

**Appendix G**  
**Permit Applications**

(ITEMS 1 THRU 4 TO BE FILLED BY THE CORPS)			
1. APPLICATION NO.	2. FIELD OFFICE CODE	3. DATE RECEIVED	4. DATE APPLICATION COMPLETED
(ITEMS BELOW TO BE FILLED BY APPLICANT)			
5. APPLICANT'S NAME  Alaska Department of Transportation and Public Facilities; <b>Mark Mayo</b>		8. AUTHORIZED AGENT'S NAME AND TITLE	
6. APPLICANT'S ADDRESS  P.O. Box 196900 Anchorage, AK 99519-6900		9. AGENT'S ADDRESS	
7. APPLICANT'S PHONE NOS. W/AREA CODE  Phone: (907) 269-0519 Fax: (907) 269-0521		10. AGENT'S PHONE NOS. W/AREA CODE	
11. STATEMENT OF AUTHORIZATION			
I hereby authorize _____ to act in my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this permit application.			
_____ APPLICANT'S SIGNATURE		_____ DATE	
<b>NAME, LOCATION AND DESCRIPTION OF PROJECT OR ACTIVITY</b>			
12. PROJECT NAME OR TITLE  Takotna Airport Master Plan			
13. NAME OF WATERBODY, IF KNOWN  Takotna River		14. PROJECT STREET ADDRESS  N/A	
15. LOCATION OF PROJECT  Takotna Alaska _____ COUNTY STATE			
16. OTHER LOCATION DESCRIPTIONS, IF KNOWN  T. 34 N, R. 35 W, Section 31; Seward Meridian, USGS Quad. McGrath D-6. T. 34 N, R. 36 W, Sections 34, 35, and 36; Seward Meridian, USGS Quad. Iditarod D-1			
17. DIRECTIONS TO THE SITE  From the existing airport at Takotna, the site is approximately 1.0 mile to the northeast. The site can be accessed along the Takotna-Nixon Fork Winter trail that heads east away from town. See attached figures, Sheets 1 of 6.			
18. Nature of Activity  The project would construct a new airport about one mile east of the community (see attached figures). Airport components include: a 4,000 ft x 75 ft runway within a 4,480 ft x 150 ft runway safety area, a 45 ft by 210 ft taxiway, a 200 ft by 350 ft apron, a 100 ft by 350 ft aviation support area, a 100 ft by 100 ft maintenance and operations area, a 24-foot-wide by 1.1mile long airport access road that would connect an existing road at the easterly limits of the village to the new apron, and 1.1 miles of power line extension for airport lighting. The project would also install a segmented			

circle adjacent to the apron and PAPI at the west end of the runway. To meet anticipated embankment fill and surfacing material needs, three material sites would be exploited, including one existing site and two new sites. Material site 3 is an existing rock quarry adjacent to the existing airport runway. Material site 5 is located between the west end of the proposed runway and the proposed airport access road. Material site 6 is located southeast of the proposed runway, adjacent to the Takotna River. Three temporary haul routes, one associated with each site, would be constructed for the duration of the project and removed following completion of construction activities. See Section 18 of the attached narrative for additional information.

19. Project Purpose

The purpose of the project is to correct deficiencies at the Takotna Airport, including inadequate runway length and runway safety area length and width, and to provide a facility that meets current FAA and DOT&PF standards for a community class airport. See Section 19 of the attached narrative for additional information.

USE BLOCKS 20-22 IF DREDGED AND/OR FILL MATERIAL IS TO BE DISCHARGED

20. Reason(s) for Discharge

The proposed project will fill wetlands to construct the new airport facility, develop materials sites for embankment fill and surfacing materials, and construct temporary material haul routes. During the planning process no reasonable and practicable upland alternative that could meet the needs of the project was identified.

21. Type(s) of Material Being Discharged and the Amount of Each Type in Cubic Yards

The total amount of fill material for the project is 429,000 cy, including 25,000 cy of temporary fill material for construction of temporary material site access haul routes. Of this quantity, approximately 409,000 cy consists of embankment material and 20,000 cy consists of surface course material. See Sections 21 and 22 of attached narrative for more information.

22. Surface Area in Acres of Wetlands or Other Waters Filled

Approximately 34.1 acres of wetlands would be permanently filled or excavated. An additional 5.7 acres of wetlands would be temporarily filled. A total of 39.8 acres of wetlands would be temporarily or permanently impacted. See Sections 21 and 22 of attached narrative for a full summary.

23. Is Any Portion of the Work Already Complete? Yes \_\_\_\_\_ No  IF YES, DESCRIBE THE COMPLETED WORK

24. Addresses of Adjoining Property Owners, Lessees, Etc. Whose Property Adjoins the Waterbody  
MTNT Limited, PO Box 309, McGrath, AK 99627  
Doyon Limited, 1 Doyon Place, Suite 300, Fairbanks AK 99701-2941

25. List of Other Certifications or Approvals/Denials Received from other Federal, State or Local Agencies for Work Described in This Application.

N/A

26. Application is hereby made for a permit or permits to authorize the work described in this application. I certify that the information in this application is complete and accurate. I further certify that I possess the authority to undertake the work described herein or am acting as the duly authorized agent of the applicant.

\_\_\_\_\_  
SIGNATURE OF APPLICANT

\_\_\_\_\_  
DATE

\_\_\_\_\_  
SIGNATURE OF AGENT

\_\_\_\_\_  
DATE

The application must be signed by the person who desires to undertake the proposed activity (applicant) or it may be signed by a duly authorized agent if the statement in block 11 has been filled out and signed.

18 U.S.C. Section 1001 provides that : Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry, shall be fined not more than \$10,000 or imprisoned not more than five years or both.

# **Takotna Airport Section 404 Permit Application**

## **Additional Narrative**

### **Section 18: Nature of the Activity**

The Alaska Department of Transportation and Public Facilities (DOT&PF) is proposing to relocate the Takotna Airport and construct a new facility and access road. The new airport will be constructed at a lower elevation approximately 1 mile east of Takotna and the existing airport. The new airport will be constructed largely in wetlands at an elevation of 416 feet mean sea level (MSL).

Permanent improvements will include the following:

- Construction of a 4,000-foot by 75-foot runway
- Construction of a 4,480-foot by 150-foot runway safety area
- Construction of a 50-foot by 210-foot taxiway
- Construction of a 300-foot by 350-foot apron
- Construction of a 100-foot by 350-foot aviation support area
- Construction of a 100-foot by 100-foot maintenance equipment building pad
- Construction of a 25-foot by 60-foot PAPI pad
- Construction of a segmented circle and wind cone
- Installation of a medium intensity runway lighting system
- Installation of a rotating beacon
- Construction of a 24-foot wide by 1.1 mile long airport access road

Materials to construct the airport improvements will be obtained from three material sources. Material Site 3 (shown on Figure 2 of 6) is an active material source located next to the existing airport. This material site is used by the community and is located in uplands. It is anticipated the site will be expanded by an additional 3.0 acres from its existing 2.4 acres, to a total size of 5.4 acres. Material from site 3 will be used to develop a material haul route to the site of the new airport. The haul route will be temporary and involves placing fill in wetlands. At the request of the community, the Material Site 3 haul route was located to avoid the existing airport access road and proximity to residences and businesses. In addition to Material Site 3, two new material sites (Material Sites 5 and 6, Figure 2 of 6) will be developed. Material Site 5, (2.9 acres) sits between the west end of the proposed runway and access road and is a combination of upland and wetlands. Material Site 6 (10.8 acres) is located at the far southeast end of the proposed runway in uplands. Temporary haul routes will also be developed for Material Sites 5 and 6 and will involve placing fill in wetlands. Temporary haul routes and fill will be removed following completion of construction. It is anticipated that the material sites will be able to provide all the required embankment fill and surfacing materials.

Equipment and materials will be mobilized to the Takotna area by barge via the Kuskokwim River to Sterling Landing, 24 miles southeast of Takotna. Materials and equipment will then be driven to Takotna along the Takotna-Sterling Landing Road. Other than a new airport access road, no new permanent bridges or roads will be constructed. As noted above, temporary haul routes constructed between each proposed material site and the new airport location will be removed. A temporary haul road will be constructed first from existing Material Site 3 to the airport location and Material Sites 5 and 6.

### *Other Alternatives Considered*

In addition to the proposed action and the no-build alternative, three other build alternatives were considered early on in the project: improve the existing airport, relocate to a new site on the south side of the Takotna River, and improve the Tatalina Air Force Station. Initial analysis indicated none of these build alternatives would be able to resolve existing deficiencies and satisfy the project purpose and need.

Improving the existing airport at its hillside location would not resolve issues related to unpredictable winds and approach obstructions to the north and west. Topography would also prevent construction of a runway of adequate length to accommodate aircraft hauling fuel. Relocating the airport south of the village across the Takotna River was not considered feasible because of the environmental impacts and cost associated with the project. This alternative included a new bridge to access the airport and resulted in a considerably higher construction cost estimate. Impacts to wetlands, including impacts on an area of open water wetlands would be greater. Use of the existing landing strip at Tatalina Air Force Station was not considered feasible due to its distance from Takotna and lack of year-round access. In addition, the U.S. Air Force was not responsive to ADOT&PF inquiries about possible use of the landing strip as a community airport.

### **Section 19: Project Purpose**

The purpose of the project is to construct an airport that meets FAA and DOT&PF standards, improves safety for all aircraft operations, and meets the forecast aviation demand and needs of the community for the next 20 years, including the ability to accommodate intermittent use by larger aircraft that transport fuel and materials. The proposed project would resolve the following deficiencies and problems: • runway length • runway safety area length, width, and grading • object free area encroachments • airport lighting • poor runway surface conditions • airport maintenance equipment • gusty, unpredictable winds • obstructions to Runway 6 approach surface and primary horizontal and conical surfaces to the north and west • topography constraints to expansion at existing airport • no maintenance building • no public lease lots and tie-downs • runway conditions that compromise medevac services • a short runway that limits fuel delivery service • difficult airport access because of steep hillside location.

The only year-round access to the village of Takotna is via its community-class airport. The airport is the primary point through which mail, freight, and people are transported to and from the village. Fuel is transported by air to Tatalina Air Force Station (approximately 10 miles south) and trucked by road to Takotna (see Page 1/6). This is only feasible in the summer because the road is not maintained during the winter. Shallow water in the Takotna River prevents reliable water access by barge. The closest barge landing is at Sterling Landing, approximately 24 miles away on the Kuskokwim River. A road connects Sterling Landing with Takotna. The proposed airport improvements would allow year-round fuel supply and provide a safe facility for passenger, medevac, air cargo, freight, and mail operations.

### **Section 20: Reason for Discharge**

Avoidance of wetlands is not feasible – a runway is a linear feature that must meet minimum length, width, safety area, and clear zone standards. The proposed location was selected because it could accommodate an airport that meets recommended design standards, including wind coverage, while minimizing environmental impacts. No reasonable upland alternative exists - topography prevents development in any other location.

**Section 21: Type(s) of Material Being Discharged and the Amount of Each Type of Dredge and Fill Material**

The proposed airport would adversely affect wetlands by placing fill for airport components and by developing material sources. Approximately 384,000 cubic yards of embankment fill and 20,000 cubic yards of surfacing material would be placed in 34.1 acres of wetlands. An additional 5.7 acres of wetland would be temporarily filled with 25,000 cubic yards of embankment material to construct material haul roads. See Table 1 below.

**Section 22: Surface Area in Acres of Wetlands or Other Waters Filled**

The estimated area of permanent wetland loss for the airport, including the access road, runway, material sites and associated infrastructure, is 34.1 acres of palustrine forested/scrub-shrub and wet meadow wetlands. Table 1 depicts the wetland impacts associated with specific project components. The airport access road, runway, and apron/aviation support area would impact approximately 31.6 acres of wetlands. Material Sites 3, 5, and 6 and their associated temporary haul routes would impact approximately 8.2 acres of wetlands, primarily consisting of palustrine forested and scrub shrub wetlands. Of the 8.2 acres impacted, 2.5 acres would be permanently excavated for airport embankment fill and 5.7 acres would be temporarily filled to construct temporary material haul routes. A total of 39.8 acres of wetlands would be affected by permanent and temporary impacts. Prior to completing construction, fill used to construct the temporary haul routes would be removed and disturbed areas regraded. Vegetation in wetland areas would be left to reestablish naturally.

**Table 1. Takotna Airport Project  
Wetland Fill and Excavation Quantity Information**

	<b>Wetland Volume Filled<sup>1,3</sup> (cubic yards)</b>	<b>Wetland Volume Excavated<sup>2</sup> (cubic yards)</b>	<b>Area Filled or (Excavated) (acres)</b>
<b>Permanent Construction</b>			
<b>Airport and Access Road</b>			
Airport Access Road	18,000	0	5.9
Runway	375,000	15,000	22.8
Apron / Aviation Support	11,000	0	2.9
<b>Sub-total</b>	<b>404,000</b>	<b>15,000</b>	<b>31.6</b>
<b>Material Sites</b>			
Material Site 3 Expansion	0	0	0
Proposed Material Site 5	5,000 (temporary overburden stockpile)	75,000	2.5
Proposed Material Site 6	0	0	0
<b>Sub-totals</b>	<b>404,000</b>	<b>90,000</b>	<b>34.1</b>

	<b>Wetland Volume Filled<sup>1,3</sup> (cubic yards)</b>	<b>Wetland Volume Excavated<sup>2</sup> (cubic yards)</b>	<b>Area Filled or (Excavated) (acres)</b>
<b>Temporary Construction</b>			
Material Site 3 Temporary Haul Route	16,000 (temporary fill)	0	4.6
Proposed Material Site 5 Temporary Haul Route	800 (temporary fill)	0	0.2
Proposed Material Site 6 Temporary Haul Route	3,200 (temporary fill)	0	0.9
<b>Sub-totals</b>	<b>25,000</b>	<b>0</b>	<b>5.7</b>
<b>Totals (temporary and permanent)</b>	<b>429,000</b>	<b>90,000</b>	<b>39.8</b>
(1) Wetland volume filled includes backfill from excavated areas. (2) Excavation considered unusable for construction and will be spread along the sideslopes of the proposed alignment (3) The total fill volume includes 20,000 cy of gravel aggregate surfacing material.			

### Impact Minimization and Mitigation

In accordance with a recent multi-agency MOA regarding mitigation and wetland impacts, the ADOT&PF must document the evaluation of avoidance and minimization options considered in the project analysis (FAA et al. 2003). Documentation for this evaluation is provided in a “Wetland Avoidance and Minimization Checklist” (Draft Takotna Airport Environmental Assessment, 2005, Appendix D).

The Contractor would be required to prepare and implement:

- Storm Water Pollution Prevention Plan (SWPPP) that describes best management practices (BMPs) and site-specific measures to prevent and minimize construction-related storm water impacts
- Notice of Intent to be covered under the National Pollutant Discharge Elimination System General Permit for Construction Activities, and
- Hazardous Materials Control Plan.

Avoidance and minimization measures incorporated into the project include the following:

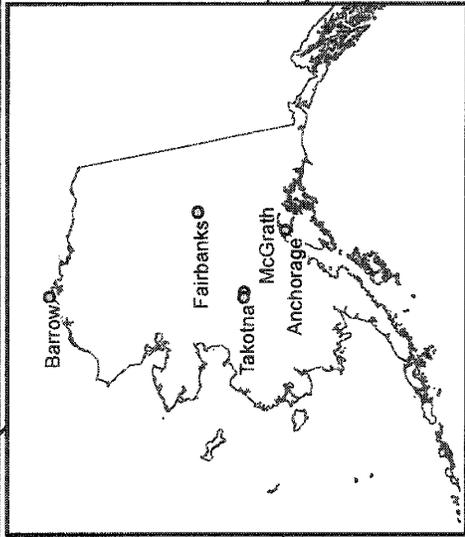
- Thorough analysis of material site locations to determine if the majority of suitable materials could be obtained from upland locations. Although adequate suitable material could not be obtained solely from upland sources, only 2.5 acres identified for material extraction is wetland. Another 5.7 acres of wetlands would be temporarily impacted by construction of haul roads. Material Sites 3 and 6 would be exploited as much as possible to reduce impacts to wetlands in Material Site 5.

- Drainage from the airport would be designed to minimize the potential for transport of sediments off the project site and into wetlands adjoining the project area.
- Culverts and ditching would be installed along the access road and runway, taxiway, and apron embankments and the temporary material site access routes to maintain natural drainage patterns to the extent practicable.
- The airport access road, apron, runway and taxiway sideslopes would be stabilized by seeding to minimize erosion and sedimentation.

As per the MOA, projects that have been developed in conformance with the MOA have, as a preliminary matter, avoided and minimized impacts to wetlands to the maximum extent practicable. Unavoidable impacts to wetlands shall then be compensated by ADOT&PF at \$500 per acre, deposited into the Alaska Wetlands Conservation Fund. Since the relocation alternative proposes to impact approximately 39.8 acres of wetlands, in accordance with the MOA, the ADOT&PF proposes compensation for the project in the amount of \$20,000.

# Vicinity Map

1 Mile



Proposed Takotna Airport

Current Takotna Airport

Takotna Village

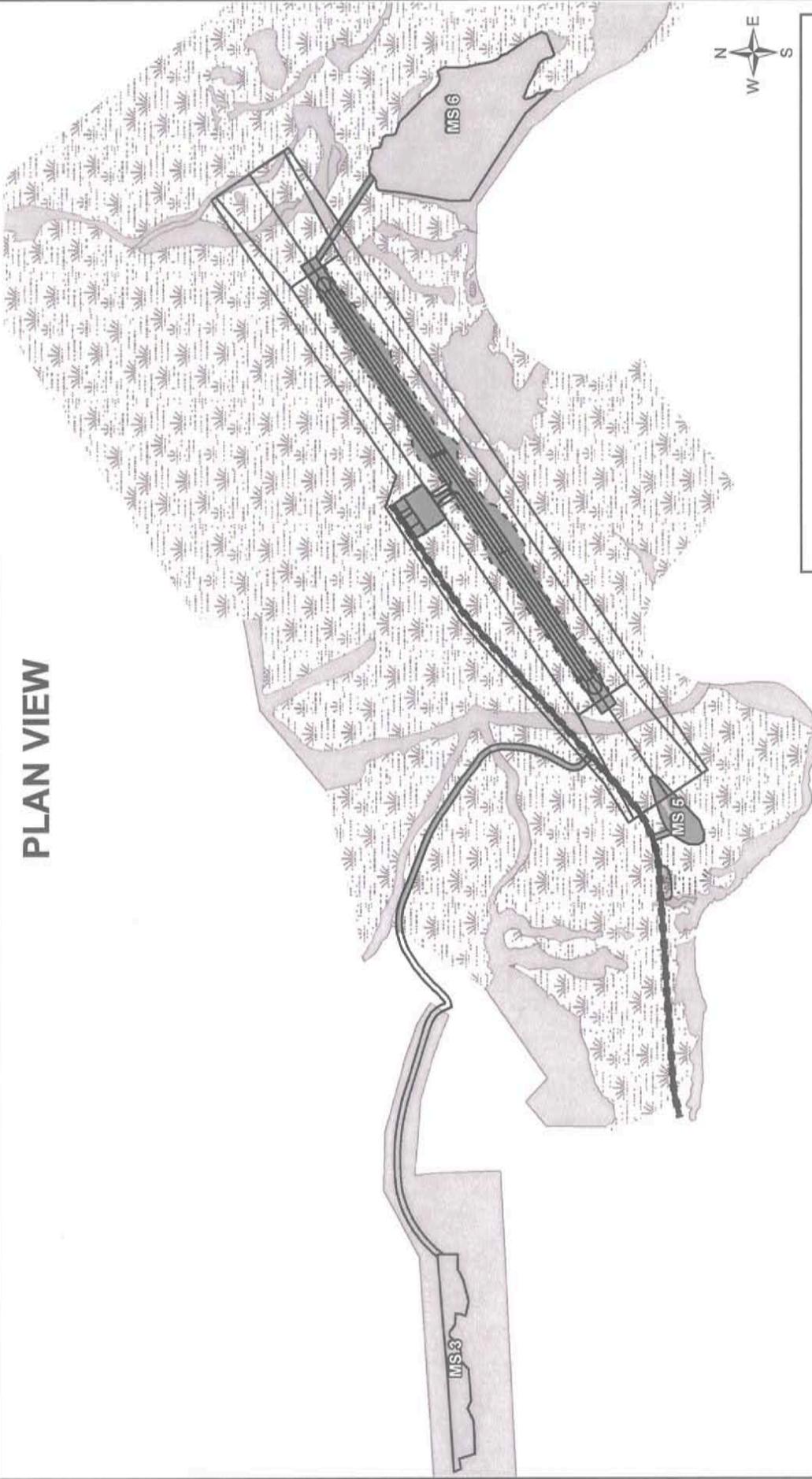
Takotna River

● Sec 36

● Sec 35

**Applicant Name:** State of Alaska Department of Transportation and Public Facilities  
**Project Name:** Takotna Airport Master Plan ADOT&PF Project No. 54011  
**Project Location:** Takotna, Alaska T. 34 N, R. 36 W, Sections 35 & 36; SM  
**Waterbody:** Takotna River  
**Date:** May 15, 2006 **Sheet:** 1 of 6

# PLAN VIEW



**Applicant Name:** State of Alaska Department of Transportation and Public Facilities

**Project Name:** Takotna Airport Master Plan  
ADOT&PF Project No. 54011

**Project Location:** Takotna, Alaska  
T. 34 N, R. 36 W, Sections 35 & 36; SM

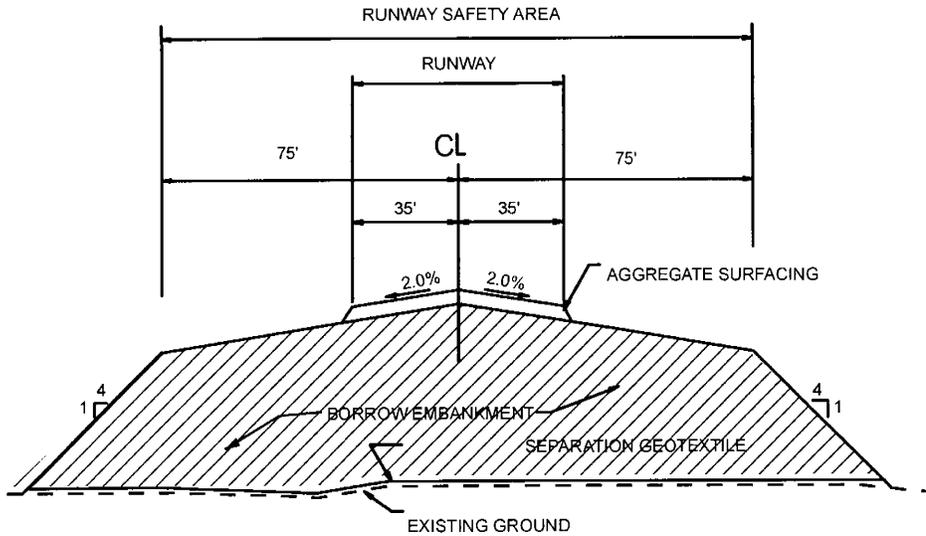
**Waterbody:** Takotna River

**Date:** May 15, 2006 **Sheet:** 2 of 6

## LEGEND

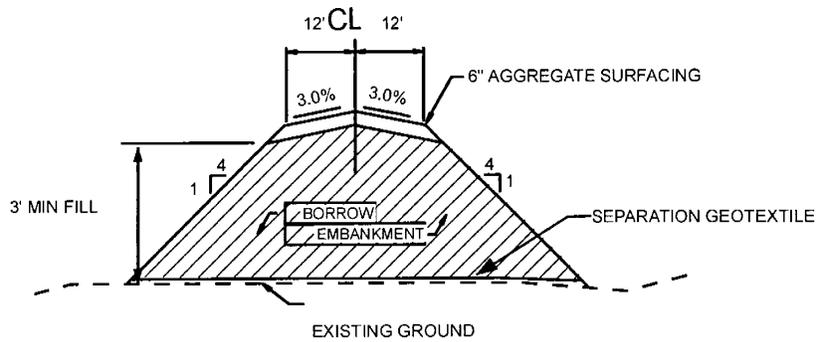
- Proposed Action (Alternative C)
- - - - - Clearing and Cut/Fill Limits (typical)
- Fill in Wetlands
- ▨ Wetlands
- Uplands

# TYPICAL CROSS-SECTIONS



## RUNWAY TYPICAL SECTION A-A

NTS



## ACCESS ROAD TYPICAL SECTION B-B

NTS



**Applicant Name:** State of Alaska Department of Transportation and Public Facilities

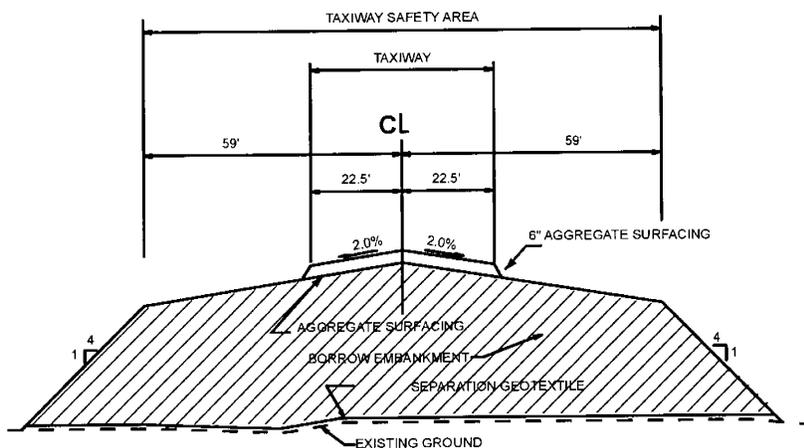
**Project Name:** Takotna Airport Master Plan  
ADOT&PF Project No. 54011

**Project Location:** Takotna, Alaska  
T. 34 N, R. 36 W, Sections 35 & 36; SM

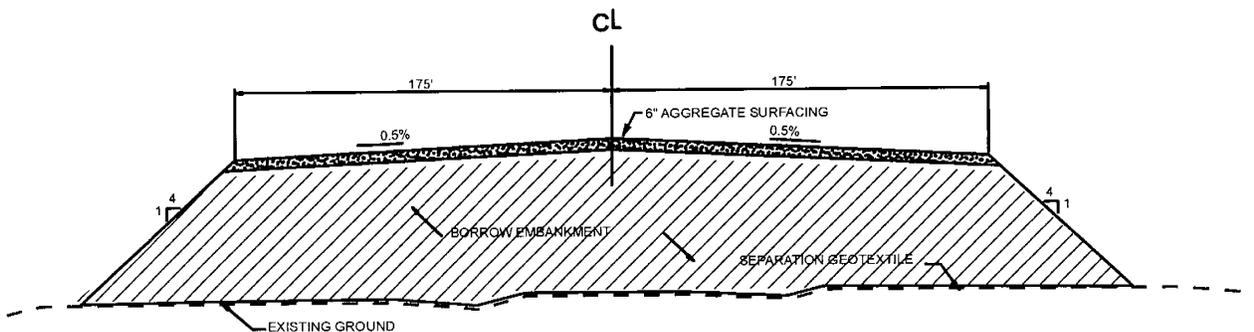
**Waterbody:** Takotna River

**Date:** May 15, 2006 **Sheet:** 3 of 6

# TYPICAL CROSS-SECTIONS



**TAXIWAY TYPICAL SECTION C-C**  
NTS



**APRON TYPICAL SECTION D-D**  
NTS



**Applicant Name:** State of Alaska Department of Transportation and Public Facilities

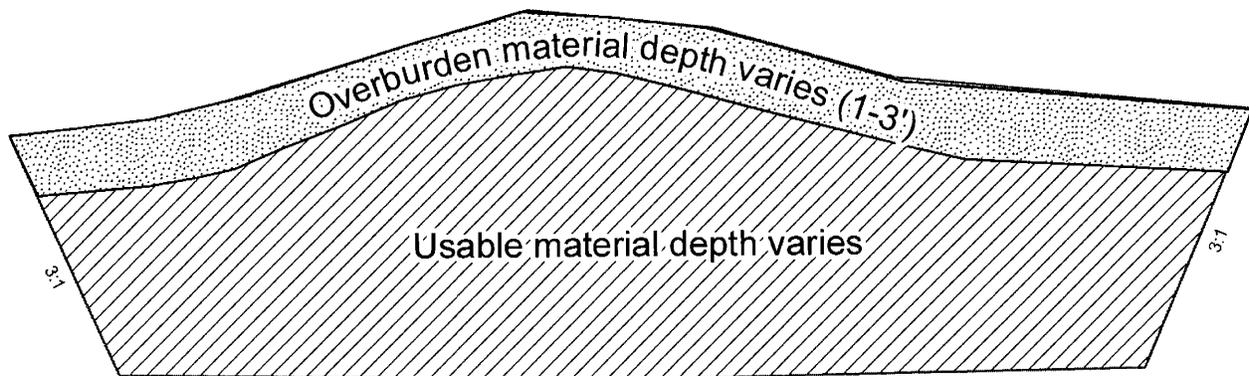
**Project Name:** Takotna Airport Master Plan  
ADOT&PF Project No. 54011

**Project Location:** Takotna, Alaska  
T. 34 N, R. 36 W, Sections 35 & 36; SM

**Waterbody:** Takotna River

**Date:** May 15, 2006 **Sheet:** 4 of 6

## MATERIAL SITE CROSS SECTION



### MATERIAL SITE #5 SECTION E-E

- NOTES: (i) Stockpile overburden in upland area or on disturbed wetland excavation.  
Backfill disturbed pit area with stockpiled overburden prior to final grading.  
(ii) Stabilize all side slopes with seeding to prevent erosion.  
(iii) Excavation may go below watertable. Dewatering may be required to mine materials and obtain target quantity.  
(iv) Provide silt fence and straw bales at any point runoff discharges to adjacent wetlands. Install controls prior to clearing and excavation.  
(v) Stake/flag material site perimeter prior to commencing clearing and excavation.

**Applicant Name:** State of Alaska Department of  
Transportation and Public Facilities

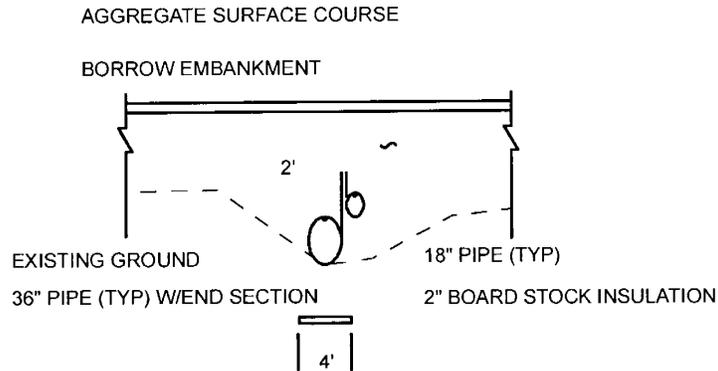
**Project Name:** Takotna Airport Master Plan  
ADOT&PF Project No. 54011

**Project Location:** Takotna, Alaska  
T. 34 N, R. 36 W, Sections 35 & 36; SM

**Waterbody:** Takotna River

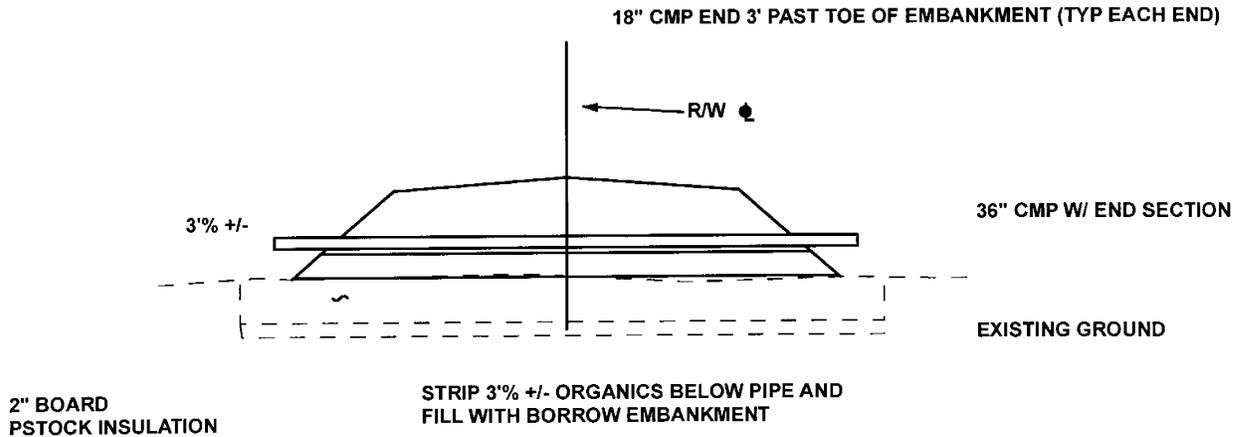
**Date:** May 15, 2006 **Sheet:** 5 of 6

# RUNWAY CULVERT SECTIONS



## RUNWAY CULVERT SECTION

NTS



## RUNWAY CULVERT DETAIL

NTS

**Applicant Name:** State of Alaska Department of Transportation and Public Facilities

**Project Name:** Takotna Airport Master Plan  
ADOT&PF Project No. 54011

**Project Location:** Takotna, Alaska  
T. 34 N, R. 36 W, Sections 35 & 36; SM

**Waterbody:** Takotna River

**Date:** May 15, 2006 **Sheet:** 6 of 6



State of Alaska  
Department of Transportation  
& Public Facilities  
Statewide Design &  
Engineering Services

## **Wetland Avoidance and Minimization Checklist**

***Project Name: Takotna Airport Environmental  
Assessment***

***Project Number: 54011***

### **I. Project Scope:**

Takotna's aviation transportation system has numerous deficiencies that have the potential to compromise the safety of users and its ability to fulfill its role as a community class airport. More specifically: runway and safety area dimensions do not meet recommended standards; the aviation support area is inadequate; surrounding terrain features create turbulent wind conditions; the airport is located on the side of a large hill and creates access issues for those approaching on foot; and the airport cannot be expanded due to the surrounding terrain (described further in the Takotna Airport Master Plan Environmental Assessment).

The relocation alternative (proposed action) consists of the following airport improvements\*:

- Construct a 1.1 mi two-lane all-weather gravel access road
- Construct a 4,000 ft long by 75 ft wide runway
- Construct a 4,480 ft long by 150 ft wide runway safety area
- Construct a 70,000 ft<sup>2</sup> apron
- Construct two 10,000 ft<sup>2</sup> least lots
- Construct a 10,000 ft<sup>2</sup> operations and maintenance pad

*\*The airport design would be based upon FAA ARC B-I and ADOT&PF community class airport design criteria.*

## **II. Avoidance Measures:**

*1. Can the proposed project or project components be located in a non-wetland area? If not, explain in detail why not? (Refer to preliminary jurisdictional wetland determination.)*

**The proposed project components cannot be located in non-wetland areas because the non-wetland areas in Takotna are not able to accommodate the geometric requirements of the proposed improvements. The topography of Takotna is characterized by rolling, wooded hills, and few flat areas exist. In general, the wetlands are located in flat areas or at the base of hill slopes. Avoidance of wetlands is not feasible – a runway is a linear feature that must meet minimum length, width, safety area, and clear zone standards within a generally flat area. Similarly, the proposed access road is linear feature that must connect the village of Takotna with the new airport. Although the proposed alignment has been sited to avoid wetlands where possible, the road would impact wetland areas. The wetlands involved at the proposed airport site are not unique to the area and similar wetlands are distributed throughout Takotna and neighboring lands. In addition, topography prevents development in any other location within a reasonable distance from the community.**

*1.a. If yes, does this non-wetland area provide unique habitat to the area or contain other protected resources (e.g., cultural resource, federally listed or candidate species, bald eagles or other raptors)? Consult with the agency with jurisdiction or expertise if appropriate e.g., SHPO, Corps, FWS, NMFS, ADF&G. N/A*

*1.b. Are there other project related impacts to the non-wetland area that are considered substantial (e.g., subsistence use or other socio-economic factors)? Consult with the agency with jurisdiction or expertise if appropriate e.g., Corps, FWS, NMFS, ADF&G, appropriate state and local agencies on socio-economic impacts. N/A*

*2. In consideration of forecast changes in aircraft use, future airport projects, expected community growth and maintenance considerations, have facilities been sited to avoid wetland impacts? Has this been applied to all individual components of the airport (e.g., the runway, taxiways, aprons, lease lots, navigational aids)?*

**Development of the options described below took into account the projected future aircraft use, related airport projects, community growth, and maintenance needs. Five alternatives for improving the deficiencies at the Takotna Airport were considered during the earlier phases of the project —taking no action, improving the existing airport, relocating the airport south of the village across the Takotna River, using the existing landing strip at Tatalina Air Force Station, and relocating the airport to the east of the community:**

***No Action Alternative:*** The no action alternative would make no improvements to the existing airport. Residents and pilots have identified a number of problems with the Takotna Airport, including the ways in which existing features compromise safety and community development. Under the no action alternative, no improvements would be made to the existing airport and these problems would continue. This alternative does not

meet existing or forecast needs for aircraft operations.

*Improve the Existing Airport:* This alternative was not feasible because the existing facility is located on a hill with unpredictable winds. Hill slopes and vegetation act as obstructions to the north and west. Improving the airport in the current location would not solve these problems, and meeting the necessary length requirement would not be possible due to topographic constraints.

*Relocate the Airport South of the Village:* This alternative was not considered feasible because of the cost and environmental impacts. Alternative B would cost significantly more than the other alternatives due to the need for a crossing of the Takotna River. Wetlands impacts would not be reduced or avoided - the entire project would likely be in wetlands, including impacts on an area of open water wetlands.

*Use of the Tatalina Air Force Station:* This alternative was not feasible due to the lack of year-round access and the failure of the U.S. Air Force to respond to the ADOT&PF inquiries about the possibility of using the landing strip.

*Relocate the Airport East of the Village:* This alternative would move the airport approximately 1 mi east of town. The site was selected for several reasons. Relocation to this location would make compliance with FAA ARC B-I design criteria recommendations feasible and existing and forecast needs for safe aircraft operations could be met. This site improves conditions for aircraft operations and access for those traveling by foot. Topography (hills) would constrain construction of an airport further to the north of the community, while the Takotna River constrains it to the south.

The ADOT&PF selected the east relocation alternative because it reconciles design standard deficiencies, accommodates forecast demand, and improves safety without incurring some of the negative environmental, social, and economic impacts associated with other alternatives considered. These impacts include high costs, longer distances from the community, road and bridge maintenance concerns, impacts to valuable wetlands, lack of access to the Tatalina Air Force Station, and safety concerns at the current airport location.

None of the proposed components of the east relocation alternative could be constructed completely within uplands.

*2.a. Can dimensions of facilities be traded off; i.e., length vs. width of the apron in order to lessen impacts?*

The proposed airport facilities included in the project are designed to the ADOT&PF recommended standards for community class airports. Since much of the land in the vicinity of the east relocation alternative is wetlands, dimensional tradeoffs would not be an effective method to avoid project impacts to wetlands. Tradeoffs, including those considered for apron dimensions, would result in impacts

to different wetlands. Dimensionally changing (i.e. narrowing or angling) the apron to avoid wetlands would result in a loss of functionality of the apron (i.e. too narrow for aircraft maneuvering).

*2.b. Can the footprint of specific project components be reduced to avoid wetlands i.e., steeper side slopes on support facilities?*

The project components were planned and designed to meet FAA ARC B-I and ADOT&PF community class airport guidelines for safe airport operations while avoiding wetland impacts to the maximum extent practicable. Using steeper slopes than recommended could result in sloughing and erosion of the slopes. Simply reducing dimensions of components would not allow complete avoidance of wetlands.

*2.c. Can facilities be consolidated to avoid impacts?*

The proposed facilities (apron, maintenance area, and other aviation support areas) are already consolidated near the middle of the proposed runway. However, due to the extensive wetland systems located in the vicinity of the proposed runway, this consolidation will not reduce wetland impacts.

*2.d. Have existing roads, pads, runways and other facilities been incorporated into the design of the proposed project to avoid wetland impacts?*

The proposed alternative would relocate the airport into an undeveloped area approximately 1 mile from existing facilities. The proposed access road would connect to the existing main road in Takotna. No other developed roads, pads, runways or other facilities are located near the relocation alternative and therefore can't be incorporated into the design of the proposed project. Segments of the Iditarod National Historic Trail occur in the project area. The trail meets the criteria for a section 4(f) property and, to the extent possible, the project is also being constructed to minimize impacts to the trail system.

*3. Has a habitat map, of an appropriate scale and complexity been prepared to assess habitat value and determine project impacts? If not, why not? (If the need for and level of detail is unclear, ADOT&PF will coordinate with appropriate agencies).*

**A Wetland Delineation and Wetland Functional Assessment and a Fish Habitat Investigation Memo (HDR 2002) was prepared for the Takotna Airport Project. As the project design moved to later stages it was determined that local material sources would have to be developed to provide access road, runway and apron building materials. Subsequently, an additional Preliminary Jurisdictional Determination for the proposed material sites was prepared (HDR 2005). The purpose of these analyses was to document wetland locations and wildlife habitat in the project area. The wetland reports briefly describe the ecological functions of area wetlands, and identify the direct impacts to the wetlands that would result from the proposed**

action. The analysis described the wetlands' vegetation types. Additionally, the ecological functions of the wetlands in the project area have been defined based on observation of the wetlands' topographic positions, hydrologic dynamics, vegetation types, and signs of wildlife. The assessment also presents a list of potential wildlife along with photo documentation of the wildlife habitat in the area. Habitat values and project impacts were described in the Environmental Assessment (EA) (Section 5.11).

*4. Have crossings of fish streams been avoided? (Consult the Anadromous Fish Catalog and contact ADF&G for information on any uncatalogued waters where anadromous or resident fish species may be present.)*

The Takotna River is a known anadromous fish stream (#335-30-16600-2255) and would have been impacted by a crossing under the south relocation alternative. ADOT&PF selected the east relocation alternative over the south relocation alternative in part because the siting would avoid habitat impacts to this anadromous fish stream.

Approximately 0.8 miles east of the village, the proposed access road would cross an unnamed stream, which is not listed as an anadromous fish stream. A fish trapping survey conducted by HDR Alaska, Inc. during a site visit in late September 2000 supported residents' claims that there are no fish in the stream (see Appendix E of the Environmental Assessment). ADF&G concurred with this finding (Telecon. June, 17, 2000).

*5. If the Regional Environmental Coordinator has determined that the project may adversely affect Essential Fish Habitat (EFH) list the preliminary EFH conservation measures.*

NMFS provided comments under the EFH provisions of the Magnuson-Stevens Fishery Conservation and Management Act that EFH has not been designated in waters within or near the project site and no impacts to EFH would be likely to occur as a result of the project.

*6. Are bald eagle nest trees at least 330 feet from the project? If not, consult FWS.*

Bald eagle nests have not been observed in the project area during field investigations for this project. However, any nests active in the construction year would be protected by timing restrictions on some or all construction activity in the nest area or by nest monitoring. ADOT&PF would work with USFWS to determine the appropriate action.

*7. Have abandoned pads, roads, runways and other fills associated with the airport project been considered for gravel re-use, rehabilitation, and/or restoration?*

It would be necessary to keep the existing airport and facilities operational during construction of the new runway and other facilities. Therefore, it would not be feasible to re-use gravel from the abandoned pad or runway as part of this airport relocation project. However, once the airport has been relocated, the existing airport would be decommissioned. Ownership of this property would revert to the village of Takotna. Currently, no plans exist for the use of the existing airport, but it would potentially be

available for community development. Takotna could use existing runway fill material at other locations, or could use that area for community development, thus reducing impacts to natural habitats elsewhere.

**III. Minimization Measures (If the impacts can't be completely avoided continue):**

*1. Can the proposed project or project components be located in a lower value wetland area? If not, explain in detail why not? (Refer to appropriate resource mapping or functional value assessment.)*

As described in the *Wetland Delineation and Wetland Functional Assessment (HDR 2002)* and the *Proposed Material Sites Preliminary Jurisdictional Determination (HDR 2005; see Appendix D of the Environmental Assessment)*, the proposed action would place fill in wetlands, primarily consisting of palustrine forested scrub shrub wetlands. However, this habitat is abundant on a regional scale.

Improving the existing airport would have required a large amount of fill to be placed into the valleys around the hill, encroaching on wetlands and riparian habitats. Relocating the airport to the south of the Takotna River would have required impacts to native allotments, a bridge across the Takotna River, and fill in high value open water wetlands. The proposed action minimizes the potential impacts to an anadromous stream and higher value wetlands. The alternative of using the Tatalina Air Force Base was not feasible because of failure of the US Air Force to respond to inquiries and the costs of access.

*1.a. If yes, would construction affect other protected resources (e.g., cultural resource, federally listed or candidate species, bald eagles or other raptors)? Consult with the agency with jurisdiction or expertise if appropriate e.g., Corps, FWS, NMFS, ADF&G and SHPO. N/A*

*1.b. Are there other project related impacts to this lower value wetland that are considered substantial (e.g., cultural resource, subsistence use or other socio-economic factors)? Consult with the agency with jurisdiction or expertise if appropriate. N/A*

*2. In consideration of forecast changes in aircraft use, future airport projects, expected community growth and maintenance considerations, have facilities been sited to minimize wetland impacts? Has this been applied to all individual components of the airport (e.g., the runway, taxiways, aprons, lease lots, navigational aids)?*

**Please see the answer to question II.2 above.**

*2.a. Can dimensions of facilities be traded off; i.e., length vs. width of the apron in order to lessen impacts?*

**Please see the answer to question II.2.a above.**

*2.b. Can the footprint of specific project components be a reduced i.e., steeper side slope on support facilities?*

**Please see the answer to question II.2.b above.**

*2.c. Can facilities be consolidated to minimize impacts?*

**Please see the answer to question II.2.c above.**

*2.d. Have existing roads, pads, runways and other facilities been incorporated into the design of the proposed project to minimize wetland impacts?*

**Please see the answer to question II.2.d above.**

*2.e. Have all steps been taken to avoid erosion and sedimentation of adjacent water bodies and wetlands (e.g., settling ponds) from construction and maintenance activities?*

**Construction activities could result in direct, short-term effects on water quality due to potential erosion from construction sites. Water quality impacts from construction would be mitigated by the application of erosion prevention and control best management practices. Construction activities would require compliance with the storm water National Pollutant Discharge Elimination System (NPDES) general permit for construction activities, to be acquired by the contractor, and the contractor's Storm Water Pollution Prevention Plan (SWPPP). The SWPPP would include measures to contain potential contaminants.**

*3. Have crossings of fish streams been located to minimize adverse impacts to the extent practicable? (Contact agencies with jurisdiction or special expertise as appropriate)*

**There are no known fish streams directly impacted by the project. However, the proposed access road would cross one known tributary and may cross other drainage areas that flow to the Takotna River. Culverts would be placed at all cross drainages along the access road to preserve natural hydrologic conditions to the extent practicable.**

*3.a. Has adverse affects to fish spawning habitat been minimized?*

**No anadromous or resident fish spawning areas are known or suspected to be directly affected by the project.**

*3b. Have stream crossings been designed in accordance with the ADOT&PF/ADF&G Culvert Design and Construction Memorandum of Agreement (August 2001).*

**If necessary, culverts along the access road would be designed in accordance with the ADOT&PF/ADF&G Culvert Design and Construction Memorandum of Agreement.**

4. *If the Regional Environmental Coordinator has determined that the project may adversely affect Essential Fish Habitat (EFH) list the preliminary EFH conservation measures.*

**NMFS provided comments under the EFH provisions of the Magnuson-Stevens Fishery Conservation and Management Act that no EFH has been designated in waters within the project site.**

5. *Have abandoned pads, roads, runways and other fills associated with the airport project been considered for gravel re-use, rehabilitation, and/or restoration?*

**Please see the answer to question II.7 above.**

**IV. Material Site Considerations:**

*Contractor supplied and commercial material sites are not subject to an avoidance and minimization review.*

1. *Has a material site been designated for the project? If yes continue, if no go to V. Yes.*

1.a. *If a new material site is required, have you considered locating and accessing material an adequate distance (based on wildlife hazard considerations) from the airport so that it can be reclaimed as wetlands or other wildlife habitat?*

**Several potential material site sources were investigated that are located an adequate distance (5,000 ft) from the airport that could have been reclaimed as wetlands or wildlife habitat. However, these sites were primarily dominated by wetlands and would require extensive haul routes, also through wetlands, to reach the proposed airport location. To minimize impacts to wetlands, runway development will utilize a local commercial material site (Site 3), which is the existing rock quarry site on the north side of the existing airport. Borrow site 3 is entirely within uplands and is approximately 2.4 acres in size. This site is currently utilized by local residents for various uses. Use of borrow site 3 would require an expansion of the site for a total site acreage of 6.9.**

**Site 3 alone cannot satisfy the anticipated demand of fill and surfacing material required for construction of the airport. Two new material sources, referred to as Sites 5 and 6, would be required. Borrow site 5 is approximately 2.9 acres in size and is located between the west end of the proposed runway and the proposed access road. Borrow site 5 is largely wetlands. Borrow site 6 would be approximately 26.5 acres in size and would be located southeast of the proposed runway, 100 ft from the Takotna River. Borrow site 6 would be located in uplands, however, access to the proposed airport would require construction of a temporary road in wetlands.**

**The location of the new material sites were chosen because of their proximity to the proposed airport and ability to provide both crushable and borrow material for development of the airport runway, embankments, taxiway, apron and access road. Based on the estimated volume of material needed for the project and the volume of the material present at the airspace obstruction, it is likely that excavation at site 5 would result in a pit or depression which could be reclaimed as wetlands.**

*1.b. Would a new site, located a safe distance from the airport, require a new road, resulting in additional wetland resource or community use impacts? Are there means to avoid a new access road? Would development of this new site result in more or less wetland impacts than a new or existing material site located closer to the airport?*

**Options for material sites located a safe distance from the proposed airport are limited by the fact that haul routes from those locations would necessitate transfer of materials through town. Site 1 is located adjacent to the Takotna River entirely within habitat that is primarily characterized as scrub shrub wetlands. Site 2 is also located entirely within wetlands. Use of Sites 1 and 2 could not avoid the construction of new access roads, which would also traverse and impact wetland systems.**

**It would not be feasible to locate material sites 5 and 6 a safe distance (based on wildlife hazard considerations) from the airport without impacting additional wetland resources. Construction of temporary haul routes from all material sites cannot be avoided.**

*1.c. If a new or existing material site has been selected that would be located a safe distance from the airport and requires minimal additional road building, has a mine reclamation plan been prepared? If located an appropriate distance (based on wildlife hazard considerations) from the airport can the material site be reclaimed to provide open water habitat such as, shallows, islands, and irregular shorelines? (Consult agencies with jurisdiction or special expertise, Corps, FWS, ADF&G, and FAA.)*

**Because material sites 5 and 6 are not a safe distance from the proposed airport in regards to wildlife considerations, the creation of habitat features is not an option. Each material site agreement will require a mining and reclamation plan (Norm Phillips, Doyon Ltd., Resource Manager, pers comm., 2/2/05). The DOT&PF contract language requires the contractor to be responsible for ensuring that all required material source permits and clearances are obtained prior to the start of construction.**

*1.d. Has geotechnical and hydrological information been collected and used to maximize gravel exploitation while minimizing wetland impacts (e.g., mining deeper, adjusting*

*material site boundaries, and using portions of the pit for temporary stockpiling of material)?*

**Material site geotechnical investigations indicate that suitable materials are available at Sites 3, 5, and 6. Sites 3 and 6 are located in uplands. Material site 5 would mine 2.5 acres of wetlands. Wetland impacts would occur at Site 5 and all material site haul routes would impact wetlands. Excavation methods at Site 5 would not likely result in less impact to wetlands at the site; overburden stockpiling would occur within the boundaries of the material sites identified in the Environmental Assessment, and in uplands where feasible.**

*1.e. Has a long-term material site been considered? If so, can a portion of the site be closed and reclaimed at the end of this project with due consideration to wildlife hazard concerns?*

**Material site 3 is currently utilized by residents of Takotna as a material borrow location, and the site would likely remain open for future material needs of the community. The DOT&PF anticipates that material sites 5 and 6 would be closed following completion of the project. Therefore, a Material Site Reclamation Plan would be required for the sites. The DOT&PF contract language requires the contractor to be responsible for ensuring that all required material source permits and clearances, including reclamation plans (Reclamation Plan to comply with AS 27.19 and 11 AAC 97) are obtained prior to the start of construction.**

**V. Additional Material Site Considerations:**

*1. Will project overburden be stockpiled (preferably in uplands) for use as “top soil” or in reclamation of material sites or previously disturbed areas?*

**Project overburden could be stockpiled for use as topsoil for revegetation of embankment side slopes. Where feasible, stockpiling will occur in uplands.**

*2. How will temporary access roads and other fills associated with the material site be restored upon project completion?*

**Temporary haul routes would be regraded and vegetated where necessary to return the locations to pre-disturbance condition.**

**VI. Other Considerations:**

*1. Can clearing of trees (that penetrate airspace or violate airport design standards) be accomplished by selective removal?*

**Clearing of trees that penetrate airspace would be necessary, and can be accomplished by selective removal.**

*2. Can wetland habitat be altered or modified so bird hazards would be eliminated while other wetland functions are maintained? (Consult agencies with jurisdiction or special expertise, Corps, FWS, ADF&G, and FAA.)*

**The project proposes no wetland modifications solely for the purposes of eliminating bird hazards. All wetland impacts would be incurred from needed airport improvements.**

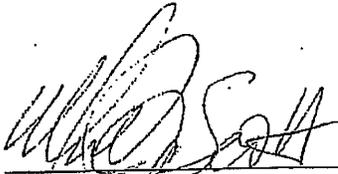
*3. Can development be timed to avoid or minimize affects during spawning, migration and nesting periods? (Consult agencies with jurisdiction or special expertise, Corps, FWS, ADF&G, and FAA.)*

**Project construction will be timed to begin in the winter. If necessary, timing of certain construction activities could be further restricted to avoid critical times for bird nesting. All project construction will comply with project permit stipulations, including timing windows to minimize fish and wildlife impacts as they are imposed. The sensitive eagle nesting season is March 1 – August 31, or until chicks have fledged, whichever is later. ADOT&PF will consider restricting construction or placing timing windows if requested by appropriate agencies.**

## AIR AND WATER QUALITY CERTIFICATION

In accordance with the 1982 Airport Act, "reasonable assurance" is hereby given that the proposed airports listed below will be located, designed, constructed and operated in compliance with the applicable air and water quality standards.

<u>Airport</u>	<u>Project Number(s)</u>
Aleknagik	55311
Crooked Creek	55158
Ivanof Bay	54745
King Cove	56434
Ouzinkie	56957 & 54864 & 55578
Port Lions	54746 & 57145
St. George	55769 & 56947
Sand Point	57797
Seldovia	54745 & 56292
Seward	56525
Takotna	56774 & 54916
Whittier	54747



Michael J. Scott  
Regional Director  
Central Region DOT&PF

12-15-03

Date

For: Commissioner Michael A. Barton  
Department of Transportation & Public Facilities

