox"/> Develop and implement spill plans or spill prevention, containment, and countermeasure (SPCC) plans, if required for your facility. <input type="checkbox"/> Train employees in spill prevention and control and proper materials management.
Airport fuel system and fueling areas	<ul style="list-style-type: none"> <input type="checkbox"/> Conduct fueling operations (including the transfer of fuel to tank trucks) on an impervious or contained pad and under a roof or canopy where possible. Covering should extend beyond spill containment pad to prevent rain from entering. <input type="checkbox"/> When fueling in uncovered area, use concrete pad (asphalt is not chemically resistant to the fuels being handled). <input type="checkbox"/> Develop and implement a system to report any spill exceeding 5 feet in any direction or which has entered the storm drainage system. <input type="checkbox"/> Use drip pans and absorptive materials beneath aircraft during fueling operations where leaks or spills of fuel can occur and where making and breaking hose connections. <input type="checkbox"/> Use fueling hoses with check valves to prevent hose drainage after filling. <input type="checkbox"/> Insure that storm water valves, plugs and similar appurtenances are closed during fuel transfer operations.

INDUSTRIAL STORMWATER FACT SHEET SERIES

Sector 5: Vehicle Maintenance Areas, Equipment Cleaning Areas, or Deicing Areas Located at Air Transportation Facilities

Table 2. BMPs for Potential Pollutant Sources at Air Transportation Facilities (continued)

Pollutant Source	BMPs
Airport fuel system and fueling areas (continued)	<ul style="list-style-type: none"> <input type="checkbox"/> Provide spill kits on all fuel trucks, at fueling stations, in each hangar and at strategic locations. Each kit should have at a minimum, loose absorbent, pails, broom and shovel. Store used materials in individual sealed container and labeled to ensure proper handling and disposal as a hazardous material. <input type="checkbox"/> Keep spill cleanup materials readily available. <input type="checkbox"/> Clean up spills and leaks immediately. <input type="checkbox"/> Use dry cleanup methods for fuel areas rather than hosing down the fuel area. Sweep up absorbents as soon as spilled substances have been absorbed. <input type="checkbox"/> Use spill and overflow protection devices. <input type="checkbox"/> Minimize run-on of stormwater into the fueling area by grading the area such that stormwater only runs off. <input type="checkbox"/> Collect stormwater runoff and provide treatment or recycling. <input type="checkbox"/> Provide curbing or posts around fuel pumps to prevent collisions from vehicles. <input type="checkbox"/> Regularly inspect and perform preventive maintenance on fuel storage tanks to detect potential leaks before they occur. <input type="checkbox"/> Inspect the fueling area for leaks and spills. <input type="checkbox"/> Do not allow "topping off" of the fuel in the receiving equipment. <input type="checkbox"/> Train personnel on vehicle fueling BMPs.
Storing liquid fuels	<ul style="list-style-type: none"> <input type="checkbox"/> If area is uncovered, connect sump outlet to sanitary sewer (if allowed by the sewer authority) or an oil/water separator, catch basin filter, etc. If connecting to a sanitary sewer check with the system operator to ensure that the discharge is acceptable. If implementing separator or filter technologies ensure that regular inspections and maintenance procedures are in place. <input type="checkbox"/> Develop and implement spill plans. <input type="checkbox"/> Train employees in spill prevention and control. <p>Above ground tanks</p> <ul style="list-style-type: none"> <input type="checkbox"/> Provide secondary containment, such as dikes, with a height sufficient to contain a spill (the greater of 10 percent of the total enclosed tank volume or 110 percent of the volume contained in the largest tank). <input type="checkbox"/> If containment structures have drains, ensure that the drains have valves, and that valves are maintained in the closed position. Institute protocols for checking/testing stormwater in containment areas prior to discharge. <input type="checkbox"/> Use double-walled tanks with overflow protection. <input type="checkbox"/> Keep liquid transfer nozzles/hoses in secondary containment area. <p>Portable containers/drums</p> <ul style="list-style-type: none"> <input type="checkbox"/> Store drums indoors when possible. <input type="checkbox"/> Store drums, including empty or used drums, in secondary containment with a roof or cover (including temporary cover such as a tarp that prevents contact with precipitation). <input type="checkbox"/> Provide secondary containment, such as dikes or portable containers, with a height sufficient to contain a spill (the greater of 10 percent of the total enclosed tank volume or 110 percent of the volume contained in the largest tank). <input type="checkbox"/> Clearly label drum with its contents.
Deicing chemical loading areas	<ul style="list-style-type: none"> <input type="checkbox"/> Store bulk aircraft deicing fluids in contained areas. <input type="checkbox"/> Load deicing trucks in contained areas.

What if activities and materials at my facility are not exposed to precipitation?

The industrial stormwater program requires permit coverage for a number of specified types of industrial activities. However, when a facility is able to prevent the exposure of ALL relevant activities and materials to precipitation, it may be eligible to claim no exposure and qualify for a waiver from permit coverage.

If you are regulated under the industrial permitting program, you must either obtain permit coverage or submit a no exposure certification form, if available. Check with your permitting authority for additional information as not every permitting authority program provides no exposure exemptions.

Where do I get more information?

For additional information on the industrial stormwater program see www.epa.gov/npdes/stormwater/msgp.

A list of names and telephone numbers for each EPA Region or state NPDES permitting authority can be found at www.epa.gov/npdes/stormwatercontacts.

References

Information contained in this Fact Sheet was compiled from EPA's past and current Multi-Sector General Permits and from the following sources:

- ◆ City of Phoenix, Street Transportation Department. 2004. Best Management Practices for Section 5 - Vehicle Maintenance Equipment Cleaning, or Deicing at Air Transportation Facilities. <http://phoenix.gov/STREETS/vehmnt2.pdf>
- ◆ Orange County, California, Watershed & Coastal Resources Division. "Airplane Maintenance and Repair." www.ocwatersheds.com/StormWater/documents_bmp_existing_development.asp
- ◆ Pierce County Washington Public Works and Utilities. 2002. "Stormwater Pollution Prevention Manual: A Guide to Best Management Practices for Industries, Businesses, and Homeowners." www.co.pierce.wa.us/pc/services/home/environ/water/wq/bmpmanual.htm
- ◆ Switzenbaum, et. al., 1999. Workshop: Best Management Practices for Airport Deicing Stormwater: Publication 173. www.umass.edu/tei/wrrc/WRRC2004/pdf/Switz173.pdf
- ◆ U.S. EPA. 1992. Stormwater Management for Industrial Activities: Developing Pollution Prevention Plans and Best Management Practices. EPA 832-R-92-006 www.epa.gov/npdes/stormwater
- ◆ U.S. EPA, Office of Science and Technology. 1999. Preliminary Data Summary of Urban Stormwater Best Management Practices. EPA-821-R-99-012 www.epa.gov/OST/stormwater/
- ◆ U.S. EPA, Office of Water. 2002. Source Water Protections Practices Bulletin: Managing Aircraft and Airfield Deicing Operations to Prevent Contamination of Drinking Water. EPA-816-F-02-018. www.epa.gov/safewater/sourcewater/pubs/fs_swpp_deicingair.pdf
- ◆ U.S. EPA, Office of Wastewater Management. *NPDES Stormwater Multi-Sector General Permit for Industrial Activities (MSGP)*. www.epa.gov/npdes/stormwater/msgp

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Appendix J – Staff Title and Responsibilities

Title	Staff Name
DISTRICT SUPERINTENDENT	Troy Larue
AIRPORT MANAGER	Norman Heyano
AIRPORT MANAGER ALTERNATE	NEED!
CENTRAL REGION M&O ENVIRONMENTAL SPECIALIST	Jennifer Hillman

STATE OF ALASKA

SEAN PARNELL, GOVERNOR

DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

CENTRAL REGION – SOUTHWEST DISTRICT
MAINTENANCE & OPERATIONS

803 AIRPORT ROAD
P.O. BOX 250
DILLINGHAM, ALASKA 99576-0250
907-842-5511 or 907-842-3011 (fax)
907-843-1186 (cell)
norman.heyano@alaska.gov

February 7, 2011

RE: Acting Airport / Station Manager

In the case of my absence from Dillingham, Jack Savo or John Dunson is the acting Airport / Station Manager for Dillingham. Either will assume full authority, control and responsibility for all emergency, inspection and incidents that occur until such time as I arrive back on station in Dillingham

Sincerely,

Norman J Heyano

Norman Heyano
Airport Manager

Appendix K – SPCC Plan

Spill Prevention Control and Countermeasure Plan

Alaska Department of Transportation and Public Facilities
Anchorage, Alaska

SPILL PREVENTION, CONTROL, AND COUNTERMEASURE PLAN

Dillingham State Airport and Facilities

Dillingham, Alaska

January 2011

TABLE OF CONTENTS

	Page
Introduction	1
Part 1: Plan Administration	
1.1 Management Approval and Designated Person	3
1.2 Professional Engineer Certification	3
1.3 Location of SPCC Plan	4
1.4 Plan Review	4
1.5 Cross-Reference with SPCC Provisions	5
Part 2: General Facility Information	
2.1 Facility Description	7
2.2 Evaluation of Discharge Potential	9
Part 3: Discharge Prevention – General SPCC Provisions	
3.1 Compliance with Applicable Requirements	10
3.2 Facility Layout Diagram	10
3.3 Spill Reporting	10
3.4 Potential Discharge Volumes and Direction of Flow	10
3.5 Containment and Diversionary Structures	12
3.6 Practicability of Secondary Containment	13
3.7 Inspections, Tests, and Records	13
3.8 Personnel, Training, and Discharge Prevention Procedures	15
3.9 Security	16
3.10 Conformance with State and Local Applicable Requirements	16
Part 4: Discharge Prevention – SPCC Provisions for Onshore Facilities (Excluding Production Facilities)	
4.1 Facility Drainage	17
4.2 Bulk Storage Containers	20
4.3 Transfer Operations, Pumping, and In-Plant Processes	20
Part 5: Discharge Response	
5.1 Response to a Minor Discharge	21
5.2 Response to a Major Discharge	22
5.3 Waste Disposal	23

5.4 Discharge Notification	23
----------------------------	----

List of Tables

Table 1-1: Plan Review Log	5
Table 1-2: SPCC Cross-Reference	6
Table 2-1: Oil Containers	9
Table 3-1: Potential Discharge Volume and Direction of Flow	11
Table 3-2: Inspection and Testing Program	14
Table 4-1: List of Oil Containers	17

Appendices

- A: Site Plan and Facility Diagram
- B: Substantial Harm Determination
- C: Facility Inspection Checklists
- D: Record of Discharge Prevention Briefings and Training
- E: Records of Tank Integrity and Pressure Tests
- F: Emergency Contacts
- G: Discharge Notification Form
- H: Discharge Response Equipment Inventory
- I: Agency Notification Standard Report

LIST OF ACRONYMS AND ABBREVIATIONS

ARFF	Airport Rescue and Fire Fighting
AST	Aboveground Storage Tank
CFR	Code of Federal Regulations
EPA	U.S. Environmental Protection Agency
ADEC	Alaska Department of Environmental Conservation
ADOT&PF	Alaska Department of Transportation and Public Facilities
M&O	Maintenance and Operations
NPDES	National Pollutant Discharge Elimination System
PE	Professional Engineer
RA	Regional Advisor
SPCC	Spill Prevention, Control, and Countermeasure
STI	Steel Tank Institute
SWPPP	Stormwater Pollution Prevention Plan
UST	Underground Storage Tank

INTRODUCTION

Purpose

The purpose of this Spill Prevention, Control, and Countermeasure (SPCC) Plan is to describe measures implemented by Alaska Department of Transportation and Public Facilities (ADOT&PF) to prevent oil discharges from occurring, and to prepare ADOT&PF to respond in a safe, effective, and timely manner to mitigate the impacts of a discharge at the Dillingham State Airport and Facilities.

This Plan has been prepared to meet the requirements of Title 40, *Code of Federal Regulations*, Part 112 (40 CFR part 112), and supersedes the plan developed in 2000 to meet provisions in effect since 1974.

In addition to fulfilling requirements of 40 CFR part 112, this SPCC Plan is used as a reference for oil storage information and testing records, as a tool to communicate practices on preventing and responding to discharges with employees, as a guide to facility inspections, and as a resource during emergency response. It is the policy of ADOT&PF to prevent the discharge of oil and hazardous substances and to provide for prompt and coordinated response to contain and cleanup spills, should they occur.

ADOT&PF has determined that this facility does not pose a risk of substantial harm under 40 CFR part 112, as recorded in the "Substantial Harm Determination" included in Appendix B of this Plan.

This Plan has been developed for ADOT&PF above ground storage tanks (ASTs) at the Dillingham State Airport and Facilities and provides guidance on activities that ADOT&PF must perform to comply with the SPCC rule:

- < Complete monthly and annual site inspections as outlined in the Inspection, Tests, and Records section of this Plan (Section 3.7) using the inspection checklists included in Appendix C.
- < Perform preventive maintenance of equipment, secondary containment systems, and discharge prevention systems described in this Plan as needed to keep them in proper operating conditions.
- < Conduct annual employee training as outlined in the Personnel, Training, and Spill Prevention Procedures section of this Plan (Section 3.8) and document them on the log included in Appendix E.
- < If either of the following occurs, submit the SPCC Plan to the EPA Region 10 Regional Administrator (RA) and the Alaska Department of Environmental Conservation (ADEC), along with other information as detailed in Section 5.4 of this Plan:

- < The facility discharges more than 1,000 gallons of oil into or upon the navigable waters of the U.S. or adjoining shorelines in a single spill event;
or
- < The facility discharges oil in quantity greater than 42 gallons in each of two spill events within any 12-month period.

- < Review the SPCC Plan at least once every five (5) years and amend it to include more effective prevention and control technology, if such technology will significantly reduce the likelihood of a spill event and has been proven effective in the field at the time of the review. Plan amendments, other than administrative changes discussed above, must be recertified by a Professional Engineer on the certification page in Section 1.2 of this Plan.

- < Amend the SPCC Plan within six (6) months whenever there is a change in facility design, construction, operation, or maintenance that materially affects the facility's spill potential. The revised Plan must be recertified by a Professional Engineer (PE).

- < Review the Plan on an annual basis. Update the Plan to reflect any "administrative changes" that are applicable, such as personnel changes or revisions to contact information, such as phone numbers. Administrative changes must be documented in the Plan review log of Section 1.4 of this Plan, but do not have to be certified by a PE.

Part 1: Plan Administration

1.1 Management Approval and Designated Person (40 CFR 112.7)

ADOT &PF is committed to preventing discharges of oil to navigable waters and the environment, and to maintaining the highest standards for spill prevention control and countermeasures through the implementation and regular review and amendment to the Plan. This SPCC Plan has the full approval ADOT&PF. ADOT&PF has committed the necessary resources to implement the measures described in this Plan.

The Airport Manager is the Designated Person Accountable for Oil Spill Prevention at the facility and has the authority to commit the necessary resources to implement this Plan.

Authorized Facility Representative (facility response coordinator): Norman Heyano
Signature: 
Title: Dillingham Airport Manager
Date: 1/11/11

1.2 Professional Engineer Certification (40 CFR 112.3(d))

The undersigned Registered Professional Engineer is familiar with the requirements of Part 112 of Title 40 of the *Code of Federal Regulations* (40 CFR part 112) and has visited and examined the facility, or has supervised examination of the facility by appropriately qualified personnel. The undersigned Registered Professional Engineer attests that this Spill Prevention, Control, and Countermeasure Plan has been prepared in accordance with good engineering practice, including consideration of applicable industry standards and the requirements of 40 CFR part 112; that procedures for required inspections and testing have been established; and that this Plan is adequate for the facility. [40 CFR 112.3(d)]

This certification in no way relieves the owner or operator of the facility of his/her duty to prepare and fully implement this SPCC Plan in accordance with the requirements of 40 CFR part 112. This Plan is valid only to the extent that the facility owner or operator maintains, tests, and inspects equipment, containment, and other devices as prescribed in this Plan.

Signature:  Professional Engineer Registration Number: 4911
Name: Jennifer Reed Title: 
Company: ADOT Date: 1/11/11


1.3 Location of SPCC Plan (40 CFR 112.3(e))

In accordance with 40 CFR 112.3(e), a complete copy of this SPCC Plan is maintained at the Dillingham Maintenance facility in the office building as part of the Storm Water Pollution Prevention Plan (SWPPP) located at:

803 Airport Road
Dillingham, Alaska 99576

The office is attended whenever the facility is operating.

1.4 Plan Review (40 CFR 112.3 and 112.5)

1.4.1 Changes in Facility Configuration

In accordance with 40 CFR 112.5(a), ADOT&PF periodically reviews and evaluates this SPCC Plan for any change in the facility design, construction, operation, or maintenance that materially affects the facility's potential for an oil discharge, including, but not limited to:

- commissioning of containers;
- reconstruction, replacement, or installation of piping systems;
- construction or demolition that might alter secondary containment structures; or
- changes of product or service, revisions to standard operation, modification of testing/inspection procedures, and use of new or modified industry standards or maintenance procedures.

Amendments to the Plan made to address changes of this nature are referred to as technical amendments, and must be certified by a PE. Non-technical amendments can be done (and must be documented in this section) by the facility owner and/or operator. Non-technical amendments include the following:

- change in the name or contact information (i.e., telephone numbers) of individuals responsible for the implementation of this Plan; or
- change in the name or contact information of spill response or cleanup contractors.

ADOT&PF must make the needed revisions to the SPCC Plan as soon as possible, but no later than six months after the change occurs. The Plan must be implemented as soon as possible following any technical amendment, but *no later than six months* from the date of the amendment. The Airport Manager is responsible for initiating and coordinating revisions to the SPCC Plan.

1.4.2 Scheduled Plan Reviews

In accordance with 40 CFR 112.5(b), ADOT&PF will review this SPCC Plan at least once every five years (in the past, such reviews were required every three years). Revisions to the Plan, if

needed, are made within six months of the five-year review. A registered Professional Engineer certifies any technical amendment to the Plan, as described above, in accordance with 40 CFR 112.3(d). The last SPCC review occurred in *July 2000*. This Plan is dated *January 2011*. The next plan review is therefore scheduled to take place on or prior to *January 2016*.

1.4.3 Record of Plan Reviews

Scheduled reviews and Plan amendments are recorded in the Plan Review Log (Table 1-1). This log must be completed even if no amendment is made to the Plan as a result of the review. Unless a technical or administrative change prompts an earlier review of the Plan, the next scheduled review of this Plan must occur by *January 2016*.

1.5 Cross-Reference with SPCC Provisions (40 CFR 112.7)

This SPCC Plan does not follow the exact order presented in 40 CFR part 112. Section headings identify, where appropriate, the relevant section(s) of the SPCC rule. Table 1-2 presents a cross-reference of Plan sections relative to applicable parts of 40 CFR part 112.

Table 1-1: Plan Review Log

By	Date	Activity	PE certification required?	Comments
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Table 1-2: SPCC Cross-Reference

Provision	Plan Section	Page
112.3(d)	Professional Engineer Certification	3
112.3(e)	Location of SPCC Plan	4
112.5	Plan Review	4 Table 1-1
112.7	Management Approval	3
112.7	Cross-Reference with SPCC Rule	Table 1-2
112.7(a)(3)	Part 2: General Facility Information Appendix A: Site Plan and Facility Diagram	7 Appendix A
112.7(a)(4)	5.4 Discharge Notification	23 Appendix G Appendix I
112.7(a)(5)	Part 5: Discharge Response	21
112.7(b)	3.4 Potential Discharge Volumes and Direction of Flow	10
112.7(c)	3.5 Containment and Diversionary Structures	12
112.7(d)	3.6 Practicability of Secondary Containment	13
112.7(e)	3.7 Inspections, Tests, and Records	13 Appendix C
112.7(f)	3.8 Personnel, Training and Discharge Prevention Procedures	15
112.7(g)	3.9 Security	16
112.7(j)	3.10 Conformance with Applicable State and Local Requirements	16
112.8(b)	4.1 Facility Drainage	17
112.8(c)(1)	4.2.1 Construction	18
112.8(c)(2)	4.2.2 Secondary Containment	18
112.8(c)(4)	4.2.3 Corrosion Protection	18
112.8(c)(6)	4.2.4 Inspection Appendix B - Facility Inspection Checklists	18 Appendix B
112.8(c)(8)	4.2.5 Overfill Prevention System	19
112.8(c)(10)	4.2.6 Visible Discharges	20
112.8(d)	4.3 Transfer Operations, Pumping and In-Plant Processes	20
112.20(e)	Certification of Substantial Harm Determination	Appendix B

* Only selected excerpts of relevant rule text are provided. For a complete list of SPCC requirements, refer to the full text of 40 CFR part 112.

Part 2: General Facility Information

Name:	Alaska Department of Transportation and Public Facilities, Dillingham Airport and Facilities
Address:	803 Airport Road/P.O. Box 250 Dillingham, Alaska 99576 (907) 842-5511
Type:	Airport and Facilities
Owner/Operator:	Alaska Department of Transportation and Public Facilities P.O. Box 196900 4111 Aviation Drive Anchorage, Alaska 99519
Primary contact:	Norman Heyano, Airport Manager Work: (907) 842-551100 Cell (24 hours): (907) 842-3011

2.1 Facility Description (40 CFR 112.7(a)(3))

2.1.1 Location and Activities

The Dillingham Airport is located near Dillingham, AK, on Airport Road approximately 0.2 mile north of the Nushagak River (Appendix A). The facility consists of one 6,404-foot-long asphalt-surfaced runway (1/19). Two 515-foot-long paved taxiways perpendicular to the runway connect to the main apron that is located west of the runway. Leased apron areas, both paved and gravel surfaced, are located on the west side of the runway. Other facilities include an Aircraft Rescue Fire Fighting (ARFF)/Snow Removal Equipment building, sand storage building, a City of Dillingham building, and several other leased buildings. Equipment fueling occurs outside from a 4,000-gallon, diesel aboveground storage tank (AST) located to the west of the equipment building. Gasoline is purchased off-site from a private supplier. Equipment maintenance takes place indoors, primarily at the aircraft, rescue, and fire/equipment storage building. Snow removal equipment is washed inside the equipment storage building. The washing process includes a pressure washer and potable water to clean the equipment. The wash water drains into the building floor drains, which lead to an oil/water separator and then into the city sewer system. Runway maintenance and deicing also occur at the Dillingham Airport. Runway maintenance is limited to repainting runway markings (once a year) and sealing stress cracks in the asphalt surface (as necessary). These activities are performed in accordance with DOT&PF procedures and require dry weather. Deicing activities include application of urea and sand on runways, taxiways, and aprons. Average annual usage of urea is approximately 50 tons with 20,000 gallons of potassium acetate used on runways.

Drainage patterns for the Dillingham Airport are shown on figure(s) in Appendix A. In general, stormwater runoff at the airport either drains to vegetated areas or into several ditches which are connected to culverts and discharge at outfalls from the airport property. Subsurface drains and associated catch basins are

located on the eastern portion of the leased apron areas. Four separate drainage areas, designated as Watersheds A –D, and associated outfalls are depicted on Figure 1 in Appendix A.

2.1.2 Oil Storage

Oil storage at the facility consists of five ASTs: a 4000 gallon diesel fuel tank, a 2,000 gallon low sulfur diesel tank and a 2,000 gallon heating oil tank all located at the Chemical Storage Building, a 3000 gallon above ground double wall heating fuel tank at the ARFF Facility and 1000 gallon heating oil tank at the sand storage facility (see Figure 2).

The capacities of oil containers present at the site are listed below and are also indicated on the facility diagram in Figure 2. All containers with capacity of 55 gallons or more are included. The capacity of the oil/water separator is not included in the total storage capacity for the facility since it is used to treat storm water and as a means of secondary containment for areas of the facility with potential for an oil discharge.

Table 2-1: Oil Containers

ID	Storage capacity	Content	Description
Fixed Storage			
1	4,000 gallons	Diesel	Double walled, firewall, aboveground horizontal tank elevated on built-in saddles
2	2,000 gallons	Low Sulfur Diesel	Double walled, firewall, aboveground horizontal tank elevated on built-in saddles
3	2,000 gallons	Heating Oil	Double walled, firewall, aboveground horizontal tank elevated on built-in saddles
4	3,000 gallons	Heating Oil	Double walled, firewall, aboveground horizontal tank box containment
5	1,000 gallons	Heating Oil	Double walled, firewall, aboveground horizontal tank elevated on built-in saddles
6	55 gallons	Waste oil/oil	Single walled 55 gallon drums, typically located indoors.

Total Oil Storage: 12,000 gallons

Other containers: 45-gallon oil/water separator and a 200 gallon above ground oil/water separator in the Chemical Storage Building.

Note: The oil/water separator is used to treat facility drainage (i.e., wastewater) prior to treatment at the Dillingham municipal waste water treatment plant. This equipment is used to meet certain secondary containment requirements under 40 CFR part 112, as described later in this Plan. Thus, the capacity of the oil/water separator is not counted towards the facility total storage capacity.

2.2 Evaluation of Discharge Potential

2.2.1 Distance to Navigable Waters and Adjoining Shorelines and Flow Paths

The nearest water bodies that could be impacted by a spill from this facility are the unnamed wetlands adjacent to the airport, the nearest creek is Squaw Creek approximately 0.15 miles from the airport which drains to the Nushagak River. The Nushagak River is the nearest navigable waterway, .2 miles away, and ultimately drains to Bristol Bay. A release from any of the facilities would flow west through a series of culverts and vegetated ditches to outfall C. Deicing materials or a release on the runways from aircraft or equipment would be largely contained in safety areas. This would allow time to contain spills as well as allow for buffering and filtration through vegetated low areas.

2.2.2 Discharge History

There have been no significant or reportable spills or leaks within the last three years. If this facility has a greater than 1,000 gallon release to the water, or two federally reportable spills in a 12 month period, then the SPCC Plan must be submitted to the EPA Regional Administrator and ADEC.

PART 3: Discharge Prevention - General SPCC Provisions

The following measures are implemented to prevent oil discharges during the handling, use, or transfer of oil products at the facility. Oil-handling employees have received training in the proper implementation of these measures.

3.1 Compliance with Applicable Requirements (40 CFR 112.7(a)(2))

This facility uses an oil/water separator as part of its drainage system to contain oil discharged. The separator provides environmental protection equivalent to the requirements under 112.8(b)(3) to use ponds, lagoons, or catchment basins to retain oil at the facility in the event of an uncontrolled discharge. As described in Section 3.5 of this Plan, the operational and emergency oil storage capacity of the oil/water separator is sufficient to handle the quantity of oil expected to be discharged from tank overfills or transfer operations. All tanks are double walled and have overflow protection to prevent spills.

3.2 Facility Layout Diagram (40 CFR 112.7(a)(3))

Figure 1 in Appendix A shows the general location of the facility on a U.S. Geological Survey topographic map. Figure 2 in Appendix A presents a layout of the facility and the location of storage tanks and drums. The diagram also shows the location of storm water drain inlets and the direction of surface water runoff. As required under 40 CFR 112.7(a)(3), the facility diagram indicates the location and content of ASTs.

3.3 Spill Reporting (40 CFR 112.7(a)(4))

The discharge notification form included in Appendix I will be completed upon immediate detection of a discharge and prior to reporting a spill to the proper notification contacts.

3.4 Potential Discharge Volumes and Direction of Flow (40 CFR 112.7(b))

Table 3-1 presents expected volume, discharge rate, general direction of flow in the event of equipment failure, and means of secondary containment for different parts of the facility where oil is stored, used, or handled.

Table 3-1: Potential Discharge Volumes and Direction of Flow

Potential Event	Maximum volume released (gallons)	Maximum discharge rate	Direction of Flow	Secondary Containment
Diesel Tank – Chemical Storage Building				
Failure of aboveground tank (collapse or puncture below product level)	4,000	Gradual to instantaneous	East or northeast into a series of culverts and ditches	Double walled construction
Tank overfill	1-55	55 gal/min	East or northeast into a series of culverts and ditches	Double walled construction
Pipe failure	4,000	32 gal/min	East or northeast into a series of culverts and ditches	Double walled construction
Leaking pipe or valve packing	4,000	3-8 gal/min	East or northeast into a series of culverts and ditches	Double walled construction
Low Sulfur Diesel – Chemical Storage Building				
Failure of aboveground tank (collapse or puncture below product level)	2,000	Gradual to instantaneous	East or northeast into a series of culverts and ditches	Double walled construction
Tank overfill	1-55	55 gal/min	East or northeast into a series of culverts and ditches	Double walled construction
Pipe failure	2,000	32 gal/min	East or northeast into a series of culverts and ditches	Double walled construction
Leaking pipe or valve packing	2,000	3-8 gal/min	East or northeast into a series of culverts and ditches	Double walled construction
Heating Oil – Chemical Storage Building				
Failure of aboveground tank (collapse or puncture below product level)	2,000	Gradual to instantaneous	East or northeast into a series of culverts and ditches	Double walled construction
Tank overfill	1-55	55 gal/min	East or northeast into a series of culverts and ditches	Double walled construction
Pipe failure	2,000	32 gal/min	East or northeast into a series of culverts and ditches	Double walled construction
Leaking pipe or valve packing	2,000	3-8 gal/min	East or northeast into a series of culverts and ditches	Double walled construction
Diesel Tank – ARFF Building				

Potential Event	Maximum volume released (gallons)	Maximum discharge rate	Direction of Flow	Secondary Containment
Failure of aboveground tank (collapse or puncture below product level)	3,000	Gradual to instantaneous	Southeast into a series of culverts and ditches	Box containment
Tank overfill	1 to 55	55 gal/min	Southeast into a series of culverts and ditches	Box containment
Pipe failure	3,000	32 gal/min	Southeast into a series of culverts and ditches	Box containment
Leaking pipe or valve packing	3,000	3-8 gal/min	Southeast into a series of culverts and ditches	Box containment
Diesel Tank – Sand Storage Building				
Failure of aboveground tank (collapse or puncture below product level)	1,000	Gradual to instantaneous	East or northeast into a series of culverts and ditches	Double walled construction
Tank overfill	1 - 55	55 gal/min	East or northeast into a series of culverts and ditches	Double walled construction
Pipe failure	1,000	10 gal/min	East or northeast into a series of culverts and ditches	Double walled construction
Leaking pipe or valve packing	1,000	3 gal/min	East or northeast into a series of culverts and ditches	Double walled construction
Drums - ARFF				
Leak or failure of drum	1 to 55	Leak or failure of drum	1 to 55	Leak or failure of drum

3.5 Containment and Diversionary Structures (40 CFR 112.7(c))

Methods of secondary containment at this facility include a combination of structures drainage systems (e.g., oil/water separator), and land-based spill response (e.g., drain covers, sorbents) to prevent oil from reaching navigable waters and adjoining shorelines:

For bulk storage containers (refer to Section 4.2.2 of this Plan):

- **Double-wall tank construction.**
- **Sorbent material.** Spill cleanup kits that include absorbent material, booms, and other portable barriers are located inside the ARF building and in the Chemical

storage building. The spill kits are located within close proximity of the oil product storage and handling areas for rapid deployment should a spill occur. Sorbent material, booms, and other portable barriers are stored for quick deployment in the event of a discharge during loading/unloading activities or any other accidental discharges. The response equipment inventory for the facility is listed in Appendix H of this Plan. The inventory is checked regularly to ensure that used material is replenished.

- **Oil/water separator.** The oil/water separator is designed to separate and retain oil at the facility. The oil/water separator has a static holding capacity of 45 gallons and a design flow rate of 25 gallons per minute. The maximum amount of oil potentially discharged within this shop is 55 gallons. The oil/water separator in the Chemical Storage building has a static holding capacity for oil/water mixture of 200 gallons and a design flow rate of 10 gallons per minute. Best Management Practices are used to minimize the amount of solids and oil that flow into the oil/water separator. Facility personnel are instructed to avoid and address small spills using sorbents to minimize runoff of oil into the oil/water separator. The oil/water separator is inspected monthly as part of the scheduled inspection to check the level of water within the separator and measure the depth of bottom sludges and floating oils. Floating oil is removed on an annual basis and as necessary.

3.6 Practicability of Secondary Containment (40 CFR 112.7(d))

ADOT&PF management has determined that secondary containment is practicable at this facility.

3.7 Inspections, Tests, and Records (40 CFR 112.7(e))

As required by the SPCC rule, ADOT&PF performs the inspections, tests, and evaluations listed in the following table. Table 3-2 summarizes the various types of inspections and tests performed at the facility. The inspections and tests are described later in this section, and in the respective sections that describe different parts of the facility (e.g., Section 4.2.6 for bulk storage containers).

Table 3-2: Inspection and Testing Program

Facility Component	Action	Frequency/Circumstances
Aboveground container	Test container integrity. Combine visual inspection with another testing technique (non-destructive shell testing). Inspect outside of container for signs of deterioration and discharges.	Following a regular schedule (monthly, annual, and during scheduled inspections) and whenever material repairs are made.
Container supports and foundation	Inspect container's supports and foundations.	Following a regular schedule (monthly, annual, and during scheduled inspections) and whenever material repairs are made.
Liquid level sensing devices (overfill)	Test for proper operation.	Monthly

3.7.1 Daily Inspection

A DOT&PF employee performs a complete walk-through of the facility each day. This daily visual inspection involves: (1) looking for tank/piping damage or leakage, stained or discolored soils; (2) observing shop drains, ditches, and low lying areas for oil stains and the presence of oil.

3.7.2 Monthly Inspection

The checklist provided in Appendix C is used for monthly inspections by ADOT&PF personnel. The monthly inspections cover the following key elements:

- Observing the exterior of aboveground storage tanks, pipes, and other equipment for signs of deterioration, leaks, corrosion, and thinning.
- Observing the exterior of portable containers for signs of deterioration or leaks.
- Observing tank foundations and supports for signs of instability or excessive settlement.
- Observing the tank fill and discharge pipes for signs of poor connection that could cause a discharge, and tank vent for obstructions and proper operation.
- Verifying the proper functioning of overfill prevention systems.
- Checking the inventory of spill response kits.
- Observing the quantity of accumulated oil within the oil/water separator to ensure within capacity.

All problems regarding tanks, piping, containment, or spill response kits must immediately be reported to the Airport Manager. Visible oil leaks from tank walls, piping, or other components must be repaired as soon as possible to prevent a larger spill or a discharge to navigable waters or adjoining shorelines. Pooled oil is removed immediately upon discovery.

Written monthly inspection records are signed by the Airport Manager and maintained with this SPCC Plan for a period of three years.

3.7.3 Annual Inspection

Facility personnel perform a more thorough inspection of facility equipment on an annual basis. This annual inspection complements the monthly inspection described above and is performed during the summer (coupled with the SWPPP annual inspection if possible) each year using the checklist provided in Appendix C of this Plan.

The inspection will preferably take place after a large storm event to observe drainage ditches and oil/water separator functioning.

Written annual inspection records are signed by the Airport Manager and maintained with this SPCC Plan for a period of three years.

3.7.4 Periodic Integrity Testing

In addition to the above monthly and annual inspections by facility personnel, all tanks are periodically evaluated by an outside certified tank inspector.

3.8 Personnel, Training, and Discharge Prevention Procedures (40 CFR 112.7(f))

The Airport Manager is the facility designee and is responsible for oil discharge prevention, control, and response preparedness activities at this facility.

ADOT&PF management has instructed facility personnel in the operation and maintenance of oil pollution prevention equipment, discharge procedure protocols, applicable pollution control laws, rules and regulations, general facility operations, and the content of this SPCC Plan. Any new facility personnel are provided with this same training.

Annual discharge prevention briefings are held by the Airport Manager for all facility personnel involved in oil operations. The briefings are aimed at ensuring continued understanding and adherence to the discharge prevention procedures presented in the SPCC Plan. The briefings also highlight and describe known discharge events or failures, malfunctioning components, and recently implemented precautionary measures and best practices. Facility operators and other personnel will have the opportunity during the briefings to share recommendations concerning health, safety, and environmental issues encountered during facility operations.

Future training exercises will be periodically held to prepare for possible discharge responses.

Records of the briefings and discharge prevention training are kept on the form shown in Appendix E and maintained with this SPCC Plan for a period of three years.

3.9 Security (40 CFR 112.7(g))

Security issues addressed in the SPCC regulations include vandalism, accidental damage from vehicles or foot traffic, unauthorized or inappropriate access, and safety precautions for equipment that is not in service. Accordingly, security measures should be implemented to control access, emphasize operational safety, and enhance spill prevention efforts. Specific features referenced in the regulations consist of fences, locks, and lighting.

Tanks are stored in well lit areas to detect spills in darkness with the ARFF building and tank contained within a fenced in area. Posts are installed around the 4k gallon fueling tanks to prevent collision.

When tanks are in non-operating or standby status, valves that allow outward flow of fuel are to be securely closed in non-operating status.

This lighting around tanks is adequate to observe the tanks, see potential spills in darkness, and discourage vandalism.

3.10 Conformance with State and Local Applicable Requirements (40 CFR 112.7(j))

All aboveground storage tanks at this facility are in conformance with local and state laws.

PART 4: Discharge Prevention – SPCC Provisions for Onshore Facilities (Excluding Production Facilities)

4.1 Facility Drainage (40 CFR 112.8(b))

Any potential discharge from ASTs and discharges occurring during loading/unloading operations will be contained by the oil/water separator, drainage ditches or low lying areas. The maintenance station is approximately .15 miles from surface waters which allows buffering capacity for spills. The facility includes a drainage system and an oil/water separator, which are used as containment for spill sources on paved and indoor areas. This separator provides environmental protection equivalent to ponds, lagoons, or catchments basins required under 40 CFR 112.8(b)(3) and (4), as allowed in 40 CFR 112.7(a)(2). Discharges outside the containment areas, such as those occurring in the fuel dispensing area or while unloading heating oil, will flow by gravity into vegetated ditches and low-lying areas where oil will be retained until it can be pumped out.

4.2 Bulk Storage Containers (40 CFR 112.8(c))

Table 4-1 summarizes the construction, volume, and content of bulk storage containers at the Dillingham Airport and associated facilities.

Table 4-1: List of Oil Containers

Tank	Location	Type (Construction Standard)	Capacity (gallons)	Content	Discharge Prevention & Containment
#1	Chemical Storage	UL listed Above Ground Fire Guard Secondary Containment Storage Tank	4,000	Diesel	Double walled tank with liquid level gauge, overfill protection and interstitial monitoring.
#2	Chemical Storage	UL listed Above Ground Fire Guard Secondary Containment Storage Tank	2,000	Low Sulfur Diesel	Double walled tank with liquid level gauge, overfill protection and interstitial monitoring.
#3	Chemical Storage	UL listed Above Ground Fire Guard Secondary Containment Storage Tank	2,000	Heating Fuel	Double walled tank with liquid level gauge, overfill protection and interstitial monitoring.

#4	ARFF	UL listed Above Ground Fire Guard Secondary Box Containment Storage Tank	3,000	Heating Fuel	Double walled tank with liquid level gauge, overflow protection and interstitial monitoring.
#5	Sand Storage Building	UL listed Above Ground Fire Guard Secondary Containment Storage Tank	1,000	Heating Fuel	Double walled tank with liquid level gauge, overflow protection and interstitial monitoring.

4.2.1 Construction (40 CFR 112.8 (c)(1))

All oil tanks used at this facility are constructed of steel, in accordance with industry specifications as described above. The design and construction of all bulk storage containers are compatible with the characteristics of the oil product they contain, and with temperature and pressure conditions.

Piping between fixed aboveground bulk storage tanks is made of steel and placed aboveground on appropriate supports designed to minimize erosion and stress.

4.2.2 Secondary Containment (40 CFR 112.8(c)(2))

All ASTs are double walled tanks with overflow protection and liquid level gauges. In the event of a spill oil will flow to low vegetated areas isolated from waterways until it is able to be retrieved.

The 55-gallon drums are stored indoors when possible and the drain system and oil water separators in the ARF and Chemical Storage building serve as a source of secondary containment.

4.2.3 Corrosion Protection (40 CFR 112.8(c)(4))

All tanks are coated with White Chemline Polyurethane to prevent corrosion. Tanks are monitored and inspected regularly for leaks and wear. All piping is above ground and is made of black iron.

4.2.4 Inspections and Tests (40 CFR 112.8(c)(6))

Visual inspections of ASTs by facility personnel are performed according to the procedure described in this SPCC Plan. Leaks from tank seams, gaskets, rivets, and bolts are promptly corrected. Records of inspections and tests are signed by the inspector and kept at the facility for at least three years.

Annual inspections by certified and contracted individuals are conducted and records of certified tank inspections are kept at the facility for at least three years. Shell test comparison records are retained for the life of the tanks.

Table 4-2 summarizes inspections and tests performed on bulk storage containers (“EE” indicates that an environmentally equivalent measure is implemented in place of the inspection/test, as discussed in Section 3.1 of this Plan).

Table 4-2: Scope and Frequency of Bulk Storage Containers Inspections and Tests

Inspection/Test	Tank ID					Drums
	#1	#2	#3	#4	#5	
Visual inspection by facility personnel (as per checklist of Appendix C)	M A	M A	M A	M A	M A	M A
External inspection by certified inspector	20 yr	20 yr	20 yr	20 yr	EE	EE
Internal inspection by certified inspector	20 yr*	20 yr*	20 yr*	20 yr*	EE	EE
Tank tightness test meeting requirements of 40 CFR 280						

Legend: M: Monthly
A: Annual
EE: Inspection not required given use of environmentally equivalent measure (refer to Section 3.1 of this Plan).
* Or earlier, as recommended by the certified inspector based on findings from an external inspection.
† Internal inspection may be recommended by the certified inspector based on findings from the external inspection.

The frequency above is based on implementation of a scheduled inspection/testing program. To initiate the program, ASTs will be inspected by the following dates:

- All tanks will be visually inspected monthly beginning February 2011.
- All tanks must be undergo an external inspection on or before February 1, 2012

4.2.5 Overfill Prevention Systems (40 CFR 112.8(c)(8))

All tanks are equipped with a liquid level gauge. General secondary containment is provided in the event of overfills, as described in this Plan.

Facility personnel are present, when possible, throughout the filling operations to monitor the product level in the tanks.

4.2.6 Visible Discharges (40 CFR 112.8(c)(10))

Visible discharges from any container or attachments – including seams, gaskets, piping, pumps, valves, rivets, and bolts – are quickly corrected upon discovery.

Oil is promptly removed and disposed of according to the waste disposal method described in Part 5 of this Plan.

4.3 Transfer Operations, Pumping, and In-Plant Processes (40 CFR 112.8(d))

Transfer operations at this facility include:

- The filling of heating oil to storage tanks.
- The filling of operations vehicles.

All piping at this facility is aboveground and cathodically protected against corrosion and is provided with a protective wrapping and coating. All pipes are visually inspected on a monthly basis. Inspection includes aboveground valves, piping, appurtenances, expansion joints, valve glands and bodies, catch pans, pipeline supports, locking of valves, and metal surfaces. Observations are noted on the monthly inspection checklist provided in this Plan. If corrosion damage is found, additional examination and corrective action must be taken as deemed appropriate considering the magnitude of the damage.

Lines that are not in service or are on standby for an extended period of time are capped or blank-flanged and marked as to their origin.

All pipe supports are designed to minimize abrasion and corrosion and to allow for expansion and contraction. Pipe supports are visually inspected during the monthly inspection of the facility.

Warning signs are posted at appropriate locations throughout the facility to prevent vehicles from damaging aboveground piping and appurtenances.

Part 5: Discharge Response

This section describes the response and cleanup procedures in the event of an oil discharge. The uncontrolled discharge of oil to groundwater, surface water, or soil is prohibited by state and federal laws. Immediate action must be taken to control, contain, and recover discharged product.

In general, the following steps are taken:

- Eliminate potential spark sources;
- If possible and safe to do so, identify and shut down source of the discharge to stop the flow;
- Contain the discharge with sorbents, berms, fences, trenches, sandbags, or other material;
- Contact the Airport Manager or his/her alternate;
- Contact regulatory authorities and the response organization; and
- Collect and dispose of recovered products according to regulation.

For the purpose of establishing appropriate response procedures, this SPCC Plan classifies discharges as either “minor” or “major,” depending on the volume and characteristics of the material released.

A list of Emergency Contacts is provided in Appendix F. A list of discharge response material kept at the facility is included in Appendix H.

5.1 Response to a Minor Discharge

A “minor” discharge is defined as one that poses no significant harm (or threat) to human health and safety or to the environment. Minor discharges are generally those where:

- The quantity of product discharged is small (e.g., may involve less than 10 gallons of oil);
- Discharged material is easily stopped and controlled at the time of the discharge;
- Discharge is localized near the source;
- Discharged material is not likely to reach water;
- There is little risk to human health or safety; and
- There is little risk of fire or explosion.

Minor discharges can usually be cleaned up by ADOT&PF personnel. The following guidelines apply:

- Immediately notify the Airport Manager.
- Under the direction of the Airport Manager, contain the discharge with discharge response materials and equipment. Place discharge debris in properly labeled waste containers.
- The Airport Manager will complete the discharge notification form (Appendix G) and attach a copy to this SPCC Plan.
- If the discharge involves between 1 and 10 gallons of oil, the Airport Manager will notify the ADEC in writing within 10 days.
- If the discharge involves between 10 and 55 gallons of oil, the Airport Manager will notify the ADEC within 48 hours.
- If the discharge involves more than 55 gallons of oil, the Airport Manager will notify the ADEC immediately.

5.2 Response to a Major Discharge

A “major” discharge is defined as one that cannot be safely controlled or cleaned up by facility personnel, such as when:

- The discharge is large enough to spread beyond the immediate discharge area;
- The discharged material enters water;
- The discharge requires special equipment or training to clean up;
- The discharged material poses a hazard to human health or safety; or
- There is a danger of fire or explosion.

In the event of a major discharge, the following guidelines apply:

- All workers must immediately evacuate the discharge site via the designated exit routes and move to the designated staging areas at a safe distance from the discharge. Exit routes are included on the facility diagram and posted in the maintenance building, in the office building, and on the outside wall of the outside shed that contains the spill response equipment.
- If the Airport Manager is not present at the facility, the senior on-site person notifies the Airport Manager of the discharge and has authority to initiate notification and response. Certain notifications are dependent on the circumstances and type of discharge.
- The Airport Manager (or senior on-site person) must call for medical assistance if workers are injured.
- The Airport Manager (or senior on-site person) must notify local response teams including fire and police departments, as applicable.
- The Airport Manager (or senior on-site person) must call the spill response and cleanup contractors listed in the Emergency Contacts list in Appendix F.

- The Airport Manager (or senior on-site person) must immediately contact the ADEC.
- The Airport Manager (or senior on-site person) must record the call on the Discharge Notification form in Appendix I and attach a copy to this SPCC Plan.
- The Airport Manager (or senior on-site person) coordinates cleanup and obtains assistance from a cleanup contractor or other response organization as necessary.

If the Airport Manager is not available at the time of the discharge, then the next highest person in seniority assumes responsibility for coordinating response activities.

5.3 Waste Disposal

Wastes resulting from a minor discharge response will be contained in impervious bags, drums, or buckets. The Airport Manager will characterize the waste for proper disposal and ensure that it is removed from the facility by a licensed waste hauler within two weeks, or what is most practicable.

Wastes resulting from a major discharge response will be removed and disposed of by a cleanup contractor.

5.4 Discharge Notification

Any size discharge (i.e., one that creates a sheen, emulsion, or sludge) that affects or threatens to affect navigable waters or adjoining shorelines must be reported immediately to the National Response Center (1-800-424-8802). The Center is staffed 24 hours a day.

A summary sheet is included in Appendix I to facilitate reporting. The person reporting the discharge must provide the following information:

- Name, location, organization, and telephone number
- Name and address of the party responsible for the incident
- Date and time of the incident
- Location of the incident
- Source and cause of the release or discharge
- Types of material(s) released or discharged
- Quantity of materials released or discharged
- Danger or threat posed by the release or discharge
- Number and types of injuries (if any)
- Media affected or threatened by the discharge (i.e., water, land, air)
- Weather conditions at the incident location
- Any other information that may help emergency personnel respond to the incident

Contact information for reporting a discharge to the appropriate authorities is listed in Appendix F and is also posted in prominent locations throughout the facility (e.g. in the maintenance building and the ARFF building).

In addition to the above reporting, 40 CFR 112.4 requires that information be submitted to the United States Environmental Protection Agency (EPA) Regional Administrator and the appropriate state agency in charge of oil pollution control activities (see contact information in Appendix H) whenever the facility discharges (as defined in 40 CFR 112.1(b)) *more than 1,000 gallons of oil in a single event*, or discharges (as defined in 40 CFR 112.1(b)) *more than 42 gallons of oil in each of two discharge incidents within a 12-month period*. The following information must be submitted to the EPA Regional Administrator and to MADEP within 60 days:

- Name of the facility;
- Name of the owner/operator;
- Location of the facility;
- Maximum storage or handling capacity and normal daily throughput;
- Corrective action and countermeasures taken, including a description of equipment repairs and replacements;
- Description of facility, including maps, flow diagrams, and topographical maps;
- Cause of the discharge(s) to navigable waters and adjoining shorelines, including a failure analysis of the system and subsystem in which the failure occurred;
- Additional preventive measures taken or contemplated to minimize possibility of recurrence; and
- Other pertinent information requested by the Regional Administrator.

A standard report for submitting the information to the EPA Regional Administrator and to ADEC is included in Appendix K of this Plan.

Appendix A Site Plan and Facility Diagram

Figure 1: Site Plan.

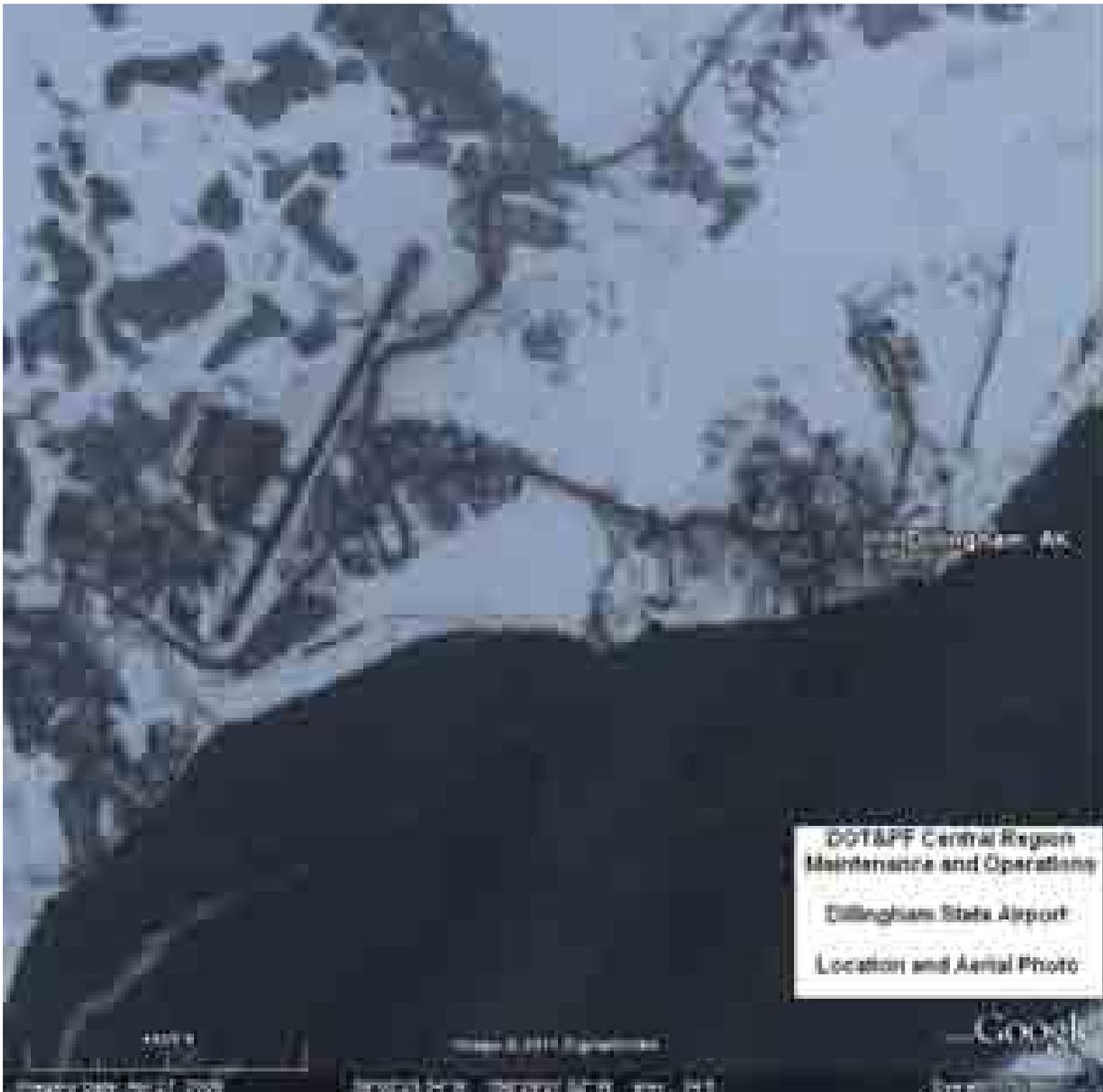
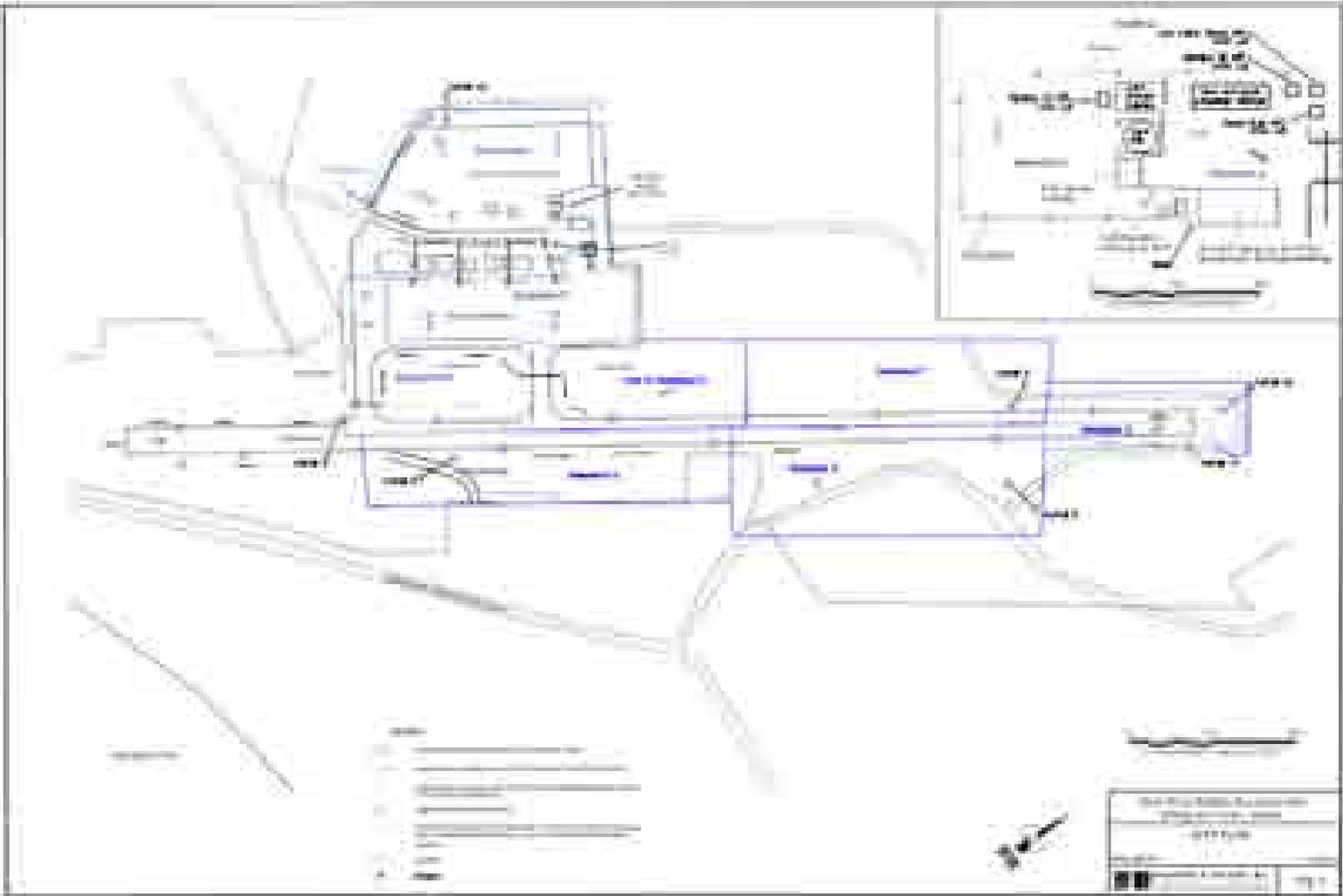


Figure 2: Facility Diagram.



Appendix B Substantial Harm Determination

Facility Name: Dillingham Airport and Facilities
Facility Address: P.O. Box 250
Dillingham, Alaska 99571

1. Does the facility transfer oil over water to or from vessels and does the facility have a total oil storage capacity greater than or equal to 42,000 gallons?
Yes **No**
2. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and does the facility lack secondary containment that is sufficiently large to contain the capacity of the largest aboveground oil storage tank plus sufficient freeboard to allow for precipitation within any aboveground storage tank area?
Yes **No**
3. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and is the facility located at a distance (as calculated using the appropriate formula in 40 CFR part 112 Appendix C, Attachment C-III or a comparable formula) such that a discharge from the facility could cause injury to fish and wildlife and sensitive environments?
Yes **No**
4. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and is the facility located at a distance (as calculated using the appropriate formula in 40 CFR part 112 Appendix C, Attachment C-III or a comparable formula) such that a discharge from the facility would shut down a public drinking water intake?
Yes **No**
5. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and has the facility experienced a reportable oil spill in an amount greater than or equal to 10,000 gallons within the last 5 years?
Yes **No**

Certification

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document, and that based on my inquiry of those individuals responsible for obtaining this information, I believe that the submitted information is true, accurate, and complete.

Signature 

Norman Heyano
Name (type or print)

Dillingham Airport Manager
Title

Date 1/10/11

APPENDIX C

Facility Inspection Checklists

The following checklists are to be used for monthly and annual facility-conducted inspections. Completed checklists must be signed by the inspector and maintained at the facility, with this SPCC Plan, for at least three years.

Monthly Inspection Checklist

This inspection record must be completed *each month* except the month in which an annual inspection is performed. Provide further description and comments, if necessary, on a separate sheet of paper and attach to this sheet. *Any item that receives “yes” as an answer must be described and addressed immediately.

	Y*	N	Description & Comments
Storage tanks			
<i>Tank surfaces show signs of leakage</i>			
<i>Tanks are damaged, rusted or deteriorated</i>			
<i>Bolts, rivets, or seams are damaged</i>			
<i>Tank supports are deteriorated or buckled</i>			
<i>Tank foundations have eroded or settled</i>			
<i>Level gauges or alarms are inoperative</i>			
<i>Vents are obstructed</i>			
<i>Secondary containment is damaged or stained</i>			
<i>Water/product in interstice of double-walled tank</i>			
<i>Dike drainage valve is open or is not locked</i>			
Piping			
<i>Valve seals, gaskets, or other appurtenances are leaking</i>			
<i>Pipelines or supports are damaged or deteriorated</i>			
<i>Joints, valves and other appurtenances are leaking</i>			
<i>Buried piping is exposed</i>			
Oil/water separator			
<i>Oil/water separator > 2 inches of accumulated oil</i>			
<i>Oil/water separator effluent has a sheen</i>			
Security			
<i>Fencing, gates, or lighting is non-functional</i>			
<i>Pumps and valves are locked if not in use</i>			
Response Equipment			
<i>Response equipment inventory is complete</i>			

Date: _____

Signature: _____

Annual Facility Inspection Checklist

This inspection record must be completed *each year*. If any response requires further elaboration, provide comments in Description & Comments space provided. Further description and comments, if necessary, must be provided on a separate sheet of paper and attached to this sheet. *Any item that receives “yes” as an answer must be described and addressed immediately.

	Y*	N	Description & Comments
Storage tanks			
<i>Tank #1</i>			
<i>Tank surfaces show signs of leakage</i>			
<i>Tank is damaged, rusted or deteriorated</i>			
<i>Bolts, rivets or seams are damaged</i>			
<i>Tank supports are deteriorated or buckled</i>			
<i>Tank foundations have eroded or settled</i>			
<i>Level gauges or alarms are inoperative</i>			
<i>Vents are obstructed</i>			
<i>Tank #2</i>			
<i>Tank surfaces show signs of leakage</i>			
<i>Tank is damaged, rusted, or deteriorated</i>			
<i>Bolts, rivets, or seams are damaged</i>			
<i>Tank supports are deteriorated or buckled</i>			
<i>Tank foundations have eroded or settled</i>			
<i>Level gauges or alarms are inoperative</i>			
<i>Vents are obstructed</i>			
<i>Tank #3</i>			
<i>Tank surfaces show signs of leakage</i>			
<i>Tank is damaged, rusted, or deteriorated</i>			
<i>Bolts, rivets, or seams are damaged</i>			
<i>Tank supports are deteriorated or buckled</i>			
<i>Tank foundations have eroded or settled</i>			
<i>Level gauges or alarms are inoperative</i>			
<i>Vents are obstructed</i>			
<i>Tank #4</i>			
<i>Tank surfaces show signs of leakage</i>			
<i>Tank is damaged, rusted or deteriorated</i>			
<i>Bolts, rivets or seams are damaged</i>			
<i>Tank supports are deteriorated or buckled</i>			
<i>Tank foundations have eroded or settled</i>			
<i>Level gauges or alarms are inoperative</i>			
<i>Vents are obstructed</i>			
<i>Oil is present in the interstice</i>			
<i>Tank #5</i>			
<i>Tank surfaces show signs of leakage</i>			
<i>Tank is damaged, rusted or deteriorated</i>			

	Y*	N	Description & Comments
<i>Bolts, rivets or seams are damaged</i>			
<i>Tank supports are deteriorated or buckled</i>			
<i>Tank foundations have eroded or settled</i>			
<i>Level gauges or alarms are inoperative</i>			
<i>Vents are obstructed</i>			
<i>Oil is present in the interstice</i>			
Piping			
<i>Valve seals or gaskets are leaking</i>			
<i>Pipelines or supports are damaged or deteriorated</i>			
<i>Joints, valves and other appurtenances are leaking</i>			
<i>Buried piping is exposed</i>			
<i>Out-of-service pipes are not capped</i>			
<i>Warning signs are missing or damaged</i>			
Oil/water separator ARFF			
<i>Oil/water separator > 2 inches of accumulated oil</i>			
<i>Oil/water separator effluent has a sheen</i>			
Oil/water separator Chemical Storage			
<i>Oil/water separator > 2 inches of accumulated oil</i>			
<i>Oil/water separator effluent has a sheen</i>			
Security			
<i>Fencing, gates, or lighting is non-functional</i>			
<i>Pumps and valves are not locked (and not in use)</i>			
Response equipment			
<i>Response equipment inventory is incomplete</i>			

Annual reminders:

- Hold SPCC Briefing for all oil-handling personnel (and update briefing log in the Plan);
- Check contact information for key employees and response/cleanup contractors and update them in the Plan as needed;

Additional Remarks:

Date: _____

Signature: _____

APPENDIX E

Records of Tank Integrity and Pressure Tests

Attach copies of official records of tank integrity and pressure tests.

APPENDIX F Emergency Contacts

Designated person responsible for spill prevention: **Norman Heyano, Airport Manager**
907-842-5511

EMERGENCY TELEPHONE NUMBERS:

Facility

Norman Heyano, Airport Manager 907-842-5511
(cell) 907-843-1186

Emergency Response/Cleanup Contractors

Dillingham Police Department 911/(907) 842-5354
Dillingham Fire Department 911/(907) 842-2288
No local clean-up contractors – must hire from Anchorage

Notification

Alaska Department of Environmental Conservation 907-465-5250 or
800-478-9300 (24
hour number)
National Response Center 800-424-8802 (24
hour number)
United States Environmental Protection Agency, Region 10 206-553-1263 (24
hour emergency
number)

APPENDIX G Discharge Notification Form

Part A: Discharge Information		
General information when reporting a spill to outside authorities:		
Name:	Dillingham Airport and Facilities	
Address:	P.O. Box 250 Dillingham, Alaska 99576	
Telephone:	(907) 843-1186	
Owner/Operator:	ADOT&PF P.O. Box 196900 Anchorage, Alaska 99516	
Primary Contact:	Norman Heyano, Airport Manager Work: (907)842-5511 Cell (24 hrs): (907)843-1186	
Type of oil:	Discharge Date and Time:	
Quantity released:	Discovery Date and Time:	
Quantity released to a waterbody:	Discharge Duration:	
Location/Source:		
Actions taken to stop, remove, and mitigate impacts of the discharge:		
Affected media:		
G air	G storm water sewer/POTW	
G water	G dike/berm/oil-water separator	
G soil	G other: _____	
Notification person:	Telephone contact: Business: 24-hr:	
Nature of discharges, environmental/health effects, and damages:		
Injuries, fatalities or evacuation required?		
Part B: Notification Checklist		
	Date and time	Name of person receiving call
Discharge in any amount		
Norman Heyano, Airport Manager Work: (907)842-5511 Cell (24 hrs): (907)843-1186		
Discharge in amount exceeding 10 gallons and <i>not affecting a waterbody or groundwater</i>		
Fire/Emergency Response 911 or (907) 842-5354 and (907) 842-2288		

Alaska Department of Environmental Conservation (907)465-5250 or (800)-478-9300 (24 hour no.)		
Discharge in any amount and affecting (or threatening to affect) a waterbody		
Fire/Emergency Response 911 or (907) 842-5354 and (907) 842-2288		
Alaska Department of Environmental Conservation (907)465-5250 or (800)-478-9300 (24 hour no.)		
National Response Center (800) 424-8802		

APPENDIX H

Discharge Response Equipment Inventory

The discharge response equipment inventory is verified during the monthly inspection and must be replenished as needed.

Maintenance and Equipment Storage Buildings

- Empty 55-gallons drums to hold contaminated material
- Loose absorbent material
- Absorbent pads
- Neoprene gloves
- Sand bags

APPENDIX I

Agency Notification Standard Report

Information contained in this report, and any supporting documentation, must be submitted to the EPA Region 1 Regional Administrator, and to MADEP, within 60 days of the qualifying discharge incident.

Facility:	<i>Dillingham Airport and Facilities</i>
Operator:	ADOT&PF P.O. Box 196900 Anchorage, Alaska 99516
Name of person filing report:	
Location:	<i>P.O. Box250</i> <i>Dillingham, Alaska 99576</i>
Maximum storage capacity:	<i>12,000 gallons</i>
Nature of qualifying incident(s):	
Discharge to navigable waters or adjoining shorelines exceeding 1,000 gallons Second discharge exceeding 42 gallons within a 12-month period.	

Description of facility (attach maps, flow diagrams, and topographical maps):

The Dillingham Airport is located near Dillingham, AK, on Airport Road approximately 0.2 mile north of the Nushagak River (Appendix A). The facility consists of one 6,404-foot-long asphalt-surfaced runway (1/19). Two 515-foot-long paved taxiways perpendicular to the runway connect to the main apron that is located west of the runway. Leased apron areas, both paved and gravel surfaced, are located on the west side of the runway. Other facilities include an Aircraft Rescue Fire Fighting (ARFF)/Snow Removal Equipment building, sand storage building, a City of Dillingham building, and several other leased buildings. Equipment fueling occurs outside from a 4,000-gallon, diesel aboveground storage tank (AST) located to the west of the equipment building. Gasoline is purchased off-site from a private supplier. Equipment maintenance takes place indoors, primarily at the aircraft, rescue, and fire/equipment storage building. Snow removal equipment is washed inside the equipment storage building. The washing process includes a pressure washer and potable water to clean the equipment. The wash water drains into the building floor drains, which lead to an oil/water separator and then into the city sewer system. Runway maintenance and deicing also occur at the Dillingham Airport. Runway maintenance is limited to repainting runway markings (once a year) and sealing stress cracks in the asphalt surface (as necessary). These activities are performed in accordance with DOT&PF procedures and require dry weather. Deicing activities include application of urea and sand on runways, taxiways, and aprons.

Drainage patterns for the Dillingham Airport are shown on figure(s) in Appendix A. In general, stormwater runoff at the airport either drains to vegetated areas or into several ditches which are connected to culverts and discharge at outfalls from the airport property. Subsurface drains and associated catch basins are located on the eastern portion of the leased apron areas. Four separate drainage areas, designated as Watersheds A –D, and associated outfalls are depicted on Figure 1 in Appendix A.

Agency Notification Standard Report (cont'd)

Cause of the discharge(s), including a failure analysis of the system and subsystems in which the failure occurred:

Corrective actions and countermeasures taken, including a description of equipment repairs and replacements:

Additional preventive measures taken or contemplated to minimize possibility of recurrence:

Other pertinent information:

Appendix L –Best Management Practices and Typical

Best Management Practices – Summary Table

Example Typical for Stormwater Pollution Prevention

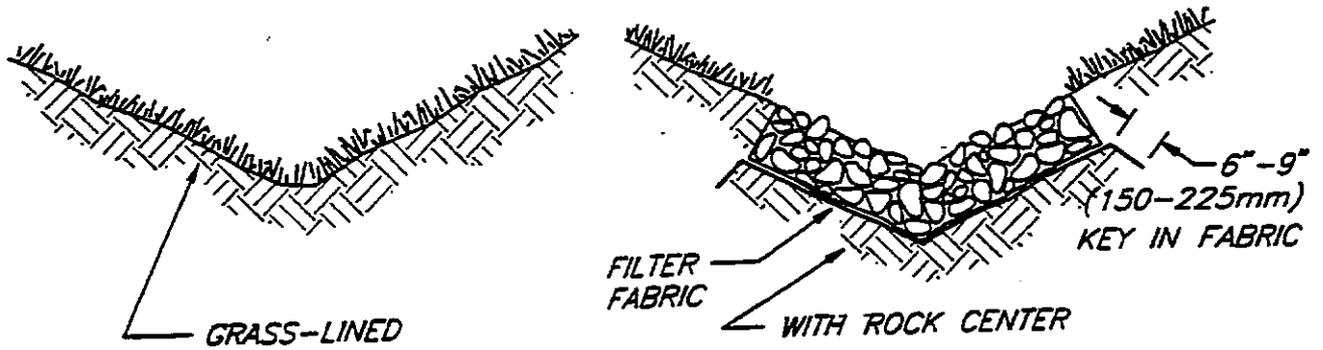
Best Management Practices – Summary Table

Best Management Practice (BMP)	
Minimizing Exposure – Vehicle and Equipment Maintenance Areas	<ol style="list-style-type: none"> 1. Perform all cleaning operations indoors or under covering when possible. Conduct the cleaning operations in an area with a concrete floor with no floor other than those to approved disposal methods (including sanitary sewers or treatment facilities, oil/water separators, etc.) 2. Park vehicles and equipment indoor or under a roof whenever possible and maintain proper control of oil leaks/spills. 3. Check vehicles closely for leaks and use pans to collect fluid when leaks occur. 4. Use berms, curbs, grassed swales, or other diversion measures to ensure that stormwater runoff from other parts of the facility does not flow over the maintenance area. 5. Discharge vehicle wash or rinse water to the sanitary sewer (if allowed by sewer authority), wastewater treatment, a land application site, or recycle on-site. Do not discharge washwater to a storm drain or to surface water. 6. Inspect the maintenance area regularly to ensure BMPs are implemented. 7. Train employees on waste control and disposal procedures. 8. Inspect the maintenance area regularly for proper implementation of control measures.
Minimizing Exposure – Vehicle and Equipment Storage Areas	<ol style="list-style-type: none"> 1. Store vehicles and equipment indoors. 2. Store vehicles and equipment awaiting maintenance in designated areas only. 3. Use absorbents to cleanup spills and leaks. 4. Use drip pans under all vehicles and equipment for the collection of fluids. 5. Regularly seep area to minimize debris on the ground. 6. Train employees on procedures for storage and inspection items.
Minimizing Exposure –Materials Storage Areas	<ol style="list-style-type: none"> 1. Store materials indoors. 2. Maintain good integrity of all storage containers (e.g., used oil, hydraulic fluids, solvents, waste aircraft fuel). 3. Create a centralized storage area for waste materials. 4. Provide secondary containment around chemical

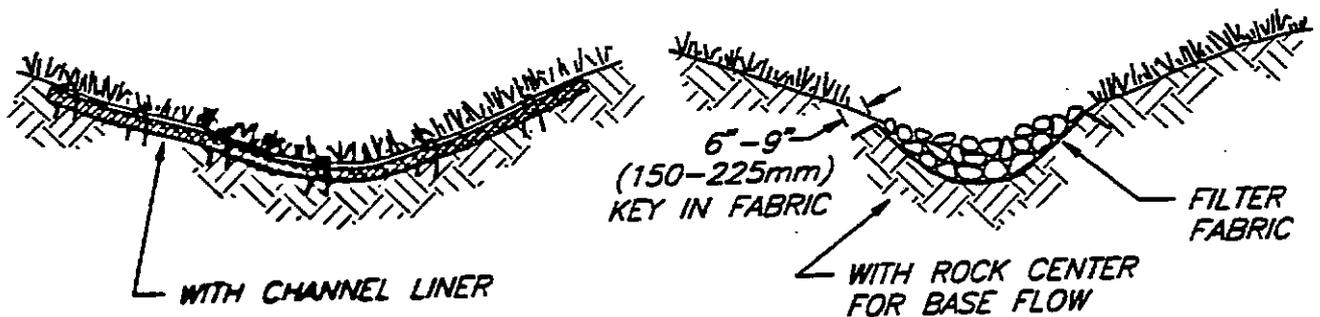
	<p>storage areas.</p> <ol style="list-style-type: none"> 5. Locate storage areas away from high traffic area and surface waters. 6. Inspect storage tanks and piping systems (pipes, pumps, flanges, couplings, hoses, and valves) for failures or leaks and perform preventative maintenance. 7. Plainly label containers. 8. Provide fluid level indicators. 9. Properly dispose of chemicals that are no longer in use. 10. Store and handle reactive, ignitable, or flammable liquids in compliance with applicable local fire codes, local zoning codes, and the National Electric Code. 11. Develop and implement spill plans or spill prevention, containment and countermeasure (SPCC plans). 12. Train employees in spill prevention and proper materials management.
<p>Minimizing Exposure – Fuel System and Fueling Areas</p>	<ol style="list-style-type: none"> 1. Use fueling hoses with check valves to prevent hose draining after filling. 2. Provide spill kits on all fuel trucks, at fueling stations, in each hangar and at strategic locations. Each kit should be properly stocked and maintained. Store used materials in individual sealed container and labeled to ensure proper handling and disposal as a hazardous material. 3. Keep spills cleanup materials readily available. 4. Clean up spills and leaks immediately. 5. Use dry cleanup methods for fuel areas rather than hosing down the fuel area. Sweep up absorbents as soon as spilled substances have been absorbed. 6. Use spill and overflow protection devices. 7. Provide curbing or posts around fuel pumps to prevent collisions from vehicles. 8. Regularly inspect and perform preventative maintenance on fuel storage tanks to detect potential leaks before they occur. 9. Inspect the fueling area for leaks and spills. 10. Do not allow "topping off" of the fuel in the receiving equipment. 11. Train personnel on vehicle fueling BMPs.
<p>Minimizing Exposure – Storing Liquid Fuels</p>	<ol style="list-style-type: none"> 1. Develop and implement spill plans. 2. Train employees in spill prevention and control. 3. For ASTs – use double walled tanks with overflow protection. 4. For ASTs – Keep liquid transfer nozzle/hoses in secondary containment area. 5. Store drums indoors when possible.

	<ol style="list-style-type: none"> Clearly label drums with contents. Clearly label drums with contents.
<p>Good Housekeeping – Vehicle and Equipment Maintenance Areas</p>	<ol style="list-style-type: none"> Prevent and contain spills and drips Perform all cleaning at a centralized station so the solvents stay in one area. Remove any parts that are dipped in liquid slowly to avoid spills. Use drip pans, drain boards, and drying racks to direct drips back into fluid holding tank for reuse. Drain all parts of fluids prior to disposal. Oil filters can be crushed and recycled. Transfer used fluids to the proper container promptly; do not leave full drip pans or other containers around the shop. Empty and clean drip pans and containers. Clean up leaks, drips, and other spills without using large amounts of water. Use absorbents to for dry cleanup whenever possible. Prohibit the practice of hosing down an area where the practice would result in the discharge of pollutants to a stormwater system. Prohibit pouring liquid waste into floor drains, sinks, outdoor storm drain inlets, or other storm drains or sewer connections. Eliminate or reduce the number and amount of hazardous materials and waste by substituting nonhazardous or less hazardous waste materials. Label and track the recycling of waste material. Store batteries and other significant materials inside. Dispose of greasy rags, oil filters, air filters, batteries, spent coolant, and degreasers in compliance with environmental regulations.
<p>Maintenance – Vehicle and Equipment Monitoring and Repairs</p>	<ol style="list-style-type: none"> Regularly inspect vehicles for leaks and maintenance Vehicles are kept in good working condition and monitored for leaks to prevent discharges Leaking equipment is kept indoors until repairs can be made with drip pans and absorbents in place as necessary. Equipments maintenance is conducted indoors All storage containers are monitored for leaks and stored indoors when possible. Fuel tanks are inspected regularly for leaks and integrity.
<p>Management of Runoff</p>	<ol style="list-style-type: none"> Maintain as much vegetation as possible in maintenance areas and areas where stormwater leaves impermeable surfaces. Utilize velocity dissipaters such as; vegetation, rock outfalls, and check dams. Create opportunities for filtration and settling such

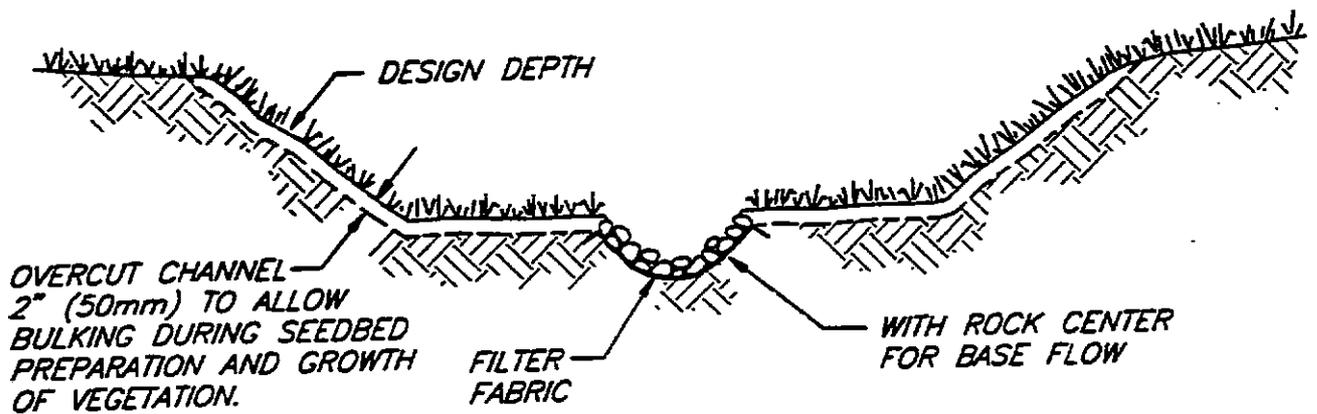
	as gently sloped vegetated ditches.
Waste, Garbage, and Floatable Debris	<ol style="list-style-type: none">1. Waste and debris are stored in cover containers or indoors and removed regularly.2. Maintenance and airport areas are kept clear of debris and clutter.3. The oil water separator is cleaned out annually.4. Human waste and all water is treated through a waste water facility.



**TYPICAL V-SHAPED CHANNEL
CROSS-SECTION**

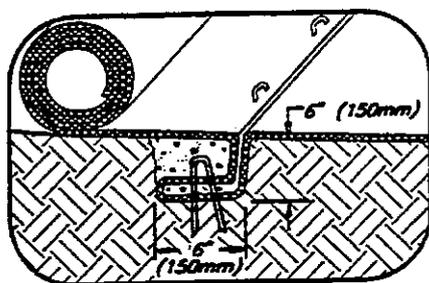
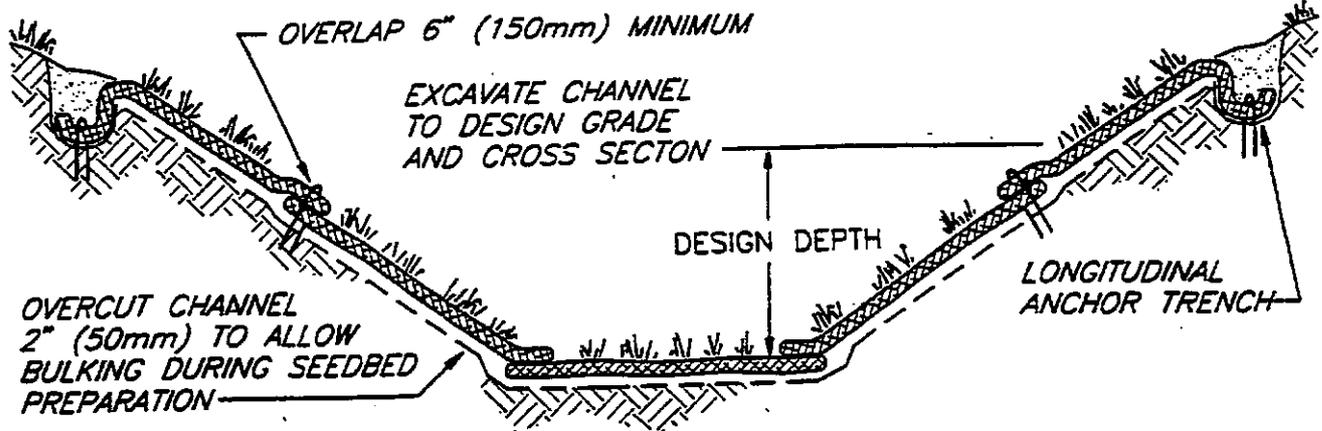


**TYPICAL PARABOLIC CHANNEL
CROSS-SECTION**



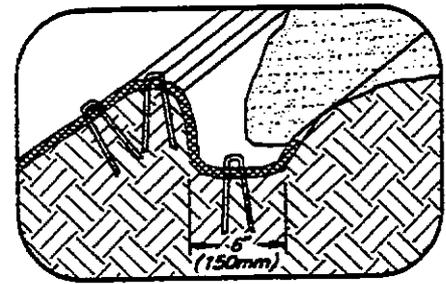
**TYPICAL TRAPEZOIDAL CHANNEL
CROSS-SECTION**

**GRASS-LINED CHANNEL
TYPICAL CROSS SECTIONS**



INTERMITTENT CHECK SLOT

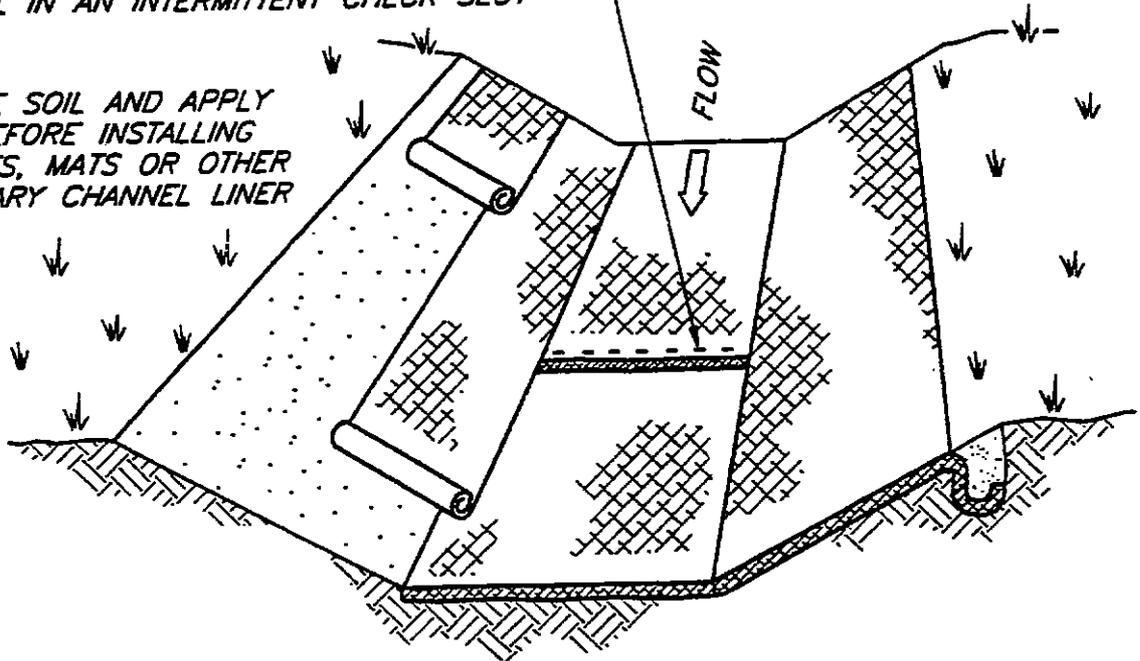
TYPICAL INSTALLATION WITH EROSION CONTROL BLANKETS OR TURF REINFORCEMENT MATS



LONGITUDINAL ANCHOR TRENCH

SHINGLE-LAP SPLICED ENDS OR BEGIN NEW ROLL IN AN INTERMITTENT CHECK SLOT

PREPARE SOIL AND APPLY SEED BEFORE INSTALLING BLANKETS, MATS OR OTHER TEMPORARY CHANNEL LINER SYSTEM

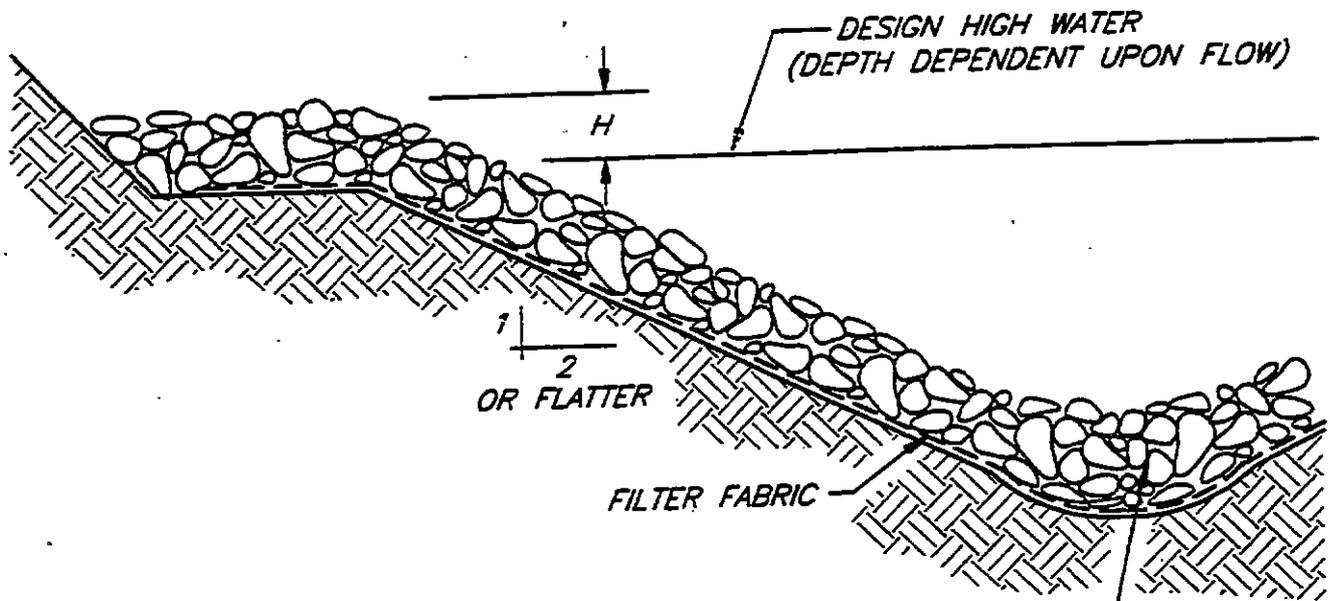


- NOTES:
- DESIGN VELOCITIES EXCEEDING 2 FT/SEC (0.5m/sec) REQUIRE TEMPORARY BLANKETS, MATS OR SIMILAR LINERS TO PROTECT SEED AND SOIL UNTIL VEGETATION BECOMES ESTABLISHED.
 - GRASS-LINED CHANNELS WITH DESIGN VELOCITIES EXCEEDING 6 FT/SEC (2m/sec) SHOULD INCLUDE TURF REINFORCEMENT MATS.

NOT TO SCALE

**GRASS-LINED CHANNEL
TYPICAL INSTALLATION**

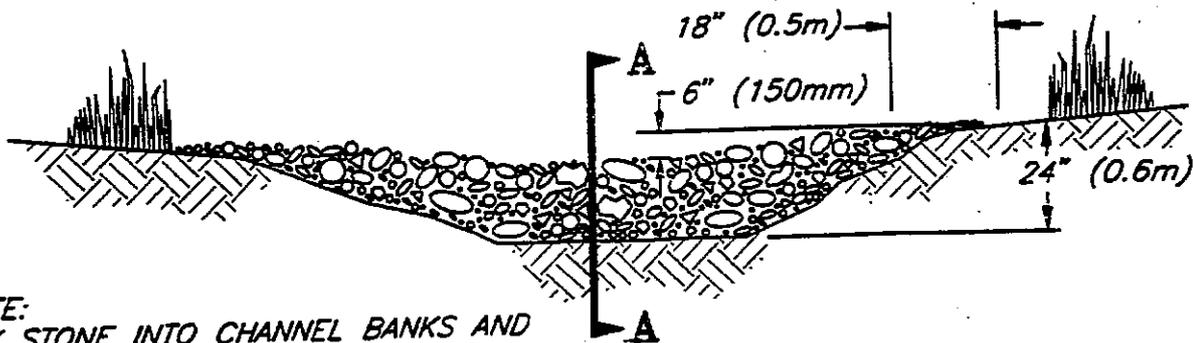
DESIGN HEIGHT (H), WIDTH AND STONE SIZE SHALL
BE DETERMINED BY THE ENGINEER



MINIMUM 6" (150mm) THICK LAYER OF 2" (50mm) MINIMUM
DIAMETER DRAIN ROCK. LARGER STONE SHALL BE USED
DEPENDENT UPON GRADIENT, SOIL TYPE, AND DESIGN FLOW.

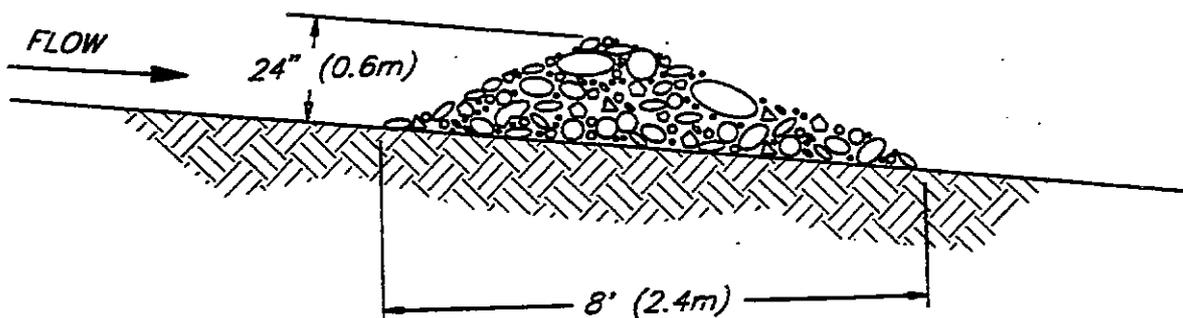
TYPICAL SECTION

**ROCK LINED
CHANNEL**



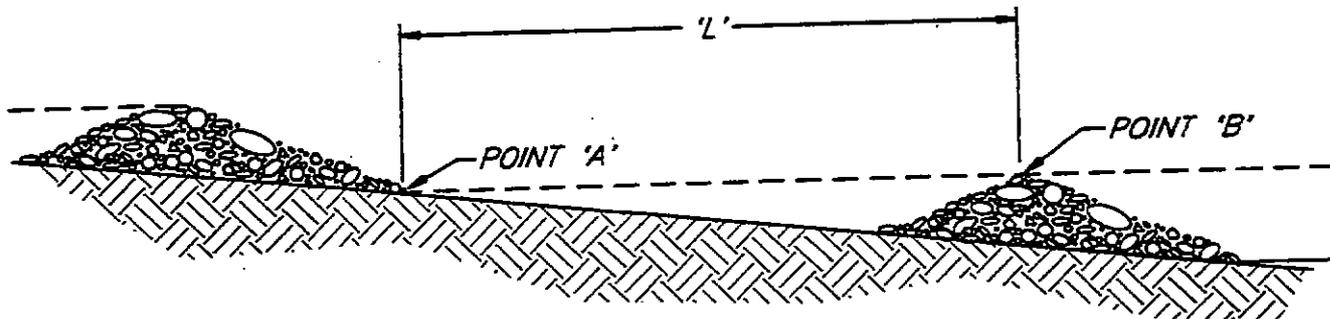
NOTE:
KEY STONE INTO CHANNEL BANKS AND
EXTEND IT BEYOND THE ABUTMENTS A
MINIMUM OF 18" (0.5m) TO PREVENT
FLOW AROUND DAM.

VIEW LOOKING UPSTREAM



SECTION A - A

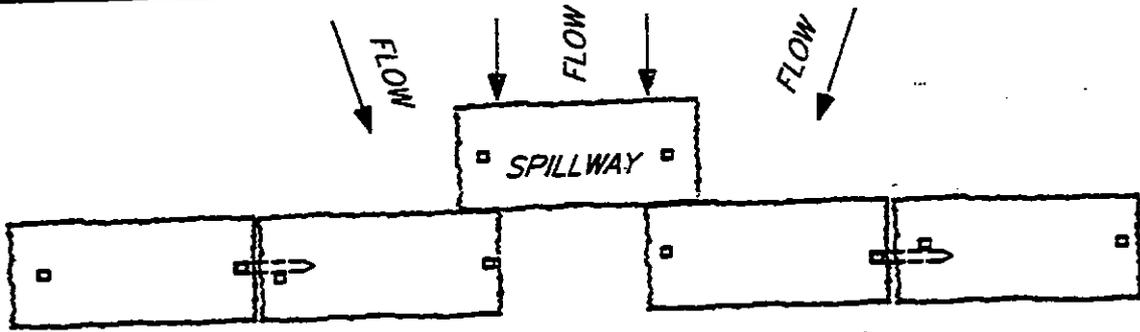
'L' = THE DISTANCE SUCH THAT POINTS 'A' AND
'B' ARE OF EQUAL ELEVATION.



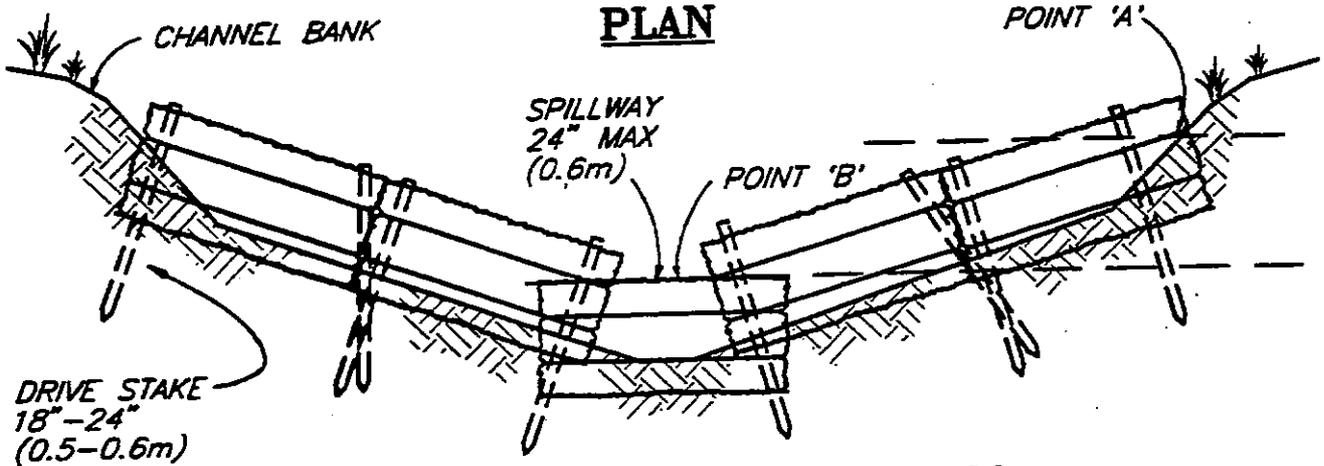
SPACING BETWEEN CHECK DAMS

NOT TO SCALE

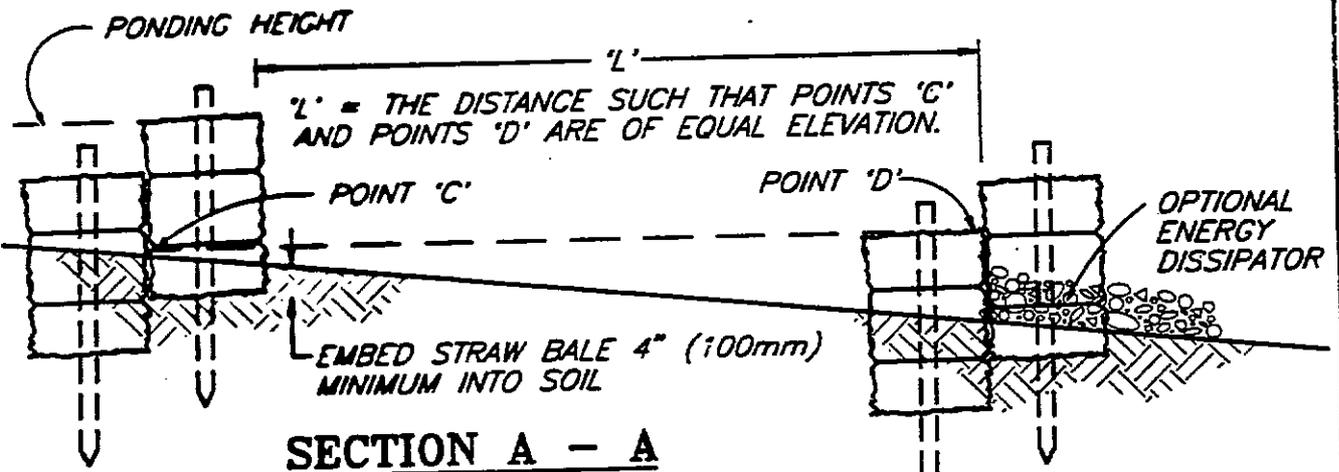
**ROCK
CHECK DAM**



PLAN



VIEW LOOKING UPSTREAM



SECTION A - A
SPACING BETWEEN CHECK DAMS

NOTES:

1. EMBED BALES 4" (100mm) INTO THE SOIL AND "KEY" BALES INTO THE CHANNEL BANKS.
2. POINT 'A' MUST BE HIGHER THAN POINT 'B': (SPILLWAY HEIGHT)
3. PLACE BALES PERPENDICULAR TO THE FLOW WITH ENDS TIGHTLY ABUTTING.
4. SPILLWAY HEIGHT SHALL NOT EXCEED 24" (0.6m).
5. INSPECT AFTER EACH SIGNIFICANT STORM, MAINTAIN AND REPAIR PROMPTLY.

NOT TO SCALE

**STRAW BALE
CHECK DAM**

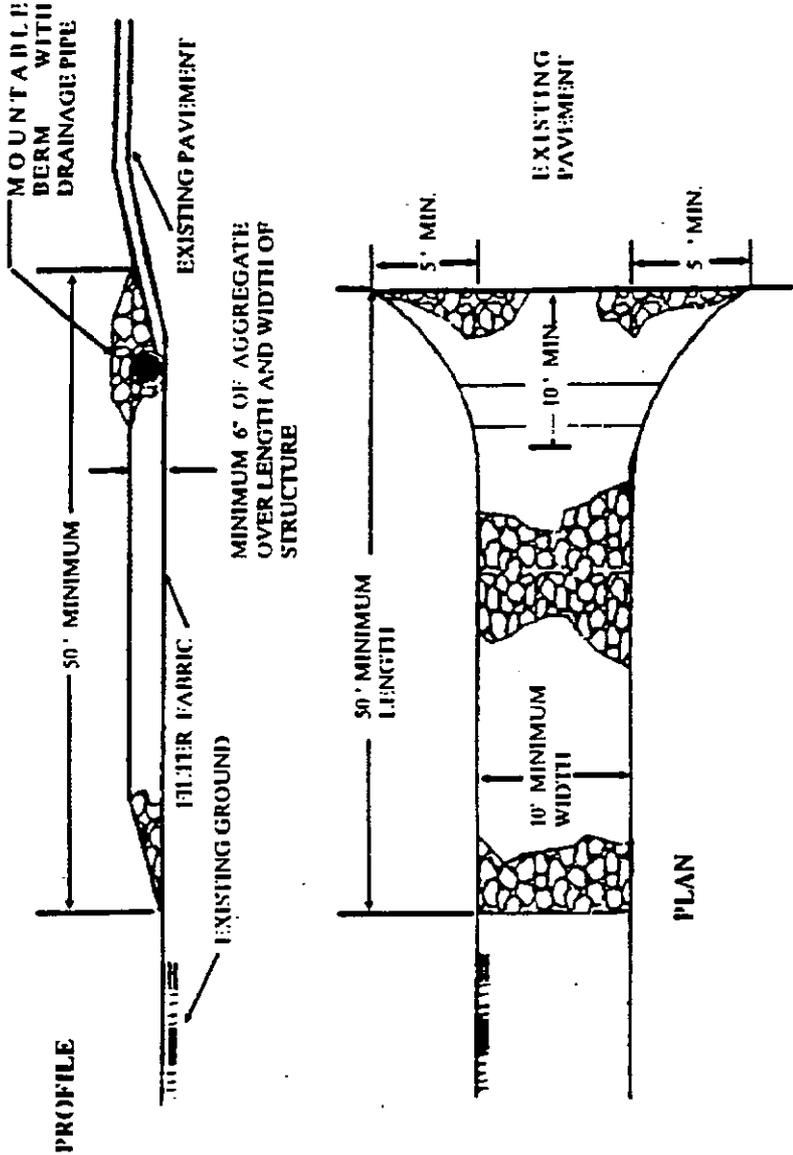
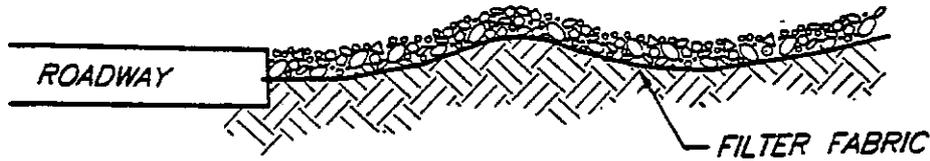


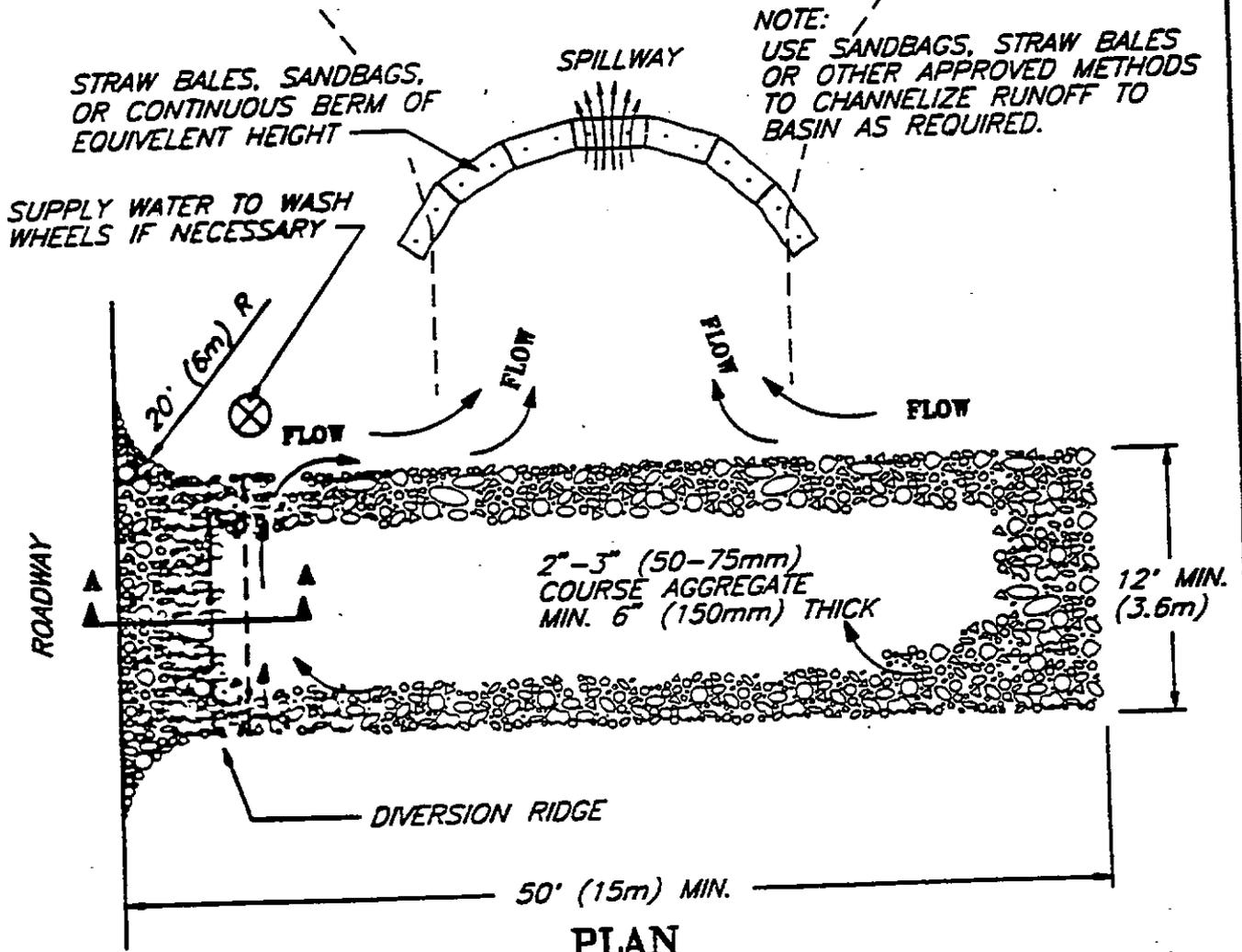
Figure 4-7
Stabilized Construction Exit

DIVERSION RIDGE REQUIRED
WHERE GRADE EXCEEDS 2%

2% OR GREATER



SECTION A - A



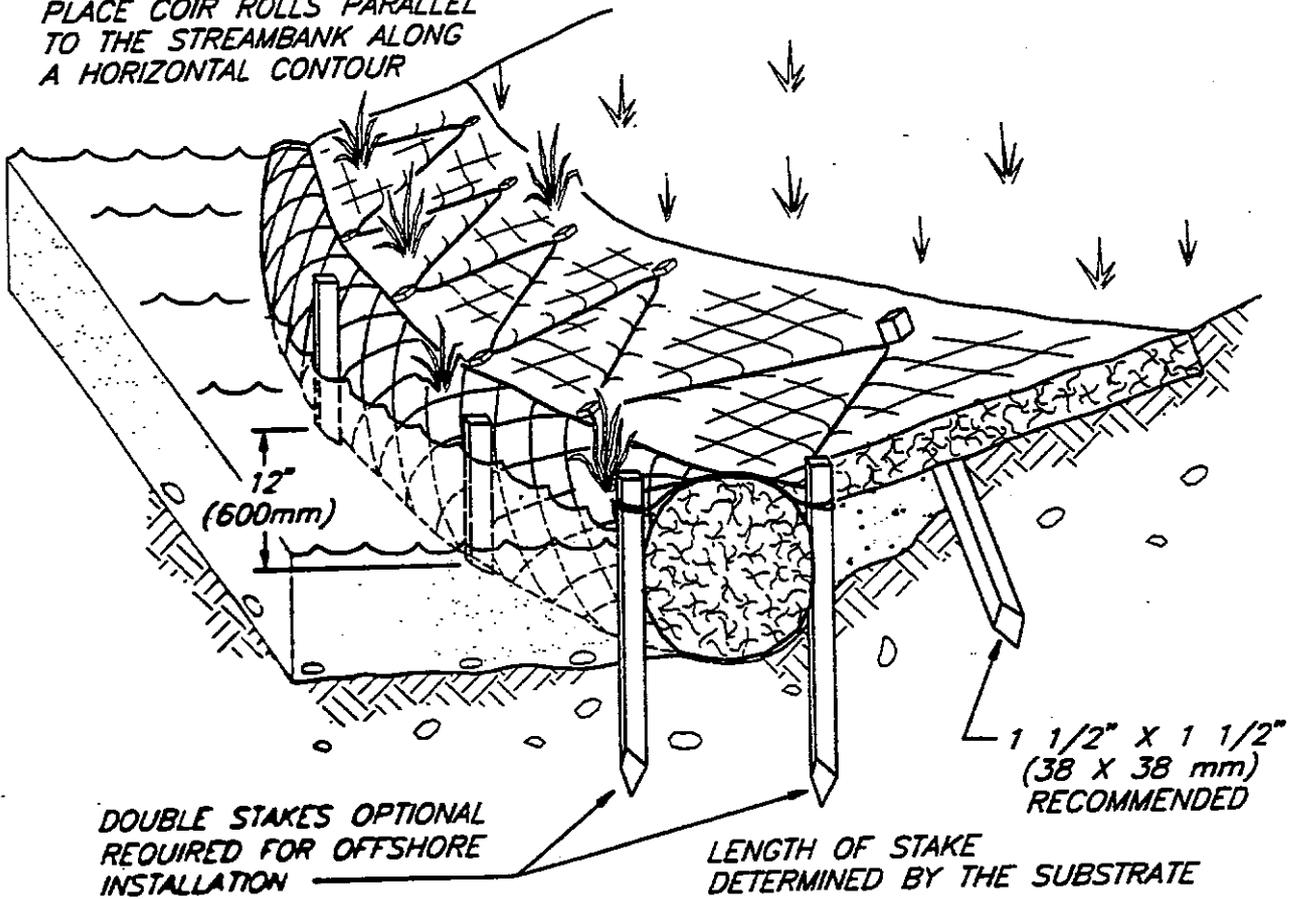
PLAN

NOTES:

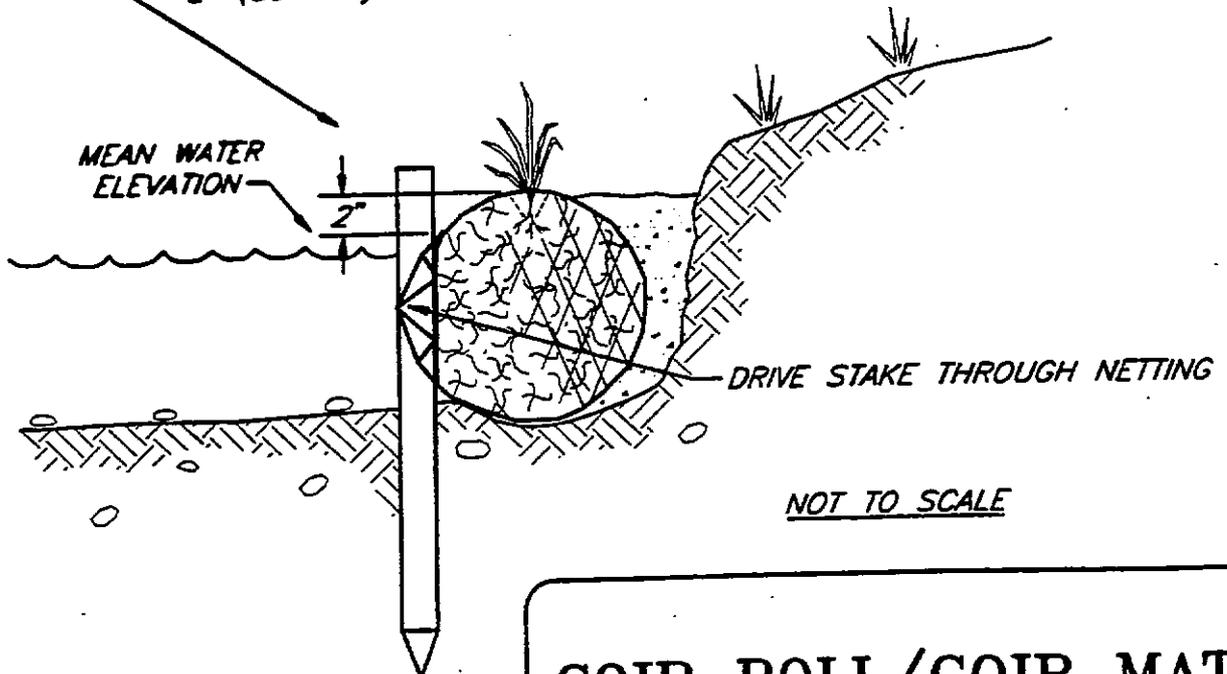
1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.

**TEMPORARY
GRAVEL
CONSTRUCTION
ENTRANCE/EXIT**

PLACE COIR ROLLS PARALLEL TO THE STREAMBANK ALONG A HORIZONTAL CONTOUR



PLACE COIR ROLL SUCH THAT THE ROLL EXTENDS 2" (50 mm) ABOVE MEAN WATER ELEVATION



COIR ROLL/COIR MATS

GALVANIZED WIRE MESH,
GEOTEXTILE REINFORCEMENT
MATS OR COIR MATS

SIDE VIEW

BIND AND/OR SPIKE
LOGS TOGETHER
ANCHOR ROD 3/4" X 6"
(20mm X 2m)

TYPICAL LOG CRIBBING

SOME BASAL ENDS OF LIVE
BRANCH CUTTINGS SHOULD
REACH UNDISTURBED SOIL
AT THE BACK OF CRIB
STRUCTURE

BACKFILL WITH
ROCK AND SOIL

$W =$ CHANNEL WIDTH

$\frac{W}{2}$ MAXIMUM

MEAN HIGH WATER
PLUS 12" (300mm)

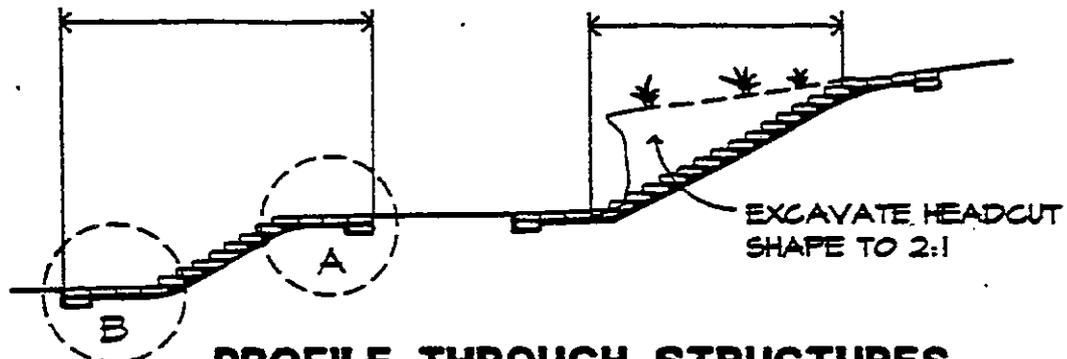
NORMAL
STREAM LEVEL
6" (150mm)

$D =$ EXPECTED DEPTH OF SCOUR
PLUS 2' (0.6m) OR 12" (300mm) MINIMUM

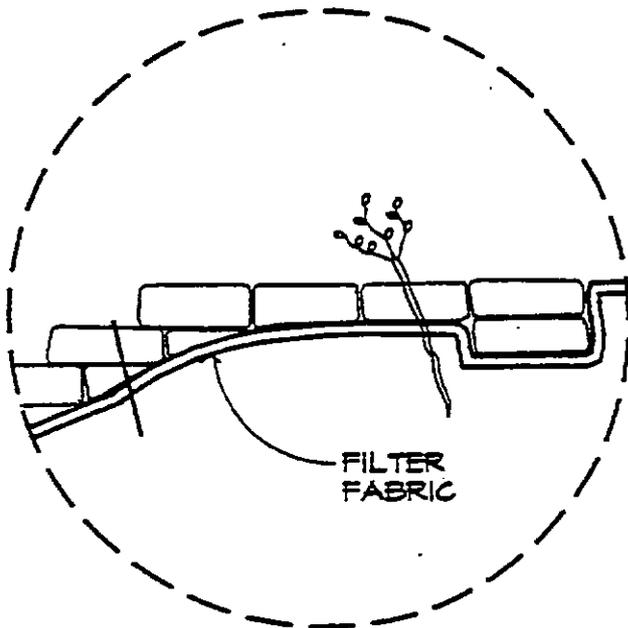
FILTER FABRIC ALONG BASE

TYPICAL GABION DEFLECTOR

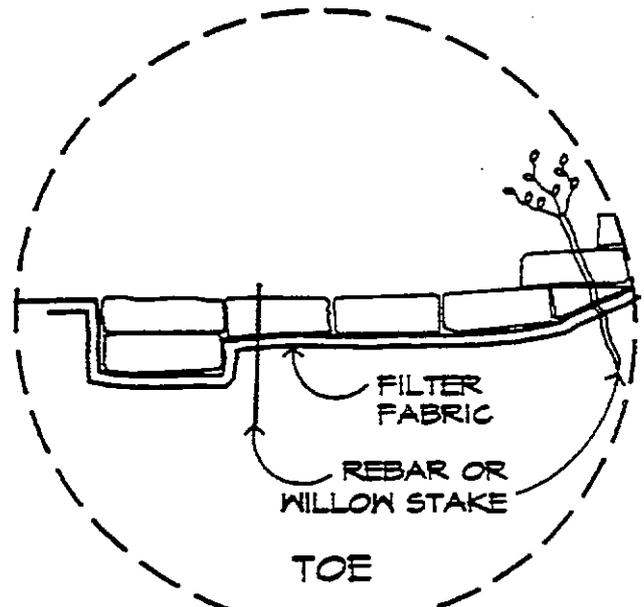
**STREAMBANK
STABILIZATION**



PROFILE THROUGH STRUCTURES

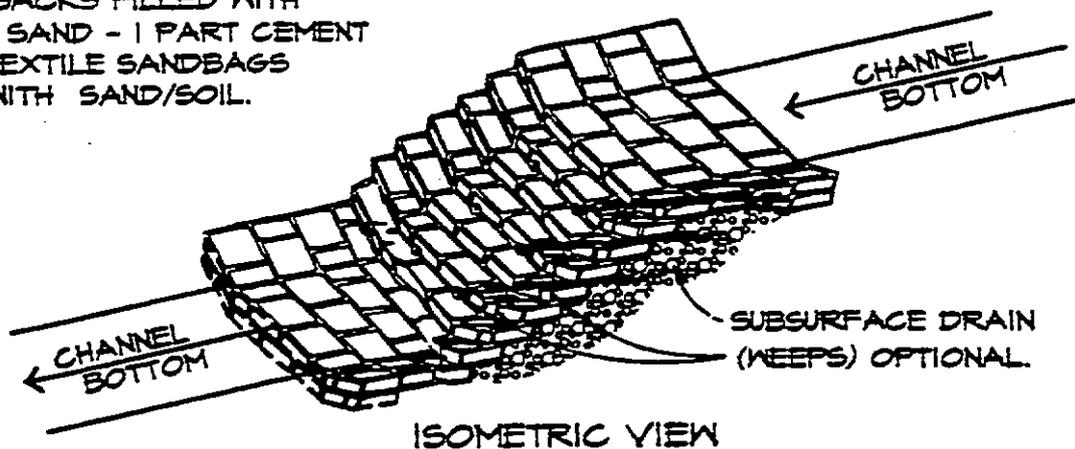


DETAIL - 'A'



DETAIL - 'B'

BURLAP SACKS FILLED WITH
4 PARTS SAND - 1 PART CEMENT
OR GEOTEXTILE SANDBAGS
FILLED WITH SAND/SOIL.



SANDBAG HEADCUT STRUCTURE

25:

1. GEOTEXTILE SANDBAGS MAY BE STAKED WITH LIVE WILLOW STAKES, REBAR OR 'SNAP TIE' STAKES SHOULD BE USED WITH CEMENT SANDBAGS.
2. ROCK RIPRAP MAY BE USED IN PLACE OF SANDBAGS.

**SANDBAG
HEADCUT
STRUCTURE**

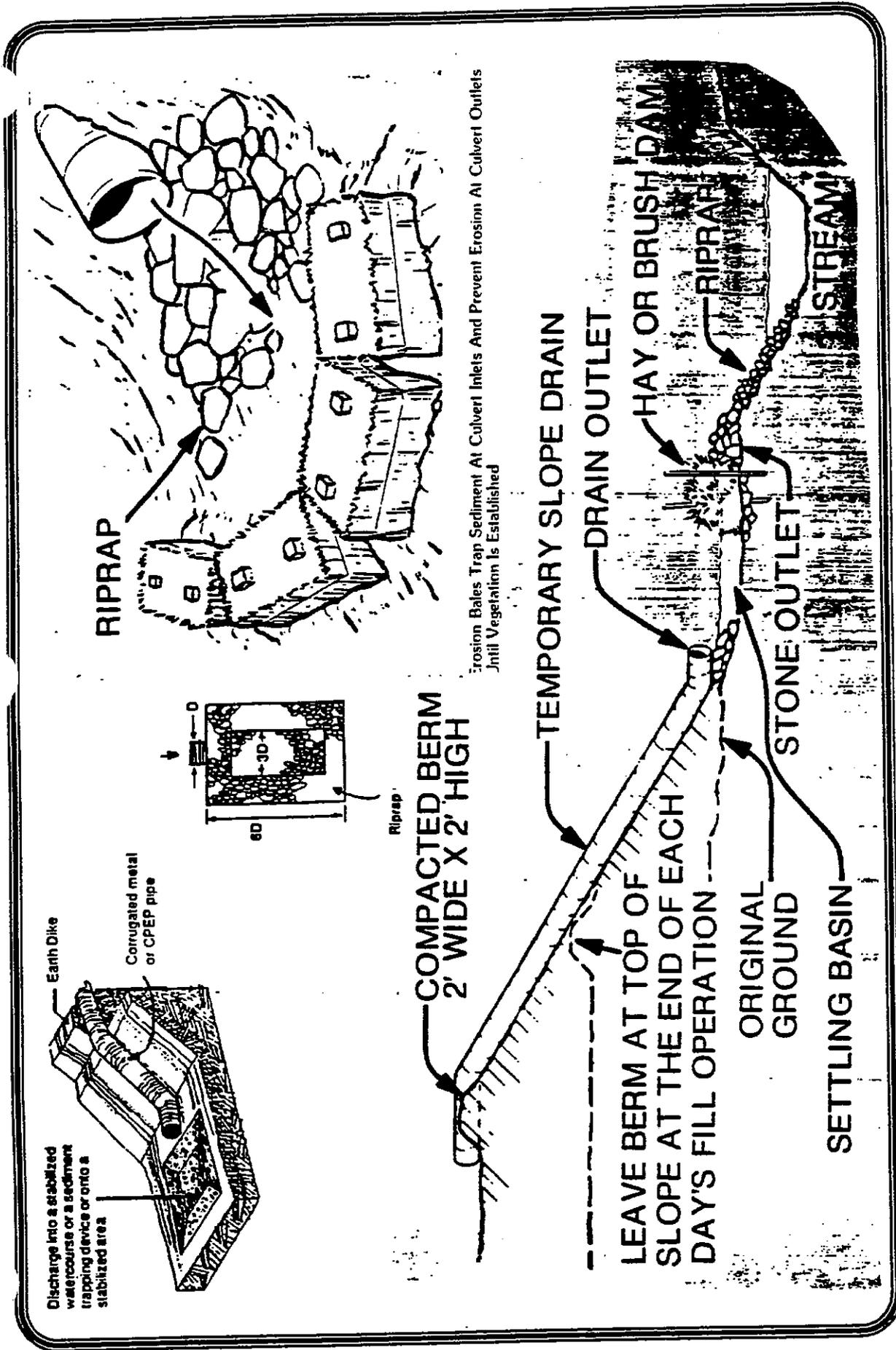
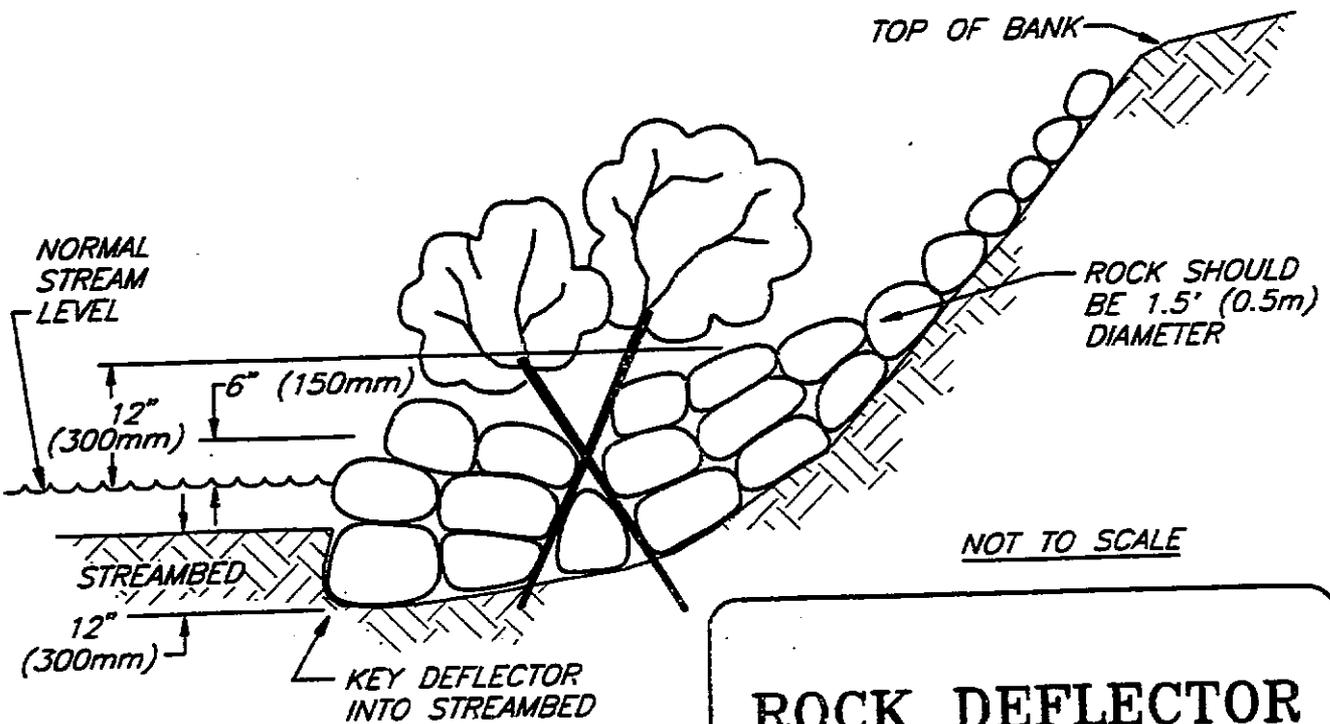
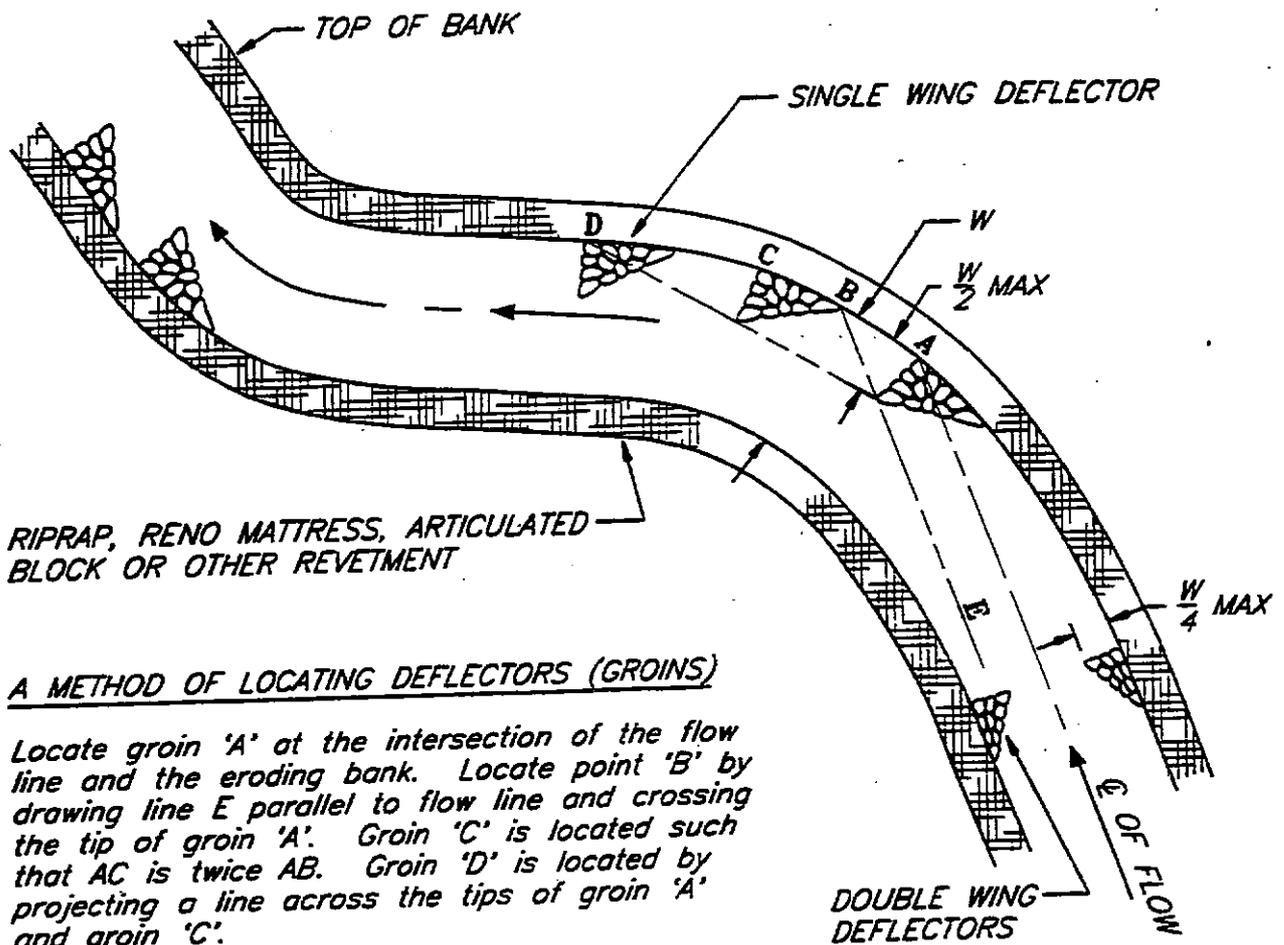
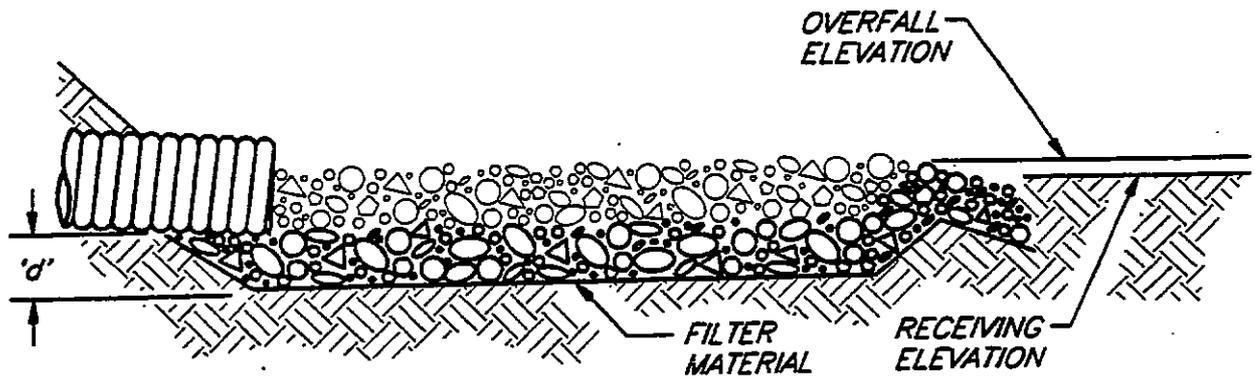


Figure 4-11
Outlet Protection



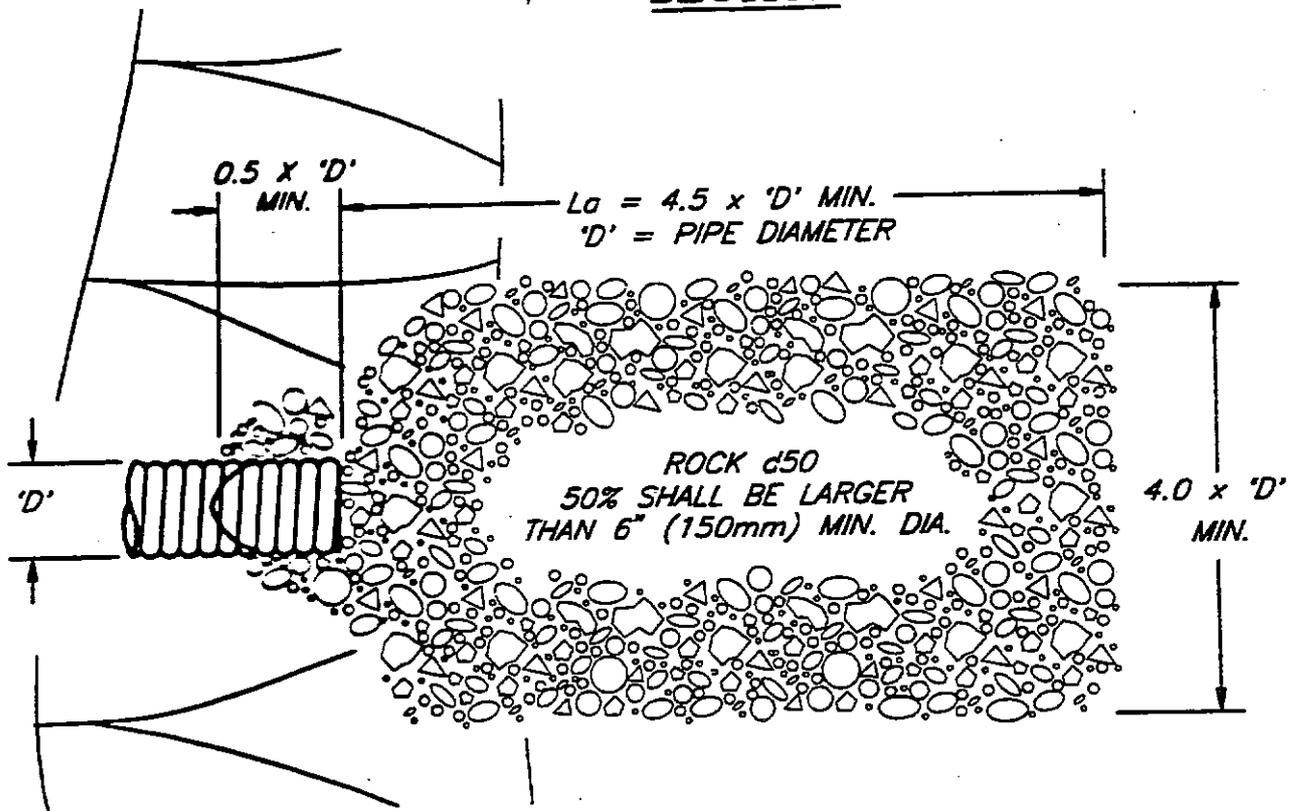
ROCK DEFLECTOR

1996 JOHN McCULLAH



THICKNESS ('d') = 1.5 x MAX. ROCK DIAMETER - 6" (150mm) MIN.

SECTION



PLAN

NOTES:

1. 'La' = LENGTH OF APRON. DISTANCE 'La' SHALL BE OF SUFFICIENT LENGTH TO DISSIPATE ENERGY.
2. APRON SHALL BE SET AT A ZERO GRADE AND ALIGNED STRAIGHT.
3. FILTER MATERIAL SHALL BE FILTER FABRIC OR 6" (150mm) THICK MINIMUM GRADED GRAVEL LAYER.

**ENERGY
DISSIPATOR**



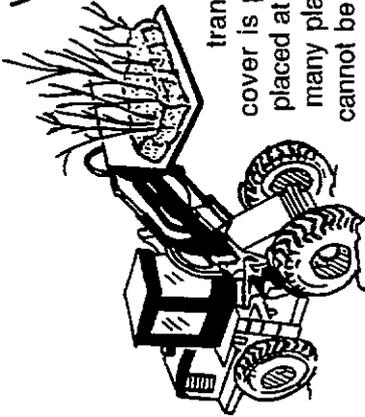
TRANSPLANTING

Transplanting is a revegetation technique that removes a plant, or plants containing roots and shoots from one site to be replanted at another. Transplanting can take several forms generally distinguished by size: vegetation mats, plugs, sprigs and transplants (single plants). All forms require careful selection and handling in order for the transplanting effort to be successful. Refer to *Streambank Revegetation Plant Species Selection List* for plant material suggestions.

Locate a donor site and obtain permission to harvest plants. In cases where plants are going to be destroyed by construction, consider salvaging the plants that would otherwise be lost. The conditions of the donor site need to be relatively similar to those at the transplanting site. The best time to transplant is when plants are dormant. It is essential that the plant materials do not dry out while in transport and after planting. Transplanting efforts can be mechanized.

VEGETATIVE MAT

A vegetative mat is the largest transplant. Dimensions of the mats vary from one to several feet square and may contain woody and/or herbaceous vegetation. The greatest benefit of this transplanting technique is that vegetative cover is provided immediately after the mat is placed at the new location. The mats often contain many plant species, especially native plants that cannot be obtained elsewhere. Often, the cost will be for labor and machinery for moving and installing the mat.

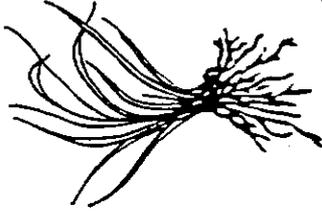


Harvest a vegetative mat by cutting the shoots and root/soil mass into a block. The root/soil mass is cut as deeply as possible. The mat is then lifted from the ground by hand or with mechanized equipment and transported to the planting site.

Prepare the planting site by creating a depression in the soil that will accommodate the dimensions of the mat. The sides of the mat should be covered by soil. If the mat is placed directly on the surface with other mats immediately adjacent to each other, make sure that the edges of the mat are not left exposed to the air which would cause damage to the roots. If needed, soil should be placed in the spaces between mats to cover the roots.

PLUGS

Plugs are smaller than vegetative mats and not necessarily, contain only one plant species. They can be harvested from a donor community using tools and transported easily to the planting site. They are particularly well suited for planting in wetlands, including grass rolls or being divided into sprigs.

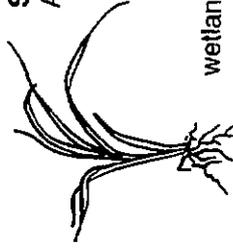


Dig a plug with a shovel. A plug may range from a few inches in diameter. It is important to include as many roots and as much soil as possible with each plug.

Plant plugs so that the new soil level matches the soil level of the donor site. If the planting site is dry, the plug should be planted in the center of a small depression that will catch and retain water. The soil around the plug should be pressed firmly into place.

SPRIGS

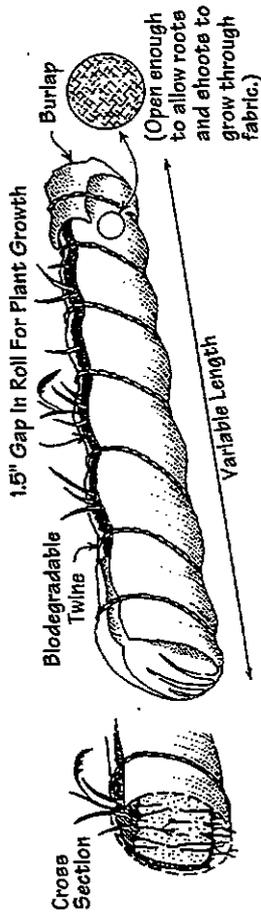
A sprig is the smallest transplant unit, consisting of a single shoot and roots. Grasses and sedges are often transplanted as sprigs. Species with a rhizomatous (underground stem) growth form are most suited for sprigging. Sprigs are often planted in wetlands or into coir logs.



Prepare a sprig from a small plug that contains one plant species. The plug can be separated into sprigs either at the donor site or the planting site. The important point is to keep the plant material moist, removed from direct sunlight and wind while preparing the sprigs and transporting them to the planting site. Harvest only the number of sprigs that can be planted the same day.

Plant a sprig by sticking a shovel in the ground perpendicularly; push it forward to create a small opening; place the sprig in the opening, remove the shovel and then firm the ground around the sprig. Care should be taken to ensure that the entire root system is covered by soil. A more extensive discussion of the sprigging is found in *Beach Wildrye: Planting Guide for Alaska* (Wright, 1994).

GRASS ROLLS

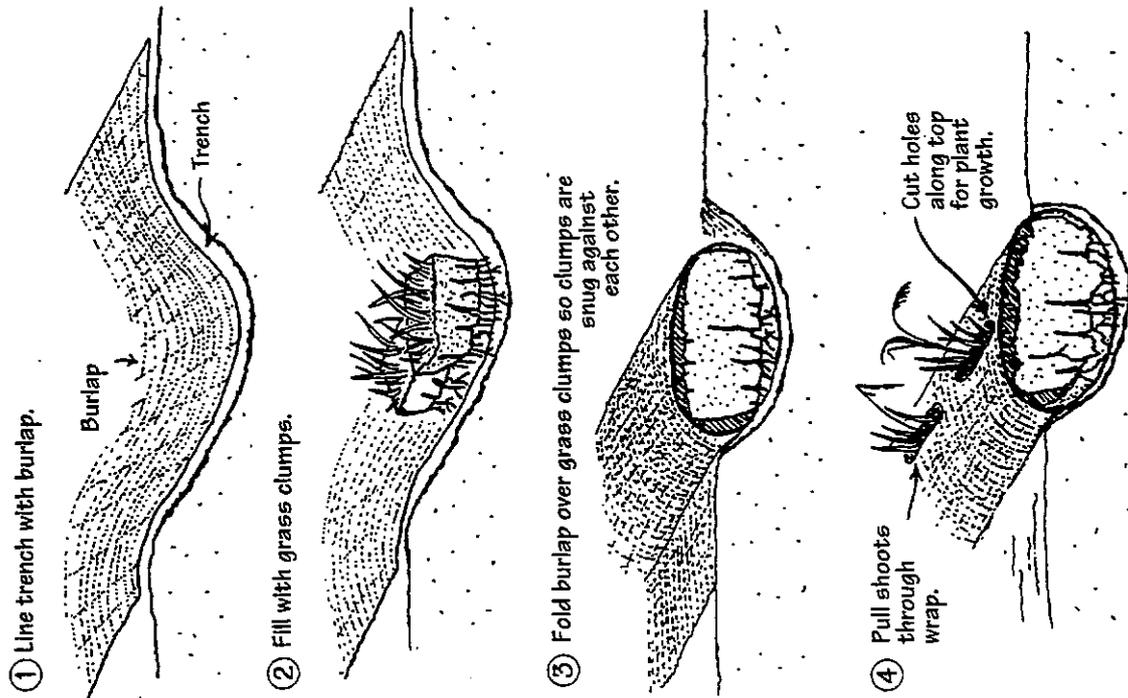


Grass rolls are often used to revegetate shorelines and streambanks where grasses and grass-like plants have been the primary vegetation type and where seeding is impractical due to fluctuating water levels or other site conditions. Clumps of grass sod are placed tightly together, side by side with shoots pointing up, in a sausage like structure and held together with burlap and twine. The roll is then anchored in place. This technique reintroduces herbaceous vegetation to a site while simultaneously providing some structural stability. Ultimately, the sod will form a dense root system along the streambank and provide structural protection to the site. When the grasses die back at the end of each growing season, their leaves hang over the streambank and provide rearing habitat for fish.

Construct a grass roll by laying out a length of burlap; place clumps of sod tightly together in the middle of the burlap. Bluejoint reedgrass, *Calamagrostis canadensis*, is the primary grass used for this technique and should be collected from sites away from streambanks. Beach wildrye, *Leymus mollis*, has also been used for streambank plantings, and although it produces a strong rhizome it does not form the dense sod characteristic of Bluejoint.

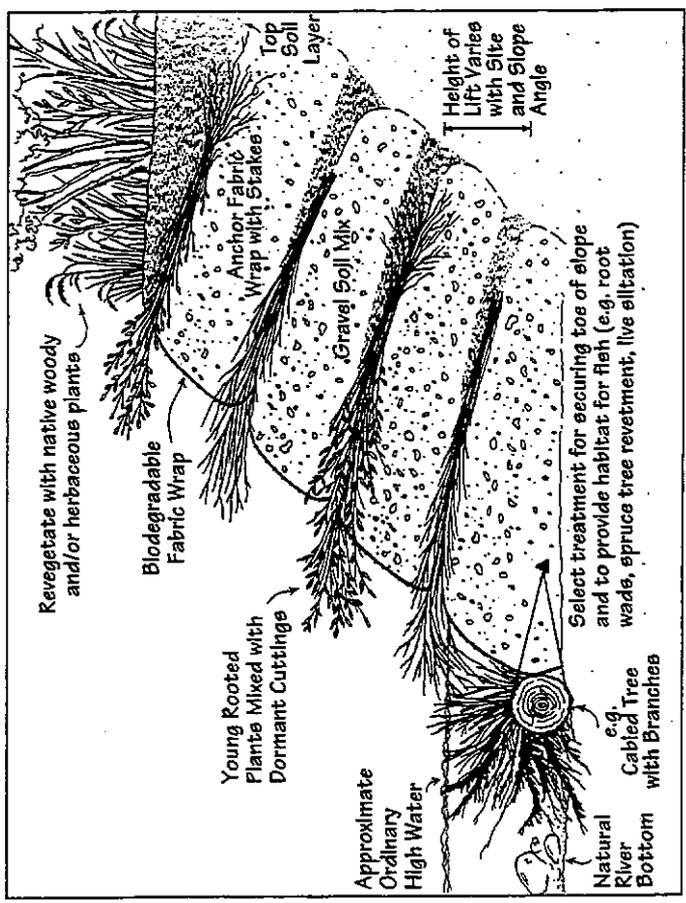
Wrap the sides of the burlap over the sod clumps to make a sausage-like roll. Tie the roll every few inches with twine. Cut holes in the burlap wrap to expose the sod shoots. Try to create the grass roll onsite so that the length of the roll or rolls match the length of the area being planted.

Constructing Grass Rolls





HEDGE BRUSH LAYERING



Hedge brush layering is a revegetation technique which combines layers of plant material, both dormant cuttings and rooted plants, with soil to revegetate and stabilize a streambank. Greater plant diversity can be provided with a hedge brush layer than with a simple brush layer. Rooted plants of species that do not root readily, such as alder, scouler and bebb willow, can be included in the plant layer. A mixture of species may allow the revegetation project to blend with existing vegetation.

Branches and transplants are placed on horizontal benches that follow the contour of the slope and provide reinforcement to the soil. The transplants will add stability quickly as their roots become anchored. Relatively steep slopes can be stabilized with this technique if a biodegradable revegetation fabric is used to hold the soil in place between the plant layers. The front of the wrapped soil layer can be lightly seeded with grasses to increase soil stability while the woody plants become established. Overhanging branches provide fish habitat.

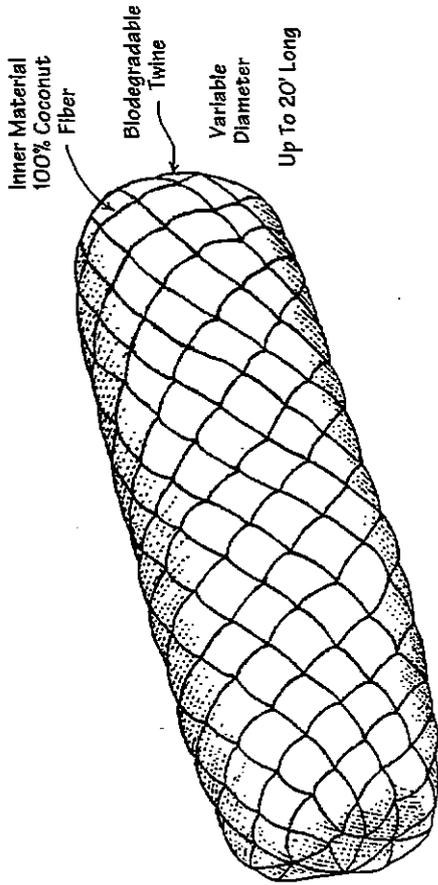
Select plant species suitable for site conditions (see *Stream Revegetation Plant Species Selection List, Shrubs and Trees*). For results dig transplants in spring or late summer and plant them the day. If possible root prune the plants several weeks prior to transplant. Select plants less than 5 to 6 feet tall and root prune the plants to the shovel width. After the plant has been dug for transplanting, trim branches to compensate for root loss.

Collection, storage and planting information is described in the *Dormant Cuttings and Transplanting* sections. A hedge layer, which uses all rooted plants can be planted throughout the growing season from spring through early fall.

Choose a technique to secure the toe of the slope. Begin layering at the bottom of the slope. Along a water body, the first layer is typically installed at the ordinary high water (OHW) level. Brush layers may be installed below OHW to provide cover and fish habitat. These plants probably will not root and become established.

Excavate the first bench two to three feet deep so that it angles slightly down and into the slope (see *Hedge Brush Layering/Brush Layering, Step by Step*). Lay branches and transplants on the bench, slightly crisscrossing them. Place the cut ends of the branches and the roots of the transplants into the slope with the tips or shoots extending beyond the edge of the bench **no more than 1/4 the total branch length**. Plant 20 to 25 stems per yard. Higher density plantings are needed for more erosive sites and if the diameter of the plant material is small. Fill the newly planted bench with desired bank height is reached. The spacing between layers will vary with the erosion potential of the site. Sites with a shallow slope and low erosion potential can have wider spacing than sites with a steep slope and higher erosion potential. This technique can be easily mechanized, layer by layer, if it is installed during construction of a fill slope. On cut slopes and existing banks each layer must be excavated.

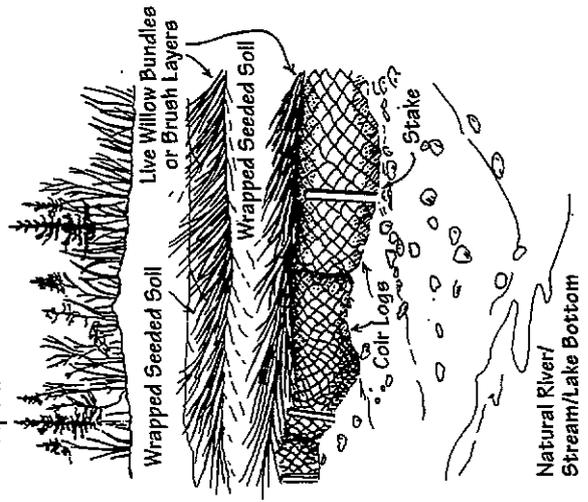
Hedge brush layering is a variation of brush layering (see *Brush Layering*).



Coir logs are constructed of interwoven coconut fibers that are bound together with biodegradable netting. Commercially produced coir logs come in various lengths and diameters. The product needs to be selected specifically for the site. Fiber logs composed of other sturdy biodegradable materials may function equally as well.

Applications for coir logs occur in many streambank, wetland and upland environments. The log provides temporary physical protection to a site while vegetation becomes established and biological protection takes over. The logs can provide a substrate for plant growth, protect plants growing adjacent to the log, can be used as a transition from one revegetation technique to another, and used to secure the toe of a slope. Both the upstream and downstream ends of the coir log(s) need to transition smoothly into a stable streambank to reduce the potential to wash out.

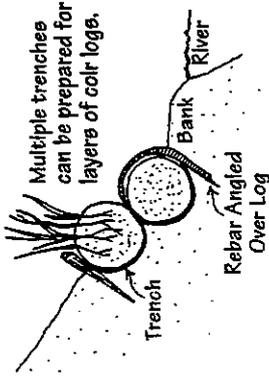
Example 1.



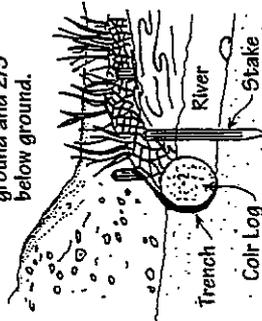
Install the logs to ensure contact with soil along the entire length. In most cases, excavate a shallow trench to partially bury the log. At no time should the coir log span any open space that may occur between rocks, logs or uneven ground. Tie logs together that have been placed end to end and stake into place. Flowing streams, particularly those carrying ice during breakup, could rip the log out of the streambank, if it is not adequately anchored. Wooden stakes, curved rebar and earth anchors have all been used to securely anchor these logs.

Sod or sprig coir logs when they are placed in locations that will provide adequate moisture for plant growth. Small holes can be created in the surface of the logs and sprigs, or small plugs of suitable plant species can be transplanted into the log (see *Streambank Revegetation Plant Species Selection List, Grasses and Sedges*). These plantings should be fertilized (see *Fertilizer section*).

Example 2.
Logs biodegrade as plant roots develop.



Coir Log is 1/3 above ground and 2/3 below ground.



Partially buried coir log with live siltation immediately behind.