

**Central Region - Sand Storage Buildings**

**FY2013 Request: \$1,000,000**

**Reference No: 48798**

**AP/AL:** Allocation

**Project Type:** Construction

**Category:** Transportation

**Location:** Southcentral Alaska

**House District:** Southcentral Areawide (HD 12-35)

**Impact House District:** Southcentral Areawide (HD 12-35)

**Contact:** Pat Kemp

**Estimated Project Dates:** 07/01/2012 - 06/30/2017

**Contact Phone:** (907)465-3900

**Appropriation:** Regulatory Compliance

**Brief Summary and Statement of Need:**

Additional funding is required to meet the minimum requirements of the Environmental Protection Agency (EPA) Municipal Separate Storm Sewer System (MS4) Permit, which requires the State to have covered sand storage facilities. If the funding is not provided the Department is at risk for being fined for Notice of Violations from EPA for not being in compliance with the MS4 permit. Fines could potentially exceed \$30,000 per day.

<b>Funding:</b>	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	Total
Gen Fund	\$1,000,000						\$1,000,000
<b>Total:</b>	\$1,000,000	\$0	\$0	\$0	\$0	\$0	\$1,000,000

<input type="checkbox"/> State Match Required	<input type="checkbox"/> One-Time Project	<input type="checkbox"/> Phased - new	<input checked="" type="checkbox"/> Phased - underway	<input type="checkbox"/> On-Going
0% = Minimum State Match % Required		<input type="checkbox"/> Amendment	<input type="checkbox"/> Mental Health Bill	

**Operating & Maintenance Costs:**

	<u>Amount</u>	<u>Staff</u>
Project Development:	0	0
Ongoing Operating:	0	0
<u>One-Time Startup:</u>	0	
<b>Totals:</b>	0	0

**Additional Information / Prior Funding History:**

FY11 \$1,041,000

**Project Description/Justification:**

The United States Environmental Protection Agency has issued a National Pollutant Discharge Elimination System (NPDES) permit #AKS-052558 (effective February 1, 2010) for storm water discharge from the municipal separate storm sewer system (MS4s) owned and operated by the Municipality of Anchorage (MOA) and Alaska Department of Transportation and Public Facilities (ADOT&PF). The final permit authorizes the MOA and ADOT&PF to discharge storm water to waters of the United States located within corporate boundaries of the Municipality of Anchorage.

Within the permit, Section II. Storm Water Management Program Requirements, c) Street and Road Maintenance, (iii) **Covered Sand and Salt Storage**; states "Within four years of the effective date of this permit, the permittees must build covered storage facilities at each of their primary material storage locations." Compliance deadline is February 1, 2014. Primary material locations for ADOT&PF located within MOA have been designated at Anchorage, Girdwood, and Birchwood.

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Schematic designs have been completed along with cost estimates for construction of the facilities and are listed below:

Anchorage site	\$6,453.3	(25,000 Tons Sand Stored)
Birchwood site	\$3,031.0	(6,000 Tons Sand Stored)
Girdwood site	\$3,111.3	(8,000 Tons Sand Stored)
<b>Total</b>	<b>\$12,595.6</b>	

The permit requirement is for compliance with the Federal Clean Water Act.

The annual maintenance and operational costs are estimated to be \$150,000.

Alternatives Considered: The Department has evaluated many options as to structure type and features. One aspect that was thoroughly evaluated was whether the structure should be heated or unheated. This evaluation found the following:

**Heated:** Heated facilities would eliminate the need for the use of salt. Annual heating cost for the facilities is estimated at \$105,000. Sand stored in a heated building does not require the use of sodium chloride (rock salt) to keep the material from freezing solid as it does when stored in "cold" conditions. Rock salt is typically mixed at 10% with the sand. Heated facilities would eliminate approximately 3,500 tons of salt spread onto public roads at a yearly saving of around \$500,000 to the ADOT&PF M&O budget. The absence of salt would require that the sand be "pre-wetted" with magnesium chloride (a deicing/anti-icing chemical applied at a rate of 4 gallons/ton sand) to keep the sand from freezing in the trucks once they are on the road. It is estimated that the annual magnesium chloride cost to be \$250,000. A side benefit of the magnesium chloride would be better adhesion of the sand to the roadway surfaces.

**Non-Heated:** A non heated facility complies with the EPA mandate of covered sand and salt storage provision of the permit. It is estimated, that for a non-heated facility, the projects could realize a construction cost savings of approximately \$229,000. The use of rock salt is required for a non-heated facility to keep the sand from freezing. The annual cost of rock salt would be \$500,000.

### **Heated vs. Non-Heated Cost Comparison**

A heated facility with a higher initial construction (\$229,000), annual heating costs (\$105,000), and use of magnesium chloride (\$250,000) are more than offset by not utilizing rock salt in the sand (\$500,000), with a net annual savings to the Department (\$145,000). A heated building is the most cost effective option.

This project contributes to the Department's Mission by reducing injuries, fatalities and property damage and by improving the mobility of people and goods.