

APPENDIX B
WETLAND AVOIDANCE AND MINIMIZATION CHECKLIST



Statewide Design & Engineering Services

Wetland Avoidance and Minimization Checklist

Project Name: Deadhorse Safety Area Expansion

Project Number: 62644

I. Project Scope

Provide a brief description of and reason for project.

The State of Alaska Department of Transportation and Public Facilities (ADOT&PF), in cooperation with the Federal Aviation Administration (FAA), are proposing the following improvements at the Deadhorse Airport:

- (1) Expand the current runway safety area from 7,500 x 300 feet to the recommended 8,500 x 500 feet. Runway 4-22 would be extended 500 feet to the east and west, and 100 feet to the north and south. The runway currently fails to meet proper FAA criteria, and presents a safety hazard.
- (2) Replace approach lighting systems within the safety area. Existing lighting systems do not meet FAA guidelines.
- (3) Expand the paved apron to encompass the existing gravel pad known as the 'BP' pad. The existing apron surface is in poor condition in some places, and would be re-paved, along with the expansion.
- (4) Repave and grade connecting taxiways to the apron.
- (5) Expand existing material site (MS 102) by approximately 124 acres. MS 102, located 6,000 feet south of the airport along the Dalton Highway, is the closest available existing material site, which reduces the need to develop a new material site.

Expansion of MS 102 would involve:

- (1) Construction of a gravel work pad, access roads, and staging area within the material site.
- (2) Temporary construction stockpiles and permanent maintenance and operations stockpiles within the area.
- (3) Channel excavation to provide fish access to MS 102 upon reclamation.

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.)

No - the project cannot be located in a non-wetland area, due to the fact that the existing airport is surrounded by wetlands, and the project involves expansion of the runway safety area. Almost all of the Deadhorse region is tundra wetlands, as water cannot drain properly through the soil due to

permafrost. No sizeable or usable uplands exist in or near the project area. This holds true as well for the material site south of the airport, which will be utilized as a fill source. All efforts have been made to minimize the project footprint with regards to impacts to wetlands (e.g., tightest fill slope recommended by FAA, use of disturbed area within existing apron as part of apron expansion, use of existing access and haul roads).

- 1.a. If yes, does this non-wetland area provide unique habitat to the area or contain other protected resources (e.g., cultural resource, federal 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.
- 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.
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., runway, taxiways, aprons, lease lots, navigational aids)?

Yes, to the greatest extent possible. The vast majority of land in the Deadhorse area is wetlands. Given the location of the existing airport and considering changes in future aircraft use, airport projects, community growth, and maintenance issues, all parts of this project have been sited to avoid wetland impacts to the greatest extent possible (i.e., using existing disturbed areas such as access roads and gravel pads), or to impact lower-value wetlands where applicable.

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

No – dimensions cannot be traded off; the airport is a linear feature that must incorporate FAA-specified length and width. The airport safety area must incorporate the runway length plus 1,000 feet on both runway ends and 250 feet on both sides of the runway centerline to meet FAA criteria.

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

No – project design already incorporates the minimum footprint (4:1 side slopes) allowable under FAA guidelines.

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

No – Deadhorse Airport already consists of only a single runway, which must fit design aircraft criteria.

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

Yes – existing access and haul roads would be utilized. Apron expansion will be limited to disturbed areas already within the existing apron. (Wetlands map shows the apron expansion will disturb low value wetlands) Safety area expansion will encompass only the existing runway.

3. Have crossings of fish streams been avoided? (Consult the Anadromous Fish Catalog or contact ADF&G for information on fish bearing waters.)

Yes – anadromous fish streams will not be crossed by the expanded airport facilities or material site.

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

N/A – no EFH impacts.

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

N/A - project areas is well north of northern extent of bald eagle range; no recorded presence of bald eagles in the Deadhorse region.

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

Yes – apron expansion will encompass currently unused areas within the existing apron. Existing access roads will be used.

III. Minimization Measures (If the impacts can't be 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.)

No – attempts to avoid impacting high-value wetlands (wet sedge/meadow, tundra/marsh) east of and adjacent to existing runway would require extension of runway further to the west, at which point replacing navigational aids and approach lights would impact another high-value wetland. This would result in greater cumulative wetlands take. In addition, the cumulative cost of 'moving' the runway/safety area would be prohibitive to the project.

Expansion of MS 102 has been designed to avoid impacting the higher-value wetlands to the north. All planned work would occur south of previous MS 102 use area.

- 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 considered substantial (e.g., cultural resource, subsistence use or other socio-economic factors)? Consult with the agency with jurisdiction or expertise 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)?

Yes – given the location of the existing airport and considering changes in future aircraft use, airport projects, community growth, and maintenance issues, all parts of this project have been sited to minimize wetland impacts to the greatest extent possible (i.e., using existing disturbed areas such as access roads and gravel pads), or to impact lower-value wetlands where applicable.

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

No - dimensions cannot be traded off; the airport is a linear feature that must incorporate FAA-specified length and width. The airport safety area must incorporate the runway length plus 1,000 feet on both runway ends and 250 feet on both sides of the runway centerline to meet FAA criteria.

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

No – project was designed with minimum possible footprint in mind. FAA standard of 4:1 side slopes will be maintained.

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

No – the facilities cannot be consolidated further and still meet minimum FAA standards.

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

Yes – existing material site, airport and runway, aprons, and access roads are all incorporated into the design.

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.)

N/A – no crossing of fish streams required.

- 3.a. Have adverse affects to fish spawning habitat been minimized?

N/A

- 3.b. Have stream crossings been designed in accordance with the ADOT&PF/ADF&G culvert design and construction memorandum of agreement?

N/A – no stream crossings required.

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

N/A – no EFH impacts.

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

Yes – existing access and haul roads would be utilized. Apron expansion will be primarily limited to disturbed areas already within the existing apron.

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 this project? If yes continue, if no go to V.

No – however an existing material site (MS 102, approx. 6,000 feet south of airport) has been permitted for this project.

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

N/A – MS 102 is within approx. 6,000 feet of the runway and is not a new material site. It is too close to the airport to be reclaimed as wildlife habitat other than for fish overwintering.

- 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?

N/A – due to prior work at existing MS 102, access roads already exist, which connect to the Dalton Highway on the east.

- 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 developed? If located an appropriate distance 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.)

Yes – a mine reclamation plan has been developed for MS 102. The site would be excavated in such a way that, when reclaimed, it would become an over-wintering fish habitat for resident and anadromous fish populations along the Sagavanirktok River.

- 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)?

Yes – the mining plan is based on geotechnical gathered for the material site. The permitted material site boundaries will include temporary and permanent maintenance stockpiles.

- 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?

Yes – this is the design utilized at existing site MS 102.

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?

Yes – project overburden will be used to dress slopes, to prevent erosion and facilitate revegetation.

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

Side slopes will be dressed, revegetated with stockpiled native vegetation, and fertilized at a rate of 220 lbs./acre. This should prevent erosion, and should help to reestablish native plants. To enable future use of the pit, the last active work pad area will not be reclaimed. This area can be used for staging, and stockpiling of material for future mining operations so reducing the footprint of future operations. In addition, the access road to MS 102 would remain open for future use, and would not be reclaimed.

3. Can development of the material site be timed to avoid or minimize affects during spawning, migration and nesting periods? (Consult agencies with jurisdiction or special expertise.)

Yes – construction activities would begin prior to June 1 to discourage nesting (particularly of spectacled eiders) on or near project areas. MS 102 development would be located away from known fish habitat. In addition, the new cell of MS 102 would be isolated from the cell that has already been reclaimed. Construction BMPs will also reduce any remaining potential for water quality impacts.