

The Alaska Department of Transportation and Public Facilities (DOT&PF), in cooperation with the Federal Aviation Administration (FAA), is proposing the Saint Mary's Airport Improvements project, State Project Number Z605630000. The FAA is both the lead federal agency and funding agency for this project. DOT&PF anticipates that construction of the proposed project could begin in 2018.

The Saint Mary's Airport (KSM) is located within Sections 19 and 30, Township 23 North, Range 76 West, and Sections 24 and 25, Township 23 North, Range 77 West, Kateel River Meridian, USGS quadrangle map Kwiguk A-3; or 62.06167° North Latitude and -163.30044° West Longitude (datum NAD 83). Figure 1 is provided as the location and vicinity map.

Background Information

The City of Saint Mary's is a first-class city within the Bethel Recording District. The community is located on the right bank of the Andreafsky River, approximately 4 miles upstream from its confluence with the Yukon River. The City of Saint Mary's encompasses the villages of Saint Mary's and Andreafsky. The 2010 U.S. Census data lists the population as 507 and that approximately 92% are Alaska Native [Yup'ik Eskimos]. The majority of homes are connected to electric, water, and sewer utilities. The community has one school with approximately 213 students, grades range from Pre-kindergarten through 12th grade. There is one health clinic in the city, the John Afcan Memorial Clinic, which is part of the Yukon-Kuskokwim Health Corporation.

The city is accessible by river boats and barges during the summer and by aircraft year round. The City of Saint Mary's has a commercial dock and barge landing and it's the only deep-water facility in the Yukon Delta. There is a 22 mile road that links Saint Mary's to the community of Mountain Village, this road is not maintained during the winter. The airport serves as the only reliable year-round transportation infrastructure for the community. The Saint Mary's Airport is also the regional commercial service hub for the communities of Alakanuk, Emmonak, Nunam Iqua, Kotlik, Mountain Village, Pilot Station, and Marshall.

The Saint Mary's Airport is currently designed to accommodate aircraft from FAA's Airplane Design Groups I, II, and III, and Aircraft Approach Categories A, B, and C. The airport currently has an Airport Reference Code (ARC) of C-III. Typical aircraft with an ARC C-III are the Boeing 737-200 and the McDonnell Douglas DC-9-30.

The Saint Mary's Airport is located on a ridgeline approximately 5.5 miles west of the city. The airport has a main runway and a cross-wind runway. Runway 17/35 is the main runway, it is currently 6,000 feet long by 150 feet wide, orientated roughly north-south, and has gravel surfacing. Runway 06/24 is the cross-wind runway, its access is located at the south end of the main runway and is orientated roughly east-west. The length of the cross-wind runway is 1,500 feet long by 60 feet wide, and has gravel surfacing.

The airfield has one apron, it's located approximately 600 feet east of the main runway and is aligned roughly north-south. The apron is approximately 1,330 feet long by 250 feet wide. The northern most portion of this apron is primarily where non-commercial aircraft park, it has gravel surfacing. The southern portion of the apron is used by commercial operations and is surfaced

with asphalt pavement. The dimension of the asphalt pavement is 600 feet long by 250 feet wide.

There are two taxiways, Taxiway A and Taxiway B, which connect the apron to the main runway. Taxiway A accesses the main runway from the southwest corner of the apron and Taxiway B accesses the runway from the northwest corners of the apron, both taxiways are currently 75 feet wide and have gravel surfacing.

Figure 2 is provided as the Plan View of the airport and is annotated with the proposed action areas.

Purpose and Need

The project's purpose is to rehabilitate the operational surfaces at the Saint Mary's Airport, improve the airfield's lighting system, and reduce maintenance costs. The project's need is that the earthen material used on the airfield's operational surfaces is nearly depleted through erosional and mechanical processes. The loss of this surfacing material has exposed the course rock of the underlying sub-base material in many sections of the runway. As a result, frequent maintenance of these exposed areas is required to prevent damage to airplane tires. The airfield's lighting system also requires frequent maintenance to insure reliability, due in part, to the loss of surface aggregate which has created differential settlement issues with the airfield's lighting. Maintenance of the airfield's existing drainage ditches and culverts are also needed to effectively drain water that is ponding in the airfield's ditches. The ponded water along the runways causes them to be saturated, this creates soft surfaces on the runways and it weakens the structural integrity of the airfield's embankments. Vegetative clearing is also required as part of routine airfield maintenance.

Project Description

- FAA's Advisory Circular 150/5300-13A, *Airport Design*, requires that the airfield's minimum dimensions be designed for the largest aircraft that meets 500 annual itinerant operations per year. Currently, the de Havilland Canada (DHC) Dash 8, 100 series is largest aircraft at the Saint Mary's Airport that meets the required 500 annual itinerant operations per year. The DHC -8-100 has an ARC of B-III. Therefore, to more accurately address the aviation demands at the Saint Mary's Airport, Runway17/35 dimensions will be reduced to meet the requirements for ARC B-III aircraft (DHC-8-100). As such, Runway17/35 dimensions will be reduced from 6,000 feet long by 150 feet wide to 6,000 feet long by 100 feet wide. Taxiways A and B will also have their widths reduced from 75 feet wide to 50 wide. No changes to the dimensions of the cross-wind runway (Runway 06/24) are proposed.
- With the exception of the asphalt pavement on the apron (discussed below), the airfield's operational surfaces will have 9-inches of aggregate surface course installed. Preliminary engineering estimates anticipate that 70,000 cubic yards of material will be required for this surfacing. After the new surface course is installed a dust palliative will be applied.

- The section of the apron that has asphalt pavement will have its asphalt milled and repaved. The asphalt pavement's location, materials, and dimensions (600 ft. long by 250 ft. wide) are to stay the same.
- The proposed actions also include replacing the airfield lighting system and components necessary for this system to function.
- The main runway's (Runway 17/35) segmented circle and lighted wind cone will be replaced, as will the supplement wind cone on the cross-wind runway (Runway 6/24).
- Maintenance of the airfield's drainage ditches and culverts are proposed.
- Vegetative clearing within airport property is also proposed.

Material Site:

The alluvium of the Saint Mary's area is primarily reworked Yukon River deltaic deposits. The alluvium is primarily composed of silt and fine grained sand with organic material. The alluvium extends hundreds of feet below the ground's surface and is permanently frozen, although thaw bulbs exist. The bedrock is a thick sequence of interbedded siltstone, shale, and fine grained sandstone. When exposed to erosional processes and/or traffic these rock types readily break down into their constituents of silt, clay, and fine grained sand, which are not conducive for construction purposes.

The DOT&PF has completed geotechnical investigations and laboratory analysis of rocks throughout the Saint Mary's and Mountain Village areas in an effort to locate material sources that could produce rocks having the qualities that would meet standard airport and highway material specifications. Unfortunately, the DOT&PF has found the bedrock formation to be fairly ubiquitous throughout this region and as such, have been unable to locate a material source that would meet the required specifications. Therefore, the DOT&PF has looked outside the Saint Mary's - Mountain Village areas to find viable material sources for this project. The DOT&PF has identified two areas that have the potential to produce the quantities and quality of rock need to construct this project; those two areas are Marshall and Nome, Alaska.

The City of Marshall is an Alaska Native community located on the Yukon River approximately 80 river miles upstream from Saint Mary's. The DOT&PF have collected rock samples from potential quarry sites in the vicinity of Marshall and submitted them for laboratory analysis. Based on the laboratory results, the DOT&PF has determined the rocks samples collected from Pilcher Mountain, located approximately 4 miles northeast from Marshall, will meet standard airport material specifications.

However, getting the rocks from Pilcher Mountain to the existing barge landing will require, in part, that it be transported through the city. This presents safety concerns because the city streets are narrow, crossed in numerous places by low hanging overhead electrical powerlines, and there is a lot of pedestrian traffic. Both the Calsita Corporation and Masercliq, Incorporated have expressed their concerns to the DOT&PF that public safety would be jeopardized by having haul trucks transporting material through town.

On September 29, 2016, DOT&PF personnel toured Marshall to assess the potential quarry sites and haul route through the city. As part of this this tour, the DOT&PF measured the width of the road at various locations throughout the town as it leads to the barge landing. One of the narrower sections of this city road (there are many) measured 14.5 feet wide from its outside edges. To put this in perspective, a typical dump truck used for this type of hauling operation is a Volvo model A40 articulated dump truck. The width of a Volvo A40 is 11.3 feet or 12.2 feet when measured from outside mirror-to-mirror. Therefore, if the haul truck drove down the center of the road it would only leave about 1.6 feet from the edge of its tires on each side of the road for pedestrians. Additionally, since the project needs approximately 70,000 cubic yards of material and a Volvo A40 load capacity is approximately 25 cubic yards, it would require approximately 5,600 round trips through town to transport the material from the quarry to the existing barge landing.

As such, the DOT&PF has determined that hauling material and the necessary mining equipment and materials through the city's narrow streets could substantially increase the safety risks to children. The DOT&PF has also determined there is potential for adverse impacts to the environmental justice population of Marshall from the increased noise, vibrations, exhaust emissions, and dust that would be produced by the haul trucks.

Therefore, the DOT&PF will not be utilizing the potential material source(s) from the Marshall area unless the impacts are mitigated. These impacts could be mitigated by constructing a new haul road that bypasses the city and their future development plans; it will also necessitate the construction of a new barge landing at the terminus of the new haul road. However, the constructions of a new haul road and barge landing are not part of the Saint Mary's Airport Improvements project's scope of work.

Although Nome is three times the distance to Saint Mary's than Marshall is, it's still the next closest location to the project site that has the capabilities to produce the quantities and quality of rock needed to construct this project. Nome has existing commercial material sites, port facilities, and highway infrastructure. Therefore, the additional costs of transporting the material from Nome would be offset when compared to the time and costs that would be required to mitigate the impacts associated with utilizing the material sources in the Marshall area; e.g. obtain permits and land use agreements, construct a new haul road and barge landing, potential right-of-way acquisitions, and compensatory mitigation for unavoidable impacts to wetlands.

Given the above information, the DOT&PF anticipates that the awarded contractor will select the Nome areas for producing the material required to construct this project

Right-of-Way:

No land acquisitions will be required for the Saint Mary's Airport Improvements project.

Navigability:

The U.S. Coast Guard has determined that both the Yukon River and the Andreafsky River are navigable. The rock aggregate needed to construct this project will need to be barged into Saint Mary's via these rivers. The City of Saint Mary's has an existing dock that is large enough to

accommodate the off-loading of material hauling deep water barges. The source of this material is anticipated to be from Nome. The City of Nome has existing port facilities. Therefore, construction of barge off-loading ramps, bulkheads, or bank stabilization measures will not be required. As such, impairments to navigability or commerce along these waterways would not occur from our proposed project actions.

Wetlands:

No impacts to wetlands or Waters of the U.S. are anticipated from the actions proposed under the Saint Mary's Airport Improvements project. The fill material needed to construct this project is anticipated to be purchased from an existing commercial quarry in Nome. There is existing port facilities in Nome and an existing dock in Saint Mary's, so activities regulated under Section 10 of the Rivers and Harbors Act of 1899 are not anticipated.

The fill material would be off-loaded from the barge at the city's dock and then be transported directly to an upland site within airport property where it will be temporarily stockpiled for project use. It been calculated that there is sufficient room to temporarily stockpile this material without impacts to wetlands or creating airspace obstructions. Figure 3 depicts the location of the proposed temporary stock area.

Floodplain Management

A November 17, 2016 review of the Federal Emergency Management Agency (FEMA) website indicates, as quoted "FEMA has not completed a study to determine flood hazard for the selected location [project area]; therefore, a flood map has not been published at this time." However, the Saint Mary's Airport is sited on a ridgeline that's over 250 feet above the Yukon River, so there would be no floodplain encroachments from the proposed actions. Additionally, the resurfacing of the airport will be completed using the same materials and on the same locations that currently exist (aggregate surface course and asphalt pavement). Therefore, there would not be an increase in the runoff coefficient.

Anadromous Fish Streams and Essential Fish Habitat:

The Alaska Department of Fish and Game (ADF&G) *Catalog of Waters Important for the Spawning, Rearing or Migration of Anadromous Fishes*, and its associated Atlas (Catalog) lists the Yukon River and the Andreafsky River as being anadromous waters. The City of Saint Mary's is located near the confluence of these two rivers. The anadromous waters catalog (AWC) number for the Andreafsky River, at its confluence with the Yukon, is 334-20-11000-2451. The AWC number for the Yukon River is 334-20-11000. The Catalog lists that at the confluence of these two rivers all five Pacific salmon species (chinook, chum, coho, pink, and sockeye) are present, as are Arctic char, inconnu (Sheefish), and whitefish. These anadromous species are managed under a federal Fishery Management Plan and have Essential Fish Habitat (EFH), under the authority of the Magnuson-Stevens Fishery Conservation and Management Act, as amended.

Maintenance of the existing airfield drainage ditches and culverts are proposed. However, no in-water work is planned as part of this project. During construction best management practices (BMPs) will be emplace to prevent the transport of sediment. Therefore, the DOT&PF believes there would be no adverse effect to the EFH.

Threatened and Endanger Species:

An October 25, 2016 review of the U.S. Fish and Wildlife Service's (FWS) Information, Planning, and Conservation System (IPaC) website (<http://ecos.fws.gov/ipac/?jsessionid=5F2B6D226C0C47C297984B2970561CD4>) indicated that there are no listed species or critical habitats present within or near the project area.

Migratory Bird Treaty Act

An October 25, 2016 review of the FWS' IPaC website indicated that there are eleven migratory birds of conservation concern within the proposed project area, these species are:

1. Bald Eagle (*Haliaeetus leucocephalus*), present year-round
2. Bar-tailed Godwit (*Limosa lapponica*), present during breeding season
3. Bristle-thighed Curlew (*Numenius tahitiensis*), present during breeding season
4. Fox Sparrow (*Passerella iliaca*), present during breeding season
5. Peregrine Falcon (*Falco peregrinus*), present during breeding season
6. Rusty Blackbird (*Euphagus carolinus*), present during breeding season
7. Semipalmated Sandpiper (*Calidris pusilla*), present during breeding season
8. Short-billed Dowitcher (*Limnodromus griseus*), present during breeding season
9. Short-eared Owl (*Asio flammeus*), present during breeding season
10. Solitary Sandpiper (*Tringa solitaria*), present during breeding season
11. Whimbrel (*Numenius phaeopus*), present during breeding season

As part of this project, vegetative clearing of the willow and alder scrub thickets around the airfield is proposed. The scrub thickets will be cleared using mechanical equipment, such as a Hydro-Ax ® or similar type of equipment. No grubbing of the vegetative mat will occur.

To reduce the risk of inadvertent nest destruction the DOT&PF will specify in the project's contract that the awarded contractor will avoid vegetation clearing during the U.S. Fish and Wildlife Service's recommended time periods for avoiding vegetative clearing in the Yukon-Kuskokwim Delta Region, which is from May 5th through July 25th.

Bald and Golden Eagle Protection Act

An October 25, 2016 review of the FWS' IPaC website indicated that Bald eagle (*Haliaeetus leucocephalus*) occur year-round in the project area. No eagle nests have been identified on the airport property.

Invasive Species

An October 25, 2016 review of the University of Alaska Anchorage's Alaska Natural Heritage Program-Alaska Exotic Plants Information Clearinghouse (AKEPIC) Non-Native Plant Species Data Portal (<http://aknhp.uaa.alaska.edu/maps/akepic/>) did not identify any non-native plant occurrences within the project area.

With the implementation of practicable measures to minimize the introduction or spread of invasive species, the project is expected to result in no substantial spread of invasive species.

Cultural Resources

During August 2001 the Archaeological Survey Unit of the Office of History and Archaeology (OHA) completed a cultural resource survey of the airfield which included the relatively undisturbed ground adjacent to the airfield. OHA's report is titled *Short Report 2003-6, Archaeological Survey of Proposed Improvements to the Saint Mary's Airport, ADOT&PF Project No. 60563*; January 2003; this report is on file at the OHA. The conclusions reached in OHA's report were that "No cultural resources were encountered during the investigation of the proposed improvements to the St. Mary's Airport that are eligible for inclusion into the National Register of Historic Places."

On November 15, 2016 the DOT&PF reviewed OHA's Alaska Heritage Resource Survey database and found that no cultural resources are listed as being within or near the Saint Mary's Airport property.

Since no cultural resources have been identified with the airport property and that proposed project actions will be completed within previously disturbed ground, the DOT&PF believes at this time that no historic properties would be affected by the proposed project.

National Wildlife Refuges:

The project area is not within a National Wildlife Refuge. The airport is sited on land owned by the State of Alaska. The surface estate adjacent to the airport property is owned by the Pitka's Point Native Corporation and the subsurface around the airport is owned by the Calista Corporation. Outside the Native corporations' land holdings is the Yukon Delta National Wildlife Refuge.

National Parks, Preserves, Monuments, and Wild and Scenic Rivers:

On December 2, 1980, the Andreafsky River was designated as a Wild and Scenic River. Its designated reach is from its source, including all headwaters and the East Fork, within the boundary of Yukon Delta National Wildlife Refuge, totaling 262 miles. The Saint Mary's Airport is located on a ridgeline approximately 5.5 miles west of the Andreafsky River and outside the boundaries of the Yukon Delta National Wildlife Refuge. Additionally, none of the tributaries (unnamed intermittent streams) that drain this ridgeline flow into the Andreafsky River. Therefore, the proposed project actions are not anticipated to have any adverse effect on this Wild and Scenic River

Federal Recreation Areas:

The proposed project will not take place within any Federal Recreational Area.

State Parks, State Refuges, Critical Habitat Areas, and Sanctuaries:

There are no State Parks, State Refuges, Critical Habitat Areas, or Sanctuaries near the project area.

Social, Cultural and Economic Impacts

The 2010 U.S. Census data lists the population of Saint Mary's as being 92% Alaska Native and nearly half of the population are school age children; total population reported as 507 of which, 213 are students ranging from pre-kindergarten through 12th grade.

The proposed project is not anticipated to adversely impact the elderly, handicapped, minority and ethnic groups, or the economically disadvantaged. Nor is it anticipated that there would be adverse impacts to disadvantaged social groups, neighborhoods, community cohesion, or result in adverse economic impacts.

The Saint Mary's Airport serves as a critical infrastructure for medical emergencies. The airport also services as a commercial hub for communities in the region, this helps reduce freighting costs for the residents in those respective communities. Additionally, the airport provides opportunities for students to participate in extracurricular activities outside the community. As such, it's anticipated that the Saint Mary's Airport Improvements project would benefit the community by improving the safety and reliable of this important transportation infrastructure.

Water Quality

Potable water for the City of Saint Mary's is from a surface water source (Alstrom Creek) that's been impounded in the Alstrom Creek Reservoir. The city pumps the water from the reservoir and treats it in a plant adjacent to the reservoir. The water is then pumped through the city's water distribution lines. Potable water is also pumped and stored in city tanks located approximately 1 mile east from the city's water treatment plant.

The Saint Mary's Airport is located approximately 4.4 miles west of the Alstrom Creek Reservoir. None of the streams that drain the airport property flow into Alstrom Creek or the Alstrom Creek Reservoir. Therefore, the proposed project is not anticipated to have any effect of the city's potable water source.

Contaminated Sites:

A November 21, 2016 review of the Alaska Department of Environmental Conservation (ADEC), Division of Spill Prevention and Response, Contaminated Sites Program database (http://www.dec.state.ak.us/SPAR/CSP/db_search.htm) indicated that there are three contaminated site listed as being within the airport property, those being:

1. Mark Air-Saint Mary's Airport, ADEC File ID 2444.38.004, this file remains open. ADEC lists the contamination as petroleum, oil, and lubricant (POL). Its source is likely attributed to a leaking fuel line from a 1,000-gallon above ground heating oil storage tank. The ADEC file also lists five others areas associated with Marks Air's former lease lot that needs further investigation. These areas are in association with Marks Air's former jet fuel storage tanks and their fuel distribution lines.
2. FAA St. Mary's Consolidated Bldg., File ID 244.38.001, this file remains open. ADEC lists the contamination as POL present in the soil and groundwater. Its source is attributed to four non-regulated heating oil tanks that were removed in 1998.
3. ADOT&PF-Maintenance and Operations Station, File ID 244.26.001, the file states that the cleanup is complete and Institutional Controls can be removed. ADEC lists the contamination as POL present in the soil. Its source is attributed to sloppy fuel handling practices in association with a 1,200-gallon diesel underground storage.

The replacement of the existing airport lighting system will require shallow excavations to install the electrical conduit and necessary components of the lighting system. However, no excavations will occur in any of three ADEC sites listed above.

Air Quality

Neither the City of Saint Mary's nor the airport is in a nonattainment area or maintenance area for air quality control under the Clean Water Act. Therefore, projects receiving federal funds or approvals do not require a conformity analysis under the Transportation Conformity regulations. However, particular attention will be given during construction activities to take reasonable precaution per 18 AAC 50.045(d) to prevent fugitive dust. Our project contract specifications will require the awarded contractor to apply water, as needed, to the surfaces disturbed by the construction activities to mitigate fugitive dust.

Noise

The proposed airport improvement (resurfacing & lighting replacement) will not result in an increase of aircraft traffic over what currently exists, nor will the improvements result changes in aircraft operations, nighttime operations, aircraft fleet mix, or flight patterns. Additionally, there are no noise sensitive areas near the airport, the City of Saint Mary's is over 5 ½ miles from the airfield.

Permits

At this time, the DOT&PF does not anticipate that any federal, state, or local permits will be required for the actions proposed under the Saint Mary's Airport Improvements project.