



DETAILED ACTION PLAN

ALAKANUK SOUTH SIDE DUMP SITE

WASTE EROSION ASSESSMENT & REVIEW (WEAR)

MAY 2015

The **Alakanuk South Side Dump Site** is located at latitude 62.685556 and longitude -164.653611, along the shore towards the east end of the community. It is located on the south shore of the Alakanuk Pass, which is a tributary of the Yukon River, and was inspected for the Waste Erosion Assessment and Review (WEAR) project on July 10, 2012 and re-inspected on July 10, 2014.

The Alakanuk South Side Dump Site is an eroding landfill that was the recipient of a Brownfield Assessment in 2007 under the ADEC Contaminated Sites Program (File ID 2403.57.001). The landowner is the City of Alakanuk.



Imagery Dated 2006, WEAR Map at <http://dec.alaska.gov/eh/sw/wear.html>

Community* – ALAKANUK – is located on Alakanuk Pass, the major southern channel of the Yukon River, 15 miles from the Bering Sea. It is part of the Yukon Delta National Wildlife Refuge. Heavy winds are frequent during the fall and winter.



CONTAMINANT RISK

The Alakanuk South Side Dump Site was reportedly used during the construction of the high school during the 1970s. It is located approximately 2,300 feet west of the current landfill and is near the community on the south side of Alakanuk Pass. It is considered a small site measuring 0.1 acres.

This site contains construction and demolition (C&D) debris that is a concern due to the possible presence of asbestos-containing materials. Asbestos was widely used in construction materials prior to the 1980s and remains in many rural communities in their older structures. Asbestos is known to cause lung cancer, but does not pose a health risk if it remains contained and is not released to the environment. Asbestos released to water due to erosion is less of a health concern; however, asbestos fibers released to the air pose a more significant risk to human health and the environment. Once asbestos fibers are released they are difficult to clean up, which can result in both short term and long term impacts.

The dump is within the drinking water protection zone for the Alakanuk Water System, which is a surface water supply whose summer intake is downstream of the site. The south side dump site is actively eroding into the Alakanuk Pass which is a subsistence area. The site is located 160 feet from the nearest residences. During the 2014 inspection, it was noted that a significant amount of plastics had eroded since the 2012 WEAR inspection.



EROSION RISK

The US Army Corps of Engineers 2009 study, *Alaska Baseline Erosion Assessment (BEA)*, lists an estimated erosion rate of 2 feet per year for Alakanuk. During the 2012 and 2014 WEAR site inspections, the south side dump site was actively eroding into the river. According to the BEA, erosion occurs during two times of the year: break-up and fall storm season. During breakup, the Yukon River experiences high flows due to thawing snow and ice as well as surges caused by the failure of ice jams upriver. During the WEAR inspection residents reported that ice was the main contributor to erosion. The soil at this site is silt and sand which is more easily eroded by the river current and spring breakup than other soil types.

This site is actively eroding into Alakanuk Pass.



MITIGATION

There were no erosion mitigation efforts for this site as of the 2012 and 2014 WEAR inspections.

Mitigation Options

- A. **No Action** – If no action is taken to control erosion or remove the waste, the river will continue to erode more of the Alakanuk South Side Dump Site. More debris will enter Alakanuk Pass that could cause navigation hazards. The possible release of C&D debris and asbestos into the environment could harm both human health and the environment.

- B. **Remove Site** – Removing the South Side Dump Site will eliminate the chance of navigation hazards as well as possible contaminant risk from asbestos. This will involve removing all of the debris at the site and moving it to an ADEC permitted landfill. This action would likely require planning and a significant amount of money. Some of the steps involved would be: determine the location of all the debris, complete an asbestos survey, obtain community and landowner buy-in, find funding and equipment to remove the buildings and debris.

- C. **Erosion Mitigation** – Ice, spring breakup and storm surges are the primary causes of erosion on this riverbank. The Department of Commerce, Community, and Economic Development’s Division of Community and Regional Affairs handbook, *Understanding and Evaluating Erosion Problems*, suggests the best methods for protecting against erosion from these causes are beach fill or relocation. The full list of suggested methods is provided in Table 2 of the document which is available at <http://commerce.state.ak.us/dnn/dcra/PlanningLandManagement.aspx>. However, since the site is actively eroding and the dump site is relatively small, the community should weigh the benefit of this option carefully over the cost of it.

SUMMARY

The Alakanuk South Side Dump Site poses a contaminant risk due to the presence of construction and demolition debris, which possibly contains asbestos, and due to its location in close proximity to residences and location within the drinking water protection zone for the community water system. This site poses a significant erosion risk as the Alakanuk Pass riverbank is eroding at 2 feet per year. The dump site is actively eroding and there are no erosion mitigation measures in place to stop further erosion from occurring.

RECOMMENDATIONS

As the Alakanuk South Side Dump Site is actively eroding, immediate action is recommended. As this site is near the community, erosion mitigation in this area may protect community infrastructure; however, since the site is actively eroding and a portion is already gone, removal of the site is recommended to prevent further contaminant release. Necessary steps include: determine the location of all the debris, complete an asbestos survey, locate a permitted landfill to accept the debris or permit a new landfill, and find funding and equipment to remove the debris.



Imagery Dated 2006, WEAR Map at <http://dec.alaska.gov/eh/sw/wear.html>

*Community Database Online, Division of Community and Regional Affairs, Department of Commerce, Community and Economic Development

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