ENVIRONMENTAL ASSESSMENT

Manokotak Second & Third Street Rehabilitation Project Manokotak, Alaska

Bristol Project No. 32150007 August 2020

Prepared For:

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FINAL ENVIRONMENTAL ASSESSMENT

MANOKOTAK SECOND & THIRD STREET REHABILITATION PROJECT MANOKOTAK, ALASKA

Bristol Project No: 32150007

Prepared for:

Bureau of Indian Affairs Alaska Region Office 3601 C Street, Suite 1100 Anchorage, Alaska 99501



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ACRONYMS AND ABBREVIATIONS

° Degrees

ADFG Alaska Department of Fish and Game

ADNR Alaska Department of Natural Resources

AK Alaska

BIA U.S. Bureau of Indian Affairs

BOCA Building Official and Code Administrators

Bristol Bristol Engineering Services Company, LLC

CERCLA Comprehensive Environmental Response, Compensation, and Liability Act

CFR Code of Federal Regulation

CY Cubic Yard

DCCED Department of Commerce, Community, and Economic Development

DNR Department of Natural Resources

DOT&PF Department of Transportation and Public Facilities

EPA U.S. Environmental Protection Agency

EPCRA Emergency Planning and Community Right-to-Know Act

F Fahrenheit

FDD Fish Distribution Database

FEMA Federal Emergency Management Agency

FIFRA Federal Insecticide, Fungicide and Rodenticide Act

FIRM Flood Insurance Rate Maps

IPaC Information, Planning, and Conservation System

IRR Indian Reservation Roads

JD Jurisdictional Determination

MLW Mining, Land, and Water

NEPA National Environmental Policy Act

NFIP National Flood Insurance Program

NPDES National Pollution Discharge Elimination System
OSHA Occupational Safety and Health Administration

P.E. Professional Engineer

PL Public Law

QA/QC Quality Assurance/Quality Control

RCRA Resource Conservation and Recovery Act

ROW right-of-way

SARA Superfund Amendments and Reauthorization Act

SHPO State Historic Preservation Officer

SWPPP Storm Water Pollution Prevention Plan

TNSDS True North Sustainable Development Solutions

TSCA Toxic Substance Control Act

U.S.C. United States Code

U.S.C.A. U.S. Code Annotated

USACE US Army Corps of Engineers
USFWS U.S. Fish and Wildlife Service

EXECUTIVE SUMMARY

PROPOSED ACTION

The Manokotak Village Council has contracted Bristol Engineering Services Company, LLC (Bristol) to prepare design documents and complete the environmental permitting/National Environmental Policy Act (NEPA) process, for the rehabilitation of six (6) existing roads in Manokotak, Alaska. The proposed project will involve improving approximately 0.9 miles of existing community roads, installation/replacement of new/existing culverts, the addition of parking areas along Third Street, and the installation of drainage swales to improve surface drainage patterns that will help mitigate ponding, erosion, rutting, and washouts (See Figures). Funding for the proposed road rehabilitation will be through the Bureau of Indian Affairs (BIA) – Tribal Transportation Program (TTP).

The BIA, as the lead Federal agency, determines that this Environmental Assessment and the proposed action overall would comply with NEPA, as well as all other applicable federal laws and regulations, and that there would be no significant impacts to the human environment that would require development of an Environmental Impact Statement.

ENVIRONMENTAL CONSEQUENCES

The Preferred Alternative will consist of the upgrading of six (6) roads (0.9 total miles), installation of new engineered culverts, replacement of failed culverts, installation of drainage channels, and the addition of parking areas along Third Street. Road improvements will include the placement of a woven geotextile material to stabilize all subgrades, placement of new fill material to establish proper road embankments, followed by the placement of a crushed aggregate surface course to enhance the traveling surface. The proposed project will have a total footprint of approximately 3.3 acres and will not impact any US Army Corps of Engineers (USACE) jurisdictional wetlands. Temporary construction impacts may include construction associated noise and dust emissions. Measures will be taken to minimize temporary construction impacts (see below), and due to the temporary nature of the impacts, they are considered negligible.

Bristol proposes the following measures in order to minimize environmental consequences of the preferred alternative:

- Dust-control measures would be taken in order to minimize temporary dust emissions from road construction.
- Construction could be limited to waking hours to reduce potential noise impacts.

1.0 PURPOSE AND NEED FOR ACTION

1.1 SUMMARY

The Manokotak Village Council has contracted Bristol Engineering Services Company, LLC (Bristol) to prepare design documents and complete the environmental permitting/National Environmental Policy Act (NEPA) process, for the rehabilitation of six (6) existing roads in Manokotak, Alaska. The proposed project will involve improving approximately 0.9 miles of existing community roads, installing/replacing new/existing culverts, installing rock-filled drainage swales with perforated pipe to improve surface drainage patterns that will prevent ponding, erosion, rutting, and washouts (See Figures).

1.2 PURPOSE AND NEED FOR ACTION

The existing road infrastructure in Manokotak is deteriorating due to lack of proper storm drainage and inferior roadside ditching that is unable to convey surface water to existing culverts. The townsite lies at the base of a steep mountain, and runoff from the mountain presents a constant annoyance to surrounding residents year-round. Additionally, the roads in Manokotak are very narrow and cannot currently accommodate the parking requirements for residents and businesses. The proposed rehabilitation project will establish proper road embankments, create roadside ditching to improve the storm drainage system, install new culverts at engineered locations, construct roadside parking stalls along Third Street, and install new drainage channels interconnecting First, Second, and Third Streets (See Figure 2). The establishment of proper road embankments, storm drainage features, and street/stop signage will create safer traveling conditions for residents and enhance the overall road infrastructure in Manokotak.

1.3 VICINITY MAPS

Vicinity, Location, and Site maps can be found in the Figures section at the end of the report.

1.4 LOCATION

The proposed project will occur along existing road corridors in Manokotak, Alaska (Figures 1 & 2). Manokotak is located 25 miles southwest of Dillingham, on the banks of the Igushik River. It lies at approximately 58.9828° North Latitude and -159.0531° West Longitude (Sections 11 and 12, T014S, R059W, Seward Meridian). Manokotak is located within the Bristol Bay Recording District, and encompasses 36.4 square miles of land and 0.9 square miles of water (Department of Commerce, Community, and Economic Development [DCCED], 2017).

2.0 ALTERNATIVES – INCLUDING THE PROPOSED ACTION

The requirements of the NEPA, Section 102(2) (e) are to study, develop, and describe the appropriate alternatives to recommend courses of action in any proposal which may involve conflicts concerning alternative uses of available resources.

Two options represent the most reasonable range of alternatives:

- The Preferred Alternative: The proposed rehabilitation project will establish proper road embankments, create roadside ditching to improve the storm drainage system, install new culverts at engineered locations, construct roadside parking stalls along Third Street, and install new drainage channels interconnecting First, Second, and Third Streets.
- No Action Alternative: No Action

2.1 ALTERNATIVE 1: PREFERRED ALTERNATIVE

The Manokotak Second and Third Street Rehabilitation Project will involve the upgrading of six (6) roads (0.9 total miles), installation of new-engineered culverts, replacement of failed culverts, installation of drainage swales, and the addition of parking areas along Third Street. Road improvements will include the placement of a woven geotextile material to stabilize all subgrades, placement of new fill material (12 inches of Type B material) to establish proper road embankments, followed by the placement of a crushed aggregate surface course (6 inches sloped at 3% towards the drainage ditch) to enhance the traveling surface.

The placement of new appropriately sized culverts along existing roadways, replacement of existing failed culverts and the installation of rock-filled drainage swales with perforated pipe will improve drainage patterns, and ensure water conveyance away from residential housing. Additionally, the proposed storm drainage improvements will prevent ponding in existing roadways that leads to erosion/rutting, washouts, and health concerns.

The proposed parking stalls along Third Street will involve 8-foot wide parking stalls with access ramps to each property constructed with a system of bin walls, retaining walls, and guardrails, as shown on Figure 4.

The proposed project will include the following improvements (See Figures):

- <u>First Street (Route 1006-10)</u> First Street, from Salmon Street to Alder Street, will have a 15-foot wide traveling surface. An 18-inch deep ditch will be constructed on the east side of the road.
 - o Length Approximately 820-ft.
- <u>Second Street (Route 1007-10)</u> Second Street, from Salmon Street to C Street, will have a 15-foot wide traveling surface. An 18-inch deep ditch will be constructed on the east side of the road.
 - o Length Approximately 1,390-ft.
- <u>Third Street (Route 1008-10)</u> Third Street, from Salmon Street to C Street, will have a 12-foot wide traveling surface. An 18-inch deep ditch for approximately 220-ft, and

a shallow 6-inch deep v-ditch for approximately 660-ft will be constructed on the east side of the road. The remaining length of road will not have a ditch constructed. Third Street will include four side-street parking stalls along the west side. The on-street parking areas will also include ramps to access residential properties constructed using bin walls, retaining walls, and guardrails (See Figure 4). The parking stalls and ramps will require permanent ROW adjustments.

- o <u>Length</u> Approximately 1,410-ft.
- Alder Street (Route 1010-10) Alder Street, from First Street to Third Street, will have a 15-foot wide traveling surface. An 18-inch deep ditch will be constructed on the south side of the road.
 - o <u>Length</u> Approximately 470-ft.
- <u>C Street (Route 1012-10)</u> C Street, from Second Street to Third Street, will have a 15-foot wide traveling surface. An 18-inch deep ditch will be constructed on the south side of the road.
 - o <u>Length</u> Approximately 230-ft.
- <u>Salmon Street (Route 1014-10)</u> Salmon Street, from First Street to Third Street, will have a 15-foot wide traveling surface. A 6-inch deep v-ditch will be constructed on the north side of the road.
 - <u>Length</u> Approximately 470-ft.

<u>Drainage Swales</u> – Four new drainage swales will be placed between lot lines from First Street and Third Street (see Figure 2). The new swales will convey storm water to the new/replaced culverts and ditching. There are two types of swales, one with a 12-inch diameter perforated pipe in a trench filled with drain rock, and one open channel swale rocklined with no pipe (see details on Figure 4). Each of the swales will be 2-feet deep, with 1H:1V side slopes. The swale with the pipe will have a 1-foot bottom width, and the open channel swale will have a 2-foot bottom width. There will be a minimum of 12-inches of ditch lining above one layer of geotextile fabric in the open channel swale. In the swale with the pipe there will be 12-inches of porous backfill on top of and around the pipe. A total of five corrugated polyethylene pipe culverts will be installed to connect roadside ditches to drainage swales. Existing road and driveway culverts will be replaced as required.

- Drainage Swale 1 will connect the drainage ditches on Third Street and Second Street between Lots 4, 5, 14, and 15 of Block 4. The swale will be approximately 240-feet in length with a slope of approximately 4.1% draining to the west.
- Drainage Swale 2 will connect the drainage ditches on Second Street and First Street between Lots 8, 9, 12, and 13 of Block 7. The swale will be approximately 230-feet in length with a slope of approximately 5.1% draining to the west.
- Drainage Swale 3 will connect the drainage ditch on First Street to Drainage Swale 4 along Lot 12 of Block 6. The swale will be approximately 95-feet in length with a slope of approximately 0.4% draining to the north.

• Drainage Swale 4 will connect the drainage ditches on Third Street and First Street between Lots 1, 2, 7A, and 7B of Block 5, and between Lots 1, 2, 11, and 12 of Block 6. The swale will be approximately 520-feet in length with an average slope of approximately 8.5% draining to the west.

<u>Right-of-Way Improvements</u> – The existing right-of-way (ROW) is very narrow, only 20-feet wide throughout the project area. In order to widen the streets, as well as provide road-side drainage ditches, new drainage swales between properties, new parking stalls along Third Street, and driveway reconstruction, nearly every lot adjacent to the project will require an easement or Right-of-Way (ROW) take of some kind. Easements will be recorded through the State of Alaska Recorder's Office. Proposed easements and ROW take located on Native Restricted Allotments will be coordinated through the Bristol Bay Native Association and BIA, as required. Figure 6 shows the locations of the permanent and temporary ROW acquisition requirements as follows, (see Appendix F for a complete ROW summary table):

- A 5-foot wide easement is proposed along both sides of the existing ROW of all six streets to accommodate the improved road embankment and new road-side drainage ditches. The road traveled way and ditch bottom will be located within the existing ROW, but the road fill slope or ditch cut slope may extend beyond the existing ROW in some locations. Properties at intersections will have a curved easement with a 15-foot radius to accommodate the road turning radius.
- The proposed drainage swales will require 15-foot wide easements centered along lot lines (7.5 feet wide per property) for installation and maintenance of the swales.
- In order to ensure driveways can maintain a slope of 15% or less for safe access, the approach reconstruction may need to extend past the existing ROW and proposed easement. In these locations, a temporary construction easement (for private parcels) or revocable use permit (for native restricted allotments) will be required to the end of the approach.
- Additionally, four properties along Third Street, where new parking stalls are proposed, will require 16-foot wide permanent ROW take. This includes: Block 5 Lots 7B, 7C, 7D, and 7E.

The advantages and disadvantages of the preferred alternative are as follows:

Advantages of Alternative 1

- Rehabilitation of roadway surface will remove potholes and other surface irregularities caused by erosion;
- New roadside ditches, culverts, and rock-filled swales will improve drainage and help
 prevent ponding and erosion as well as protect homes and other infrastructure from
 exposure to flooding;
- Existing failing culverts will be replaced;
- New parking spaces will improve safety and traffic flow along Third Street;
- New signage will improve intersection safety and traffic flow, and will improve navigability around Manokotak; and
- Driveways to existing buildings will be improved.

<u>Disadvantages of Alternative 1</u>

- Costs associated with improving the existing road; and
- ROW adjustments will be required.

2.2 ALTERNATIVE 2: NO-ACTION

Considering the No-Action Alternative is required by NEPA. Under the No-Action Alternative, the proposed corridors will stay in their current, undeveloped states. No action would be taken to rehabilitate the existing roads, improve drainage, or accommodate parking needs along Third Street. Homes and businesses would remain at risk for exposure to flooding due to the poor drainage conditions. Third Street would remain congested, which can pose a safety risk to drivers and pedestrians.

The advantages and disadvantages of Alternative 2 are as follows:

Advantages of Alternative 2 (Avoidance and Minimization)

- No costs associated with Alternative 2; and
- No ROW adjustments are associated with Alternative 2.

Disadvantages of Alternative 2

- The existing roads would remain as they currently exist and continue to deteriorate, falling into further disrepair including potholes and erosion;
- Costs associated with greater repair/rehabilitation needs will increase in the future;
- The safety of the community will remain at risk due to poor roadway surface conditions, failing signage, and failing drainage conditions; and
- Inadequate parking along Third Street will continue to exist.

3.0 AFFECTED ENVIRONMENT

3.1 LAND RESOURCES

- a) Topography Manokotak lies at an elevation of approximately 35 feet at the base of a group of small mountains including Acorn Peak and Gnarled Mountain to the east, and along the shore of the Igushik River to the west. The project area consists primarily of sloping terrain towards the river.
- b) Soils Soils in the Manokotak area generally consist of well-drained strongly acid soils with very dark subsoil, poorly drained fibrous peat with a shallow permafrost table, and poorly drained soils with a peaty surface layer. Moraine hills and terraces bordering Amanka Lake just north of Manokotak contain soil that is silty volcanic ash with substratum of very gravelly sand or loam. The Manokotak area is classified as wet tundra, dotted with many small lakes and ponds. Wet tundra typically consists of loams, silt loams, or stratified silt loam and fine sand. Fibrous peat extends into the permafrost over much of the area, which occur in isolated masses (Selkregg, 1976).

Additionally, Bristol performed a Geotechnical Investigation in October of 2014 to determine the subsurface conditions of existing roads within the project area. Nine samples were laboratory tested by Northern Geotechnical Engineering Inc. *d.b.a* Terra Firma Testing (NGE-TFT) for soil classification, moisture content, particle size analysis, and frost classification using ASTM methods. The results showed that most samples were silty gravel with sand or silt with sand. No permafrost or groundwater was encountered during the investigation (Bristol, 2017).

c) Geologic Setting and Material Resources – Geology in the Manokotak area generally consists of alluvial (lowlands) and coastal (near Igushik River) unconsolidated deposits. Alluvial deposits are generally well-sorted floodplain, terrace, and alluvial fan deposits associated with streams and rivers. Coastal deposits are older coastal deposits of interlayered alluvial and marine sediments, and modern coastal beaches, spits, bars, and deltas. Additionally, the mountains to the west contain late Paleozoic to middle Mesozoic bedrock, which consists of siltstone, chert, and dark-colored volcanic rocks (Selkregg, 1976).

During the Geotechnical Investigation performed by Bristol in 2014, two existing material sources were explored, the Dump Hard Rock Pit and the Airport Pit. Material has been used from both sites for road projects in the community. No samples were taken of the materials in the local borrow pits, but the materials are anticipated to meet the needs of the project (Bristol, 2017).

3.2 WATER RESOURCES

Manokotak receives drinking water from groundwater wells throughout the community. Three separate systems are active for the area, Manokotak Water System (70 service connections), Manokotak Heights Water System (25 service connections), and the Manokotak Heights School System (5 service connections) (ADEC-3, 2017). The Preferred Alternative is not anticipated to adversely impact area water resources.

Manokotak is located along the shore of the Igushik River, and the community has begun to extend to the east towards the Weary and Snake Rivers. Review of the Alaska Department of Fish and Game (ADF&G) Anadromous Fish Distribution Database (FDD) indicates that the Igushik River is a listed anadromous fish stream. According to the listing, the Igushik River (#325-10-10010) shows the spawning presence of all five salmon species (Coho, Chum, King, Pink, and Sockeye), along with the presence of Arctic char (ADFG, 2017).

The project's anticipated water needs, for the purpose of compaction and dust suppression during construction, will require water withdrawal from the Igushik River. Water for construction activities will be the responsibility of the yet-to-be-determined project contractor. Because the construction will be temporary and the pump hose will be fitted with an appropriately sized fish screen, the proposed project is not anticipated to have any adverse effect on listed species within the river. However, the proposed project will require an ADF&G Title 16 Fish Habitat Permit and an ADNR-MLW Temporary Water Use Permit for withdrawal from the Igushik River.

- a. Surface Water the Preferred Alternative will not affect surface water.
 - Clean Water Act Section 401 Water Quality Certification Section 401
 Certification is a subset of the Section 404 Permit Application. The USACE
 determined that Section 401 Certification will not be required for the proposed
 project because no waters of the US exist within the project corridors. This was
 determined through a wetlands delineation performed by DNA Environmental
 and a Jurisdictional Determination Letter from USACE, which are included in
 Appendix B.
 - Clean Water Act Section 402, Storm Water Pollution Protection (SWPPP) The proposed project will require the completion of a SWPPP because the total land disturbance area is more than one acre (approximately 3.3 acres).
 - Clean Water Act Section 404 The USACE determined that the proposed project will not require the completion of a Section 404 Permit. The USACE Jurisdictional Determination Letter is included in Appendix B.
 - Surface drainage throughout the project area will be improved through proposed roadside drainage ditches, culverts, and drainage swales. The proposed drainage facilities were sized and designed appropriately to accommodate the anticipated rainfall and spring thaw runoff determined through hydraulic modeling and calculations, as summarized in the project Hydrology Report (Bristol, 2020).
- b. Groundwater the Preferred Alternative will not affect groundwater.

3.3 AIR RESOURCES

According to Title 18, Alaska Administrative Code, Chapter 50.015, Manokotak is not in a nonattainment area for air contaminants. Air quality is not monitored (EPA, 2017).

- a. Quality There are no long-term affects to air quality associated with the Preferred Alternative. There is the potential for short-term increases in dust during construction; however, these affects will be minimized with the use of water for dust suppression. Once construction is complete, calcium-chloride will be applied to the roads as a dust palliative.
- b. Visibility There will be a short-term potential for impacts to visibility during construction due to increased dust; however, the affects will be minimized by applying water for dust suppression. Upon completion of the proposed project, calciumchloride will be applied as a dust palliative to limit the effects to visibility due to dust.
- c. Climate/Meteorology Manokotak is located in a climatic transition zone. The primary influence is maritime, although the arctic climate affects the region. Average summer temperatures range from 40 to 70 degrees Fahrenheit (°F); winter temperatures average from 4 to 30°F. Annual precipitation averages 20 to 26 inches. Fog and high winds exist periodically through the year. The Igushik River is ice-free from June through mid-November (DCCED, 2017).

3.4 BIOTIC RESOURCES

a. Description of Ecosystem and Biological Communities:

Manokotak is located within the Bristol Bay Subregion and is classified as wet tundra. The area is dotted with ponds and lakes, and standing water is usually present during summer months due to lack of topographical relief. The community lies directly at the base of a group of mountains that include Gnarled Mountain and Acorn Peak. The upland areas surrounding Manokotak are classified as upland spruce-hardwood forest, a fairly dense community of evergreen and deciduous trees including white spruce, black spruce, quaking aspen, balsam poplar, and paper birch (Selkregg, 1976).

Several tidal rivers that connect to the Nushagak Bay surround Manokotak including the Igushik, Weary, and Snake Rivers. These rivers are rich in salmon and other marine animals, which provide local black and brown-grizzly bears with an abundant source of protein. Other important mammals to the wet tundra community include wolves, wolverine, barren ground caribou, moose, and dall sheep (Selkregg, 1976).

Additionally, freshwater and marine flora make up an important part of the wet tundra ecosystem especially in shallow ponds and lakes, wetlands/vegetative mats, and along riverbanks. Phytoplankton drifting in open waters is food for many small zooplankton and fish larvae. Emergent grasses and sedges of brackish coastal marshes provide excellent habitat for waterfowl and shorebirds. Algae, which grows on the bottom of shallow water, also helps feed migratory birds; Eelgrass, a type of green algae, is especially significant because it feeds migratory birds in the Bristol Bay Subregion including black brant and pintails. In addition to ducks and seabirds, eagles are also common along salmon streams on the north side of Bristol Bay, and short-eared owls are found on the open tundra and heath country (Selkregg, 1976).

b. Wildlife:

1. Terrestrial – Important mammals present in the Bristol Bay Subregion include Black bear, brown-grizzly bear, wolves, wolverine, barren ground caribou, moose,

dall sheep, lynx, red and Arctic foxes, land otter, mink, marten, short-tailed weasel, beaver, muskrat, and snowshoe and Arctic hares. Additionally, important mammals of the wet tundra community include the common shew, tundra shew, beaver, northern bog lemming, and river otter (Selkregg, 1976).

The proposed roadway project is located within an area that has existing residential parcels/development, and developed road infrastructure. The proposed project is not anticipated to negatively impact wildlife.

The Bristol Bay Subregion is also an important wintering area for ducks such as mallards, pintails, oldsquaw and harlequin, Steller's, king, and common eiders, white-winged and common scoters, goldeneye, and scaup. Bald eagles, peregrine falcons, ospreys, golden eagles, gyrfalcons, rough-legged hawks, short-eared owls, and great-horned owls are birds of prey that live within the subregion. Resident game birds include spruce grouse, and willow, rock, and white-tailed ptarmigan (Selkregg, 1976).

The Preferred Alternative is located in an area that has a low potential to be nesting habitat for Bald or Golden eagles. Prior to construction the contractor will perform a site survey to confirm that nesting eagles are not present. The proposed project is not anticipated to negatively impact migratory or nesting birds. Although no land clearing is anticipated, to limit potential impacts to nesting birds, land clearing (if any) will not take place between February 1 and September 15.

- 2. Riparian/Aquatic The proposed action is located entirely inland, and therefore is not anticipated to cause an adverse impact on riparian or aquatic fish habitat.
- 3. Threatened and Endangered Species The USFWS Information, Planning, and Conservation (IPaC) system was accessed on June 23, 2020 to determine the presence of any threatened or endangered species and the presence of any designated critical habitat that may occur within or near the boundaries of, or affected by, the proposed project. This is required under Section 7(c) of the Endangered Species Act. According to the USFWS (Consultation #07CAAN00-2020-SLI-0288 located in Appendix B), no listed species or critical habitats occur near or within the limits of the proposed project corridors (USFWS, 2020).

c. Vegetation:

 Terrestrial – Manokotak is located within the Bristol Bay Subregion and is classified as wet tundra closely surrounded by upland spruce-hardwood forest. The wet tundra community is "characterized by an almost continuous cover of grasses and sedges rooted in mosses and lichens. On slightly raised ridges dwarf shrubs may be found [including low-growing willows and blueberry], while in standing water rooted aquatic plants, such as horsetail, pondweed, and bur reed, are found" (Selkregg, 1976).

Upland spruce-hardwood forest borders Manokotak to the north, east, and south, including Acorn Peak and Gnarled Mountain. Within this biological community, "white spruce with scattered birch or aspen is commonly found on moderate southfacing slopes, while black spruce is found on northern exposures and poorly

drained flat areas. The understory within the upland spruce-hardwood forest consists of spongy moss and low brush on the cool moist slopes, grasses on dry slopes, and willow and alder with dwarf birch in the high open forests near timberline" (Selkregg, 1976).

Since the project is located in an area with existing development, the proposed action is not anticipated to cause an adverse impact on terrestrial vegetation.

- 2. Riparian/Aquatic There are no streams located within the project area.
- 3. Threatened and Endangered Species No Threatened or Endangered vegetation species are found in proximity to the proposed project corridor.
- d. Agriculture: (livestock, crops, prime and unique farmland(s)) No livestock, crops, or prime and unique farmland(s) are found within or near the Preferred Alternative.

3.5 CULTURAL RESOURCES

Manokotak is a Yup'ik Eskimo village with a fishing, trapping, and subsistence lifestyle. Manokotak is one of the newer villages in the Bristol Bay region. It became a permanent settlement in 1946-47 with the consolidation of the villages of Igushik and Tuklung. People also migrated from Kulukak, Togiak, and Aleknagik. Igushik is now used as a summer fish camp by many of the residents of Manokotak. School was conducted in a church constructed in 1949 until a school was built in 1958-59. A post office was established in 1960. Trapping has been an attractive lure to the area, although it has declined since the 1960s. The city was incorporated in 1970. Manokotak is the fourth most populated village in the Dillingham census area (DCCED, 2017).

An archaeological survey of the proposed project area was conducted and prepared by Mr. Robert Meinhardt and Ms. Amy Ramirez of True North Sustainable Development Solutions (TNSDS). The proposed area of potential effects (APE) for the archaeological survey corridor is 20 feet in width (includes the existing ROW and the proposed drainage swales only, and does not include other proposed easements/ROW take), while the proposed APE for the historic structures survey is defined as those lots directly abutting the ROW. The report found that the Preferred Alternative would carry a low potential to affect historical properties. It is recommended by TNSDS that a finding of no historic properties affected be issued for the Manokotak Road Rehabilitation Project (TNSDS, 2016). The Alaska State Historic Preservation Office (SHPO) issued a letter concurring with this recommendation on October 24, 2016. The report and letter can be found in Appendices E and B, respectively.

3.6 SOCIOECONOMIC CONDITIONS

a. Employment and Income: Data from the Alaska Department of Labor and Workforce Development showed Manokotak had an estimated population of 483 in July 2019 (ADOL&WD, 2020). Worker characteristics from the most recent U.S. Census (2015) show 226 residents were employed, and 66 residents were unemployed insurance claimants. The median household income was \$34,519; the per capita income was \$16,385; and 19.10% of residents were below the poverty level (DCCED, 2017).

- b. Demographics and Trends: As of the 2015 census, the population of Manokotak is 496, with 95.70% of those being Alaska Native, 3.62% white, 0.45% as two or more races, and the remaining 0.23% as other (DCCED, 2017).
- c. Lifestyles, Cultural Values, Attitudes, and Expectations: The residents of Manokotak are primarily Yup'ik Eskimos, and subsistence, fishing, and trapping activities are an integral part of the lifestyle (DCCED, 2017).
- d. Community Infrastructure: The City of Manokotak is accessible by both air and water. A state-owned, lighted, gravel airstrip is located six miles southeast of the village. Both regularly scheduled and charter flights are available from Dillingham. There are no docking facilities on the Igushik River, and supplies that are lightered each summer must be pulled up to the beach. Traveling by boat on the Igushik River can be difficult as the river is made up of meandering loops, which means that many miles must be traveled by water to cover a short distance in air miles. Residents use ATVs, snowmobiles, and some vehicles for transportation. During the winter months, snowmobiles are used to travel on the Manokotak Trail to Dillingham to retrieve fuel (DCCED, 2017).

Households derive their water from a piped community water system, sourced from groundwater. Refuse is collected by the City of Manokotak, which operates a Class-III landfill. Electricity is provided through Manokotak Power Company via diesel generator (DCCED, 2017).

3.7 Environmental Justice

There is no disproportionately high and adverse human health or environmental effects of the program and policies on minorities or low-income populations or communities. The proposed action will benefit the community and all those who reside there by providing expanded and improved transportation corridors that will allow for safer/improved travel throughout the community, along with an improved storm drainage system.

3.8 HAZARDOUS MATERIAL/WASTE

The following subheadings are addressed in the Phase I Environmental Site Assessment found in Appendix D.

- a. Resource Conservation and Recovery Act (RCRA) Subtitle C hazardous waste/materials.
- b. RCRA, non-hazardous solid waste sites.
- c. RCRA Subtitle I, underground storage tank(s), as amended by the Hazardous & Solid Waste Amendments of 1984.
- d. Comprehensive Environmental Response Compensation, and Liability Act, and Superfund Amendments and Reauthorization Act (CERCLA-SARA) of 1986.
- e. Toxic Substances Control Act (TSCA).

3.9 RESOURCE/LAND USE PATTERNS

- a. Hunting, Fishing, Gathering Residents of Manokotak have a subsistence lifestyle including fishing, trapping, and gathering. The Igushik River, used for fishing, is the closest subsistence area to the project, which is approximately 350 feet down gradient of the project area.
- b. Timber Harvesting Not Applicable.
- c. Agriculture Not applicable.
- d. Mining Not applicable.
- e. Outdoor Recreation Land adjacent to the existing road corridor could be used for potential outdoor recreational activities.
- f. Transportation Network The proposed project corridor(s) are part of the Village of Manokotak transportation corridor.
- g. Land Use Plans The Village of Manokotak does not have any land use plans in place, however, the City of Manokotak developed the "Manokotak Comprehensive Plan" in 2015, which included goals and strategies for land use and the environment. The plan specifically identifies the Manokotak Second and Third Street Rehabilitation project on Page 57 (Agnew::Beck Consulting, 2015). The plan does not identify any new land uses for the project area. Strategies listed in the plan that are relevant to the project include "surface roads to minimize dust" and retain vegetation where possible in built areas." The project will adhere to these strategies through use of a dust palliative during resurfacing of the roadways within downtown Manokotak. Additionally, roadway embankments and road-side ditches will be seeded with a native mix to retain vegetation within the project corridor and mitigate erosion. The.

3.10 OTHER VALUES

- a. Wilderness: No areas considered wilderness are located within the area.
- b. Sound and Noise: Construction activities may result in temporary noise disturbances for residents near the project corridors. Construction activities will adhere to noise emission standards established by the EPA to minimize noise impacts.
- c. Public Health and Safety: The proposed project will improve public health and safety through an improved transportation corridor. The application of calcium-chloride will help reduce dust emissions and dust-related health problems cause by the gravel roads.
- d. Visual Settings: The proposed road project is not anticipated to have any long-term adverse visual impacts.
- e. Non-user values: Not applicable.

4.0 ENVIRONMENTAL CONSEQUENCES OF THE PROPOSED ACTION

1. Land Resources

The Preferred and No-Action Alternatives are in compliance with the:

A. Topography (land forms, drainage, gradients): The preferred alternative will not dramatically change the landforms of the area; the proposed improvements will be constructed on top of the existing terrain.

Drainage/gradients of the area will be maintained, as necessary, through the installation of appropriately placed culverts, swales, and ditches to maintain the areas hydrologic regime.

B. Soils (types, characteristics): See 3.1b Land Resources - Soils.

<u>Farmland Protection Policy Act PL 97-98</u>: There is no identified Prime or Unique Farmland in Alaska or within or near the Preferred Alternative.

C. Geologic Setting and Mineral Resources

Surface Mining Control and Reclamation Act of 1977 (30 U.S.C.A. 1201, 1202, 1211): The Preferred Alternative will not affect any known mineral deposits or involve the act of mining.

2. Water Resources (quality, use, rights)

A. Water Supply

<u>Safe Drinking Water Act of 1974 PL90-523 (42 U.S.C.A 300f to 300j-26)</u>: The Preferred Alternative will have no effect on the drinking water supply of Manokotak. The Preferred Alternative will not affect any sole source aquifers.

B. Waste Water

<u>Clean Water Act Section 402 (33 U.S.C.A. 1251):</u> No wastewater discharges will be associated with the Preferred Alternative.

C. Storm Water

The Preferred and No-Action Alternatives are in compliance with the <u>Clean Water Act Section 402 (33 U.S.C.A. 1342)</u>: The Preferred Alternative will disturb approximately 3.3 acres of land, and therefore will require a National Pollution Discharge Elimination System (NPDES) permit and a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP and NPDES will be prepared by the yet-to-be-determined project contractor.

D. Wetlands

The Preferred and No-Action Alternatives are in compliance with the <u>Executive</u> Order 11990 (Protection of Wetlands, 1977) and the Clean Water Act Section 404 (33 U.S.C.A. 1344): The Preferred Alternative will not disturb any USACE

Jurisdictional Wetlands. The USACE Wetlands Jurisdictional Determination Letter can be found in Appendix B.

E. Floodplain

The Preferred and No-Action Alternatives are in compliance with the <u>Executive Order 11988 (Floodplain Management, 1977)</u>: Federal Emergency Management Act (FEMA) Flood Insurance Rate Maps (FIRMs) are not available for the area. Manokotak is not a participant in the National Flood Insurance Program (NFIP). The proposed project is not anticipated to be affected by a flooding event.

F. Clean Water Certification

The Preferred and No-Action Alternatives are in compliance with the <u>Clean Water Act Section 401 Certification</u>. The Section 401 Permit is a subset of the Section 404 Permit Application and is not required because the Preferred Alternative will not disturb any USACE Jurisdictional Wetlands. The USACE Wetlands Jurisdictional Determination Letter can be found in Appendix B.

3. Air Resources (quality, visibility, etc.)

The Preferred and No-Action Alternatives are in compliance with the <u>Clean Air Act</u> (42 U.S.C.A. 7401 to 7671q): No excessive emissions are anticipated to be associated with the Preferred Alternative. Any potential for elevated emissions would be temporary in nature and associated with construction heavy equipment. Water will be applied during construction to minimize the amount of fugitive dust leaving the site. Once construction is complete, calcium-chloride will be applied as a dust palliative.

4. Living Resources

A. Fish, Wildlife, Plants

The Preferred and No-Action Alternatives are in compliance with the <u>Endangered Species Act of 1973 Section 7 (16 U.SC.A. 1536)</u>: It was determined, through consultation with the USFWS, that no threatened or endangered species will be jeopardized by the Preferred Alternative. The Preferred Alternative would have a low potential to affect threatened or endangered species. The USFWS-IPaC Section 7 Consultation Letter can be found in Appendix B (USFWS, 2016).

The Preferred and No-Action Alternatives are in compliance with the <u>Bald and Golden Eagles Protection Act (16 U.S.C. 668-668d)</u>: The Preferred Alternative has a low potential to impact any Bald or Golden Eagles. In the event that nesting eagles are present, steps to ensure that temporary disturbances are kept a minimum of 660 feet away from the nest tree, and construction activities are scheduled to avoid times when the birds are nesting (February through mid-September). If a nest is found in or near the project area construction will cease and the yet-to-bedetermined project contractor will immediately consult with USFWS on appropriate action.

The Preferred and No-Action Alternatives are in compliance with the <u>Migratory</u> <u>Bird Treaty Act and Migratory Bird Conservation Act (16 U.S.C. 703-715):</u> The

proposed project is not anticipated to negatively impact migratory or nesting birds. To limit potential impacts to nesting birds, land clearing will not take place between February through mid-September (USFWS, 2017).

It was determined that the proposed action would not cause an adverse impact on Essential Fish Habitat. The proposed action would not result in excessive levels of organic materials, inorganic nutrients, or heat. The proposed action would not create alterations that would affect depth or beach contours, change existing beach conditions, or affect vegetated shallows. No long-term sedimentation or effect to water quality would occur.

B. Agriculture – Prime or Unique Farmland – Not applicable; there is no identified Prime or Unique Farmland in Alaska or the proposed project area.

5. Cultural, Historic, and Religious Properties

A. Historic Properties

The Preferred and No-Action Alternatives are believed to be in compliance with the <u>National Historic Preservation Act Section 106 (16 470f)</u>: An archaeological assessment of the Preferred Alternative recommended a finding of "no historic properties affected" be issued for the Preferred Alternative (TNSDS, 2016). The SHPO concurrence letter can be found in Appendix B.

B. Religious Freedom

The Preferred and No-Action Alternatives are in compliance with the <u>American Indian Religious Freedom Act of 1978 (PL 95-341):</u> None of the alternatives would interfere with access to areas required for cultural or religious practices.

6. Socioeconomic Conditions

A. Environmental Justice

The Preferred and No-Action Alternatives are in compliance with the <u>Executive Order 12898</u>: The City of Manokotak is predominantly Alaska Native or American Indian, a minority group. No disproportionately high or adverse human health or environmental impacts to the minority or low-income population within Manokotak are anticipated to occur as a result of the Preferred Alternative.

B. Relocation of Residents

<u>Uniform Relocation Assistance and Real Property Acquisition Policies Act of</u> 1970 (PL 91-646) and Title IV – Uniform Relocation Act amendments of 1987 (42 <u>U.S.C 4601)</u>: There are no relocations associated with the Preferred Alternative, however easements and permanent ROW takes will be required and in conformance of the Uniform Relocation Act. A fair market value will be offered for all of the permanent ROW takes to the property owners. Drainage easements will be required along all drainage swales and all project corridors. Permanent ROW takes will be required along four properties adjacent to Third Street for

parking areas. Figure 6 shows locations of permanent and temporary ROW acquisition requirements.

C. Community Infrastructure

The Preferred Alternative will not adversely affect water supply, sewer, or storm water. The proposed project will improve community infrastructure through the rehabilitation of select roads and through the expansion/rehabilitation of the storm drainage system.

7. Resources Use Pattern

A. Hunting-Fishing-Gathering Subsistence: The Preferred Alternative will improve access to hunting-fishing-gathering subsistence sites.

B. Timber Harvesting or Range

Forrest and Rangeland Renewable Resources Planning Act of 1975 (16 U.S.C.A. 1600 to 1614): The Preferred Alternative will require the unavoidable clearing of a narrow corridor of land adjacent to the road. No commercially viable timber is associated with this project.

C. Land Use Plans: The Second and Third Street Rehabilitation Project was identified in the City of Manokotak's 2015 Community Comprehensive Plan. There are no proposed land uses for the project area other than the current use as transportation, utility, and drainage corridors.

8. Other Values

A. Sound and Noise

The Preferred and No-Action Alternatives are in compliance with the <u>Noise</u> <u>Control Act of 1972 (42 U.S.C. 4901-4918)</u>: The Preferred Alternative will be in compliance with noise emission standards established by the EPA. Any increase in noise associated with construction would be short in duration.

The Preferred and No-Action Alternatives are in compliance with the <u>Federal Highway Administration Procedures for Abatement of Traffic Noise and Construction Noise (23 CFR 772):</u> The Preferred Alternative is located in a remote village in Alaska that has limited traffic. Therefore, this is not applicable to this project.

- B. Public Health and Safety: The Preferred Alternative is anticipated to improve public health and safety along Manokotak transportation corridors.
- C. The Preferred and No-Action Alternatives are in compliance with the <u>Toxic Substance Control Act of 1986 (TSCA) (15 U.S.C.A. 2601-2692):</u> The Preferred Alternative will not result in the inadvertent exposure of any humans to lead, radon, or asbestos.

- D. The Preferred and No-Action Alternatives are in compliance with the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) (42 U.S.C.A.9601 to 9675) and the Superfund Amendments and Reauthorization Acts of 1986: The Preferred Alternative would not knowingly expose humans to any hazardous substances listed in CERCLA at levels above established health criteria.
- E. The Preferred and No-Action Alternatives are in compliance with the Solid Waste Disposal Act as amended by the Resource Conservation and Recovery Act (RCRA) and the Federal Facilities Compliance Act of 1992 (42 U.S.C. 6901-6992): The Preferred Alternative will not involve the treatment, storage, transportation or disposal of any listed chemical, or the disposal of solid waste on the site.
- F. Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) (7 U.S.C.A. 136 to 136y): The Preferred Alternative will not require the use of pesticides.
- G. <u>Food Safety:</u> The Preferred Alternative would not involve any food preparation or serving of food.
- H. <u>Building Official and Code Administrators (BOCA) Standards for: construction, electrical, fire, and safety practices</u>. The Preferred Alternative would not include construction or operation of public buildings or residences.
- I. The Preferred and No-Action Alternatives are in compliance with the Occupational Safety and Health Act (OSHA) of 1970 (29 U.S.C. 651 et seq.): The unnamed construction contractor's Health and Safety Officer would be responsible for ensuring that OSHA regulations were obeyed and enforced.
- J. Emergency Planning and Community Right-to-Know Act (EPCRA) of 1986 (42 U.S.C. 11011 et seq.): The Preferred Alternative would not involve the use, storage, transportation, or storage of listed hazardous materials.
- K. Resource Conservation and Recovery Act (RCRA) Subchapter IX Regulation of Underground Storage Tanks (42 U.S.C. 6991-6991i): The Preferred Alternative would not involve the use or closure of underground storage tanks.
- L. <u>Coast Guard Regulations:</u> The Preferred Alternative will occur completely inland and will not require compliance with Coast Guard regulations.
- M. <u>Section 10 of the Rivers and Harbors Act:</u> The Preferred Alternative will not be constructing in, on, or over a river or harbor.

Direct, Indirect, and Cumulative Effects

The proposed project is not anticipated to have any negative direct, indirect, or cumulative effects to the environment in the Village of Manokotak. It is fully anticipated that the proposed project will have only positive effects that will directly, indirectly, and cumulatively impact the community. The direct positive effect is that the residents will have improved travel safety, as well as mitigation of drainage issues. Cumulative effects include an improved road/drainage infrastructure.

5.0 LIST OF PREPARERS

Name/Title/Company

Isaac Pearson, P.E. Senior Engineer Bristol Engineering Services Company, LLC

Jaclyn Wander, P.E. Staff Engineer Bristol Engineering Services Company, LLC

Expertise Applied to Environmental Assessment

Project Manager, document review, QA/QC

Environmental Research, author, calculations and estimates/development of project design

20

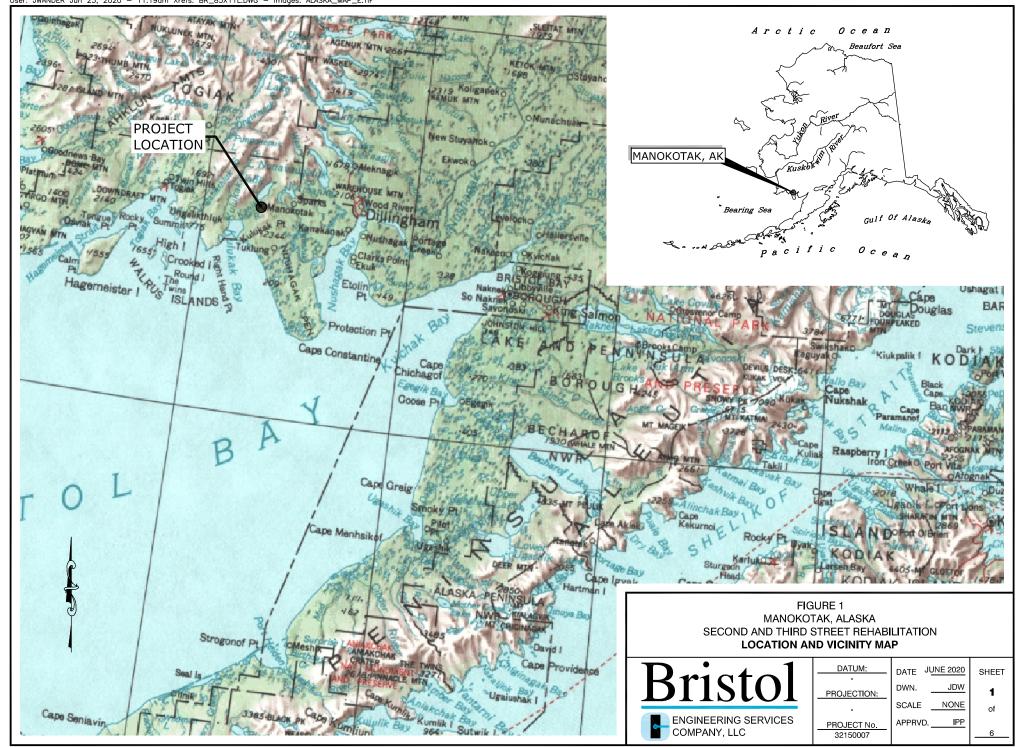
6.0 REFERENCES

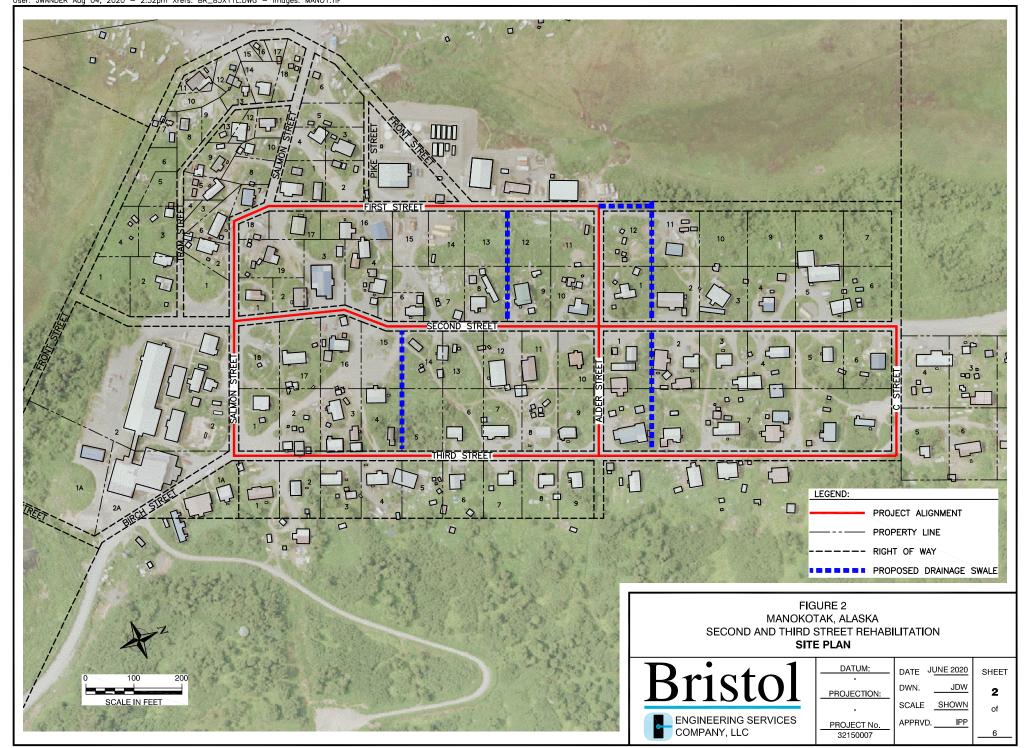
- Agnew::Beck Consulting, (2015). *Manokotak Community Comprehensive Plan Update*. August 2015.
- Alaska Department of Commerce, Community, and Economic Development (DCCED), (2017). Alaska Community Database website, Community Profiles Online:

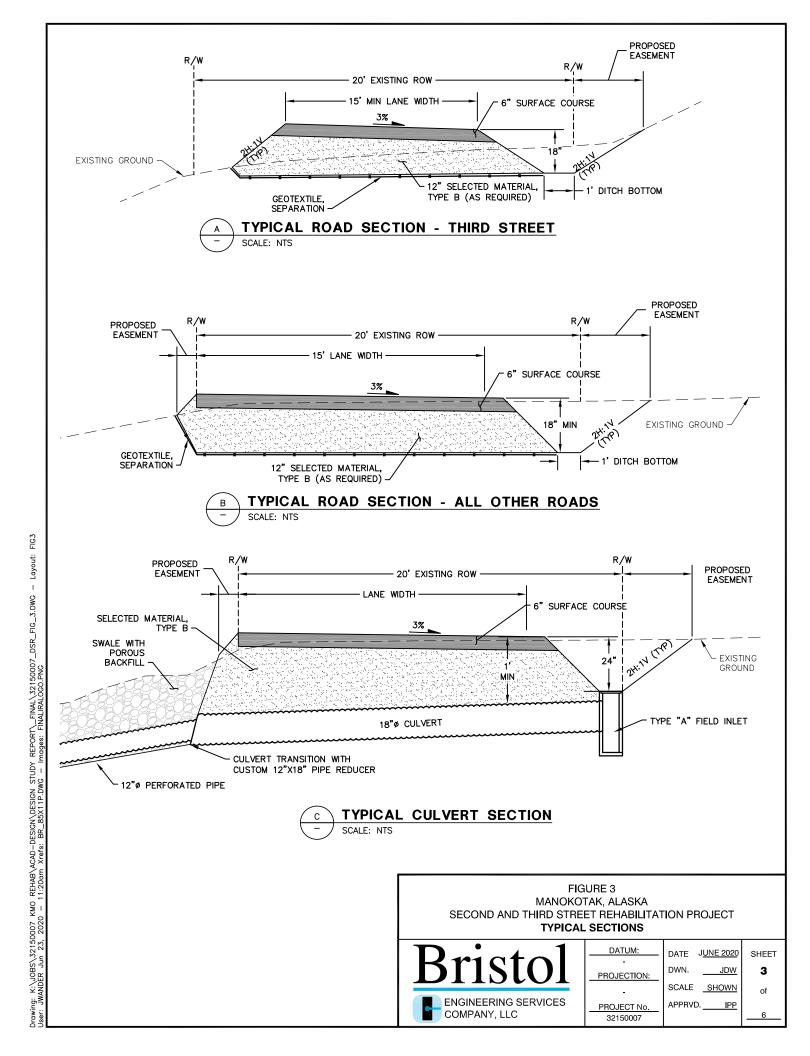
 Manokotak, Website:

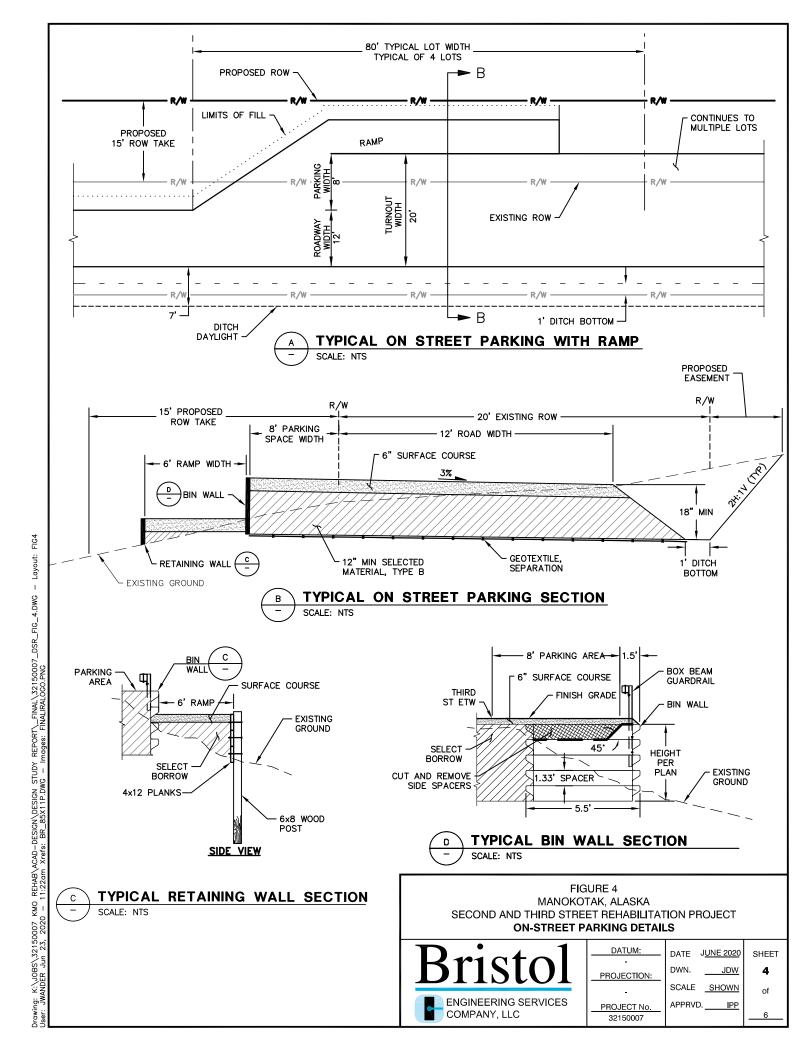
 https://www.commerce.alaska.gov/dcra/DCRAExternal/community
- Alaska Department of Environmental Conservation (ADEC), Division of Environmental Health (2017). *Drinking Water Watch, Manokotak Water Systems*. Website: http://dec.alaska.gov/DWW/
- Alaska Department of Fish and Game (ADFG), (2017). *Anadromous Fish Stream Viewer*, Website: https://www.adfg.alaska.gov/sf/SARR/AWC/index.cfm?ADFG=main.interactive
- Alaska Department of Labor and Workforce Development (ADOL&WD), (2020). *Alaska Population Estimates by Borough, Census Area, City, and Census Designated Place (CDP), 2010 to 2019: Manokotak city.* Website: https://live.laborstats.alaska.gov/pop/
- Environmental Protection Agency (EPA), (2017). *Nonattainment areas for Criteria Pollutants (Green Book)*, Website: https://www.epa.gov/green-book
- Bristol Engineering Services Company, LLC (Bristol), (2017). Final Geotechnical Report, Second and Third Street Rehabilitation Project, Manokotak, Alaska.
- Bristol Engineering Services Company, LLC (Bristol), (2020). Final Hydrology Report, Second and Third Street Rehabilitation Project, Manokotak, Alaska.
- TrueNorth Sustainable Development Solutions (TNSDS), (2016). 2016 Report of Cultural Resources Investigation and Recommendations for Issuing a Finding Pursuant to Section 106 of the National Historic Preservation Act of 1966 for the Manokotak Second and Third Street Rehabilitation Project, Located in Manokotak, Alaska.
- Selkregg, Lidia L., ed., (1976), *Alaska Regional Profiles: Southwest Region, Volume III*, University of AK, Arctic Environmental Information & Data Center, Anchorage, AK.
- U.S. Army Corps of Engineers (COE), (2017), *Floodplain Data and Mapping*, Website: http://www.poa.usace.army.mil/About/Offices/Engineering/Floodplain-Management/
- US Fish and Wildlife Service (USFWS), (2020). Official Species List, Manokotak Second and Third Street Rehabilitation Project.
- US Fish and Wildlife Service (USFWS), (2017). *Alaska Region Eagle Permit, Step by Step Guidelines & Conservation Measures*. Website: https://www.fws.gov/alaska/eaglepermit/guidelines/disturbnestingbaea1.htm





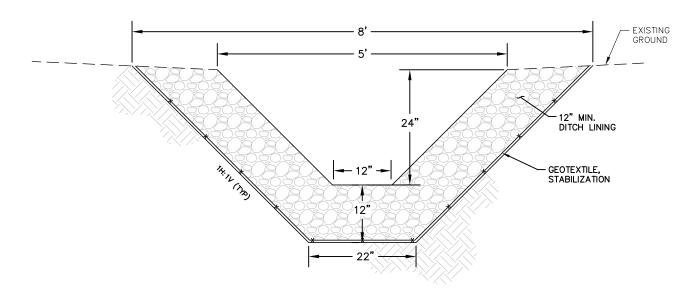






A TYPICAL SWALE TRENCH SECTION WITH PIPE

- SCALE: NTS



B TYPICAL OPEN CHANNEL SWALE SECTION

SCALE: NTS

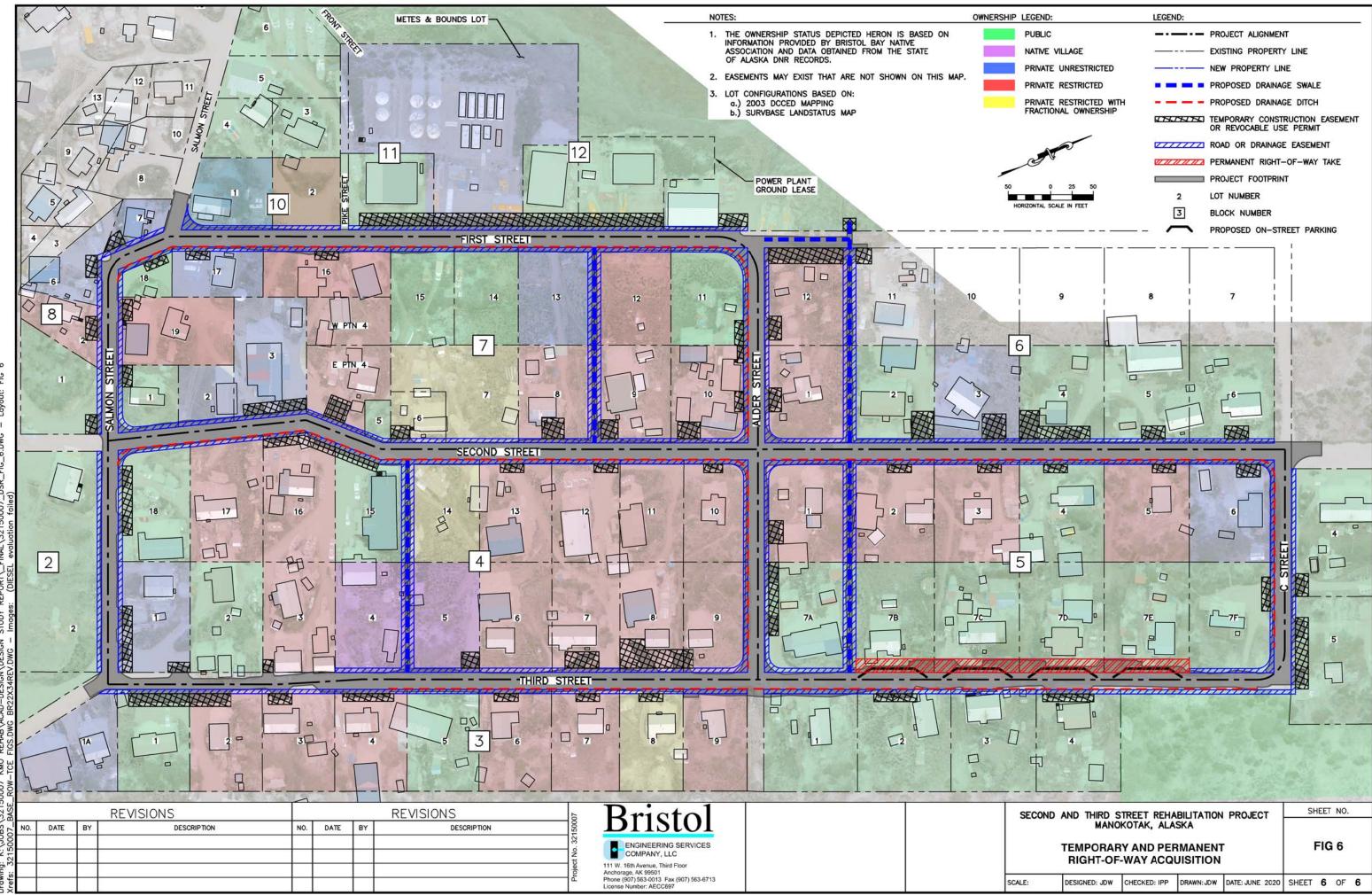
FIGURE 5 MANOKOTAK, ALASKA SECOND AND THIRD STREET REHABILITATION PROJECT TYPICAL SWALE SECTIONS



| DATUM: | |
|----------------------|---|
| - | _ |
| PROJECTION: | ٩ |
| - | , |
| PROJECT No. 32150007 | |

DATE J<u>UNE 2020</u> SHEET
DWN. <u>JDW</u>

SCALE <u>SHOWN</u> of
APPRVD. <u>IPP</u>
6



APPENDIX A SCOPING DOCUMENTS

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111 W. 16th Avenue, Third Floor Anchorage, AK 99501-5109 907-563-0013 Phone 907-563-6713 Fax

May 6, 2016

Subject: Agency Scoping Request for Comments

Manokotak Road Rehabilitation Project, Manokotak, Alaska

Dear Agency Representative:

The Manokotak Village Council has contracted Bristol Engineering Services Corporation (Bristol) to prepare design documents and complete the environmental permitting/NEPA process, for the rehabilitation of six (6) existing roads in Manokotak, Alaska. The proposed project will involve improving approximately 0.9 miles of existing community roads, installation/replacement of new/existing culverts, and the installation of drainage channels to improve surface drainage patterns that will prevent ponding, erosion, rutting, and washouts (See Figures).

Funding for this project will be through the Bureau of Indian Affairs (BIA) – Indian Reservations Roads (IRR) – Tribal Transportation Program (TTP); therefore this is a federal undertaking. In accordance with the National Environmental Policy Act (NEPA), Bristol is soliciting comments from potentially interested parties to determine if the proposed project could significantly impact the natural environment. Responses and recommendations received by Bristol as a result of this action will be used to determine the appropriate NEPA documentation procedure. Preliminary research indicates the proposed project will require the completion of an Environmental Assessment.

PROJECT LOCATION

The proposed project will occur along existing road corridors in Manokotak, Alaska (Figures 1 & 2). Manokotak is located 25 miles southwest of Dillingham, on the banks of the Igushik River. It lies at approximately 58.9828°North Latitude and -159.0531° West Longitude (Section 12, T014S, R059W, Seward Meridian). Manokotak is located within the Bristol Bay Recording District, and encompasses 36.4 square miles of land and 0.9 square miles of water (DCCED, 2016).

PROPOSED PROJECT

The Manokotak Road Rehabilitation Project will involve the upgrading of six (6) roads (0.9 total miles), installation of new engineered culverts, replacement of failed culverts, installation of drainage channels, and the addition of parking areas along Third Street. Road improvements will include the placement of a woven geotextile material to stabilize all subgrades, placement of new fill material to establish proper road embankments, followed by the placement of a crushed aggregate surface course to enhance the traveling surface.

The placement of new appropriately sized culverts along existing roadways, replacement of existing failed culverts and the installation of rock-lined drainage channels will improve drainage patterns, and ensure water conveyance away from residential housing. Additionally, the proposed storm drainage improvements will prevent ponding in existing roadways that leads to erosion/rutting, washouts, and health concerns.

The exact location and placement of the proposed culverts will be further evaluated during the design phase of the proposed project.

The proposed project will include the following improvements (See Figures):

- Alder Street (Route 1010-10) Alder Street, from Second Street to Third Street, will have an approximately 15-foot wide traveling surface. An approximately 18-inch deep ditch will be constructed on the south side of the road.
 - o <u>Length</u> Approximately 270-ft.
- <u>C Street (Route 1012-10)</u> C Street, from Second Street to Third Street, will have an approximately 15-foot wide traveling surface. An approximately 18-inch deep ditch will be constructed on the south side of the road.
 - o Length Approximately 270-ft.
- <u>First Street (Route 1006-10)</u> First Street, from Salmon Street to Alder Street, will have an approximately 15-foot wide traveling surface. An approximately 18-inch deep ditch will be constructed on the east side of the road.
 - o <u>Length</u> Approximately 770-ft.
- <u>Salmon Street (Route 1014-10)</u> Salmon Street, from Second Street to Third Street, will have an approximately 15-foot wide traveling surface. An approximately 18-inch deep ditch will be constructed on the north side of the road.
 - o <u>Length</u> Approximately 280-ft.
- Second Street (Route 1007-10) Second Street, from Salmon Street to C Street, will have an approximately 15-foot wide traveling surface. An approximately 18-inch deep ditch will be constructed on the east side of the road.
 - o <u>Length</u> Approximately 1,390-ft.
- Third Street (Route 1008-10) Third Street, from Salmon Street to C Street, will have an approximately 10-foot wide traveling surface. An approximately 18-inch deep ditch will be constructed on the east side of the road and will include on street parking areas along the west side. The on street parking areas will also include ramps to access residential properties (See Figures 4-5).
 - o <u>Length</u> Approximately 1,380-ft.
- <u>Drainage Channels</u> The new rock-lined drainage channels will be placed between lot lines extending along the west side of Second Street and Third Street. The new channels will convey storm water to the new/replaced culverts and ditching.



PURPOSE AND NEED

The existing Manokotak road infrastructure is deteriorating due to a lack of proper storm drainage and inferior roadside ditching unable to convey surface water to existing culverts. The proposed rehabilitation project will establish proper road embankments, create roadside ditching improve the storm drainage system, install new culverts at engineered locations, and install new drainage channels interconnecting First, Second, and Third Streets (See Figure 2). The established of proper road embankments, improved storm drainage systems, and appropriate street/stop signage will create safer traveling conditions for residents and enhance the overall road infrastructure in Manokotak.

PROPOSED ACTION

Borrow Source

Borrow material will come from an existing, previously permitted borrow site.

Right Of Way Status

All existing roads in this project, with the exception of Third Street, are located within the existing Right-of-Way (ROW). In general, the existing ROW for all routes is approximately 20-feet in width.

Currently, the ROW and topography constricts all routes in this project resulting in narrow roads. Topography constraints on Third Street require parking to take place on the side of the street congesting the already narrow traveled way. As a solution, Bristol proposes to add dedicated on street parking lanes along Third Street. The addition of parking turnouts will require approximately 15-feet of ROW acquisition at parking locations. In order to make improvements, temporary construction easements will be required throughout the project corridor(s). ROW acquisition requirements will be evaluated in further detail during the design phase of the project.

The surface rights within the established ROW belong to Manokotak Natives Limited (Village Corporation), and subsurface rights are owned by the Bristol Bay Native Corporation (BBNA).

Construction

Construction events and descriptions are as follows:

- <u>Clear and grub, where necessary</u> Mowing/grubbing of vegetation wherein all surface objects, brush, roots, and other protruding obstructions shall be cleared and/or grubbed, including mowing, as required. This activity will take place either before May 1 or after July 15 so as not to disturb potential migratory bird nests.
- <u>Placement of Geotextile</u> A woven geotextile fabric will be placed as stabilization over all existing subgrade.



- <u>Drainage Improvements</u> The culverts being placed along the project corridors will consist of corrugated steel pipe (CSP) culverts of various sizes to convey water underneath the roadways and improve conveyance to the new drainage channels and ditching. Culvert placement and locations will be further evaluated during the design phase of the project.
- <u>Placement of Select Borrow</u> Approximately 12-inches of gravel base-course from an approved source will be used to create the improved road embankments.
- <u>Compaction / Grading</u> Construction equipment will be used to compact and stabilize the road. Water will be required to achieve the desired compaction.
- <u>Placement of Surface Course</u> Approximately 6-inches of aggregate surface course will be used to create the driving surface.
- <u>Dust Palliative</u> Calcium chloride will be applied to the finished surface of the roadway during construction as a dust suppressant. Calcium chloride shall meet all ADOT&PF requirements.

PERMITTING

Permits identified for this project consist of the following:

- USACE Jurisdictional Determination (JD)/Section 404 Permit
- ADNR, State Historic Preservation Office (SHPO) Compliance with Section 106 of the National Historic Preservation Act
- ADNR- MLW Temporary Water Use Permit (TWUP)
- ADF&G Habitat Division, Fish Habitat Permit Water Withdrawal



RESPONSE REQUEST

Bristol wishes to solicit comments regarding the potential effects of the project, and requests any comments you may have regarding:

- Additional permits and/or clearances not identified that must be obtained from your agency for the proposed project;
- Information and data with respect to the base floodplains, regulatory floodways, and/or specialized flood hazard area associated with drainages that will be affected by the proposed project;
- Identification of any potential conflicts the project may have with the goals or objectives of the local land use plans, and development;
- Water quality concerns;
- Information or data on sensitive fish and wildlife habitats potentially affected by the proposal;
- Information with respect to public road use, access problems, land use concerns, subsistence issues, and/or any other special conditions that may be affected by the proposed project; and
- The presence of sites, structures, and objects of historic, architectural, or cultural sensitivity.



There is no agency meeting planned for this project at this time; however, if sufficient interest is indicated, an agency meeting will be scheduled.

Please share with us any comments or recommendations you may have regarding the described project. **We would appreciate receiving your comments by June 6, 2016**. If you have any questions about the proposed project or would like to comment verbally, please call me at 907-743-9377 or via email at elindeeen@bristol-companies.com; if you would like to mail in your comments, please mail them to:

Mr. Eric M. Lindeen
Bristol Engineering Services Corporation
111 W. 16th Avenue, Third Floor
Anchorage, Alaska 99501

Thank you for your assistance.

Sincerely,

Bristol Engineering Services Corporation

Eric M. Lindeen

Environmental Scientist

Attachments: Figure 1: Location & Vicinity Map

Figure 2: Site Plan Map Figure 3: Typical Sections Figure 4: Typical Sections Figure 5: Typical Sections

Figure 6: Temporary and Permanent ROW Acquisition

Attachment A: Preliminary Research Results

RECIPIENTS:



State of Alaska

Mr. James Rypkema ADEC - Water Quality

Ms. Judith Bittner ADNR - SHPO

Mr. Gary Mendivil ADEC - Commissioners Office

Ms. Megan Marie ADFG – Habitat Division, Anchorage Office

Ms. Taunnie Boothby ADNR – DCCED Ms. Lesli Schick ADNR - MLW

Federal

Ms. Ellen Lance USFWS – Endangered Species
Ms. Frances Mann USFWS – Conservation Planning

Mr. Ryan Winn USACE – Regulatory Chief, North Section

Mr. Sean Mack BIA – Archaeology Mr. Mark Kahklen BIA – Environmental

Local/Native

Ms. Diane Mochin Manokotak Village Council – President

Mr. Edward Nick Manokotak Village Council – Transportation Planner

Ms. Julie Baltar Bristol Bay Native Association (BBNA)

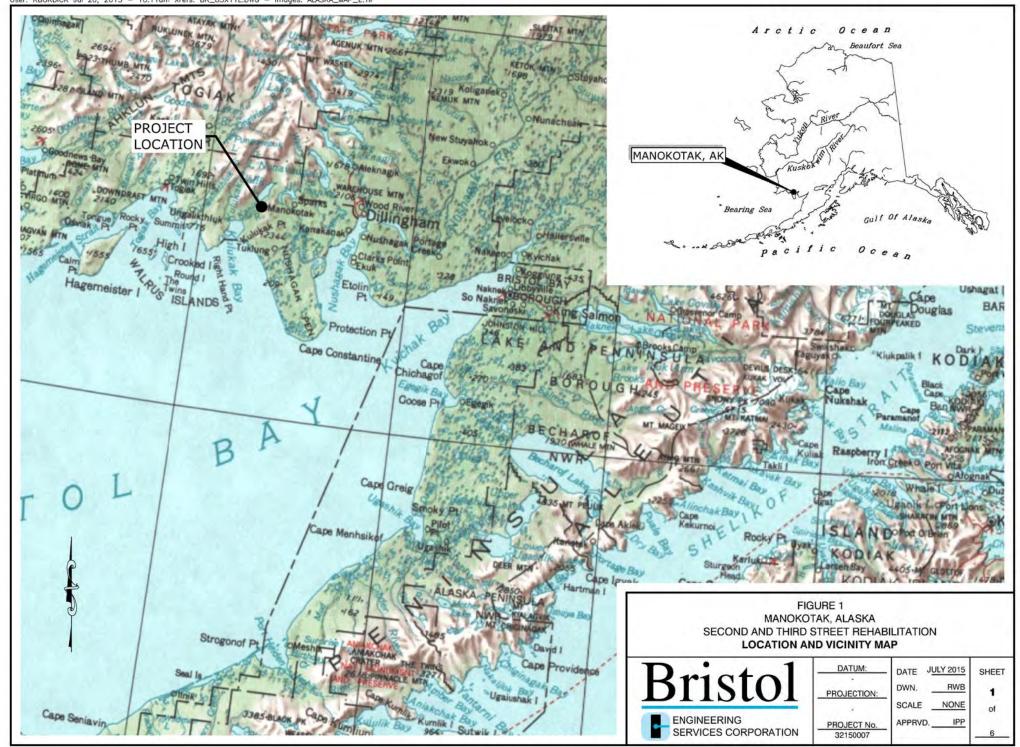
Ms. Fran Demboski . Bristol Bay Native Corporation (BBNC) – Lands Manager

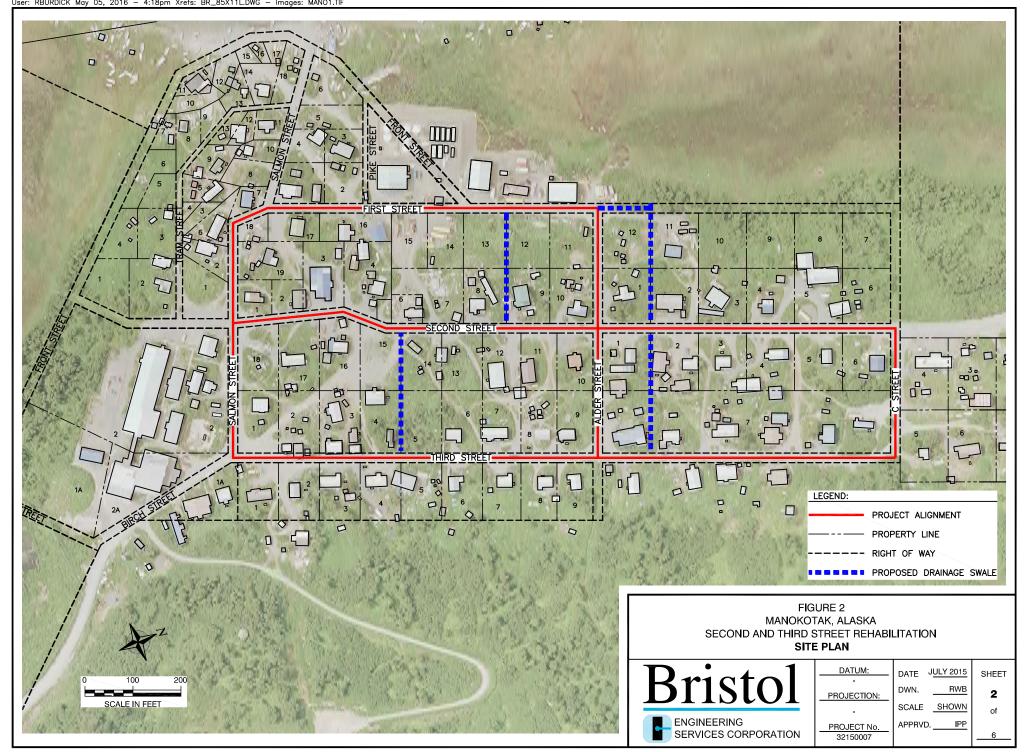
Mr. Alan Backford Bristol Bay Native Association (BBNA)

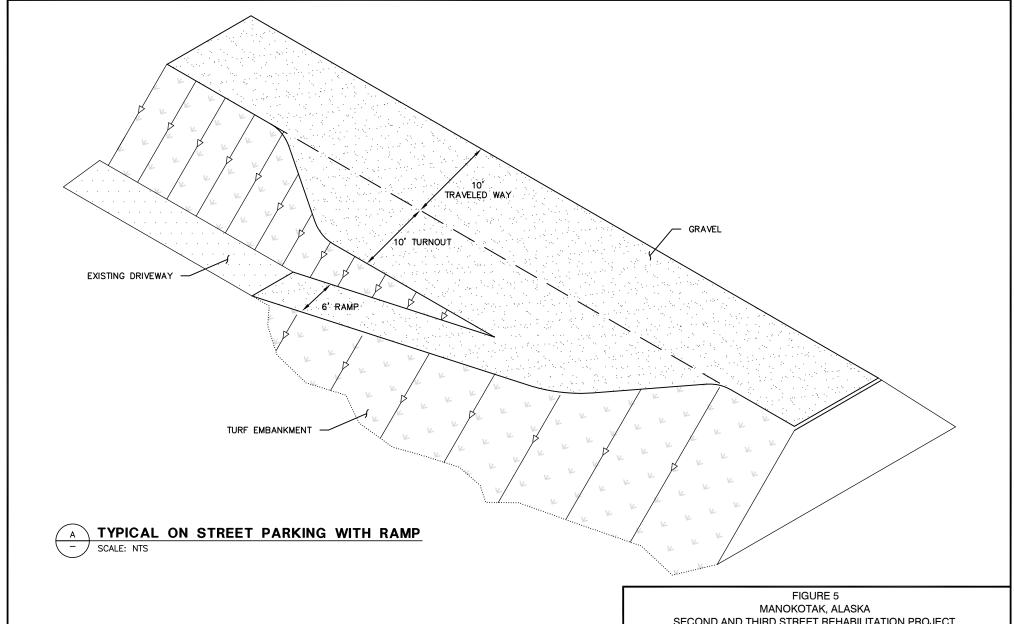
Mr. Melvin Andrew City of Manokotak – Mayor

Ms. Nancy George City of Manokotak - Administrator





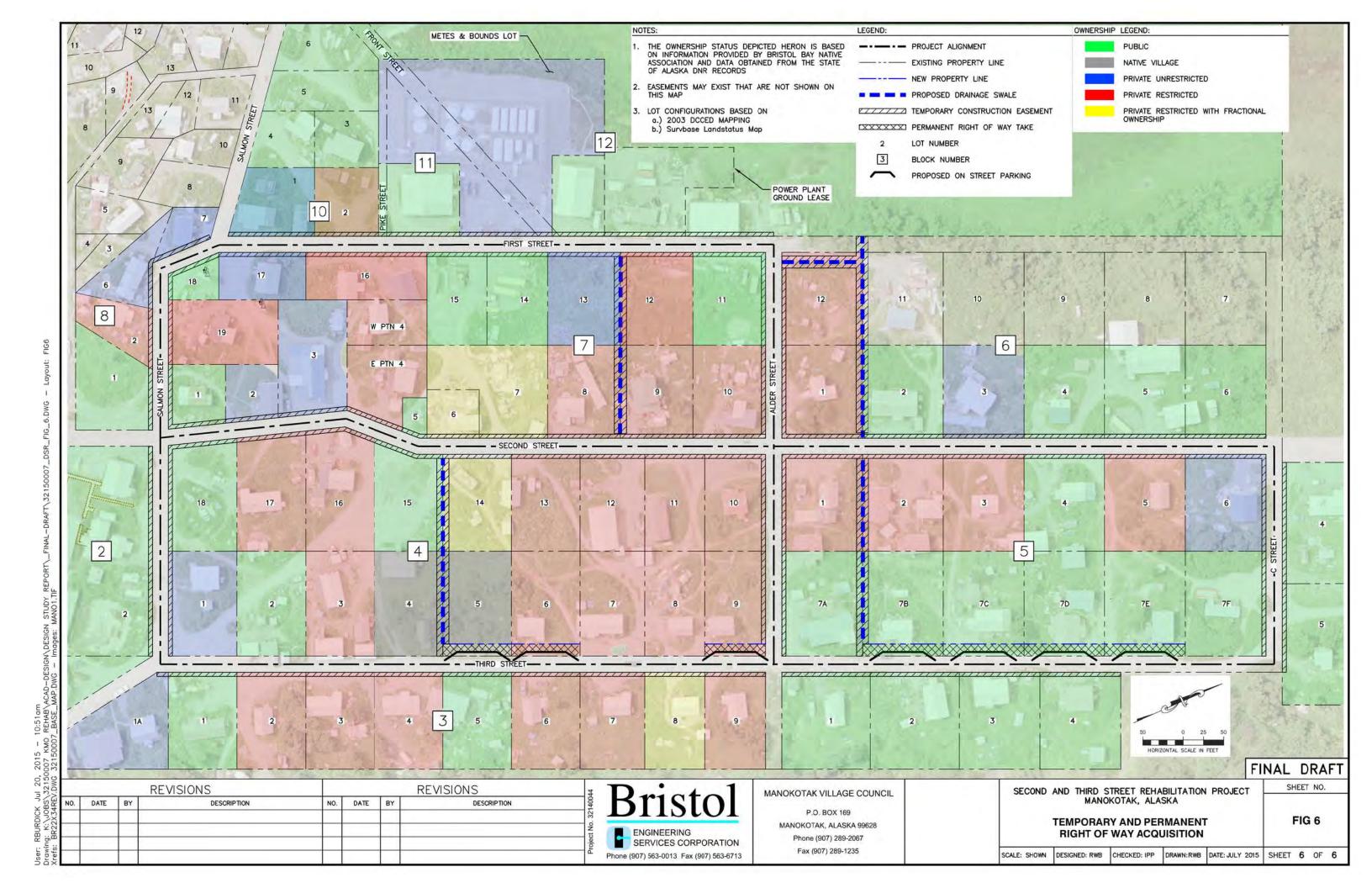




SECOND AND THIRD STREET REHABILITATION PROJECT **TYPICAL SECTIONS**



| DATUM: | DATE | JULY 2015 | SHEET |
|--------------|--------|---------------|-------|
| PROJECTION: | DWN. | RWB | 5 |
| THOUSE HORE. | SCALE | SHOWN | of |
| PROJECT No. | APPRVE |). <u>IPP</u> | |
| 32150007 | | | 6 |



ATTACHMENT A

Preliminary Research Results

Preliminary research results for the proposed Manokotak Road Rehabilitation Project in Manokotak, Alaska.

<u>Anadromous Fish Streams</u>: Manokotak is located along the banks of the Igushik River. Review of the Alaska Department of Fish & Game (ADF&G) Anadromous Fish Distribution Database (FDD) indicates that the Igushik River is a listed anadromous fish stream.

According to the FDD listing, the Igushik River (#325-10-10010) shows the spawning presence of all 5 salmon species (Coho, Chum, King, Pink, and Sockeye), along with the presence of Arctic char.

The project's anticipated water needs, for the purpose of compaction and dust suppression during construction will require water withdrawal from the Igushik River. The proposed project will require a ADFG-Title 16 Fish Habitat Permit and an ADNR-MLW Temporary Water Use Permit for withdrawal from the Igushik River. Because the construction will be temporary and the pump hose will be fitted with appropriately sized fish screen, the proposed project is not anticipated to have any adverse effect on listed species within the Igushik River.

<u>Coastal Zone Management:</u> The ADNR - Alaska Coastal Management Plan (ACMP) was dismantled; effective July 1, 2011.

Contaminated Sites, Spills and Underground Storage Tanks: According to the DEC Contaminated Sites Program (CSP) Database, there are 2 active contaminated sites records for Manokotak. The record locations appear to be located in proximity to portions of the proposed project corridors. Both sites appear to be located west of the intersection of Salmon Street and First Street. Both sites appear to be located downgradient from the proposed project alignment and are not anticipated to negatively affect the proposed project. The contaminated sites records will be more closely considered and evaluated during the Phase I Environmental Site Assessment (ESA) portion of the project.

A search on the online DEC Spills Database yielded results for 9 spill records in the Manokotak area. The record locations do not appear to be within or near the project corridor and all records have been listed as "Case Closed, No Further Action". The listed spill records are not anticipated to negatively affect the proposed project. The Spills Database records will be more closely considered during the Phase I Environmental Site Assessment (ESA) portions of the project.

A search of the ADEC Underground Storage Tank Database reported no UST sites within Manokotak or the proposed project corridors. All UST databases will be more closely considered during the Phase I ESA portion of the project.

<u>Critical Habitat and Sanctuaries:</u> The USFWS Critical Habitat Mapper shows that no federally listed critical habitat areas are located within the project corridor or larger area. The proposed project is not anticipated to negatively impact any critical habitat areas.

A review of ADF&G webpage of State Refuges, Critical Habitat Areas, and Sanctuaries found no State Refuges, Critical Habitat Areas, and/or Sanctuaries in or near Manokotak or the proposed project corridors.

Eagles: The USFWS Alaska Bald Eagle Nest Atlas was consulted and indicates no documented Bald Eagle nesting sites occur in or near the project area. Prior to construction, an informal site investigation will be made to confirm that nesting Eagles are not present. In the event that nesting eagles are present, the contractor will be responsible for taking steps to ensure that temporary disturbances are kept a minimum of 660 feet away from the nest tree, and construction activities are scheduled to avoid disturbance during critical nesting times (April through August).

Essential Fish Habitat: The NOAA website on Essential Fish Habitat (EFH) was consulted to determine the status of EFH in the area. The project will occur entirely inland, thus EFH will not be impacted by the proposed project.

Floodplain Management: According to FEMA, Manokotak is not mapped for flood data. Additionally, Manokotak is not a participant in the National Flood Insurance Program (NFIP). The proposed project involves the rehabilitation of existing roads, which will take place during the summer season when flooding is less likely to occur; therefore, the project is not anticipated to be impacted by a flooding event.

<u>Historical, Archaeological, and Cultural Properties:</u> This is a federally funded project, therefore Section 106 is in effect and all requirements will be met prior to construction. An archaeological survey will be completed for the proposed project corridor by Mr. Robert Meinhardt of True North Sustainable Development Solutions, LLC. The survey will be submitted to BIA-Archaeology for their concurrence and subsequent submittal to SHPO for review and approval.

Local Government: Manokotak is an incorporated, 2nd Class City with a population of 482, located within the Dillingham Census Area. Elected/Appointed Officials include a Mayor and City Council.

<u>Material Source and Disposal Sites:</u> The borrow material for this project will come from an existing, permitted, borrow source. There will be no excavated material associated with the proposed project; therefore a disposal site will not be required.

National Forests: The proposed project is not located within a National Forest.

<u>National Parks, Preserves, and Monuments:</u> The proposed project corridor is not located within any National Parks, Preserves or Monuments.

<u>National Wildlife Refuges:</u> The proposed project corridor is not located within a National Wildlife Refuge.

Navigability: Not applicable.

State Parks: The project area is not located within a State Park.

Threatened and Endangered Species: The USFWS Information, Planning and Conservation (IPaC) system was consulted as part of this preliminary research on May 3, 2016. The U.S. Fish and Wildlife Service provides species lists for actions authorized, funded or carried out by federal agencies. The species list fulfills the requirement, under

section 7(c) of the Endangered Species Act, to provide a list of threatened and endangered species upon request for federal actions and National Environmental Policy Act (NEPA) compliance. The IPaC consultation report #07CAAN00-2016-SLI-0107 indicated that no listed threatened or endangered species or critical habitats are located in proximity to the proposed project area. Additionally, the proposed project will occur completely inland, along existing road corridors and construction will take place during the summer months; therefore, the proposed project will not impact an threatened or endangered species.

The USFWS will receive a copy of the project scoping letter for their consideration, review, and concurrence with this determination.

<u>Wetlands:</u> According to the USFWS National Wetlands Inventory (NWI) wetland data is available for the Manokotak area. NWI data indicates the presence of wetlands adjacent to proposed Salmon Street alignment and potentially adjacent to the southern extent of First Street. DNA Environmental will perform a wetland delineation and functional assessment of the proposed project corridors. Bristol will prepare and submit a Jurisdictional Determination letter to the USACE for their review and concurrence with the findings. If wetlands are determined to be present, Bristol will complete and submit a USACE Section 404 Permit Application.

<u>Wild and Scenic Rivers:</u> The project will not occur in or adjacent to any wild and scenic rivers.

APPENDIX B

CONSULTATION RESPONSES AND CORRESPONDENCE

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UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF INDIAN AFFAIRS ALASKA REGION



Branch of Regional Archeology 3601 C Street, Suite 1200 Anchorage, Alaska 99503 (907) 271-4003

October 26, 2016

TO:

Mr. Eric Lindeen

Bristol Engineering Services Corporation

111 W. 16th Avenue, Third Floor Anchorage, Alaska 99501

UNDERTAKING:

Second and Third Street Rehabilitation, Manokotak, Alaska.

FINDINGS OF SECTION 106 REVIEW:

No Historic Properties Affected.

RECOMMENDATION: The Bureau of Indian Affairs (BIA), Regional Archeology recommends to proceed with the Manokotak Second and Third Street Rehabilitation project.

IDENTIFICATION EFFORTS: Identification included reviewing the records and previous archeological surveys, along with a pedestrian survey. The archeological review and investigation report, 2016 Report of Cultural Resources Investigation and Recommendation for Issuing a Finding Pursuant to Section 106 of the National Historic Preservation Act of 1966 for the Manokotak Second and Third Street Rehabilitation Project, Located in Manokotak, Alaska was prepared by Robert Meinhardt, Amy Ramirez, and Tiffany Curtis of True North Sustainable Development Solutions, LLC.

AREA OF POTENTIAL EFFECT (APE): The project consists of improving the road infrastructure of six existing roads (Alder Street, C Street, First Street, Salmon Street, Second Street, and Third Street), creating new drainage channels, and the creation of on-street parking areas and access ramps to residential lots on Third Street (see attached image).

AHRS SITES: XNB-140 (Manokotak BIA School, determined not eligible for the NRHP)

CONSULTED PARTIES:

Manokotak Village Council

Alaska State Historic Preservation Office (SHPO)

Bureau of Indian Affairs

MANAGEMENT RECOMMENDATIONS: The BIA is issuing a finding of "No Historic Properties Affected" for the cultural properties within the proposed APE of the Manokotak Second and Third Street Rehabilitation project. These findings are based on the archeological review and report of the subject area by archeologists Robert Meinhardt, Amy Ramirez, and Tiffany Curtis of True North Sustainable Development Solutions, LLC. The SHPO has concurred with the findings report of "No Historic Properties Affected" for the proposed APE in a letter dated October 24, 2016. In compliance with Section 106 of the National Historic Preservation Act (54 USC 306108) of 1966 and 36 CFR §800, the Bureau of Indian Affairs, Alaska Regional Archaeology, is recommending the project involving the construction within the APE documented in the attached "Figure 1", proceed.

These findings apply only to the current project as described in the above noted cultural resource survey report. In accordance with 36 CFR §800.4 any changes to the current project's design and/or footprint will require further Section 106 Review.

The construction contract will include the following language:

"The contractor conducting the rehabilitation project, will comply with the National Historic Preservation Act of 1966, as amended (16 U.S.C. 470), and the Native American Graves Protection and Repatriation Act of 1990 (25 U. S. C. 3001-3013), the Archaeological Resources Protection Act of 1979 (16 U.S.C. 47-aa-470II), and all implementing regulations."

"If any previously unknown archeological or historic remains are discovered during the life of this undertaking, or in the course of associated activities on this property, construction shall cease pending further recommendations from the BIA Regional Archeologist (36 CFR §800.13[b][3])."

"If any previously unknown human remains or associated cultural items are discovered during the life of this undertaking, or in the course of associated activities, construction shall cease pending further recommendations from the Regional Archeologist in consultation with the Alaska State Historic Preservation Officer and Manokotak Village Council, the tribe. Any person who knows of the discovery of human remains or associated cultural items must provide notification in writing to the BIA Regional Archeologist (43 CFR §10.4)."

Sean Mack

Regional Archeologist

cc: Eddward Hakala, EBSC Engineering, LLC.

Thomas Llanos, Civil Engineer, Transportation, Bureau of Indian Affairs, Alaska Region

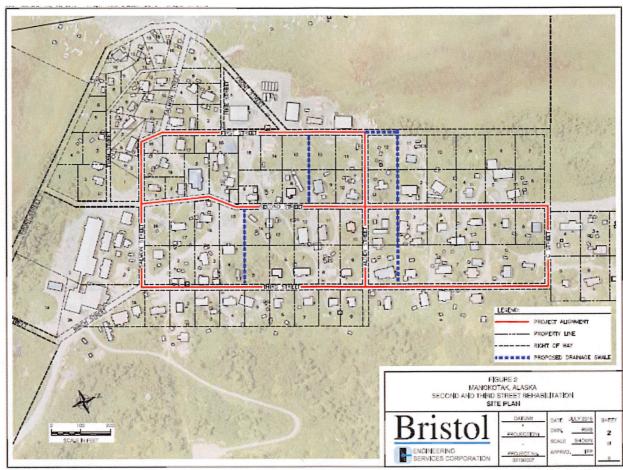


Figure 1: This is "Figure 5" from the TNSDS report. It is described as "Proposed APE for the potential effects to archaeological resources that may result from the road rehabilitation (in red) and proposed drainage swale installation (in blue)."



Department of Natural Resources

DIVISION OF PARKS & OUTDOOR RECREATION Office of History & Archaeology

> 550 West 7th Ave., Suite 1310 Anchorage, Alaska 99501-3565 Main: 907.269.8721 http://dnr.alaska.gov/parks/oha

October 24, 2016

File No.:

3130-1R BIA / 2016-01223

Sean Mack
Regional Archaeologist
Bureau of Indian Affairs
Alaska Region
3601 C Street, Suite 1100
Anchorage, AK 99503

Subject: Manokotak Second and Third Street Rehabilitation Project

Dear Mr. Mack:

The Alaska State Historic Preservation Office (AK SHPO) received your correspondence (dated September 8, 2016) on September 14, 2016. We then received follow-up correspondence from your office on October 14, 2016. We apologize for the delay in getting our response back to you.

We greatly appreciate the thoroughness of the TNSDS report, which preliminarily documented 95 buildings and structures, with 40 being detailed further in the report due to their age. However, we will withhold comment at this time on the recommendation that none of the 40 buildings/structures are eligible for the National Register of Historic Places (NRHP). In order for our office to provide concurrence on individual determinations of eligibility, we request that each building/structure be assigned an Alaska Heritage Resource Survey (AHRS) number and that each be fully evaluated using the National Register Criteria for Evaluation. At this time, the report does not provide enough information to allow us to concur on the individual eligibility of the 40 buildings/structures in question.

Regardless – per BIA's October 14, 2016 letter – given the nature, scope, and scale of the undertaking, we agree that the revised area of potential effects (APE) is appropriate and therefore, we concur that a finding of **no historic properties affected** is appropriate for the proposed project.

Please note that as stipulated in 36 CFR 800.3, other consulting parties such as the local government and Tribes are required to be notified of the undertaking. Additional information provided by the local government, Tribes or other consulting parties may cause our office to re-evaluate our comments and recommendations. Receipt of our comment letter does not end the 30-day review period provided to other consulting parties.

Should unidentified archaeological resources be discovered in the course of the project, work must be interrupted until the resources have been evaluated in terms of the National Register of Historic Places eligibility criteria (36 CFR 60.4) or Alaska Landmarks status in consultation with our office.

Thank you for the opportunity to comment. Please contact Shina duVall at 269-8720 or shina.duvall@alaska.gov if you have any questions or if we can be of further assistance.

Sincerely,

Judith E. Bittner

State Historic Preservation Officer

JEB:sad



UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF INDIAN AFFAIRS ALASKA REGION



Branch of Regional Archeology 3601 C Street, Suite 1200 Anchorage, Alaska 99503 (907) 271-4003

October 14, 2016

Judith E. Bittner
State Historic Preservation Officer
DNR/Division of Parks and Outdoor Recreation
Office of History and Archaeology
550 West 7th Ave., Suite 1310
Anchorage, Alaska 99501

Dear Ms. Bittner,

On September 8, 2016 a copy of 2016 Report of Cultural Resources Investigation and Recommendations for Issuing a Finding Pursuant to Section 106 of the National Historic Preservation Act of 1966 for the Manokotak Second and Third Street Rehabilitation Project, prepared by Robert Meinhardt and Amy Ramirez of True North Sustainable Development Solutions (TNSDS) was sent to your office. This report was previously submitted for your concurrence of a finding of no historic properties affected. BIA still recommends a finding of no historic properties affected, but after further review would like to suggest a change in the APE. BIA is suggesting that the APE be narrowed to include the areas more directly affected, outlined in Figure 1 below. BIA believes that the scope of the project does not necessitate the historic structures survey completed for all structures within the APE originally presented in Figure 2. BIA is seeking SHPO concurrence with a finding of no historic properties affected for the updated APE, and that no further evaluation on structures is necessary. If you have any questions regarding this document, please contact me at (907) 271-4003.

Sincerely,

Sean R. Mack

Acting Regional Archeologist

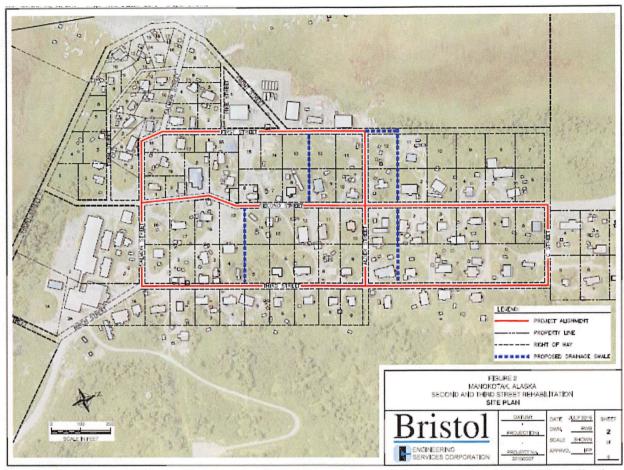


Figure 1: This is "Figure 5" from the TNSDS report previously submitted. It is described as "Proposed APE for the potential effects to archaeological resources that may result from the road rehabilitation (in red) and proposed drainage swale installation (in blue)."

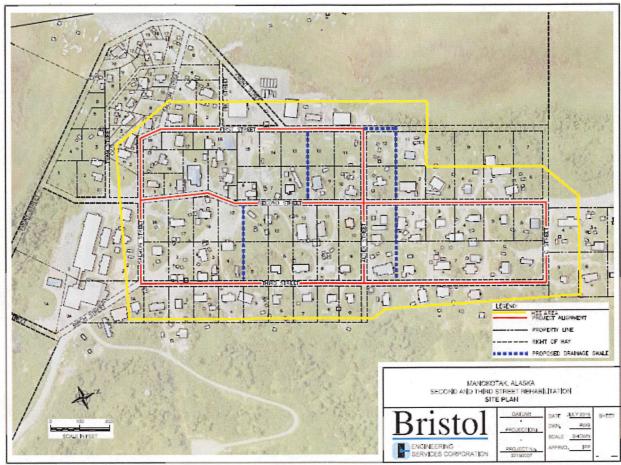


Figure 1: This is "Figure 6" from the TNSDS report previously submitted. It is described as "Proposed APE for the historic structures survey (all lots within yellow boundary)."



DEPARTMENT OF THE ARMY

ALASKA DISTRICT, U.S. ARMY CORPS OF ENGINEERS REGULATORY DIVISION
P.O. BOX 6898
JBER, AK 99506-0898
SEPTEMBER 27, 2016

Regulatory Division POA-2016-471

Lana Davis 111 West 16th Ave. Third Floor Anchorage, AK 99501

Dear Ms. Lana Davis:

This letter responds to your September 9, 2016, request for a Department of the Army (DA) jurisdictional determination for your proposed road rehabilitation and drainage project. It has been assigned number POA-2016-471, Igushik River, which should be referred to in all correspondence with us. The project site is located within Native Village of Manakotak, Alaska, at approximately 58.9809° N., 159.05615° W.

Based on our review of the information you provided, we have determined the subject property does not contain waters of the United States (U.S.) under Corps jurisdiction. Please see the attached Approved Jurisdictional Determination Form or a copy of the Approved Jurisdictional Determination form is available at: www.poa.usace.army.mil/Missions/Regulatory/JurisdictionalDeterminations.aspx under the above file number. Please contact us if you decide to alter the method, scope, or location of your proposed activity.

This approved jurisdictional determination is valid for a period of five (5) years from the date of this letter, unless new information supporting a revision is provided to us before the expiration date.

Enclosed is a Notification of Administrative Appeal Options and Process and Request for Appeal form regarding this approved jurisdictional determination (see section labeled "Approved Jurisdictional Determination").

Section 404 of the Clean Water Act requires that a DA permit be obtained for the placement or discharge of dredged and/or fill material into waters of the U.S., including jurisdictional wetlands (33 U.S.C. 1344). The Corps defines wetlands as those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

Section 10 of the Rivers and Harbors Act of 1899 requires that a DA permit be obtained for structures or work in or affecting navigable waters of the U.S. (33 U.S.C. 403). Section 10 waters are those waters subject to the ebb and flow of the tide shoreward to the mean high water mark, and/or other waters identified by the Alaska District.

Nothing in this letter excuses you from compliance with other Federal, State, or local statutes, ordinances, or regulations.

Please contact me via email at Jeremy.Grauf@usace.army.mil, by mail at the address above, by phone at (907) 753-2798, or toll free from within Alaska at (800) 478-2712, if you have questions. For more information about the Regulatory Program, please visit our website at http://www.poa.usace.army.mil/Missions/Regulatory.aspx.

Sincerely,

Jeremy Grauf Regulatory Specialist

Enclosures

CF/BCF:



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Anchorage Fish And Wildlife Conservation Office 4700 Blm Road Anchorage, AK 99507 Phone: (907) 271-2888 Fax: (907) 271-2786



In Reply Refer To: June 23, 2020

Consultation Code: 07CAAN00-2020-SLI-0288

Event Code: 07CAAN00-2020-E-00715

Project Name: Manokotak Second and Third Street Rehabilitation

Subject: Updated list of threatened and endangered species that may occur in your proposed

project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, and proposed species, designated critical habitat, and some candidate species that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*). Please note that candidate species are not included on this list. We encourage you to visit the following website to learn more about candidate species in your area: http://www.fws.gov/alaska/fisheries/fieldoffice/anchorage/endangered/candidate_conservation.htm

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered

species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Anchorage Fish And Wildlife Conservation Office 4700 Blm Road Anchorage, AK 99507 (907) 271-2888

Project Summary

Consultation Code: 07CAAN00-2020-SLI-0288

Event Code: 07CAAN00-2020-E-00715

Project Name: Manokotak Second and Third Street Rehabilitation

Project Type: TRANSPORTATION

Project Description: Roadway and drainage improvements of six existing roadways in

Manokotak, Alaska.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/58.98135383580471N159.0552896690271W



Counties: Dillingham, AK

Endangered Species Act Species

There is a total of 0 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

1. <u>NOAA Fisheries</u>, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

IPaC

U.S. Fish & Wildlife Service

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Project information

NAME

Manokotak Second and Third Street Rehabilitation

LOCATION

Dillingham County, Alaska



DESCRIPTION

Roadway and drainage improvements of six existing roadways in Manokotak, Alaska.

Local office

Anchorage Fish And Wildlife Conservation Office

(907) 271-2888

(907) 271-2786

NOT FOR CONSULTATION

4700 Blm Road Anchorage, AK 99507

6/23/2020

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

- 1. Log in to IPaC.
- 2. Go to your My Projects list.
- 3. Click PROJECT HOME for this project.
- 4. Click REQUEST SPECIES LIST.

Listed species¹ and their critical habitats are managed by the <u>Ecological Services Program</u> of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries²).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact <u>NOAA Fisheries</u> for <u>species under their jurisdiction</u>.

- 1. Species listed under the <u>Endangered Species Act</u> are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the <u>listing status page</u> for more information.
- 2. <u>NOAA Fisheries</u>, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

THERE ARE NO ENDANGERED SPECIES EXPECTED TO OCCUR AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act 1 and the Bald and Golden Eagle Protection Act 2 .

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described <u>below</u>.

- 1. The Migratory Birds Treaty Act of 1918.
- 2. The <u>Bald and Golden Eagle Protection Act</u> of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds
 http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

THERE ARE NO MIGRATORY BIRDS OF CONSERVATION CONCERN EXPECTED TO OCCUR AT THIS LOCATION.

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures and/or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS <u>Birds of Conservation Concern (BCC)</u> and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the <u>Avian Knowledge Network</u> (<u>AKN</u>). The AKN data is based on a growing collection of <u>survey</u>, <u>banding</u>, <u>and citizen science datasets</u> and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (<u>Eagle Act</u> requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the <u>Avian Knowledge Network (AKN)</u>. This data is derived from a growing collection of <u>survey, banding, and citizen science</u> datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

- 1. "BCC Rangewide" birds are <u>Birds of Conservation Concern</u> (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
- 2. "BCC BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
- 3. "Non-BCC Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the <u>Eagle Act</u> requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the <u>Northeast Ocean Data Portal</u>. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the <u>NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.</u>

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the <u>Diving Bird Study</u> and the <u>nanotag studies</u> or contact <u>Caleb Spiegel</u> or <u>Pam Loring</u>.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to <u>obtain a permit</u> to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the <u>National Wildlife Refuge</u> system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to <u>NWI wetlands</u> and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local <u>U.S. Army Corps of Engineers</u> <u>District</u>.

THERE ARE NO KNOWN WETLANDS AT THIS LOCATION.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

APPENDIX C

PERMITS

(Intentionally Blank)

DIVISION OF MINING, LAND AND WATER WATER RESOURCES SECTION



www.dnr.state.ak.us/mlw/water/index.htm

| Anchorage Office | Juneau Office | Fairbanks Office | For ADNR Use Only |
|---|-----------------------|--------------------------|-------------------|
| 550 West 7 th Avenue, Suite 1020 | PO Box 111020 | 3700 Airport Way | Date/Time Stamp |
| Anchorage, AK 99501-3562 | 400 Willoughby Avenue | Fairbanks, AK 99709-4699 | _ |
| (907) 269-8600 | Juneau, AK 99811-1020 | (907) 451-2790 | |
| Fax: (907) 269-8947 | (907) 465-3400 | Fax: (907) 451-2703 | |
| | Fax: (907) 586-2954 | | |
| For ADNR Use Only | For ADNR Use Only | For ADNR Use Only | |
| TWUP# | CID# | Receipt Type WR | |

APPLICATION FOR TEMPORARY USE OF WATER

INSTRUCTIONS

- 1. Complete one application for each project including up to five water sources (incomplete applications will not be accepted).
- 2. Attach legible map that includes meridian, township, range, and section lines such as a USGS topographical quadrangle or subdivision plat. Indicate water withdrawal point(s), location(s) of water use, and point(s) of return flow or discharge (if applicable).
- 3. Attach sketch, photos, plans of water system, or project description (if applicable).
- 4. Attach driller's well log for drilled wells (if available).
- 5. Attach copy of ADNR fish habitat permit (if applicable).
- 6. Attach completed Coastal Project Questionnaire (if applicable see page 4).
- 7. Submit non-refundable fee (see page 4).

| APPLICANT INFORMATION | | | | | |
|-----------------------------------|-------------------------|--|--|----------|--|
| | | | | | |
| Project Name | | | | | |
| Organization Name (if applicable) | | Agent or Consultant Name (if applicable) | | | |
| Individual Name (if applicable) | al Name (if applicable) | | Individual Co-applicant Name (if applicable) | | |
| Mailing Address | City | | State | Zip Code | |
| Daytime Phone Number | | Alternate Phone Number (optional) | | | |
| Fax Number (if available) | | E-Mail Address (option | onal) | | |

| T. | | | | | | | | | |
|-----------------------|------------------------------|--|----------------|----------------|------------|---|-----------------|--------------|----------|
| PROPERTY DESCRIPTIONS | | | | | | | | | |
| Location of Water Use | | | | | | | | | |
| Project A | rea (e.g. milepost i numb | range, place name, surve per) | _' y | Meridian | Township | Range | Section | Quarter | Sections |
| | | | | | | | | 1/4 | 1/4 |
| | | | | | | | | 1/4 | 1/4 |
| | f Water Source | ton Dody on Wall Double | | Manialian | Tarrestain | Danas | 04: | 0 | 04: |
| Geog | rapnic Name of wa | ter Body or Well Depth | | Meridian | Township | Range | Section | Quarter | Sections |
| | | | | | | | | 1/4 | 1/4 |
| | | | | | | | | 1/4 | 1/4 |
| | | | | | | | | 1/4 | 1/4 |
| | | | | | | | | 1/4 | 1/4 |
| | (M-1 D-1 Fl- | Bialana (Kanal | • • • | - \ | | | | 1/4 | 1/4 |
| | | ow or Discharge (if appl ter Body or Well Depth | icabi | e) Meridian | Township | Dange | Section | Quarter | Continuo |
| Geog | raphic Name or wa | ner Body or Well Deptil | | Mendian | Township | Range | Section | Quarter | Sections |
| | | | | | | | | 1/4 | 1/4 |
| | | | | | | | | 1/4 | 1/4 |
| | | | | | | | | | |
| METHOD C | OF TAKING WATEI | २ | | | | | | | |
| Pump | Pump Intake | Inches | ۵ | ure Working | ~ | Houre/F |)av | | |
| Fullip | Pump Output | | | | | Hours/Day Feet (from pump to point o | | o point of (| use) |
| | | | | | | | | | |
| Gravity | Pipe Diameter | Inches | Le | ngth of Pipe | e | Feet (ta | ike point to | point of u | se) |
| | Head | _ Feet | | | | _ ` | · | | |
| Ditch | | | | | | | | | |
| | LH | W Feet | Di | version Ra | ıte | 🗆 G | PM or \square | CFS | |
| Reservoir | L H | W Feet | W | ater Storag | e | Acre-fe | et | | |
| | | | | | | | | | |
| Dam | LH | W Feet | W | ater Storag | e | Acre-fe | et | | |

| Purpose of Water Use | Q | uantity of Wate | er | Season of Use | | |
|--|-------------------------------|-----------------------|-----------------------------|-------------------------|--------------------------------|--|
| | Maximum Withdrawal Rate | Total Daily Amount | Total Seasonal Amount | Date Work Will Start | Date Work Will be Completed | |
| | | | | | | |
| | Project Totals | | | Total years needed | l: | |
| PROJECT DESCRIPTION | | | | | | |
| What alternative water sources because of water shortage or p | | | d a portion of y | our requested diversi | on be excluded | |
| Are there any surface water bo yes, list any ground water mon in the area, and any information | itoring programs go | ing on at or nea | | | | |
| Briefly describe the type and si equipment uses or holds. | ze of equipment us | ed to withdraw a | and transport w | ater, including the an | nount of water the | |
| Briefly describe what changes construction or operation of you | | | | | | |
| Briefly describe land use aroun residential). | d the water take, u | se, and return fl | ow points (e.g. | national park, recreat | tional site, | |
| Will project be worked in phase | es? State reason fo | or completion da | te. | | | |
| viiii project be worked in pridet | | | | | | |
| Briefly describe your entire proj | ject: | | | | | |

11 AAC 93.220 sets out the required information on the application and authorizes the department to consider any other information needed to process an application for a temporary use of water. This information is made a part of the state public water records and becomes public information under AS 40.25.110 and 40.25.120. Public information is open to inspection by you or any member of the public. A person who is the subject of the information may challenge its accuracy or completeness under AS 44.99.310, by giving a written description of the challenged information, the changes needed to correct it, and a name and address where the person can be reached. False statements made in an application for a benefit are punishable under AS 11.56.210.

| SIGNATURE | |
|---|---|
| The information presented in this application is true and correct to the best of m right or priority is established per 11 AAC 93.210-220, that the water used remathat a temporary water use authorization may be revoked if necessary to protect public interest. | ins subject to appropriation by others, and |
| Signature | Date |
| Name (please print) | Title (if applicable) |

REFERENCES

Measurement Units

GPD = gallons per day

CFS = cubic feet per second

GPM = gallons per minute

AF = acre-feet

AFY = acre-feet per year (325,851 gallons/year)

AFD = acre-feet per day (325,851 gallons/day)

MGD = million gallons per day

Conversion Table

| 5,000 GPD= | 30,000 GPD= | 100,000 GPD= | 500,000 GPD= | 1,000,000 GPD= |
|------------|-------------|--------------|--------------|----------------|
| 0.01 CFS | 0.05 CFS | 0.2 CFS | 0.8 CFS | 1.5 CFS |
| 3.47 GPM | 20.83 GPM | 69.4 GPM | 347. 2 GPM | 694.4 GPM |
| 5.60 AFY | 33.60 AFY | 112.0 AFY | 560.1 AFY | 1120.1 AFY |
| 0.2 AFD | 0.09 AFD | 0.3 AFD | 1.5 AFD | 3.1 AFD |
| 0.01 MGD | 0.03 MGD | 0.1 MGD | 0.5 MGD | 1.0 MGD |

Fee required by regulation 11 AAC 05.010(a)(8)

• \$350 for all uses of water from up to five water sources Make checks payable to "Department of Natural Resources".

Coastal Zone

If this appropriation is within the Coastal Zone, and you are planning to use more than 1,000 GPD from a surface water source or 5,000 GPD from a subsurface water source, you need to submit a completed Coastal Project Questionnaire with this application. For more information on the Coastal Zone, contact the Office of Project Management and Permitting; Anchorage 269-7470, Juneau 465-3562, www.dnr.state.ak.us/acmp/.

Alaska Department of Natural Resources Division of Mining, Land and Water – Water Resources Section

Attachment A – Project Description

PURPOSE AND NEED

The existing Manokotak road infrastructure is deteriorating due to a lack of proper storm drainage and inferior roadside ditching unable to convey surface water to existing culverts. The proposed rehabilitation project will establish proper road embankments, create roadside ditching improve the storm drainage system, install new culverts at engineered locations, and install new drainage channels interconnecting First, Second, and Third Streets (See Figure 2). Additionally, the streets are very narrow, constricted by the existing 20-foot right-of-way, and parked cars along the shoulders create heavy congestion, especially along Third Street. The establishment of parking areas, proper road embankments, improved storm drainage systems, and appropriate street/stop signage will create safer traveling conditions for residents and enhance the overall road infrastructure in Manokotak.

PROPOSED PROJECT

The Manokotak Road Rehabilitation Project will involve the rehabilitation of six (6) roads (0.9 total miles), the installation of new drainage features, and the construction of four on-street parking stalls and ramps along Third Street constructed with retaining walls and guardrails. Road improvements will include the placement of a woven geotextile material to stabilize all subgrades, placement of new fill material to establish proper road embankments, followed by the placement of a crushed aggregate surface course to widen and enhance the traveling surface.

The proposed drainage features include the placement of new appropriately sized culverts along existing roadways, replacement of existing failed culverts, the construction of roadside ditches along all streets, and the installation of rock-filled drainage channels with perforated pipe. The drainage channels will run between lots, perpendicular to First, Second, and Third Street. The new storm drainage features will improve drainage patterns and ensure water conveyance away from residential housing. Additionally, the proposed improvements will prevent ponding in existing roadways, which leads to erosion/rutting, washouts, and health concerns.

The roadway alignments, typical sections, and locations of drainage channels, culverts, and parking stalls are shown on the attached figures.

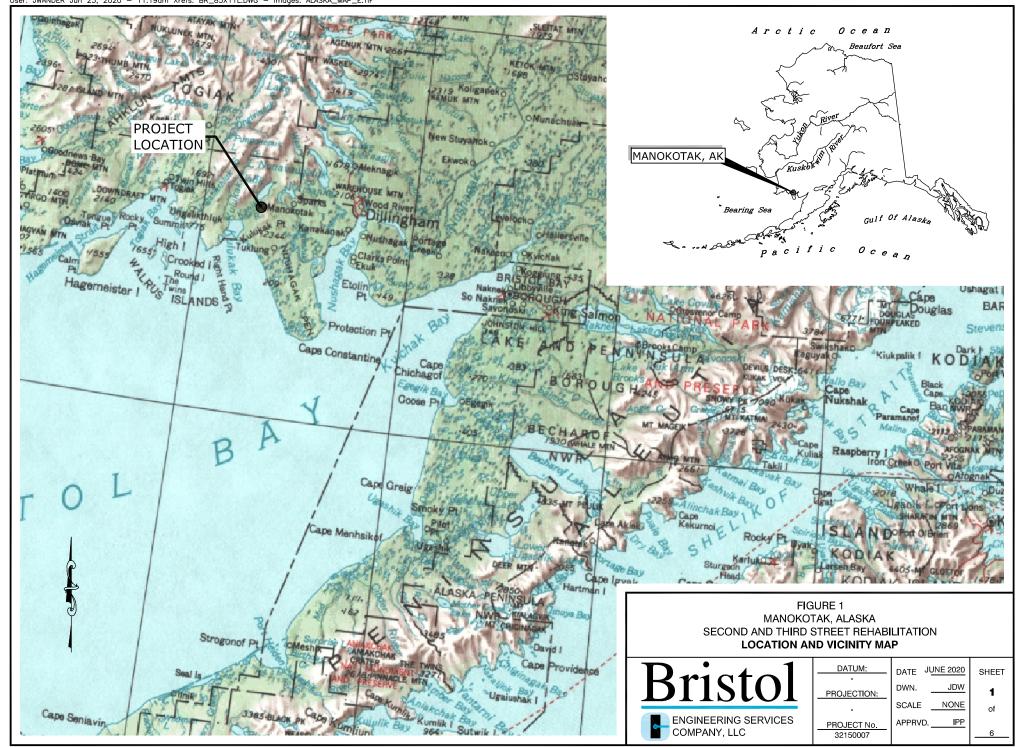
The proposed project will include the following route-specific improvements (See Figures):

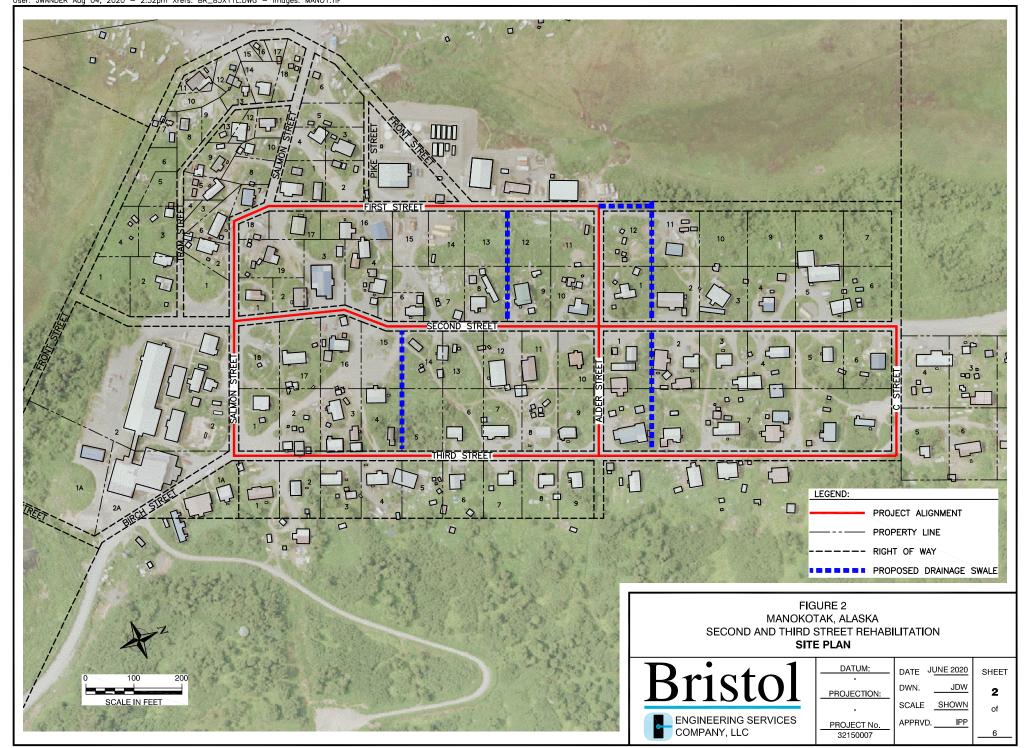
- <u>First Street (Route 1006-10)</u> First Street, from Salmon Street to Alder Street, will have a 15-foot wide traveling surface. An approximately 18-inch deep ditch will be constructed on the east side of the road.
 - o Length Approximately 820-ft.

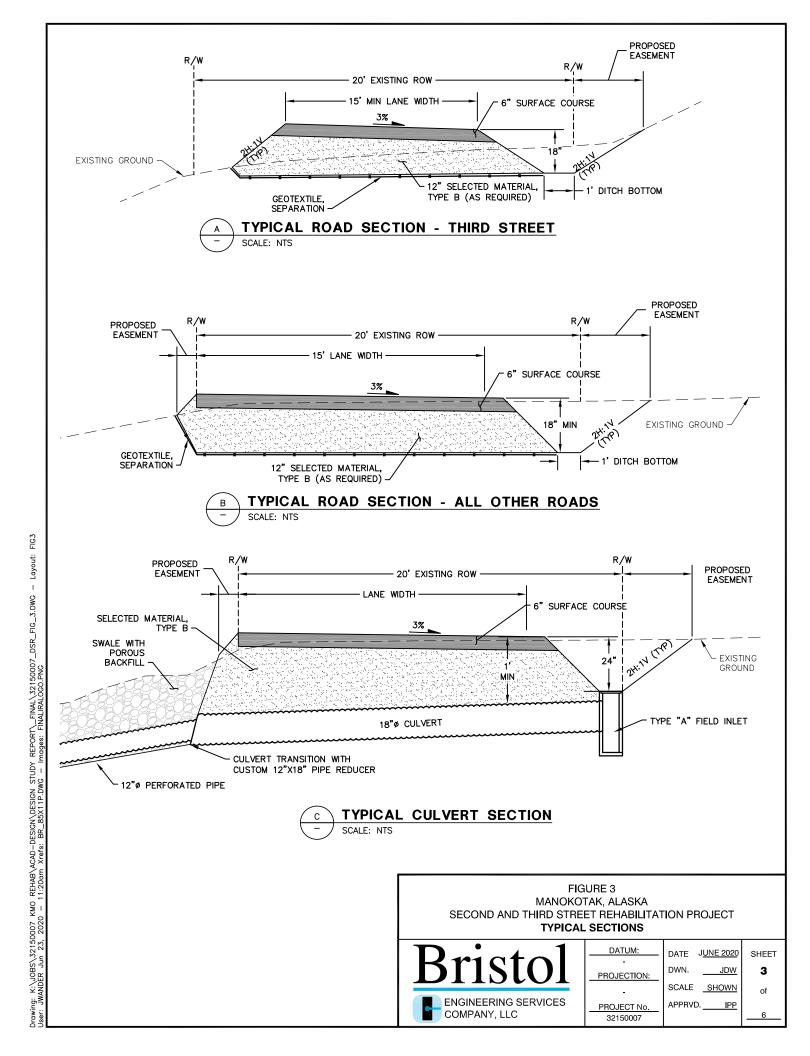
- <u>Second Street (Route 1007-10)</u> Second Street, from Salmon Street to C Street, will have a 15-foot wide traveling surface. An 18-inch deep ditch will be constructed on the east side of the road.
 - o <u>Length</u> Approximately 1,390-ft.
- <u>Third Street (Route 1008-10)</u> Third Street, from Salmon Street to C Street, will have a 12-foot wide traveling surface. An 18-inch deep ditch will be constructed on the east side of the road, and four on-street parking areas will be constructed along the west side. The on-street parking areas will also include ramps to access residential properties (See Figure 5).
 - o <u>Length</u> Approximately 1,410-ft.
- Salmon Street (Route 1014-10) Salmon Street, from First Street to Third Street, will have a 15-foot wide traveling surface. A 6-inch deep ditch will be constructed on the north side of the road.
 - o <u>Length</u> Approximately 470-ft.
- Alder Street (Route 1010-10) Alder Street, from First Street to Third Street, will have a 15-foot wide traveling surface. An 18-inch deep ditch will be constructed on the south side of the road.
 - o Length Approximately 470-ft.
- <u>C Street (Route 1012-10)</u> C Street, from Second Street to Third Street, will have a 15-foot wide traveling surface. An 18-inch deep ditch will be constructed on the south side of the road.
 - o <u>Length</u> Approximately 230-ft.

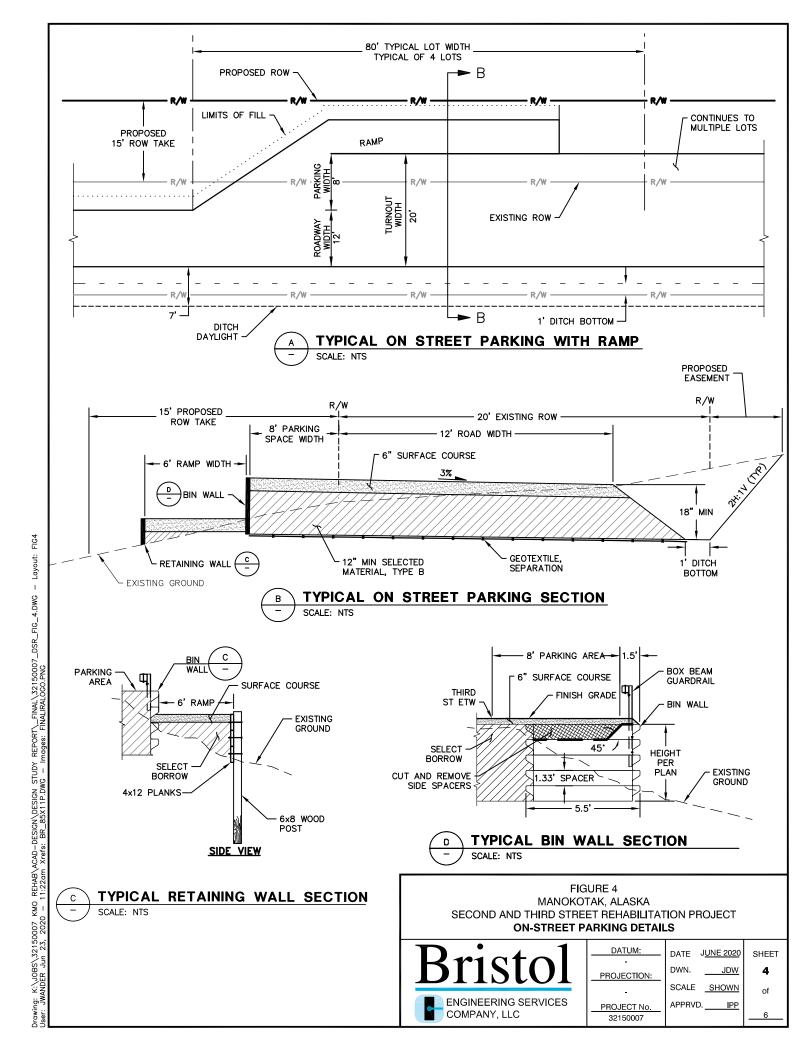
Alaska Department of Natural Resources Division of Mining, Land and Water – Water Resources Section

Attachment B – Figures



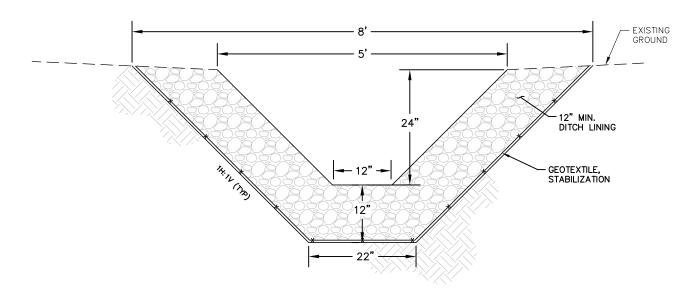






A TYPICAL SWALE TRENCH SECTION WITH PIPE

- SCALE: NTS



B TYPICAL OPEN CHANNEL SWALE SECTION

SCALE: NTS

FIGURE 5 MANOKOTAK, ALASKA SECOND AND THIRD STREET REHABILITATION PROJECT TYPICAL SWALE SECTIONS



| DATUM: | |
|----------------------|---|
| - | _ |
| PROJECTION: | ٩ |
| - | , |
| PROJECT No. 32150007 | |

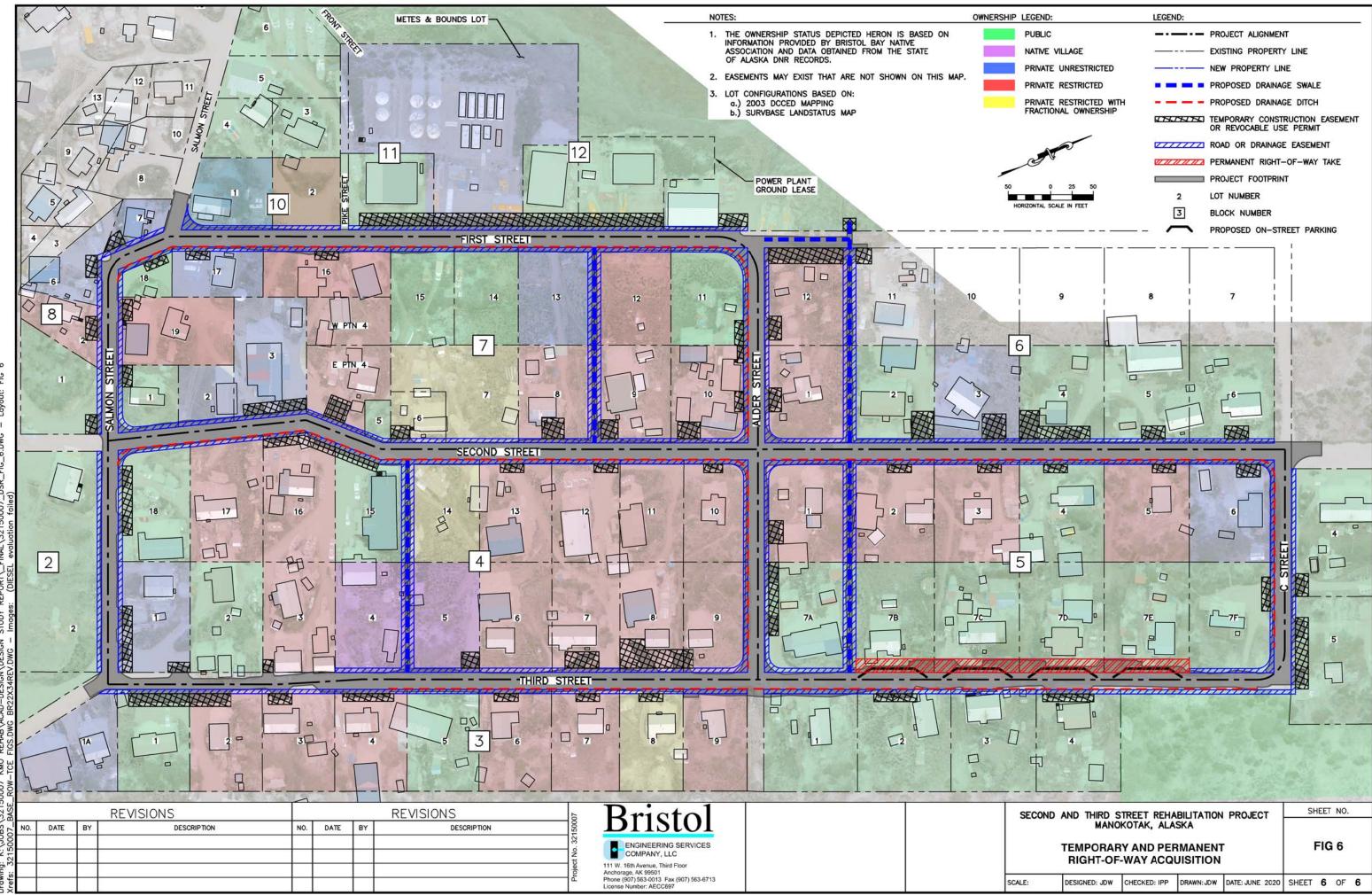
DATE J<u>UNE 2020</u> SHEET

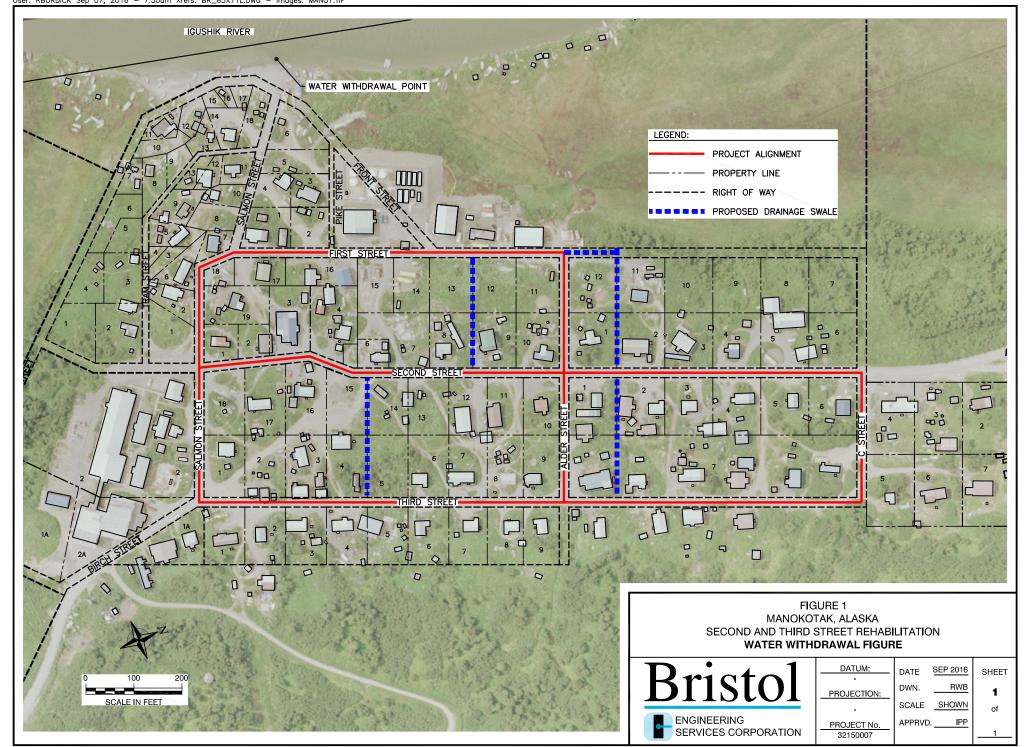
DWN. <u>JDW</u>

SCALE <u>SHOWN</u> of

APPRVD. <u>IPP</u>

6





Alaska Department of Natural Resources Division of Mining, Land and Water – Water Resources Section

Attachment C – Fish Habitat Permit



(Office Use Only)



ALASKA DEPARTMENT OF FISH AND GAME FISH HABITAT PERMIT APPLICATION SPECIFIC INSTRUCTIONS

- **NOTE:** Provide as much information as possible. If you need assistance, please contact the nearest ADF&G Division of Habitat office. The ADF&G reserves the right to require additional information for the proper protection of fish and game.
- **Step A:** Provide your name, address, and telephone number and the name, address, and telephone number of the contractor who will be doing the work, if known.
- **Step B:** Describe the type of project (e.g., bridge, culvert, utility line placement, impoundment structure, bank stabilization, channelization, low water crossing, log removal, etc.) and the purpose of the project. A brief description of alternatives considered would be useful but is not required. Attach additional sheets as necessary. Back to Form
- **Step C: 1.** Name of the waterbody in or adjacent to which the project will occur.
 - **2.** For Anadromous Stream numbers, refer to the <u>Atlas to the Catalog of Waters</u> Important for Spawning, Rearing or Migration of Anadromous Fishes.
 - **3. a.** Provide plans (or field sketch) showing the following as a minimum: access to the site, plan view showing all project features and dimensions, or crossing/fording sites; material removal plans should also include, at a minimum, the following: 50' contour lines; nearby watercourses and lakes; location of facilities (i.e., screening, washing, and crushing plants, and commercial and private buildings); aliquot parts identified in order they are to be mined; site where fuel will be stored; a cross section view of the material site showing current land and water elevations and bank slopes and final excavation grades and slopes; and project expansion sites (scale no greater than 1 in. = 400 ft.)
 - **b.** Provide specifications, if available; and
 - **c.** Provide a current aerial photograph, if available. <u>Back to Form</u>
- **Step D:** Indicate the time of year when project construction will occur. Is the project temporary or permanent?
- **Step E:** 1. Provide information if applicable on how you will divert the stream.
 - 2. Indicate if channelization will occur.
 - 3. Provide information, if applicable, on how you will alter or modify the banks of the stream.
 - 4. List all vehicles or equipment by type and size that will be used in the stream.
 - 5. Provide information, if applicable, on what type and amount of material will be removed from the floodplain, bed, stream, or lake.
 - 6. Provide information, if applicable, on any material you will deposit in the floodplain, stream, or lake.

- 7. Provide information, if applicable, on any blasting you intend to do in the floodplain, stream, or lake.
- 8. Indicate if temporary fills will be required.
- 9. Indicate if ice bridges will be required.
- **Step F:** What precautions will be taken to insure that fish and other aquatic organisms are protected from adverse impacts? Outline plan for restoring, rehabilitating, or revegetating the site if channel or bank alterations occur. What precautions will be taken to maintain State Water Quality Standards? <u>Back to Form</u>
- **Step G:** Provide the waterbody characteristics at the site of the project.
- **Step H:** Provide available hydraulic information for the types of projects indicated. For information on selecting a culvert size that will ensure fish passage, consult ADF&G permitters or references available at Division of Habitat offices.



C.

| FH#_ | |
|------|-------------------|
| _ | (Office Use Only) |

GENERAL WATERWAY/WATERBODY APPLICATION ALASKA DEPARTMENT OF FISH AND GAME

Division of Habitat
Office Locations

| | <u> </u> |
|---------------|--|
| 1. | Name: Manokotak Village Council - Attn. Mr. Andrewski Toyukak |
| 2. | Address (Mailing): P.O. Box 169 Manokotak, AK 99628 |
| | Email Address: kmo_trnsptsnplnr@hotmail.com |
| | Telephone: 907-289-1249 Fax: |
| 3. | Project Coordinator/Contractor: |
| | Name: Isaac Pearson - Bristol Engineering Services Company, LLC |
| | Address: 111 W. 16th Avenue, Third Floor Anchorage, AK 99501 |
| | Email Address: ipearson@bristol-companies.com |
| | Telephone: 907-743-9313 Fax: 907-563-6713 |
| B. TYP | PE AND PURPOSE OF PROJECT: Please see the attached Project |
| B. <u>IYP</u> | Eption for more detailed information regarding the proposed |
| Descri | -peron for more decarred information regarding the proposed |
| projec | t. |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| LOC | CATION OF PROJECT SITE |
| 1. | Name of River, Stream, or Lake: Igushik River |
| • • • | or Anadromous Stream No: 325-10-10010 |
| | |
| 2. | Legal Description: Township $\frac{014S}{}$ Range $\frac{059W}{}$ |
| | Meridian $\frac{S}{}$ Section $\frac{12}{}$ USGS Quad Map $\frac{\text{Nushagak Bay D-4}}{}$ |
| 3. | Plans, Specifications, and Aerial Photograph. See specific instructions |

| D. | TIME | FRAME FOR PROJECT: May 2021 TO October 2026 (mm/dd/yy) | | |
|----|---|--|--|--|
| E. | E. <u>CONSTRUCTION METHODS</u> : | | | |
| | 1. | Will the stream be diverted? ☐ Yes ☒ No | | |
| | | How will the stream be diverted? N/A | | |
| | | How long? N/A | | |
| | 2. | Will stream channelization occur? ☐ Yes X No | | |
| | Will the banks of the stream be altered or modified? ☐ Yes ☒ No | | | |
| | | Describe: | | |
| | 4. List all tracked or wheeled equipment (type and size) that will be used in the size (in the water, on ice, or in the floodplain): $\frac{N/A}{}$ | | | |
| | | How long will equipment be in the stream? N/A | | |
| | 5. | a. Will material be removed from the floodplain, bed, stream, or lake? \square Yes $\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \$ | | |
| | | Type: N/A | | |
| | | Amount: N/A | | |
| | | b. Will material be removed from below the water table? \square Yes \square No | | |
| | | If so, to what depth? N/A | | |
| | | Is a pumping operation planned? $\overline{\mathbb{X}}$ Yes \square No | | |
| | 6. | Will material (including spoils, debris, or overburden) be deposited in the floodplain, stream, or lake? \square Yes $\stackrel{\boxtimes}{}$ No | | |
| | | If so, what type? N/A | | |
| | | Amount: N/A | | |
| | | Disposal site location(s): | | |
| | 7. | Will blasting be performed? ☐ Yes ☒ No | | |
| | | Weight of charges: N/A | | |
| | | Type of substrate: N/A | | |
| | 8. | Will temporary fills in the stream or lake be required during construction (e.g., for construction traffic around construction site)? \square Yes \square No | | |
| | 9. | Will ice bridges be required? ☐ Yes X No | | |

| F. | | | TATION/RESTORA toration plan. See sp | ATION PLAN: On a separate sheet present a site oecific instructions |
|----|-----------------|-----------------------|--|---|
| G. | WA ⁻ | TERBODY CH | HARACTERISTICS: | |
| | Widt | th of stream: | ~225-ft. | Depth of stream or lake: |
| | | | | sand, gravel, mud): |
| | Stre | am gradient: | ~1-2% | |
| | | | | |
| Н. | HYC | DRAULIC EV | ALUATION: | |
| | 1. | | ucture (e.g., culvert, ne stream? Yes | bridge support, dike) be placed below ordinary high $\overline{\mathbb{X}}$ No |
| | | If yes, atta | ıch engineering draw | rings or a field sketch, as described in <u>Step B</u> . |
| | | For culver available. | ts, attach stream o | discharge data for a mean annual flood (Q=2.3), if |
| | | If applicab | le, describe potential | for channel changes and/or increased bank erosion: |
| | 2. | Will more t | than 25,000 cubic ya | rds of material be removed? Yes No |
| | | potential f | | ulic evaluation including, at a minimum, the following: assessment of increased aufeis (glaciering) potential, reased bank erosion. |
| | S APP | | | ATION PROVIDED ON OR IN CONNECTION WITH MPLETE TO THE BEST OF MY KNOWLEDGE AND |
| | | | | |
| | S | Signature of A | applicant | Date |

Alaska Department of Fish and Game Fish Habitat Permit Application – General Waterway/Waterbody

Attachment A – Additional Information

Step B: Type and Purpose of Project

PROPOSED PROJECT

The Manokotak Road Rehabilitation Project will involve the rehabilitation of six (6) roads (0.9 total miles), the installation of new drainage features, and the construction of four on-street parking stalls and ramps along Third Street constructed with retaining walls and guardrails. Road improvements will include the placement of a woven geotextile material to stabilize all subgrades, placement of new fill material to establish proper road embankments, followed by the placement of a crushed aggregate surface course to widen and enhance the traveling surface.

The proposed drainage features include the placement of new appropriately sized culverts along existing roadways, replacement of existing failed culverts, the construction of roadside ditches along all streets, and the installation of rock-filled drainage channels with perforated pipe. The drainage channels will run between lots, perpendicular to First, Second, and Third Street. The new storm drainage features will improve drainage patterns and ensure water conveyance away from residential housing. Additionally, the proposed improvements will prevent ponding in existing roadways, which leads to erosion/rutting, washouts, and health concerns.

The roadway alignments, typical sections, and locations of drainage channels, culverts, and parking stalls are shown on the attached figures.

The proposed project will include the following route-specific improvements (See Figures):

- <u>First Street (Route 1006-10)</u> First Street, from Salmon Street to Alder Street, will have a 15-foot wide traveling surface. An approximately 18-inch deep ditch will be constructed on the east side of the road.
 - o <u>Length</u> Approximately 820-ft.
- <u>Second Street (Route 1007-10)</u> Second Street, from Salmon Street to C Street, will have a 15-foot wide traveling surface. An 18-inch deep ditch will be constructed on the east side of the road.
 - o Length Approximately 1,390-ft.
- Third Street (Route 1008-10) Third Street, from Salmon Street to C Street, will have a 12-foot wide traveling surface. An 18-inch deep ditch will be constructed on the east side of the road, and four on-street parking areas will be constructed along the west side. The on-street parking areas will also include ramps to access residential properties (See Figure 5).
 - o <u>Length</u> Approximately 1,410-ft.

- <u>Salmon Street (Route 1014-10)</u> Salmon Street, from First Street to Third Street, will have a 15-foot wide traveling surface. A 6-inch deep ditch will be constructed on the north side of the road.
 - o <u>Length</u> Approximately 470-ft.
- Alder Street (Route 1010-10) Alder Street, from First Street to Third Street, will have a 15-foot wide traveling surface. An 18-inch deep ditch will be constructed on the south side of the road.
 - o <u>Length</u> Approximately 470-ft.
- <u>C Street (Route 1012-10)</u> C Street, from Second Street to Third Street, will have a 15-foot wide traveling surface. An 18-inch deep ditch will be constructed on the south side of the road.
 - o <u>Length</u> Approximately 230-ft.

PURPOSE AND NEED

The existing Manokotak road infrastructure is deteriorating due to a lack of proper storm drainage and inferior roadside ditching unable to convey surface water to existing culverts. The proposed rehabilitation project will establish proper road embankments, create roadside ditching improve the storm drainage system, install new culverts at engineered locations, and install new drainage channels interconnecting First, Second, and Third Streets (See Figure 2). Additionally, the streets are very narrow, constricted by the existing 20-foot right-of-way, and parked cars along the shoulders create heavy congestion, especially along Third Street. The establishment of parking areas, proper road embankments, improved storm drainage systems, and appropriate street/stop signage will create safer traveling conditions for residents and enhance the overall road infrastructure in Manokotak.

Step F: Site Rehabilitation / Restoration Plan

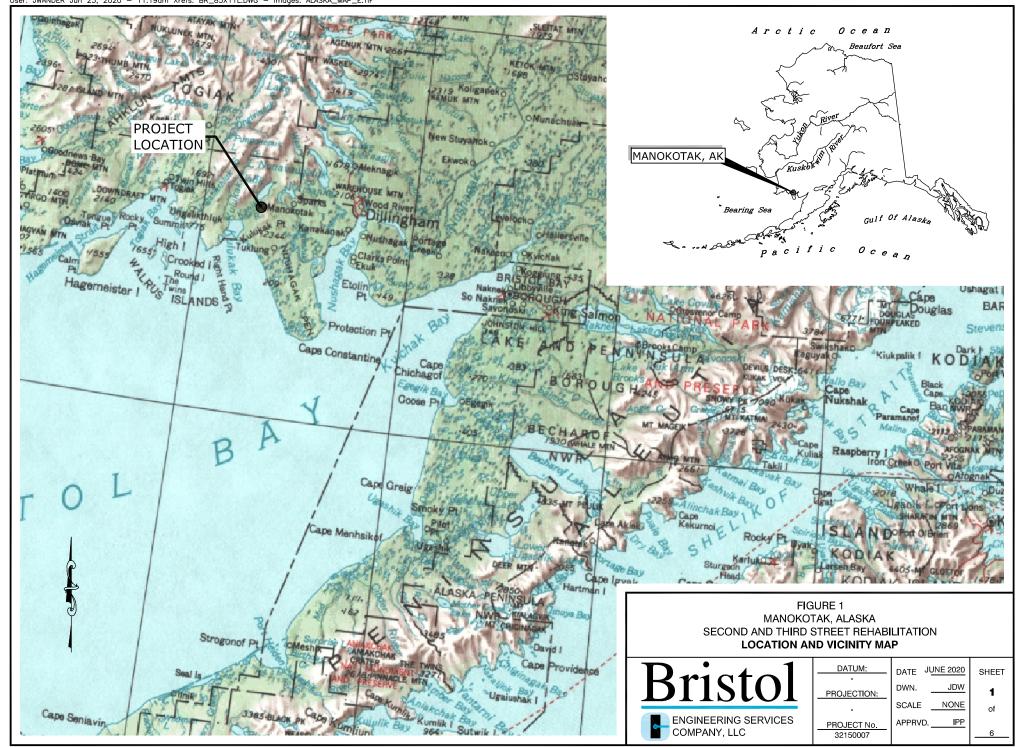
The following precautions and construction activities will be taken to ensure that fish and other aquatic organisms are protected from adverse impacts:

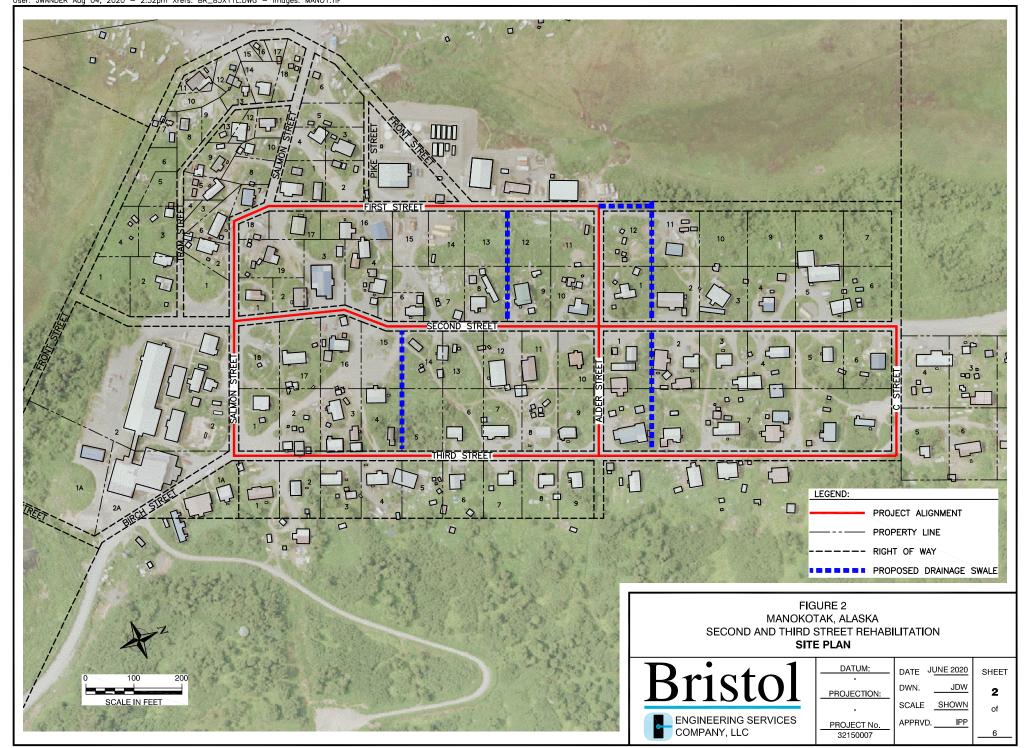
- A Temporary Water Use Permit will be acquired from the Alaska Department of Natural Resources (ADNR)-Division of Mining, Land and Water (MLW) for fresh water withdrawal from the Igushik River for compaction and dust suppression.
- The pump hose used to withdraw water from the Igushik River will be fitted with an appropriately sized fish screen.
- The installation of culverts, road-side ditches, and drainage channels will help mitigate flooding, erosion, and other storm water issues along the project corridor.
- Best Management Practices (BMPs) from the yet-to-be-determined project contractor will be used to maintain State Water Quality Standards in the event of a spill or other incident.

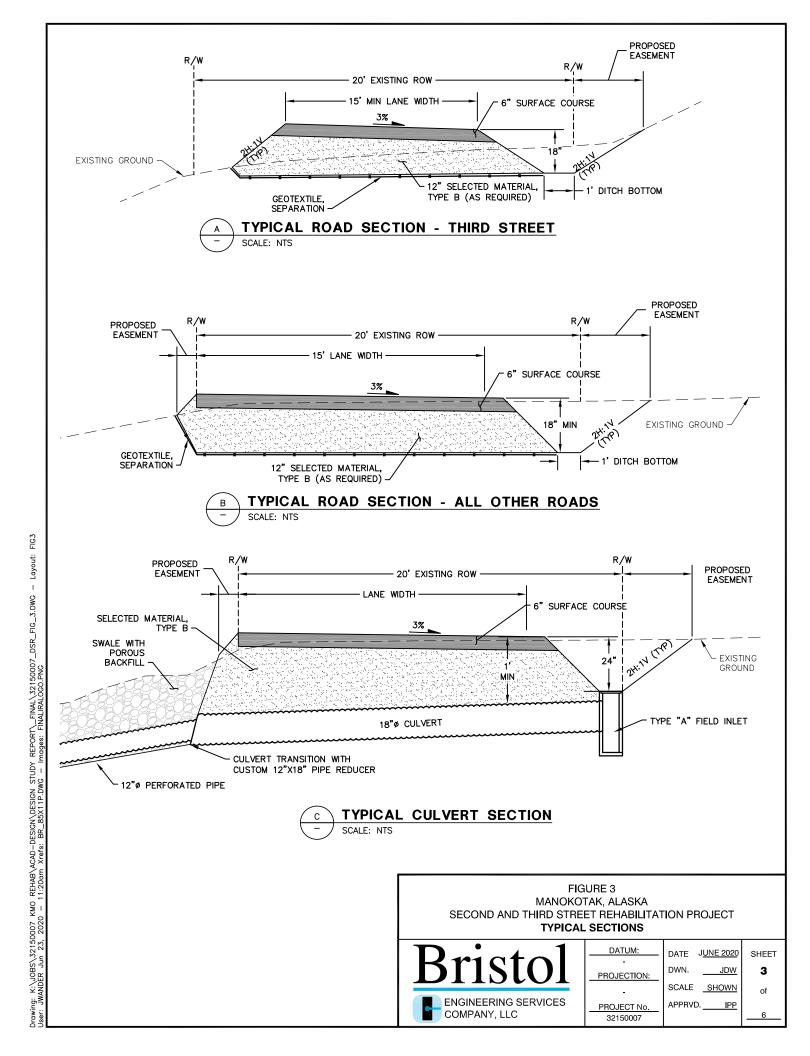
The project will not disturb more than one acre of undisturbed land. No channel or bank alterations of the Igushik River will occur as part of this project. There is no wastewater discharge associated with the proposed project. The project does not contain any waters of the US and will therefore not impact any wetlands habitat. The proposed action will not result in excessive levels of organic materials, inorganic nutrients, or heat, and is not anticipated to cause an adverse impact on essential fish habitat.

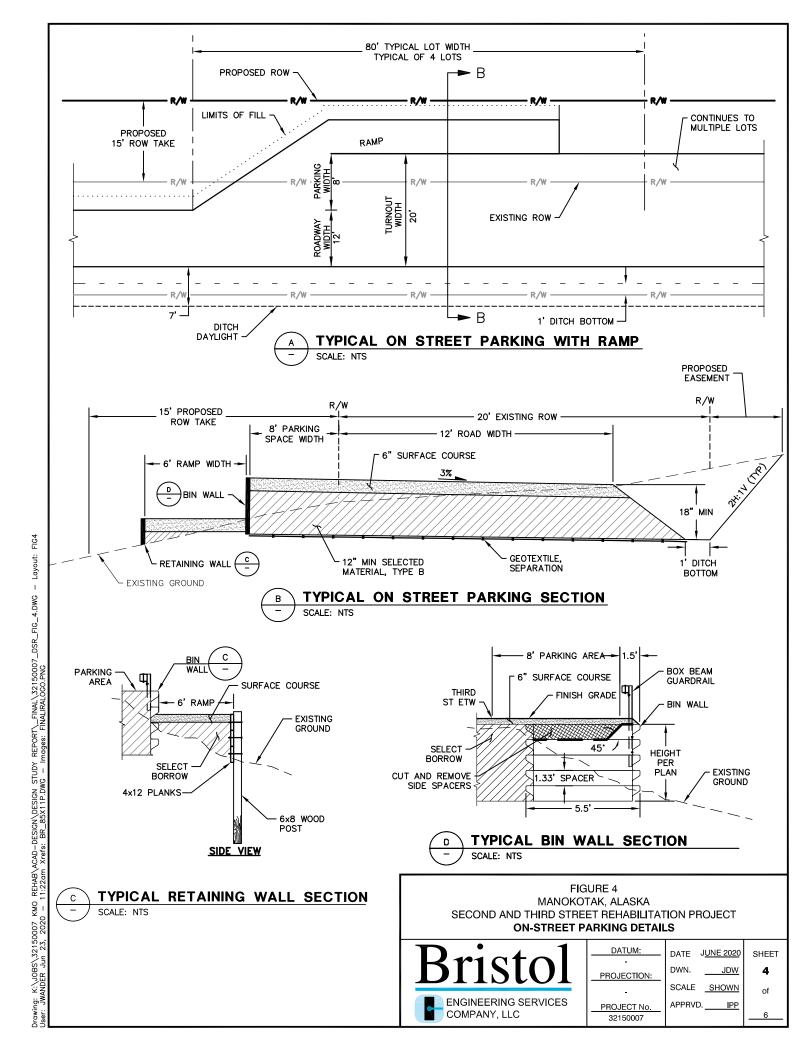
Alaska Department of Fish and Game Fish Habitat Permit Application – General Waterway/Waterbody

Attachment B – Figures



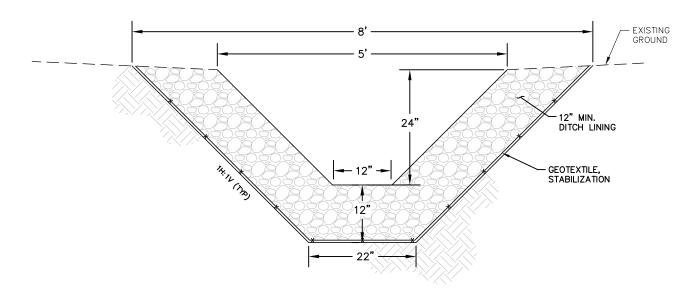






A TYPICAL SWALE TRENCH SECTION WITH PIPE

- SCALE: NTS



B TYPICAL OPEN CHANNEL SWALE SECTION
SCALE: NTS

FIGURE 5 MANOKOTAK, ALASKA SECOND AND THIRD STREET REHABILITATION PROJECT TYPICAL SWALE SECTIONS



| DATUM: | |
|----------------------|---|
| - | _ |
| PROJECTION: | ٩ |
| - | , |
| PROJECT No. 32150007 | |

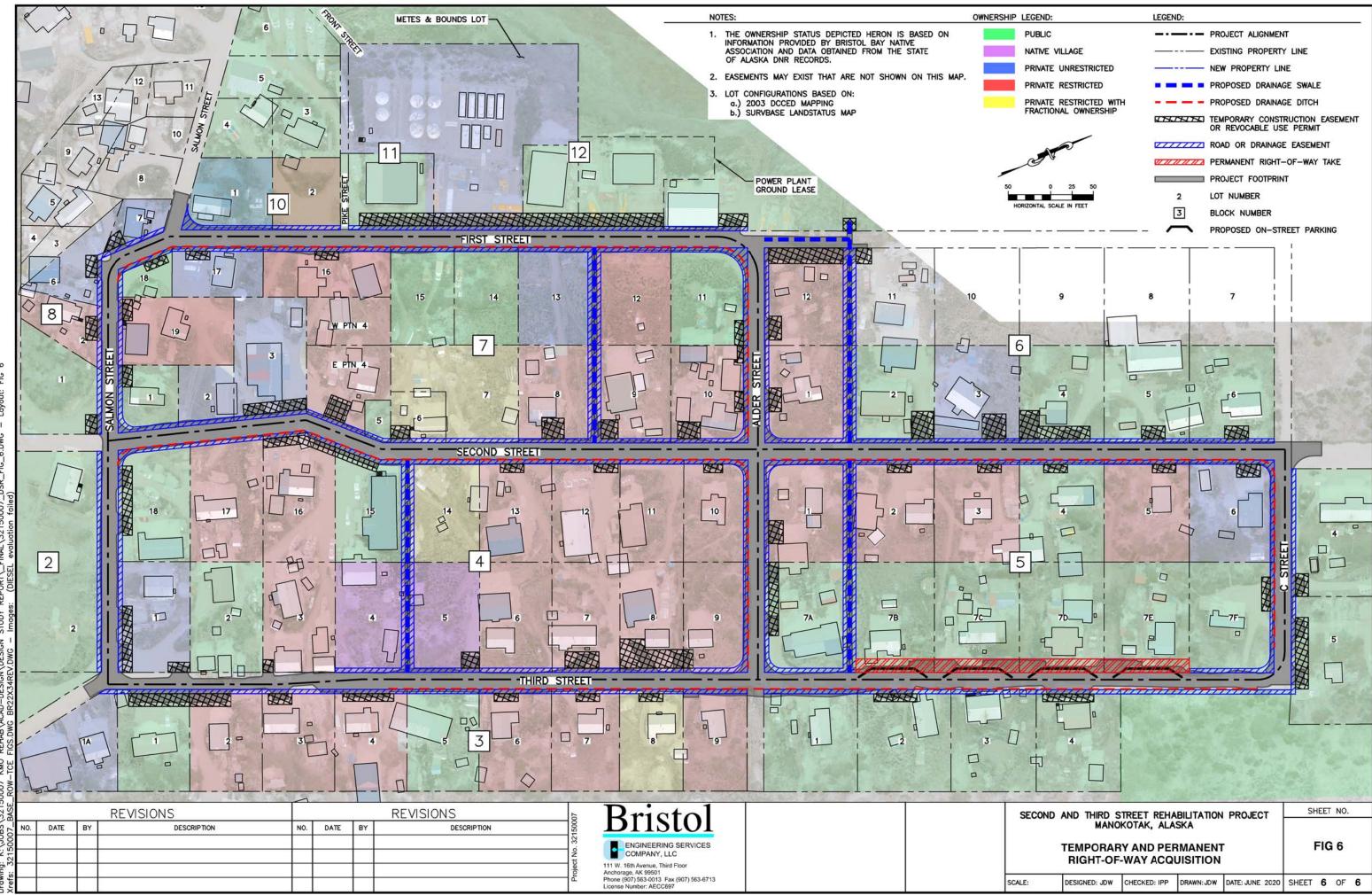
DATE J<u>UNE 2020</u> SHEET

DWN. <u>JDW</u>

SCALE <u>SHOWN</u> of

APPRVD. <u>IPP</u>

6



APPROVED JURISDICTIONAL DETERMINATION FORM U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): September 26, 2016

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Alaska District, POA-2016-471

| C. PROJECT LOCATION AND | BACKGRO | OUND INFORMATION: |
|---|-------------------------|---|
| | | am Census Area City: Manakotak |
| | n degree dec | imal format): Lat. 58.9809 ° N., Long. 159.05615 °W. |
| Universal Transverse Mercator: 4 | | |
| Name of nearest waterbody: Igushik | | |
| | | NW) into which the aquatic resource flows: Igushik River |
| Name of watershed or Hydrologic U | nit Code (H | UC): Nushagak Bay |
| ⊠Check if map/diagram of review a | area and/or p | otential jurisdictional areas is/are available upon request. |
| ☐ Check if other sites (e.g., offsite redifferent JD form | nitigation site | es, disposal sites, etc) are associated with this action and are recorded on a |
| D. REVIEW PERFORMED FOR | R SITE EVA | LUATION (CHECK ALL THAT APPLY): |
| ⊠Office (Desk) Determination. | Date: | September 26, 2016 |
| ⊠Field Determination. | Date(s): | July 23, 2016 |
| SECTION II: SUMMARY OF FI | INDINCS | |
| A. RHA SECTION 10 DETERM | | OF HURISDICTION |
| | | hin Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) |
| in the review area. [Required] | | |
| ☐ Waters subject to the e | bb and flow | of the tide. |
| ☐ Waters are presently u | sed, or have | been used in the past, or may be susceptible for use to transport interstate or |
| foreign commerce. Ex | xplain: N/A | |
| B. CWA SECTION 404 DETERM | MINATION | OF JURISDICTION. |
| | | Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review |
| area. [Required] | | |
| 1. Waters of the U.S. | | |
| a. Indicate presence of | waters of U | J.S. in review area (check all that apply): ¹ |
| ☐TNWs, including territo | orial seas | |
| ☐ Wetlands adjacent to T | NWs | |
| ☐ Relatively permanent w | aters ² (RPW | s) that flow directly or indirectly into TNWs |
| □Non-RPWs that flow di | rectly or indi | irectly into TNWs |
| ☐ Wetlands directly abutt | ing RPWs th | at flow directly or indirectly into TNWs |
| - | - | y abutting RPWs that flow directly or indirectly into TNWs |
| - | - | at flow directly or indirectly into TNWs |
| ☐Impoundments of juriso | | · · · · · · · · · · · · · · · · · · · |
| | | ers, including isolated wetlands |

 $^{^{1}}$ Boxes checked below shall be supported by completing the appropriate sections in Section III below.

² For purposes of this form an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months.

b. Identify (estimate) size of waters of the U.S. in the review area:

Non-wetland waters: 0 linear feet.

Wetlands: 0 acres.

c. Limits (boundaries) of jurisdiction based on: 1987 Delineation Manual

Elevation of established OHWM (if known): N/A

2. Non-regulated waters/wetlands (check if applicable):³

□Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional. Explain: There are three drainage ditches throughout the study area. However, these drainage ditches do not drain wetlands, are not relatively permanent, and do not have a defined bed and bank.

SECTION III: CWA ANALYSIS

Note: Section III has been omitted due to inapplicability.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):

⊠Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: Bristol Engineering Services Corporation conducted a wetland delineation report, "Wetland Delineation Report Second and Third Street Rehabilitation Project Manokotak, Alaska", on August 30, 2016

| | ☑ Data sheets | prepared/submitted by | v or on behalf of the | applicant/consultant. |
|--|---------------|-----------------------|-----------------------|-----------------------|
|--|---------------|-----------------------|-----------------------|-----------------------|

| = 2 and shoots properties swemmer of or on committee upprocess. |
|---|
| ☑Office concurs with data sheets/delineation report. |
| ☐ Office does not concur with data sheets/delineation report. |
| □ Data sheets prepared by the Corps: |
| □Corps navigable waters' study: |
| ⊠U.S. Geological Survey Hydrologic Atlas: Igushik River Watershed |
| ⊠USGS NHD data. |
| ⊠USGS 8 and 12 digit HUC maps. |
| ☐ Alaska District's Approved List of Navigable Waters |
| ⊠U.S. Geological Survey map(s). Cite scale & quad name: AK-NUSHAGAK BAY D-4 |
| ⊠USDA Natural Resources Conservation Service Soil Survey. Citation: s9273 and s9429 |
| ⊠National wetlands inventory map(s). Cite name: |

| ☐ State/Local wetland inventory map(s): | |
|---|--|
| FEMA/FIDM mone: | |

□FEMA/FIRM maps:

 \square 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)

⊠Photographs: ⊠Aerial (Name & Date): (Manokotak Community map, 2003)

or Solther (Name & Date): Site photos from wetland delineation provided from the contractor

⊠ Previous determination(s). File no. and date of response letter: POA-2000-857, POA-2003-366

☐ Applicable/supporting case law:

 \square Applicable/supporting scientific literature:

 \Box Other information (please specify):

B. ADDITIONAL COMMENTS TO SUPPORT JD: All three parameters have not been met. The Native Village of Manokotak is located at the toe-of-slope of the Acorn Mountain, and exhibits sheet flow. Within the Village, drainage ditches have formed where heavy foot and vehicular traffic has occurred and/or where culverts have been installed. However, these drainage ditches don't have a discernable bed and bank (OHWM), are not relatively permanent, don't drain any wetlands, and do not contain the soil, vegetation, and hydrology characteristics to be considered wetlands. Therefore, these drainage ditches have been determined to be upland drainage features.

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³ Supporting documentation is presented in Section III F.

J Dung

GRAUF.JEREMY.JOHN.126 4260716 2016.09.27 10:07:35 -08'00'

Jeremy Grauf Regulatory Specialist NORTH Section September 27, 2016

Date

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DEPARTMENT OF THE ARMY

ALASKA DISTRICT, U.S. ARMY CORPS OF ENGINEERS REGULATORY DIVISION
P.O. BOX 6898
JBER, AK 99506-0898
SEPTEMBER 27, 2016

Regulatory Division POA-2016-471

Lana Davis 111 West 16th Ave. Third Floor Anchorage, AK 99501

Dear Ms. Lana Davis:

This letter responds to your September 9, 2016, request for a Department of the Army (DA) jurisdictional determination for your proposed road rehabilitation and drainage project. It has been assigned number POA-2016-471, Igushik River, which should be referred to in all correspondence with us. The project site is located within Native Village of Manakotak, Alaska, at approximately 58.9809° N., 159.05615° W.

Based on our review of the information you provided, we have determined the subject property does not contain waters of the United States (U.S.) under Corps jurisdiction. Please see the attached Approved Jurisdictional Determination Form or a copy of the Approved Jurisdictional Determination form is available at: www.poa.usace.army.mil/Missions/Regulatory/JurisdictionalDeterminations.aspx under the above file number. Please contact us if you decide to alter the method, scope, or location of your proposed activity.

This approved jurisdictional determination is valid for a period of five (5) years from the date of this letter, unless new information supporting a revision is provided to us before the expiration date.

Enclosed is a Notification of Administrative Appeal Options and Process and Request for Appeal form regarding this approved jurisdictional determination (see section labeled "Approved Jurisdictional Determination").

Section 404 of the Clean Water Act requires that a DA permit be obtained for the placement or discharge of dredged and/or fill material into waters of the U.S., including jurisdictional wetlands (33 U.S.C. 1344). The Corps defines wetlands as those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

Section 10 of the Rivers and Harbors Act of 1899 requires that a DA permit be obtained for structures or work in or affecting navigable waters of the U.S. (33 U.S.C. 403). Section 10 waters are those waters subject to the ebb and flow of the tide shoreward to the mean high water mark, and/or other waters identified by the Alaska District.

Nothing in this letter excuses you from compliance with other Federal, State, or local statutes, ordinances, or regulations.

Please contact me via email at Jeremy.Grauf@usace.army.mil, by mail at the address above, by phone at (907) 753-2798, or toll free from within Alaska at (800) 478-2712, if you have questions. For more information about the Regulatory Program, please visit our website at http://www.poa.usace.army.mil/Missions/Regulatory.aspx.

Sincerely,

GRAUF.JEREMY.JOHN.

1264260716

2016.09.27 10:19:28

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Jeremy Grauf

Regulatory Specialist

Enclosures

CF/BCF:

NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

| Applicant | t: Ms. Lana Davis | File Number: POA-2016-471 | Date: 9-28-2016 |
|--------------|--|------------------------------|-------------------|
| Attached is: | | | See Section below |
| IN | IITIAL PROFFERED PERMIT (Standard Peri | mit or Letter of permission) | A |
| PR | PROFFERED PERMIT (Standard Permit or Letter of permission) | | В |
| PE | PERMIT DENIAL | | С |
| X AI | PPROVED JURISDICTIONAL DETERMINA | ATION | D |
| PR | RELIMINARY JURISDICTIONAL DETERM | INATION | Е |

SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at

http://www.usace.army.mil/CECW/Pages/reg_materials.aspx or Corps regulations at 33 CFR Part 331.

- A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.
- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final
 authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your
 signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights
 to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- OBJECT: If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- APPEAL: If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.
- C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.
- D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.
- ACCEPT: You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- APPEAL: If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.
- E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

| SECTION II - REQUEST FOR APPEAL or OBJECTION | ONS TO AN INITIAL PRO | FFERED PERMIT |
|---|--|---------------------------------|
| REASONS FOR APPEAL OR OBJECTIONS: (Describe initial proffered permit in clear concise statements. You may attact or objections are addressed in the administrative record.) | | |
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| ADDITIONAL INFORMATION: The appeal is limited to a review | w of the administrative record, the | Corps memorandum for the |
| record of the appeal conference or meeting, and any supplemental | information that the review office | r has determined is needed to |
| clarify the administrative record. Neither the appellant nor the Cor you may provide additional information to clarify the location of in | | |
| POINT OF CONTACT FOR QUESTIONS OR INFOR | · | inimistrative record. |
| If you have questions regarding this decision and/or the appeal | If you only have questions regard | ding the appeal process you may |
| process you may contact: | also contact: | |
| Jeremy Grauf, RS | Regulatory Program Manager | |
| Alaska District Corps of Engineers CEPOA-RD-N | U.S. Army Corps of Engineers, 1 | Pacific Ocean Division |
| P.O. Box 6898 | CEPOD-PDC, Bldg 525 Fort Shafter, HI 96858-5440 | |
| JBER, AK 99506-0898 | | |
| (907) 753-2798 | | |
| RIGHT OF ENTRY: Your signature below grants the right of entr | | |
| consultants, to conduct investigations of the project site during the notice of any site investigation, and will have the opportunity to pa | | ı will be provided a 15 day |
| nonce of any site investigation, and will have the opportunity to pa | Date: | Telephone number: |
| | | 1 STOPHISH HUMBON. |
| Signature of appellant or agent. | | |

APPENDIX D

PHASE 1 ENVIRONMENTAL SITE ASSESSMENT

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FINAL PHASE I ENVIRONMENTAL SITE ASSESSMENT REPORT

Manokotak Second & Third Street Rehabilitation Project Manokotak, Alaska

Bristol Project No. 32150007 August 2020

Prepared For:

The Manokotak Village Council P.O. Box 169 Manokotak, AK 99628

Prepared By:





111 W. 16th Avenue, Third Floor Anchorage, Alaska 99501-5109 Phone (907) 563-0013 Fax (907) 563-6713

FINAL PHASE I ENVIRONMENTAL SITE ASSESSMENT

MANOKOTAK SECOND & THIRD STREET REHABILITATION PROJECT MANOKOTAK, ALASKA

Prepared for:

Bureau of Indian Affairs Alaska Region Office 3601 C Street, Suite 1100 Anchorage, Alaska 99501



Prepared by:

BRISTOL ENGINEERING SERVICES COMPANY, LLC 111 W. 16th Avenue, Third Floor

11 W. 16th Avenue, Third Floor Anchorage, Alaska 99501 (907) 563-0013

August 2020

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1.0 SUMMARY

This report presents the results of a Phase I Environmental Site Assessment (ESA) for the proposed road rehabilitation of six (6) roads in Manokotak, Alaska. The ESA report was prepared in September 2017 by Bristol Engineering Services Company, LLC (Bristol) for the Manokotak Village Council and Bureau of Indian Affairs (BIA). The ESA services included the targeted research and data reviews specified herein and a site reconnaissance. The purpose of conducting the ESA was to estimate the potential, as of the date of the site visit and assessment, for hazardous substances to be present within or adjacent to the project corridor at levels likely to warrant mitigation under the current State of Alaska environmental laws and regulations.

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2.0 INTRODUCTION

The Manokotak Village Council has contracted Bristol Engineering Services Company, LLC (Bristol) to prepare design documents and complete the environmental permitting/NEPA process, for the rehabilitation of six (6) existing roads in Manokotak, Alaska. The proposed project will involve improving approximately 0.9 miles of existing community roads, installation/replacement of new/existing culverts, and the installation of drainage channels to improve surface drainage patterns that will prevent ponding, erosion, rutting, and washouts. The project corridor is located within the Village of Manokotak, Sections 11 and 12, Township 014 South, Range 059 West, Seward Meridian (See Figures).

2.1 PURPOSE

The purpose of conducting the Phase I ESA was to estimate the potential, as of the date of the assessment, for hazardous substances to be present within or adjacent to the project corridor at levels likely to warrant mitigation under the current State of Alaska environmental laws and regulations.

2.2 DETAILED SCOPE-OF-SERVICES

An ESA comprises a number of individual elements whose basic nature and extent are determined in accordance with the standard of care for ESAs. The standard of care is commonly defined as the care applied by the ordinary practitioner in the area where the ESA was performed, along with conformance with the American Society of Testing and Materials (ASTM) E1527-13. It is Bristol's belief that we have complied with the applicable standard of care in performing this ESA.

The basic scope of services included the limited research and data reviews specified herein and a site reconnaissance. The activities performed to obtain information about the project corridor included the following:

- A review of historical aerial photography from Quantum Spatial of the years 1952, 1955, 1962, 1973, 1980, and 1983.
- A Site Reconnaissance of the project corridor by Bristol personnel on October 2, 2014. Site reconnaissance notes and a photographic log are attached in Appendix A.

• A review of data obtained from a search of federal, state, and local databases performed by Environmental Data Resources Inc. (EDR). The resulting data was compiled into a report by EDR that is given in Appendix B. A discussion of the prominent databases consulted and subsequent search results is presented in Section 5.0, Records Review.

2.3 SIGNIFICANT ASSUMPTIONS

See Sections 2.2, Detailed Scope-of-Services and 2.4, Limitations and Expectations.

2.4 LIMITATIONS AND EXPECTATIONS

Generally, our services intentionally do not include specific surveys for asbestos containing materials (ACM), radon, methane gas, lead in paint, lead in domestic water supply, polychlorinated biphenyls (PCBs) in caulk, or the investigation or detection of any Biological Pollutants present in or around any structure. The term "biological pollutants" includes, but is not limited to; molds, fungi, spores, bacteria, and viruses, along with the byproducts of any such biological organism.

Although the scope of this work included searching the governmental databases listed in Section 4.4, Table 1, for indications of nearby properties documented under these systems, it did not include reviews of the individual files for these entries. No other environmental sampling or research work was included in the ESA activities unless specifically referenced in this report.

The findings presented in Section 8.0 of this report are based solely upon the information obtained during the completion of the ESA. Furthermore, the conclusions and recommendations include our assessment of the potential for the project corridor to have been environmentally impacted from past activities on or near the project corridor. Although the findings and considerations represent Bristol's best judgment, they do not represent a *certification* of the environmental status of the project corridor. ASTM E1527-13 states that, generally, an ESA has a shelf life of 180 days from the publication of the report.

Conditions and information observed by Bristol during these activities are subject to change. Indicators of the presence of hazardous materials that were latent at the time of this ESA may subsequently become observable. Information and representations obtained from individuals

interviewed for this report were relied on unless incidents of conflicting data were noted.

Bristol accepts no responsibility for inaccuracies or deficiencies in this report resulting from omissions or misrepresentations by the persons interviewed.

Additionally, records or other information sources that Bristol did not review, because the research effort commonly associated with an ESA did not indicate their existence, may contain important information that could not have been considered in the formulation of the conclusions found in this report.

2.5 SPECIAL TERMS AND CONDITIONS

This ESA report (Report), which includes all of the supporting information gathered for purposes of the ESA, was prepared for the benefit of the Client. The Client may also distribute the Report to third parties, who may then use it at their discretion. However, any reliance upon the Report by a party other than the Client shall be solely at the risk of such third party and without legal recourse against Bristol. The Report shall not be used by any third party that does not agree to the conditions in this paragraph.

2.6 USER RELIANCE

See Sections 2.4, Limitations and Expectations and 2.5, Special Terms and Conditions.

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3.0 SITE DESCRIPTION

The proposed project will occur along existing road corridors in Manokotak, Alaska (Figures 1 & 2). Manokotak is located 25 miles southwest of Dillingham, on the banks of the Igushik River. It lies at approximately 58.9828° North Latitude and -159.0531° West Longitude (Sections 11 and 12, T014S, R059W, Seward Meridian). Manokotak is located within the Bristol Bay Recording District, and encompasses 36.4 square miles of land and 0.9 square miles of water (DCCED, 2017).

Material for the proposed project will be imported from an outside source, which will be the responsibility of the yet to be determined project contractor.

3.1 RECORDED DOCUMENTS

No recorded documents were obtained for the Report.

3.2 SITE AND VICINITY GENERAL CHARACTERISTICS

The proposed project corridors/area consists of six (6) existing and proposed drainage channels within Manokotak, AK (See Figures). The proposed project area consists primarily of previously developed areas/parcels within the Manokotak Village limits, except for the proposed drainage channels that will extend between First Street and Third Street, and the widening of select roads (See photographic log in Appendix A).

Parcels along the corridors consist of residential, business, and school properties. The surface lands of these parcels are owned by various entities including the City of Manokotak, the Native Village of Manokotak, Manokotak Natives Limited, and several private owners. Most privately owned lots are restricted, but some are unrestricted, and some are restricted with fractional ownership. The City of Manokotak owns the right-of-way and subsurface rights of the project streets.

3.3 CURRENT USE OF THE PROJECT CORRIDOR

The project corridor consists of the existing roadways within Manokotak. The proposed project involves road rehabilitation of six (6) select roads: First Street, Second Street, Third Street, Salmon Street, Alder Street, and C Street. These roads provide access to resident lots,

businesses, churches, the power plant, and the school. These corridors are also used for utilities and drainage facilities.

3.4 DESCRIPTION OF STRUCTURES, ROADS, AND OTHER IMPROVEMENTS ON THE PROJECT CORRIDOR

No structures or other improvements are located within or associated with the existing corridor or proposed project. Four (4) rock-filled drainage swales with perforated pipe (See Figure 5) will be constructed to improve stormwater drainage throughout the project area and protect existing infrastructure from erosion and flooding. The swales range from 100 to 530 feet in length, and are located along lot lines, running perpendicular from First Street to Third Street. Additionally, new parking stalls and driveway access ramps will be constructed at four properties along Third Street using a system of bin walls, retaining walls, and guardrails (See Figure 4)

3.5 CURRENT USES OF THE ADJOINING PROPERTIES

The land directly adjoining the project corridors is primarily developed; consisting primarily of residential, municipal, and commercial parcels (See Figures and Photolog).

4.0 USER PROVIDED INFORMATION

Most of the information contained in the Report was gathered by Bristol and was not provided by the client.

4.1 TITLE RECORDS

No Title Records were obtained for the project corridor, at the time of this Report's generation. A review of historical aerial photographs dating back to 1952 indicates that the property adjacent to the project corridors has been subject to continued development and expansion in modern times.

4.2 Environmental Liens or Activity and Use Limitations

No environmental liens were found to apply to the proposed project corridor.

4.3 SPECIALIZED KNOWLEDGE

All knowledge used in the preparation of the Report is commonly known or reasonably ascertainable information.

4.4 COMMONLY KNOWN OR REASONABLY ASCERTAINABLE INFORMATION

See Sections 2.2, Detailed Scope of Services for the basic scope of services and the limited research and data reviews included, and 5.1, Standard Environmental Record Sources for a list of sources, including federal and state databases and lists, consulted for the preparation of the Report.

Bristol contracted EDR to assist with the search of federal, state, and local databases. A records search for the project corridor was conducted by both Bristol and EDR. The search radius was the industry standard one-mile radius and originated from the approximate center of the project corridor (Appendix B).

The EDR report includes a list of "orphan" records that have "poor or inadequate" location information. Because the location of these sites cannot be mapped/determined due to inadequate information, a discussion of orphan list records is not included in this Report. The orphan records are listed in the EDR Report (Appendix B).

The results of the EDR search were compiled into a report, which is located in Appendix B, and are listed in Tables 1-3 of this report.

The Bristol/EDR review of federal and state databases revealed the following:

<u>Table 1 – Federal Agency Findings Summary</u>

| List Name | Acronym | Status |
|--|---------------------------------------|------------|
| National Priority List | NPL | No Listing |
| Delisted NPL | Delisted NPL | No Listing |
| Comprehensive Environmental Response, Compensation, and Liability Information Systems | CERCLIS FEDERAL FACILITY | No Listing |
| CERCLIS No Further Remedial Action Planned | CERCLIS-NFRAP | No Listing |
| Resource Conservation and Recovery Act - Corrective Action Report | RCRA-CORRACTS | No Listing |
| RCRA Non-CORRACTS Treatment, Storage and Disposal | RCRA-CORRACTS TSD | No Listing |
| RCRA Generators | RCRA-LQG RCRA-SQG RCRA-CESQG | No Listing |
| Institutional Controls / engineering Controls registry | US ENG Controls US INST Control LUCIS | No Listing |
| Emergency Response Notification System | ERNS | No Listing |

Table 2 - State Agency Findings Summary

| List Name | Acronym | Status |
|---|-----------------------------------|------------|
| State- and Tribal – equivalent CERCLIS | SHWS | 2 |
| State and tribal landfill and/or solid waste disposal site lists | SWF/LF | 1 |
| State and tribal leaking storage tank lists | LUST INDIAN LUST | No Listing |
| State and tribal registered storage tank lists | UST, AST, INDIAN UST, FEMA UST | No Listing |
| State and tribal intuitional control/engineering control registries | ENG CONTROLS INST CONTROLS | No Listing |
| State and tribal Brownfield sites | BROWNFIELDS | No Listing |

Table 3 - Additional Environmental Findings Summary

| List Name | Acronym | Status |
|---|---|------------|
| Local Brownfields lists | US BROWNFIELDS | No Listing |
| Local lists of Landfill/ Solid waste Disposal Sites | ODI, DEBRIS REGION 9, SWRCY, INDIAN ODI | No Listing |
| Local Lists of Hazardous Waste / Contaminated Sites | US CDL, CDL,US HIST CDL | No Listing |
| Local Land Records | LEINS 2 | No Listing |
| Records of Emergency Release Reports | HMIRS | No Listing |
| | SPILLS | 2 |
| | US MINES | 1 |
| | RCRA-Non Gen | No Listing |
| Other Ascertainable Records | FINDS | No Listing |
| | NPDES | No Listing |
| | AIRS | No Listing |
| | INDIAN RESERV | No Listing |
| | EPA WATCH LIST | No Listing |

4.5 VALUATION REDUCTION FOR ENVIRONMENTAL ISSUES

No major environmental issues were encountered for the project corridor in local, state, or federal records reviews. During the October, 2014 site reconnaissance, visit no significant issues of environmental concern were encountered.

4.6 OWNER, PROPERTY MANAGER, AND OCCUPANT INFORMATION

The project corridor ROW, which is owned by the City of Manokotak, will require some additional ROW acquisition and perpetual road and drainage easements along the proposed project corridors and proposed drainage channels (See Figure 6).

4.7 REASON FOR PERFORMING PHASE I

The purpose of conducting the ESA was to estimate the potential, as of the date of the assessment, for hazardous substances to be present within and adjacent to the project corridor at levels likely to warrant mitigation under the current State of Alaska environmental laws and regulations.

4.8 OTHER

Not applicable.

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5.0 RECORDS REVIEW

Bristol contracted Environmental Data Resources Inc. (EDR) to search federal, state, and local databases and prepare a report detailing their findings (Appendix B). A list of federal, state, and local records/databases EDR consulted for the preparation of the Report is listed in Section 5.1, Standard Environmental Record Sources. Additionally, the online ADEC GIS based Contaminated Site database was accessed by Bristol to assist with determining and verifying the potential for contaminated sites within proximity to the project corridor.

5.1 STANDARD ENVIRONMENTAL RECORD SOURCES

The following are the standard environmental record sources that were consulted for the preparation of the Report.

5.1.1 Federal Records Review

<u>Federal National Priorities List (NPL) Site List</u>: This includes the NPL, the proposed NPL sites, and NPL liens (federal Superfund liens). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. There are no NPL sites, NPL proposed sites, or NPL liens located on the project corridor or within the search radius. The date the NPL site list was consulted for this report was March 29, 2017.

<u>Federal Delisted NPL Site List</u>: Sites may be deleted from the NPL when no further response is appropriate. The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. No federally delisted NPL sites are located on or adjacent to the project corridor or within the search radius. The date the delisted NPL sites list was consulted for this report was March 29, 2017.

<u>Federal Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) List</u>: The CERCLIS contains data on potential hazardous waste sites that have been reported to the EPA by states, municipalities, private companies, and private persons. The CERCLIS list contains sites, which are either proposed to, or on the NPL and sites which are in the screening and assessment phase for possible inclusion on the NPL. No CERCLIS listed sites are located on or adjacent to the project corridor. The date CERCLIS list was consulted for this report was March 29, 2017.

Federal CERCLIS No Further Remedial Action Planned (NFRAP) Site List: The CERCLIS NFRAP site list is comprised of archived sites, which are sites that have been removed and archived from the inventory of CERCLIS sites. The decision to archive a site does not necessarily mean that there is no hazard associated with the project corridor; it only means that, based upon available information, the location is not judged to be a potential NPL site. No CERCLIS NFRAP listed sites are located on or adjacent to the project corridor or within the search radius. The date the CERCLIS-NFRAP list was consulted for this report was March 29, 2017.

Federal Resource Conservation and Recovery Act (RCRA) Corrective Action Report (CORRACTS) Facilities List: The RCRA CORRACTS identifies hazardous waste handlers with RCRA corrective action activity. No RCRA CORRACTS listed facilities are located on or adjacent to the project corridor or within the search radius. The date the RCRA-CORRACTS list was consulted for this report was March 29, 2017.

Federal RCRA non-CORRACTS Treatment, Storage, and Disposal (TSD) Facilities List: The RCRA non-CORRACTS TSD facilities list includes non-CORRACTS TSD facilities that treat, store, or dispose of waste. No such facilities were listed to occur on or adjacent to the project corridor or within the search radius. The date the RCRA non-CORRACTS TSD facilities list was consulted for this report was March 29, 2017.

<u>Federal RCRA Generators List</u>: The RCRA generators list includes information about large quantity generators (LQGs), small quantity generators (SQGs), and conditionally exempt small quantity generators (CESQGs). No LQGs, SQGs, or CESQGs were listed to occur on or adjacent to the project corridor, or within the 1–mile search radius. The date the RCRA generators list was consulted for this report was March 29, 2017.

Federal Institutional Controls/Engineering Controls Registries: The Engineering Controls Sites List (US ENG CONTROLS) is a listing of sites with engineering controls in place, which may include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health. The Institutional Controls Sites List (US INST CONTROLS) is a listing of sites with institutional controls in place, which may include administrative measures (such as groundwater use restrictions), construction restrictions, property use restrictions, deed

restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining onsite. No US ENG CONTROLS or US INST CONTROLS listed sites are on or adjacent to the project corridor, or within the 1-mile search radius. The date the list for US ENG CONTROLS or US INST CONTROLS was consulted for this report was March 29, 2017.

<u>Federal Emergency Response Notification System (ERNS) List</u>: The ERNS records and stores information on reported releases of oil and hazardous substances. No ERNS listed sites were found to exist on or adjacent to the project corridor, or within the 1-mile search radius. The date the list for ERNS was consulted for this report was March 29, 2017.

<u>Federal Hazardous Materials Information Reporting System (HMIRS)</u>: The HMIRS contains information on hazardous material spill incidents reported to U.S. Department of Transportation (USDOT). No HMIRS records were found to be located on the project corridor or within the 1-mile search radius. The date the list for HMIRS was consulted for this report was March 29, 2017.

<u>Federal Facility Index System (FINDS)</u>: The FINDS provides an inventory of over one million facilities regulated by the EPA. FINDS acts as an index to the facility's name, address, EPA ID, and the programs which regulate or contain more detailed information about the facility. The index reported no sites currently listed in the FINDS database. The date the list for FINDS was consulted for this report was March 29, 2017.

<u>US Mines Master Index File (US MINES)</u>: The US MINES contains all mine identification numbers issued for mines active or open since 1971. The data also includes violation information. One record was listed under US MINES in the EDR Report. This site is located on the corner of First Street and C Street, slightly down gradient of the project corridor. The site was the location of a horizontal crusher for a now abandoned sand and gravel surface mine owned by Ridge Contracting Inc. This site was listed for an operator type violation, but the nature of the incident is unknown. However, available data suggests the incident was minor, affecting one person, labeled "unlikely" for the occurrence of an accident (measures the seriousness of the violation), and resulting in a citation and fine of \$100. Based on these conditions, the site is not anticipated to impact the proposed project. The date the US MINES list was consulted for this report was March 29, 2017.

5.1.2 State Records Review

Alaska Department of Conservation (ADEC) Contaminated Sites Database: The ADEC contaminated sites database is the state's equivalent to CERCLIS. These sites may or may not have been listed on the federal CERCLIS list. Bristol consulted the contaminated sites database online, which listed two sites within the 1-mile search radius. The first site is the Manokotak Natives Limited Bulk Fuel Farm, located on First Street, where a site visit yielded subsurface soil samples showing diesel range organics in September of 2016. This site is discussed in further detail under "State and Tribal Equivalent CERCLIS – State Hazardous Waste Sites (SHWS)" of this Section, since it was also listed in the SHWS database. The ADEC site report with action information is provided in Appendix C.

The second site is the Manokotak School, located on Salmon Street, where numerous historical spills have occurred. This site is discussed in further detail under "State and Tribal Equivalent CERCLIS – State Hazardous Waste Sites (SHWS)" of this Section, since it was also listed in the SHWS database. The ADEC site report with action information is provided in Appendix C. The date the ADEC Contaminated Sites Database was consulted for this report was May 16, 2017.

ADEC Solid Waste Facilities/Landfill (SWF/LF) Sites Records: The ADEC SWF/LF records contain an inventory of solid waste disposal facilities or landfills in the state. The old Manokotak Class III Landfill is located approximately 1,200 feet southeast of town along the road heading towards the airport, or approximately 0.3 miles southeast from the center of the proposed project. The landfill was in operation from 1970 to 2011 and has been closed and covered. The landfill can be seen in the 1973 aerial photograph and onward. The site is located down gradient from the project corridor and is not anticipated to negatively impact the proposed project. The date the SWF/LF list was consulted for this report was March 29, 2017.

State and Tribal Leaking Storage Tank Lists: The lists included the ADEC Leaking Underground Storage Tank (LUST) database and the EPA's Indian Land LUST lists. The LUST records contain an inventory of reported leaking underground storage tank incidents. No reported LUST incidents are located on or adjacent to the project corridor, or within the 1-mile search radius. The date the LUST list was consulted for this report was March 29, 2017.

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State and Tribal Registered Storage Tanks Lists: The lists included the ADEC Underground Storage Tank (UST) database, ADEC Aboveground Storage Tank (AST) records, and the EPA's Indian Land UST lists. The UST records contain an inventory of registered underground storage tanks. The AST records contain information regarding "regulated" facilities with storage capacities of above 10,000 barrels. No reported UST or AST records are located on or adjacent to the project corridor, or within the 1-mile search radius. The date the state and tribal registered tanks lists were consulted for this report was March 29, 2017.

State Institutional Control/Engineering Control Registries: The lists include contaminated sites with either engineering controls (ENG CONTROLS) or institutional controls (INST CONTROLS) in place. No contaminated sites with engineering controls or institutional controls in place were reported within or adjacent to the project corridor, or within the 1-mile search radius. The date the ENG CONTROLS/INST CONTROLS lists were consulted for this report was March 29, 2017.

State Voluntary Cleanup Program (VCP) Sites: Sites that are involved in the state's VCP. According to ADEC, no VCP sites are located on or adjacent to the project corridor or within the search radius. The VCP list consulted for this report was dated March 29, 2017.

Federal/State Brownfield Sites (BROWNFIELDS): This includes proposed or identified Brownfield sites, which are properties that may have difficulty being reused due to the presence or potential of a hazardous substance, pollutant, or contamination. No sites are listed as part of the ADEC Brownfield Inventory within or near the proposed project area. The date the BROWNFIELDS list was consulted for this report was March 29, 2017.

State ADEC Spills Database: The ADEC Spills database contains information about oil and hazardous substance releases reported to ADEC. Review of the database records indicated 9 reported spills within the City of Manokotak. All of the reported spills have been issued a status of "Case Closed, No Further Action" and are not anticipated to affect the proposed project. Two records were listed in the EDR Report for the Spills database within the 1-mile search radius of the project, as indicated in Table 3 of this report. The two spills are sites 2 and 3 of cluster A on the Overview Map of the EDR Report. These spills occurred at the Manokotak Power Plant, located on First Street within the proposed project area. These spills are included in the 9 spills reported on the ADEC Spills Database, which were issued a status

of "Case Closed, No Further Action." Substances spilled at this location were primarily diesel and glycol, and were disposed of via incineration or interim containment. Since these spills were cleaned up and no further action is required, the site is not anticipated to pose a threat to the proposed project. Additionally, the spills were not located directly within the project corridor. The date the SPILLS list was consulted for this report was March 29, 2017.

<u>State and Tribal Equivalent CERCLIS – State Hazardous Waste Sites (SHWS)</u>: State hazardous waste site records are the state's equivalent to CERCLIS. These sites may or may not already be listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties.

Two sites were listed as SHWS records in the EDR Report, the Manokotak Natives Limited Bulk Fuel Farm on First Street, and the Manokotak School on Salmon Street. The Bulk Fuel Farm is located on First Street and was entered into the database in 2009 for Diesel Range Organics found at the site, which consisted of eight above ground storage tanks totaling 80,000 gallons of diesel fuel. A new bulk fuel above ground storage tank farm was constructed in 2001 to replace the old farm. The last action listed for this site is dated 9/30/2016 and states "Sent Manokotak Natives Limited an information request letter. Response due 10/31/2016. ADEC warns that a Notice of Environmental Contamination will be filed if MNL does not take action." The quantity of contamination was not reported, and the status of this site is unknown. However, the site is located outside and down gradient of the project corridor, and since no excavation is associated with the proposed project, the site is not anticipated to pose any adverse impacts.

The second site is the old Manokotak School. According to the EDR report, the site is up gradient and approximately 0.7 miles away from the center point of the project; However, the site is actually located on the corner of First Street and Salmon Street within 100 feet of the project area, as shown on the ADEC Contaminated Sites figure in Appendix C. Numerous historic spills have occurred in the school area including approximately 125 gallons of diesel fuel in 1994 (110 gallons were recovered) and various fuel releases reported at the adjacent tank farm. ADEC conducted a site assessment in 1998, which did not yield results of soil concentrations above cleanup levels, but additional areas of contamination may exist at the

facility. Groundwater is the major concern for this site since the Village of Manokotak receives drinking water from a nearby groundwater well at 100-foot depth. Although this site is still active, it is located outside and slightly down gradient of the project corridor, and since no excavation is associated with the proposed project, the site is not anticipated to pose any adverse impacts. The school building has been demolished, and the new school is located near Manokotak Heights Subdivision. The date the SHWS list was consulted for this report was March 29, 2017.

5.2 ADDITIONAL ENVIRONMENTAL RECORD SOURCES

Additional environmental record sources were not used for the preparation of the Report.

5.3 Physical Setting Source(s)

The physical setting source was limited to the observations made by Bristol during the site reconnaissance visit on October 2, 2014.

5.4 HISTORICAL USE INFORMATION ON THE SUBJECT PROPERTY

An archaeological assessment of the project area was conducted by Mr. Robert Meinhardt with True North Sustainable Development Solutions, LLC in July 2016. The final report was sent to BIA for their review. BIA submitted the report to the State Historic Preservation Office (SHPO) for their concurrence with the report's findings. According to the report, no archaeological remains or historical buildings were observed in the project corridor.

5.5 HISTORICAL USE INFORMATION ON ADJOINING PROPERTIES

Manokotak is one of the newer villages in the Bristol Bay region. It became a permanent settlement in 1946-47 with the consolidation of the villages of Igushik and Tuklung. People also migrated from Kulukak, Togiak, and Aleknagik. Igushik is now used as a summer fish camp by many of the residents of Manokotak. School was conducted in a church constructed in 1949 until a school was built in 1958-59. A post office was established in 1960. Trapping has been an attractive lure to the area, although it has declined since the 1960s. The city was incorporated in 1970. Manokotak is the fourth most populated village in the Dillingham census area (DCCED, 2017).

5.6 HISTORICAL AERIAL PHOTOGRAPH REVIEW

No signs of environmental concerns were observed in a review of aerial photography from 1952, 1955, 1962, 1973, 1980, and 1983. Purchased photographs used in the aerial photograph review will be retained in Bristol's aerial photograph file and are not included in the Report. The following is a brief description of what was observed the aerial photograph:

- 1952: The 1952 aerial photograph shows no roads or trails in or around the project area. Only minimal disturbance has occurred where what appears to be a cluster of structures is visible along the shore of the Igushik River, localized at the location of Old Town Manokotak. The aerial photograph did not indicate any signs of fuel contamination or spills. Overall, no discernable environmental concerns in or adjacent to the future project corridor are visible in the 1952 aerial photograph.
- 1955: The 1955 aerial photograph is very similar to the 1952 photograph. No major changes in development are visible. No roads, trails, or additional clearing appears to have occurred. The aerial photograph did not indicate any signs of fuel contamination or spills. Overall, no discernable environmental concerns within or adjacent to the future project corridor are visible in the 1955 aerial photograph.
- 1962: The 1962 aerial photograph shows slightly more development within the project area. New scattered trails or roads are visible, but do not extend outside of the project area. Three large buildings are visible in the southeast corner of the project area. Additionally, several small boats or skiffs seem to be docked along the eastern shore of the Igushik River near the townsite. The aerial photograph did not indicate any signs of fuel contamination or spills. Overall, no discernable environmental concerns within or adjacent to the future project corridor are visible in the 1962 aerial photograph.
- 1973: The 1973 aerial photograph shows the development of new, straight roads in the location of First, Second, Third, Salmon and Alder Streets. Land clearing is visible in the location of C Street. New houses and buildings were constructed in a grid pattern around the roads. Heavy disturbance is visible where scattered trails lead down to the river. Land clearing is visible to the southeast, which appears to be the location of a gravel pit or landfill. Additionally, a new airport, road, and gravel runway was constructed north of the townsite. The aerial photograph did not indicate any signs of fuel contamination or spills. Overall, no discernable environmental concerns within or adjacent to the future project corridor are visible in the 1973 aerial photograph.
- 1980: The 1980 aerial photograph looks very similar to the 1973 photograph. Notable differences include the addition of more buildings within the townsite and a new road that extends to the southeast, which is known today as Manokotak Heights Road. The aerial photograph did not indicate any signs of fuel contamination or spills. Overall, no discernable environmental concerns within or adjacent to the future project corridor are visible in the 2013 aerial photograph.

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• 1983: The 1983 aerial photograph shows the project corridors/area as it exists today with the exception of C Street. More buildings were constructed, and Third Street was extended slightly past Alder Street. No additional development or changes are visible compared to the 1980 photograph. The aerial photograph did not indicate any signs of fuel contamination or spills. Overall, no discernable environmental concerns within or adjacent to the future project corridor are visible in the 1983 aerial photograph.

Since the most recent aerial photograph included in the EDR package was taken over 30 years ago, Bristol reviewed the historical imagery available in Google Earth for years 2006 and 2014. Since these images were not published, they are not included within this report, but a brief description of the imagery is described below.

- 2006: The 2006 Google Earth imagery shows the construction of C Street and the remainder of Third Street as they exist today. Several scattered subsistence trails are visible extending from the project area to the north, east, and south. The Bulk Fuel Farm along First Street is visible, including seven storage tanks. A road and water tower were installed in the southeast corner of the project area on the hillside. Farther to the southeast along Manokotak Heights Road, outside of the project limits, new development is visible including a gravel pit, the school building, the Manokotak Heights Subdivision, and Weary River Road. The aerial imagery did not indicate any signs of fuel contamination or spills. Some dark spots are visible on the soil around the homes, but appear to be natural stormwater runoff channels from the mountain to the east of the town. Overall, no discernable environmental concerns within or adjacent to the future project corridor are visible in the 2006 Google Earth aerial imagery.
- 2014: The 2014 Google Earth imagery shows Manokotak as it exists today. Compared to the 2006 imagery, minimal changes occurred within the Old Town site and project area. More buildings, connexes, and smaller structures are visible within the townsite, especially in the yards of the residential parcels. Farther down Manokotak Heights Road, new areas of land clearing are visible for what appears to be more gravel pits. Two man-made leach ponds are visible south of the Manokotak Heights Subdivision. Additionally, a new road called Airport Road extends southeast from the end of Manokotak Heights Road to the new airport and gravel runway. A gravel pit is visible halfway along this road, as well. The aerial imagery did not indicate any signs of fuel contamination or spills. Overall, no discernable environmental concerns within or adjacent to the future project corridor are visible in the 2014 Google Earth aerial imagery.

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6.0 SITE RECONNAISSANCE

The site reconnaissance visit was performed by a Bristol staff on October 2, 2014. See site reconnaissance notes and photolog in Appendices B and C, respectively.

6.1 METHODOLOGY AND LIMITING CONDITIONS

The site reconnaissance took place along the entire extent of the six (6) road project corridor (Figure 2). Bristol engineer, Isaac Pearson, P.E., surveyed the proposed project corridor taking notes and pictures as he proceeded throughout the corridor. There were no climatological or physical barriers that prevented assessment of the entire proposed project corridor.

6.2 GENERAL SITE SETTING

The site reconnaissance took place along the proposed project corridors located entirely within Manokotak, Alaska (See Figure 2).

6.3 EXTERIOR OBSERVATIONS

The overall appearance of the project corridor exterior surfaces during the reconnaissance was clean. No discolored vegetation was observed. No unusual odors or indications of pits, unnatural ponds or lagoons were observed. See the site reconnaissance notes and photo log in Appendices B and C, respectively.

6.4 Interior Observations

Not applicable. No structures are located within the project corridor.

7.0 INTERVIEWS

No interviews were conducted for the Report.

8.0 FINDINGS

A review of federal and state records indicates no signs of environmental concern within the project corridor or on the adjacent properties. The results of federal and state record searches revealed that no potential Superfund or hazardous waste sites are listed for the project corridor and adjacent areas; no EPA currently designated nonattainment areas for all criteria of pollutants are listed for the project corridor and adjacent areas; no leaking above- or

underground storage tank records were encountered for the project corridor or adjacent properties. No records of the project corridor and adjacent areas were encountered in the Federal CERCLIS database, but two records were listed for the State- and Tribal-Equivalent CERCLIS, State Hazardous Waste Sites (SHWS). The two sites are the Bulk Fuel Farm and the old Manokotak School, which are both located on First Street adjacent to the project corridor, but not on the project corridor. Since no excavation is involved in the project, the sites are not anticipated to impact the proposed project. The ADEC Spills database reported 9 total spills for the Manokotak area (two listed in the EDR Report). Several of these spills occurred at the Manokotak Power Plant located near Alder Street adjacent to the proposed project. All of the spills were issued "case closed, no further action," and will not impact the proposed project. The ADEC Solid Waste Facilities/Landfill Sites Records listed the old Manokotak Class III Landfill, located within the 1-mile search radius. The landfill was closed and covered in 2011, and will not impact the proposed project. Finally, one site was listed in the US MINES Database for a violation involving the horizontal crusher for a sand and gravel mine owned by Ridge Contracting Inc. The site is located on the corner of First and C Street adjacent to the project corridor, but is not anticipated to impact the proposed project.

8.1 SUMMARY OF FINDINGS

No environmental concerns were observed by Bristol during the site reconnaissance visit on October 2, 2014. Bristol found the project corridor to be concurrent to what was seen in aerial photographs. The following potential signs of environmental contamination were not observed on the project corridor: modified waterbodies, stained areas/discolored stream banks, oil slicks/unusual colors on water, or dump areas. No fuel odors were detected on the on or near the project corridor. Signs of environmental contamination were not observed on adjacent properties during the site visit. Photographs from the site reconnaissance are provided in Appendix A, Site Reconnaissance Photo Log.

8.2 DATA GAPS

No significant data gaps, concerning environmental conditions within the project corridor, were encountered by Bristol scientists during the compilation the Report.

9.0 OPINION

The environmental concerns and potential for contamination associated with the site appear to be low. A review of site history, regulatory records, aerial photographs, and a review of the site visit conditions and adjacent properties indicate a low probability for environmental contamination.

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10.0 CONCLUSIONS

No signs of environmental contamination, including discolored vegetation, were observed on the project corridor in aerial photographs. During the October 2, 2014 site reconnaissance visit, the overall appearance of the project corridor and adjacent properties was clean. No environmental concerns were encountered in a review of federal and state records for the project corridor and adjacent properties. The findings of the Report indicate that the project corridor and adjacent properties are likely free of environmental contamination.

We have performed a *Phase I Environmental Site Assessment* in conformance with the scope and limitations of ASTM Practice E 1527-13 of the project corridors located in Manokotak, Alaska. Any exceptions to, or deletions from this practice are described in Section 11 of this report. This assessment has revealed no evidence of recognized environmental conditions in connection with the project corridor.

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11.0 DEVIATIONS

There were no deviations from the ASTM 1527-13 template.

12.0 ADDITIONAL SERVICES

Not Applicable.

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13.0 REFERENCES

- Alaska Department of Commerce, Community, and Economic Development (DCCED). 2017. Alaska Community Database website, Community Profiles Online: Manokotak. Website: http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.cfm
- ADEC. 2017a. Contaminated Sites Program Database. Website: http://www.dec.state.ak.us/SPAR/CSP/db_search.htm
- ADEC. 2017b. Spills Database. Website: http://www.dec.state.ak.us/spar/perp/search/search.asp
- ADEC, 2017c. Underground Storage Tanks (UST) Database. Website: http://www.dec.state.ak.us/applications/spar/SpillsDBQuery/search.asp
- Environmental Data Resources, Inc. (EDR). 2017. 2nd and 3rd Street Project: The EDR Radius Map Report with GeoCheck.
- EPA. 2017a. CERCLIS Hazardous Waste Sites. Search. Website: http://www.epa.gov/superfund/sites/cursites/index.htm
- EPA, 2017b. Envirofacts. Website: http://www.epa.gov/enviro/
- EPA, 2017c. National Priorities List. Website: http://www.epa.gov/superfund/sites/npl/where.htm
- EPA, 2017d. Currently Designated Nonattainment Areas for All Criteria Pollutants List. Website: http://www.epa.gov/oar/oaqps/greenbk/ancl.html
- True North Sustainable Development Solutions, 2016. 2016 Report of Cultural Resources Investigation and Recommendations for Issuing a Finding Pursuant to Section 106 of the National Prehistoric Preservation Act of 1966 for the Manokotak Second and Third Street Rehabilitation Project, Located in Manokotak, Alaska.

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Title: Senior Civil Engineer

Signature: _ Isae Rea

14.0 SIGNATURE(S) OF ENVIRONMENTAL PROFESSIONAL(S)

We declare that, to the best of our professional knowledge and belief we meet the definition of Environmental professional as defined by §312.10 of 40 CFR 312.

We have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the property. We have developed and performed the all appropriate inquiries in conformance with the standards and practices set for the in 40 CFR Part 312.

| Prepared By: | | | | |
|---|--------------------------|--|--|--|
| Name: Jaclyn Wander, P.E. | Date: 8/4/2020 | | | |
| Signature: Digitally signed by Jaclyn Wander Date: 2020.08.04 14:24:54 -08'00' | Title: Civil Engineer II | | | |
| Reviewed/Approved By: | | | | |
| Name: Isaac Pearson, P.E. | Date: 8/4/2020 | | | |

2020.08.04 17:44:10 -08'00'

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15.0 QUALIFICATION(S) OF ENVIRONMENTAL PROFESSIONAL(S)

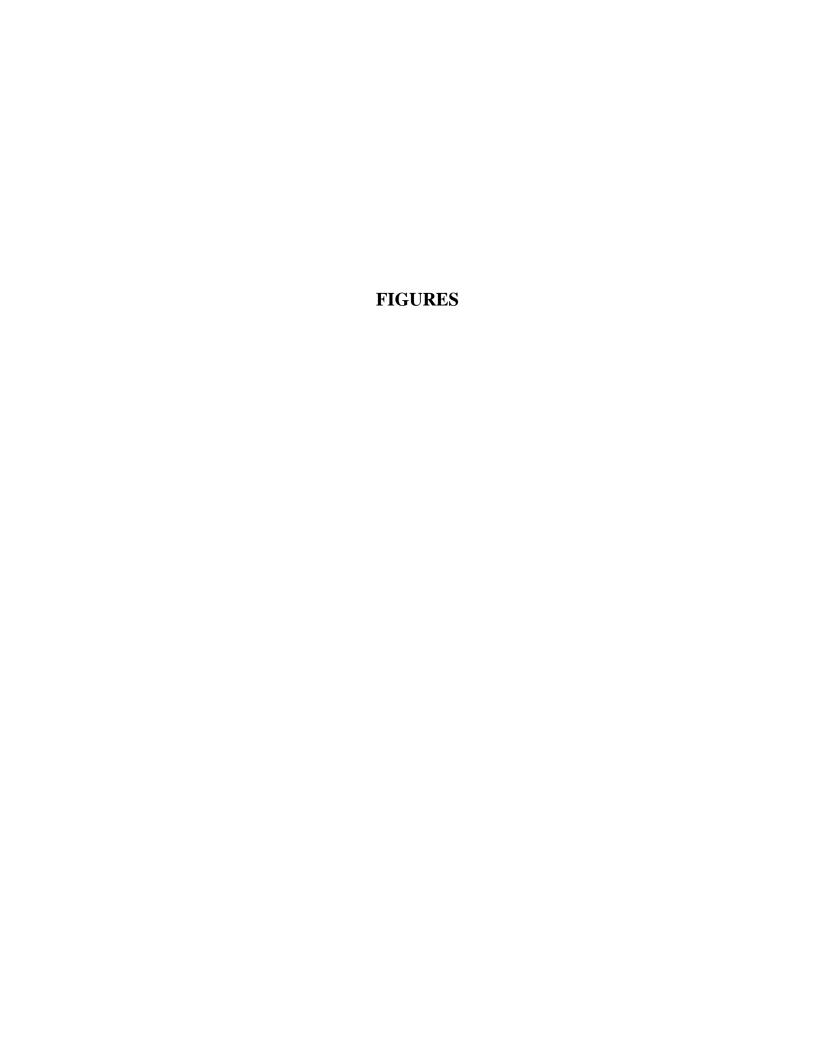
Ms. Jaclyn Wander, P.E., Civil Engineer II

Ms. Wander is an Alaskan resident and has been involved with Civil Engineering since 2013. Her design experience includes civil design, drafting, and as-built survey and plan sets for various infrastructure projects. Ms. Wander's design experience includes road projects, civil site design projects, water and sewer utility projects, water treatment plants, and surface drainage design. She has completed Phase I ESA's, Environmental Assessments, and environmental permit applications for several projects throughout rural Alaska. Jaclyn has a B.S. in Civil Engineering from the University of Nevada, Reno.

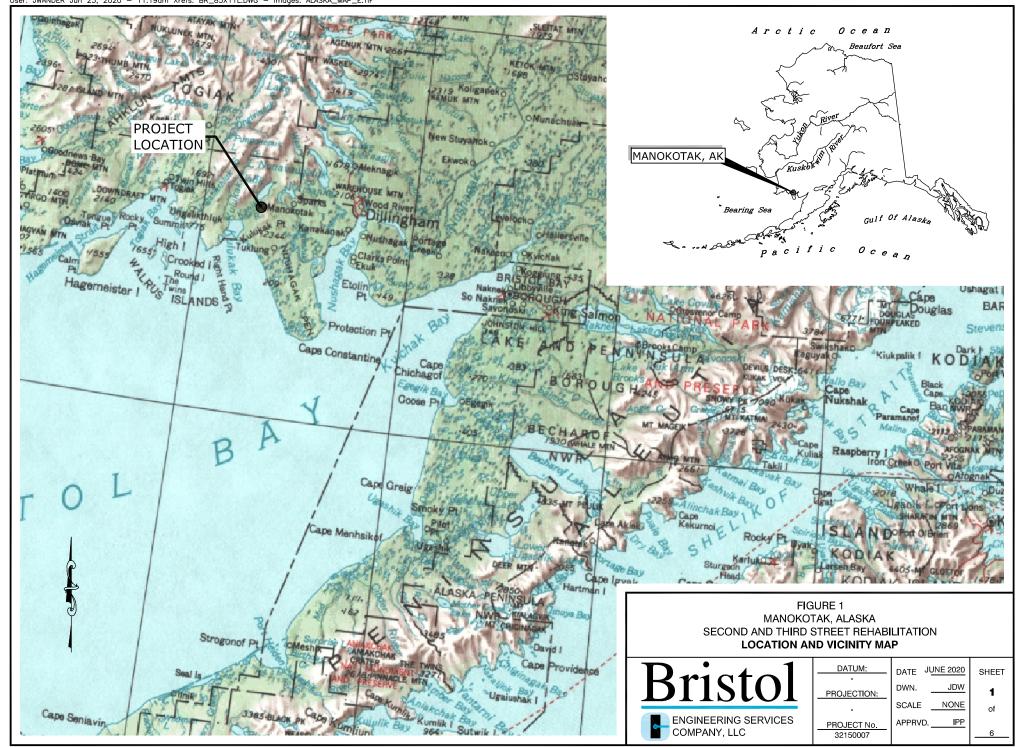
Mr. Isaac Pearson, P.E., Project Manager/Senior Civil Engineer

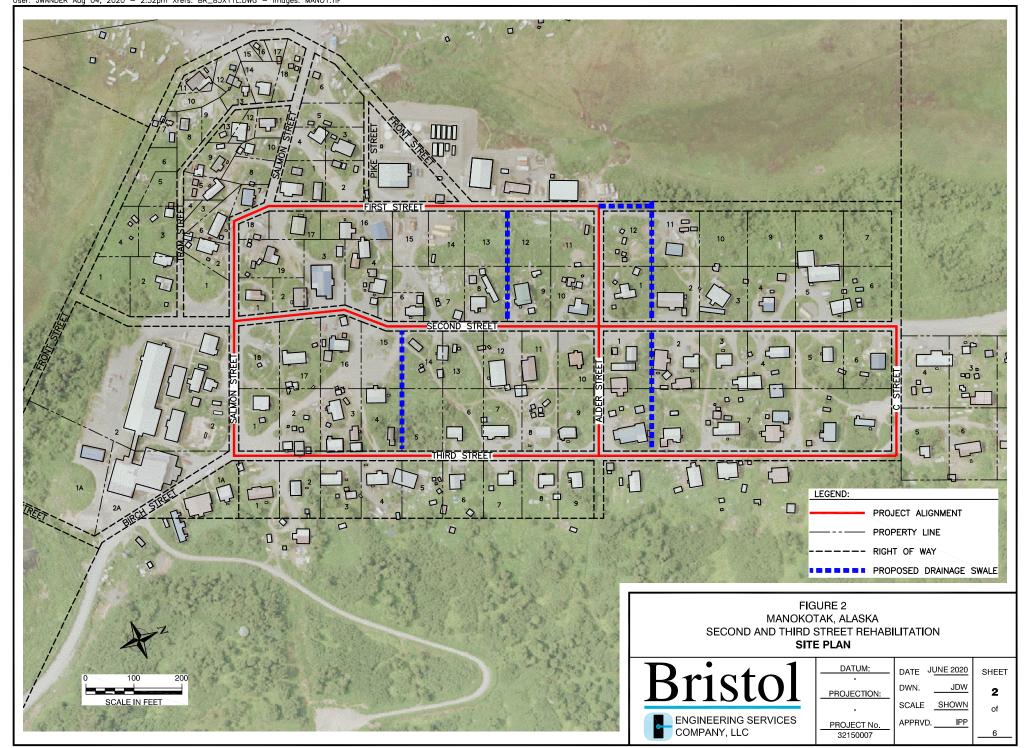
Mr. Pearson is a lifelong Alaskan resident, with a M.S. in Engineering Management from the University of Alaska Anchorage and over 20 years of planning, design, and construction experience. He has managed civil design projects throughout Alaska. Mr. Pearson is skilled in the use of drafting software, such as AutoCAD Civil 3D for the design and preparation of construction plans, and is experienced and knowledgeable in regard to design projects, site investigations, coordinating multiple design disciplines, and on-site engineering support during construction. Mr. Pearson is very experienced in a wide variety of design projects, report writing, public meetings, producing bid documents, and on-site supervision. Mr. Pearson's design experience includes road projects, civil site design projects, water and sewer utility projects, specialized design projects involving water problems and foundations, watershed analysis, drainage studies, surface drainage design, and geotechnical engineering.

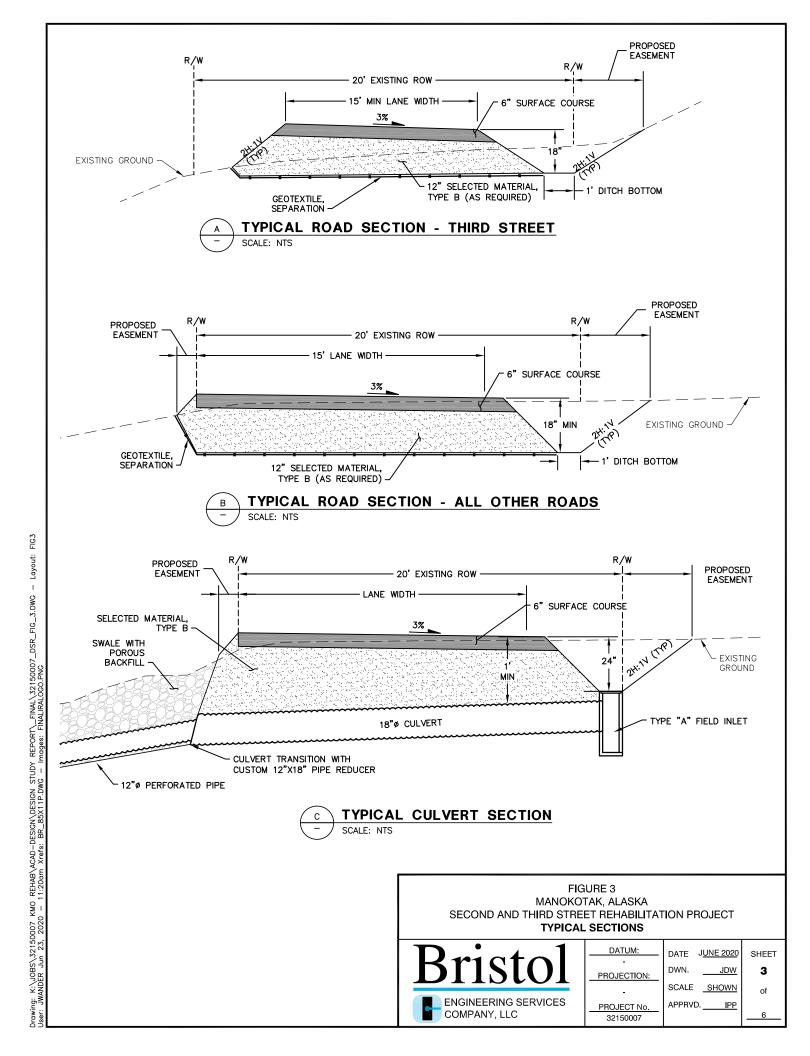
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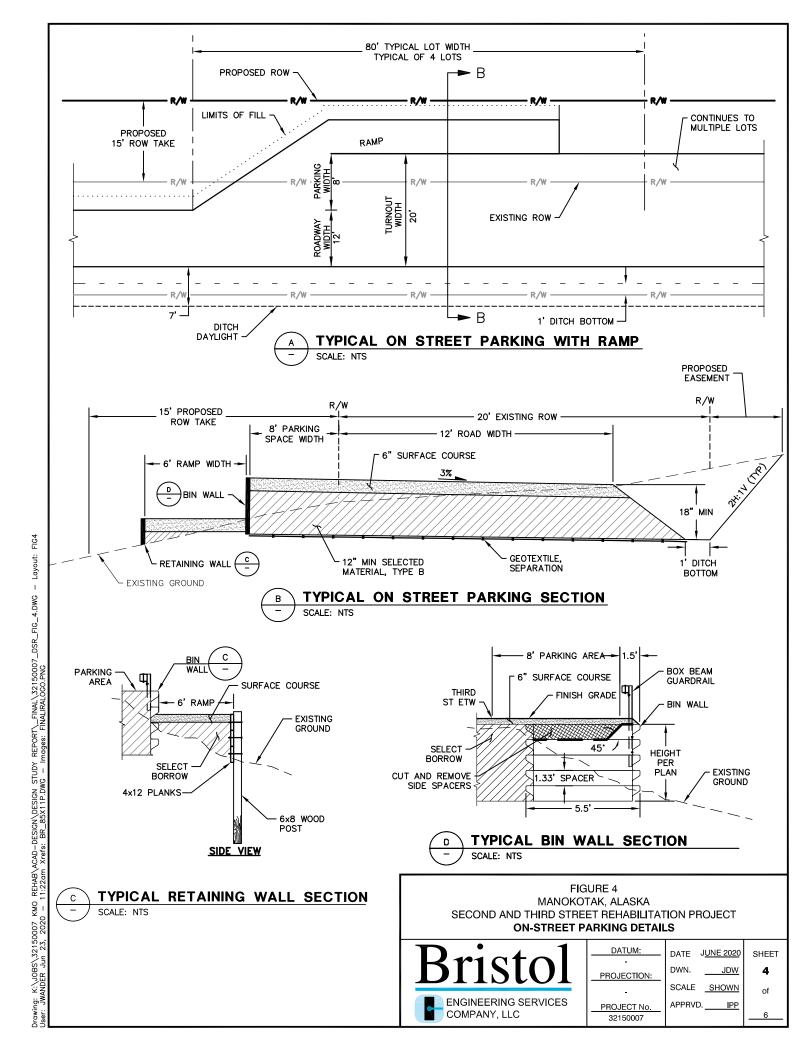


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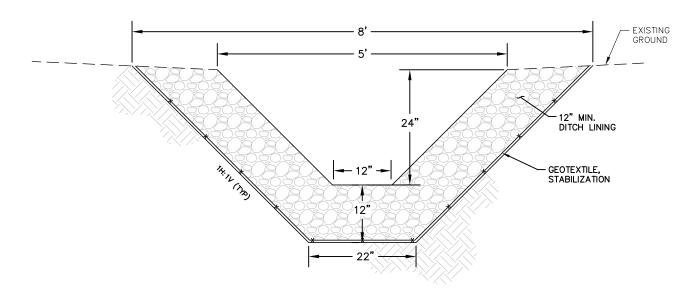






A TYPICAL SWALE TRENCH SECTION WITH PIPE

- SCALE: NTS



B TYPICAL OPEN CHANNEL SWALE SECTION

SCALE: NTS

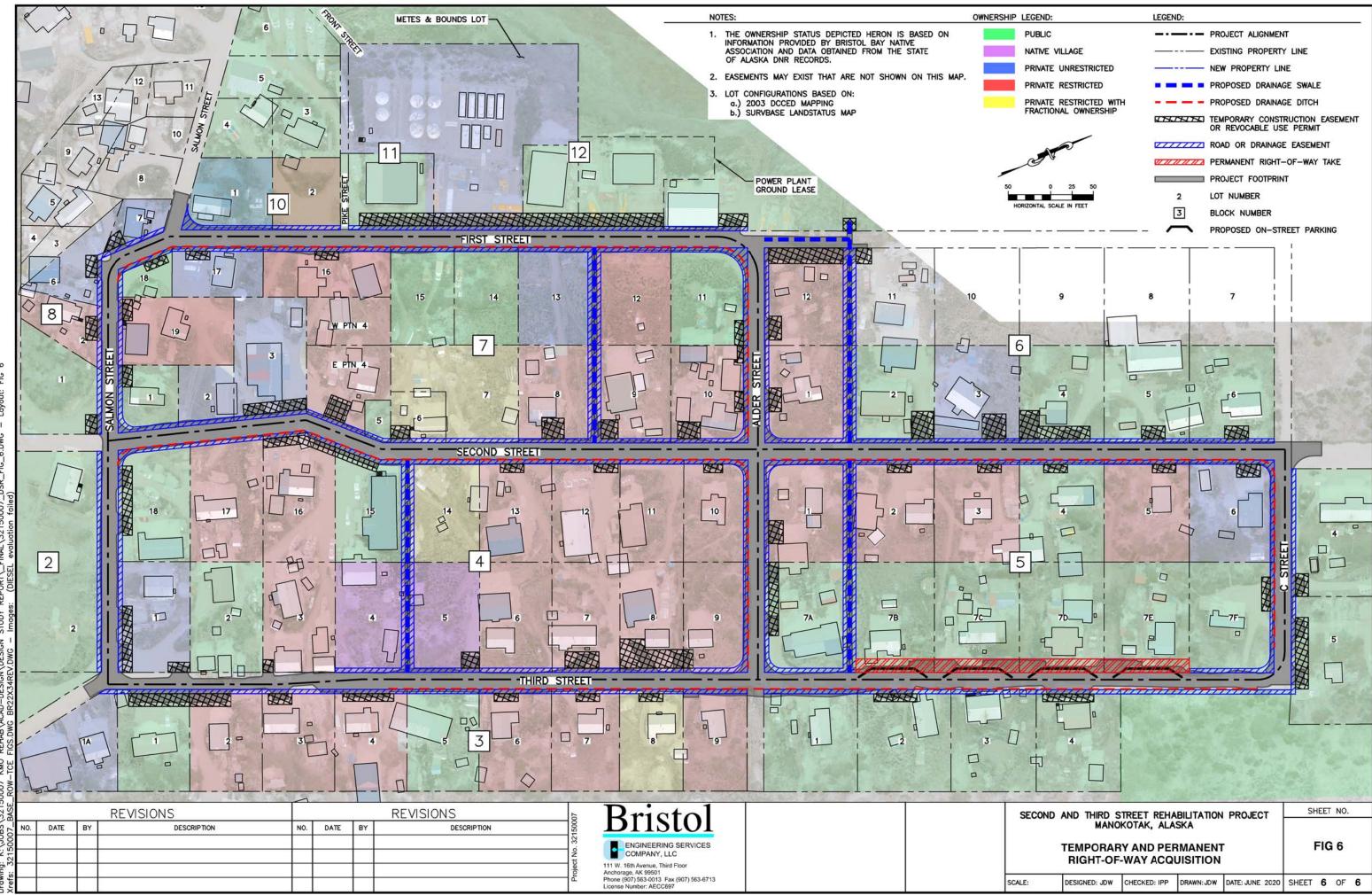
FIGURE 5 MANOKOTAK, ALASKA SECOND AND THIRD STREET REHABILITATION PROJECT TYPICAL SWALE SECTIONS



| DATUM: | |
|----------------------|---|
| - | _ |
| PROJECTION: | ٩ |
| - | , |
| PROJECT No. 32150007 | |

DATE J<u>UNE 2020</u> SHEET
DWN. <u>JDW</u>

SCALE <u>SHOWN</u> of
APPRVD. <u>IPP</u>
6



APPENDIX A

Site Reconnaissance Notes & Photographic Log

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111 W. 16th Avenue, Third Floor Anchorage, AK 99501-5169 phone (907) 563-0013 fax (907) 563-6713 www.bristol-companies.com

DATE: 9/28/2017

TO: File

FROM: Isaac Pearson, P.E.

RE: 32150007 Manokotak Roads Rehabilitation Project – Phase I Site Reconnaissance Notes

INTRODUCTION

On October 2, 2014, Isaac Pearson, senior civil engineer with Bristol Engineering Services Corporation (Bristol), performed a Phase I site reconnaissance for the Manokotak Roads Rehabilitation Project. The project will involve rehabilitation of six roads in Manokotak: First Street, Second Street, Third Street, Alder Street, Salmon Street and C Street. The roads will be resurfaced, roadside drainage ditches will be constructed, road and driveway culverts will be installed, street signs will be installed, parking stalls will be constructed along Third Street to mitigate traffic congestion issues, and rock-lined drainage swales will be constructed between properties to promote natural drainage throughout the project area. This trip report summarizes all notes, measurements, visual observations, and activities performed during the site visit.

PHASE I SITE RECONNAISSANCE

Isaac performed a site reconnaissance field investigation by walking each roadway alignment and taking notes and photographs of existing conditions and any possible environmental concerns. A photographic log of the site visit is attached at the end of this report. Field observations noted during the investigation are summarized below by location:

- Third Street
 - Narrow traveled way
 - o Drainage needs improvements
 - o Some natural drainage channels flow adjacent to, or below buildings
- Second Street
 - o Poor drainage on roadway
- Intersection: Second Street / C Street
 - o Intersection is in poor condition
 - o Failed culvert crossing Second Street
 - o No drainage down C Street
- Intersection: Third Street / C Street
 - o Traveled way crosses the right-of-way
 - o There is a 4-wheeler access ramp to the post office
- Intersection: Third Street / Alder Street
 - o Intersection is in good condition
- Intersection: Third Street / Salmon Street
 - o Intersection is in good condition

- o Traveled way crosses the right-of-way
- Intersection: Second Street / Salmon Street
 - o Poor drainage on Lots 17 & 18
- Intersection: Second Street / Alder Street
 - Poor drainage
- Intersection: Alder Street / C Street
 - o Roadbed is thin and soft in the spring

Based on visual observations, the project corridor exterior surfaces were clean, and no stained or contaminated soil were encountered. No discolored vegetation or unusual odors were observed. No indications of pits, unnatural ponds or lagoons were observed. Overall, apart from poor drainage conditions, no signs of environmental issues were present at the time of the site investigation.

[End of Trip Repot]

Attachments

1) Photographic Log



Manokotak Village Council P.O. Box 169 Manokotak, Alaska 99628

MANOKOTAK ROADS REHABILITATION PROJECT Manokotak, Alaska

SITE INVESTIGATION PHOTOGRAPHIC LOG

October 2014



PHOTOGRAPHIC SUMMARY

| Photo 19 Alder St. & Third St. Intersection - Facing West | |
|--|--|
| Photo 20 Alder St. & Third St. Intersection - Facing South | |
| Photo 21 Third St. Between Alder and Salmon St Facing North | |
| Photo 22 Third St. Between Alder and Salmon St Facing West | |
| Photo 23 Third St. Between Alder and | |
| Salmon St Facing South Photo 24 Third St. Between Alder and Salmon St. Facing North | |
| Salmon St Facing North Photo 25 Third St. Between Alder and Salmon St Facing East | |
| | |
| Photo 27 Third St. Between Alder and Salmon St Facing West | |
| Photo 28 Third St. Between Alder and Salmon St Facing North | |
| Photo 29 Third St. Between Alder and Salmon St Facing South | |
| Photo 30 Salmon St. & Third St. Intersection - Facing North | |
| Photo 31 Salmon St. & Third St. Intersection - Facing South | |
| Photo 32 Salmon St. & Third St. Intersection - Facing West | |
| Photo 33 Salmon St. & Third St. Intersection - Facing East | |
| Photo 34 Salmon St. & Third St. Intersection - Facing West | |
| | |

Photo 35 - - Salmon St. Between Second &

Third St. - Facing East

Photo 18 - - Alder St. & Third St. Intersection -

Facing North

| Photo 36 Salmon St. Between Second & Third St Facing West | Photo 54 Second St. North of Alder St Facing East |
|--|---|
| Photo 37 Salmon St. & Second St. Intersection - Facing East | Photo 55 Second St. North of Alder St Facing West |
| Photo 38 Salmon St. & Second St. Intersection - Facing North | Photo 56 Second St. Between Alder St. & C St Facing North |
| Photo 39 Salmon St. & Second St. Intersection - Facing West | Photo 57 Second St. Between Alder St. & C St Facing South |
| Photo 40 Second St. North of Salmon St Facing South | Photo 58 Alder St. Between Second St. and First St. Facing East |
| Photo 41 Second St. North of Salmon St Facing North | Photo 59 Alder St. Between Second St. and First St. Facing West |
| Photo 42 Second St. Between Salmon St. & Alder St Facing South | Photo 60 First St. & Salmon St. Intersection - Facing East |
| Photo 43 Second St. Between Salmon St. & Alder St Facing North | Photo 61 First St. & Salmon St. Intersection - Facing North |
| Photo 44 Second St. Between Salmon St. & Alder St Facing East | Photo 62 First St. & Salmon St. Intersection - Facing Northeast |
| Photo 45 Second St. Between Salmon St. & Alder St Facing West | Photo 63 First St. & Salmon St. Intersection - Facing West |
| Photo 46 Second St. South of Alder St Facing South | Photo 64 First St. & Salmon St. Intersection - Facing South |
| Photo 47 Second St. South of Alder St Facing West | Photo 65 First St. at City Storage Building - Facing North |
| Photo 48 Second St. South of Alder St Facing North | Photo 66 First St. at City Storage Building - Facing East |
| Photo 49 Second St. South of Alder St Facing East | Photo 67 First St. at City Storage Building - Facing South |
| Photo 50 Second St. & Alder St. Intersection - Facing South | Photo 68 First St. Between Fire Hall and City Storage Building - Facing South |
| Photo 51 Second St. & Alder St. Intersection - Facing East | Photo 69 First St. Between Fire Hall and City Storage Building - Facing North |
| Photo 52 Second St. & Alder St. Intersection - Facing North | Photo 70 First St. at City Fire Hall- Facing South |
| Photo 53 Second St. & Alder St. Intersection - Facing West | Photo 71 First St. at City Fire Hall- Facing South |

Photo 72 - - First Street North of Intersection with Salmon Street - Facing North

Photo 73 - - First Street North of Intersection with Salmon Street - Facing East

74 - - First Street North of Intersection with Salmon Street - Facing South

Photo 75 - - First Street North of Intersection with Salmon Street - Facing West

Photo 76 - - First Street & Salmon Street Intersection - Facing West

Photo 77 - - First Street & Salmon Street Intersection - Facing North

Photo 78 - - First Street & Salmon Street Intersection - Facing East

Photo 79 - - Salmon St. Between First & Second St. - Facing West

Photo 80 - - Salmon St. Between First & Second St. - Facing East

Photo 81 - - Salmon St. Between First & Second St. - Facing West

Photo 82 - - Salmon St. Between First & Second St. - Facing East

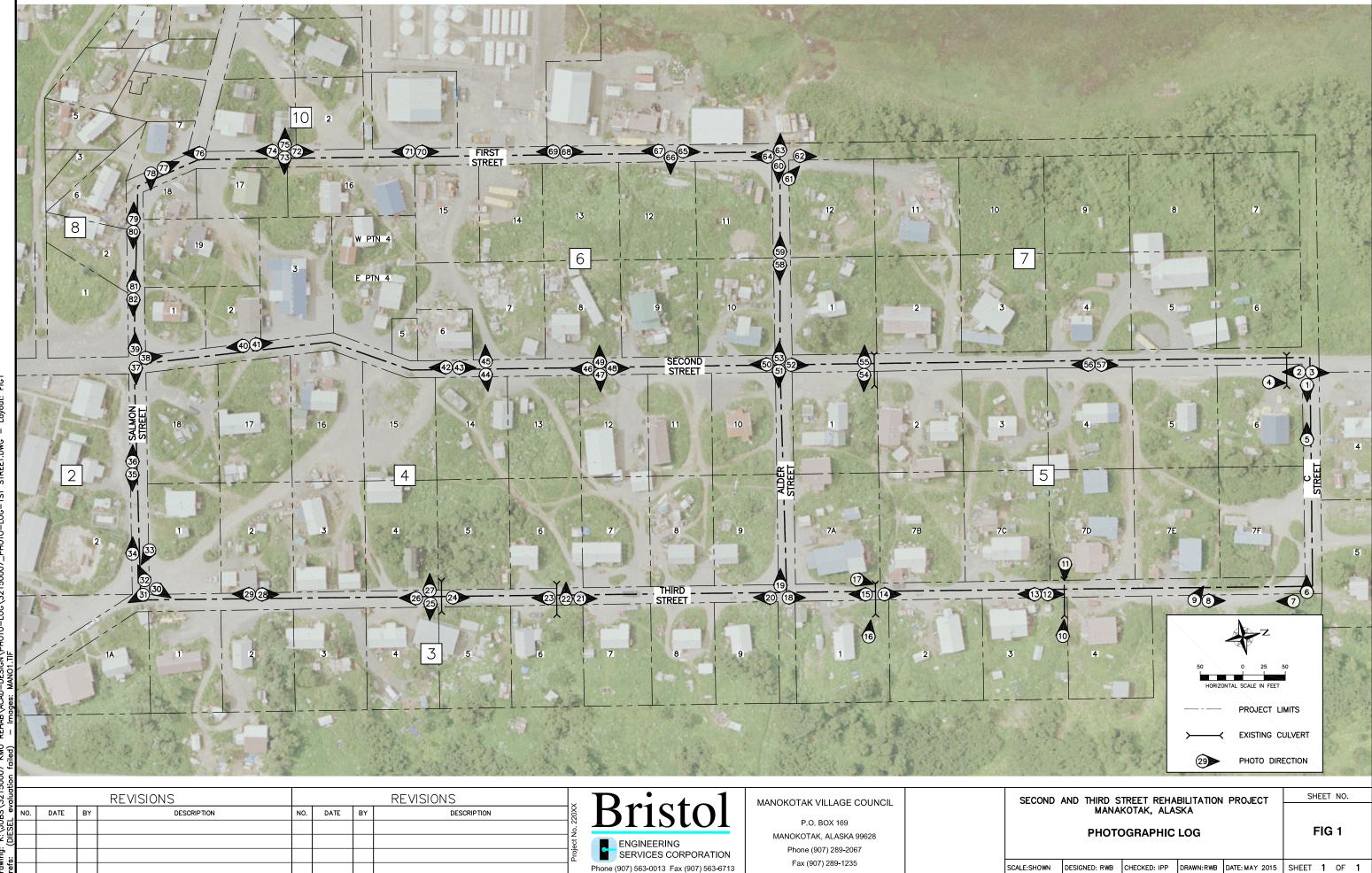




Photo 1 - - C St. & Second St. Intersection - Facing East



Photo 2 - - C St. & Second St. Intersection - Facing South



Photo 3 - - C St. & Second St. Intersection - Facing North



Photo 4 - - Culvert at C St. & Second St. Intersection



Photo 5 - - C St. - Facing West



Photo 6 - - C St. & Third St. Intersection - Facing West



Photo 7 - - C St. & Third St. Intersection - Facing South



Photo 8 - - C St. & Existing Trail - Facing North



Photo 9 - - C St. & Existing Trail - Facing West



Photo 10 - - Third St. Between Alder St. & C St. Culvert - Facing West



Photo 11 - - Third St. Between Alder St. & C St. Culvert - Facing East



Photo 12 - - Third St. Between Alder St. & C St. - Facing North



Photo 13 - - Third St. Between Alder St. & C St. - Facing South



Photo 14 - - Third St. North of Alder - Facing North



Photo 15 - - Third St. North of Alder - Facing South



Photo 16 - - Third St. North of Alder - Culvert Facing West



Photo 17 - - Third St. North of Alder - Culvert Facing North



Photo 18 - - Alder St. & Third St. Intersection - Facing North



Photo 19 - - Alder St. & Third St. Intersection - Facing West



Photo 20 - - Alder St. & Third St. Intersection - Facing South



Photo 21 - - Third St. Between Alder and Salmon St. - Facing North



Photo 22 - - Third St. Between Alder and Salmon St. - Facing West



Photo 23 - - Third St. Between Alder and Salmon St. - Facing South



Photo 24 - - Third St. Between Alder and Salmon St. - Facing North



Photo 25 - - Third St. Between Alder and Salmon St. - Facing East



Photo 26 - - Third St. Between Alder and Salmon St. - Facing South



Photo 27 - - Third St. Between Alder and Salmon St. - Facing West



Photo 28 - - Third St. Between Alder and Salmon St. - Facing North



Photo 29 - - Third St. Between Alder and Salmon St. - Facing South



Photo 30 - - Salmon St. & Third St. Intersection - Facing North



Photo 31 - - Salmon St. & Third St. Intersection - Facing South



Photo 32 - - Salmon St. & Third St. Intersection - Facing West



Photo 33 - - Salmon St. & Third St. Intersection - Facing East



Photo 34 - - Salmon St. & Third St. Intersection - Facing West



Photo 35 - - Salmon St. Between Second & Third St. - Facing East



Photo 36 - - Salmon St. Between Second & Third St. - Facing West



Photo 37 - - Salmon St. & Second St. Intersection - Facing East



Photo 38 - - Salmon St. & Second St. Intersection - Facing North



Photo 39 - - Salmon St. & Second St. Intersection - Facing West



Photo 40 - - Second St. North of Salmon St. - Facing South



Photo 41 - - Second St. North of Salmon St. - Facing North



Photo 42 - - Second St. Between Salmon St. & Alder St. - Facing South



Photo 43 - - Second St. Between Salmon St. & Alder St. - Facing North



Photo 44 - - Second St. Between Salmon St. & Alder St. - Facing East



Photo 45 - - Second St. Between Salmon St. & Alder St. - Facing West



Photo 46 - - Second St. South of Alder St. - Facing South



Photo 47 - - Second St. South of Alder St. - Facing West



Photo 48 - - Second St. South of Alder St. - Facing North



Photo 49 - - Second St. South of Alder St. - Facing East



Photo 50 - - Second St. & Alder St. Intersection - Facing South



Photo 51 - - Second St. & Alder St. Intersection - Facing East



Photo 52 - - Second St. & Alder St. Intersection - Facing North



Photo 53 - - Second St. & Alder St. Intersection - Facing West



Photo 54 - - Second St. North of Alder St. - Facing East



Photo 55 - - Second St. North of Alder St. - Facing West



Photo 56 - - Second St. Between Alder St. & C St. - Facing North



Photo 57 - - Second St. Between Alder St. & C St. - Facing South



Photo 58 - - Alder St. Between Second St. and First St. Facing East



Photo 59 - - Alder St. Between Second St. and First St. Facing West



Photo 60 - - First St. & Salmon St. Intersection - Facing East



Photo 61 - - First St. & Salmon St. Intersection - Facing North



Photo 62 - - First St. & Salmon St. Intersection - Facing Northeast



Photo 63 - - First St. & Salmon St. Intersection - Facing West



Photo 64 - - First St. & Salmon St. Intersection - Facing South



Photo 65 - - First St. at City Storage Building - Facing North



Photo 66 - - First St. at City Storage Building - Facing East



Photo 67 - - First St. at City Storage Building - Facing South



Photo 68 - - First St. Between Fire Hall and City Storage Building - Facing South



Photo 69 - - First St. Between Fire Hall and City Storage Building - Facing North



Photo 70 - - First St. at City Fire Hall- Facing South



Photo 71 - - First St. at City Fire Hall- Facing South



Photo 72 - - First Street North of Intersection with Salmon Street - Facing North



Photo 73 - - First Street North of Intersection with Salmon Street - Facing East



Photo 74 - - First Street North of Intersection with Salmon Street - Facing South



Photo 75 - - First Street North of Intersection with Salmon Street - Facing West



Photo 76 - - First Street & Salmon Street Intersection - Facing West



Photo 77 - - First Street & Salmon Street Intersection - Facing North



Photo 78 - - First Street & Salmon Street Intersection - Facing East



Photo 79 - - Salmon St. Between First & Second St. - Facing West



Photo 80 - - Salmon St. Between First & Second St. - Facing East



Photo 81 - - Salmon St. Between First & Second St. - Facing West



Photo 82 - - Salmon St. Between First & Second St. - Facing East

APPENDIX B EDR Radius Map Report, Sanborn Map, & Aerial Photo Decade Package

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2nd and 3rd Street Project 2nd and 3rd St Street Manokotak, AK 99628

Inquiry Number: 4887232.5

March 30, 2017

The EDR Aerial Photo Decade Package



EDR Aerial Photo Decade Package

03/30/17

Site Name: Client Name:

2nd and 3rd Street Project 2nd and 3rd St Street Manokotak, AK 99628 EDR Inquiry # 4887232.5 Bristol Engineering Services 111 W. 16th Avenue Anchorage, AK 99501 Contact: Jaclyn Wander



Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

Search Results:

| <u>Year</u> | <u>Scale</u> | <u>Details</u> | Source |
|-------------|--------------|------------------------------|--------|
| 1983 | 1"=750' | Flight Date: July 28, 1983 | USGS |
| 1980 | 1"=750' | Flight Date: July 16, 1980 | USGS |
| 1973 | 1"=750' | Flight Date: June 24, 1973 | USGS |
| 1962 | 1"=750' | Flight Date: August 11, 1962 | USGS |
| 1955 | 1"=500' | Flight Date: August 24, 1955 | USGS |
| 1952 | 1"=500' | Flight Date: June 20, 1952 | USGS |

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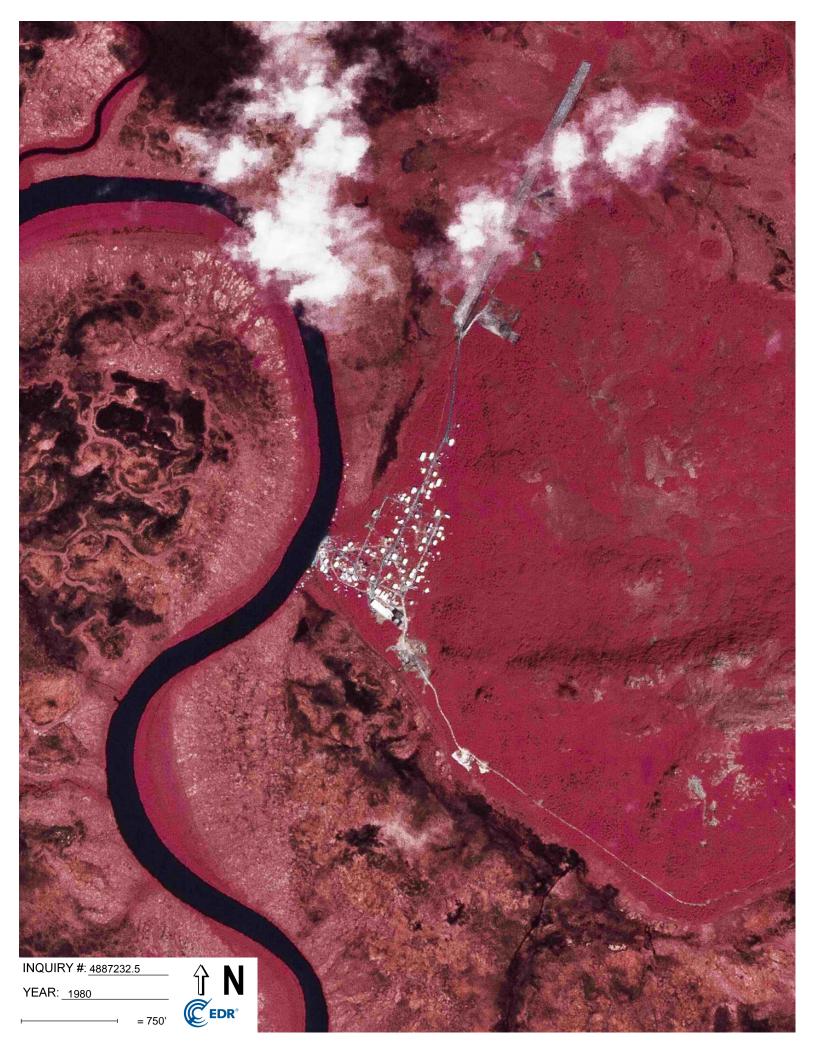
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2nd and 3rd Street Project

2nd and 3rd St Street Manokotak, AK 99628

Inquiry Number: 4887232.2s

March 29, 2017

The EDR Radius Map™ Report with GeoCheck®



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Thank you for your business. Please contact EDR at 1-800-352-0050 with any questions or comments.

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A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

2ND AND 3RD ST STREET MANOKOTAK, AK 99628

COORDINATES

Latitude (North): 58.9808240 - 58° 58' 50.96" Longitude (West): 159.0559600 - 159° 3' 21.45"

Universal Tranverse Mercator: Zone 4 UTM X (Meters): 496783.1 UTM Y (Meters): 6537709.5

Elevation: 30 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property: N/A

Source: U.S. Geological Survey

MAPPED SITES SUMMARY

Target Property Address: 2ND AND 3RD ST STREET MANOKOTAK, AK 99628

Click on Map ID to see full detail.

| MAP ID | SITE NAME | ADDRESS | DATABASE ACRONYMS | RELATIVE ELEVATION | DIST (ft. & mi.) DIRECTION |
|-----------|----------------------|---------------|---------------------------------|-----------------------|-------------------------------|
| A1 | MANOKOTAK NATIVES LI | FIRST STREET | SHWS | Lower | 1 ft. |
| A2 | MANOKOTAK POWER PLAN | POWER PLANT | SPILLS | Lower | 1 ft. |
| А3 | MANOKOTAK POWER PLAN | POWER PLANT | SPILLS | Lower | 1 ft. |
| 4 | RIDGE CONTRACTING IN | | US MINES | Lower | 1 ft. |
| 5 | MANOKOTAK LANDFILL | | SWF/LF | Lower | 1580, 0.299, SSE |
| 6 | MANOKOTAK SCHOOL | SALMON STREET | SHWS, INST CONTROL, BROWNFIELDS | Higher | 3603, 0.682, ESE |

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

| Federal NPL site list |
|-----------------------|
|-----------------------|

| NPL | National Priority List |
|--------------|---------------------------------------|
| Proposed NPL | Proposed National Priority List Sites |
| NPL LIENS | Federal Superfund Liens |

Federal Delisted NPL site list

Delisted NPL...... National Priority List Deletions

Federal CERCLIS list

| FEDERAL FACILITY | Federal Facility Site Information listing |
|------------------|---|
| SEMS | Superfund Enterprise Management System |

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE...... Superfund Enterprise Management System Archive

Federal RCRA CORRACTS facilities list

CORRACTS..... Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF..... RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

| RCRA-LQG | RCRA - Large Quantity Generators |
|------------|--|
| RCRA-SQG | RCRA - Small Quantity Generators |
| RCRA-CESQG | RCRA - Conditionally Exempt Small Quantity Generator |

Federal institutional controls / engineering controls registries

| LUCIS | Land Use Control Information System |
|-----------------|-------------------------------------|
| US ENG CONTROLS | Engineering Controls Sites List |

US INST CONTROL..... Sites with Institutional Controls Federal ERNS list ERNS..... Emergency Response Notification System State and tribal leaking storage tank lists Leaking Underground Storage Tank Database INDIAN LUST..... Leaking Underground Storage Tanks on Indian Land State and tribal registered storage tank lists FEMA UST..... Underground Storage Tank Listing UST...... Underground Storage Tank Database AST...... Regulated Aboveground Storage Tanks INDIAN UST..... Underground Storage Tanks on Indian Land State and tribal institutional control / engineering control registries ENG CONTROLS_____ Engineering Controls Site Listing INST CONTROL...... Contaminated Sites with Institutional Controls State and tribal voluntary cleanup sites VCP......Voluntary Cleanup Program sites INDIAN VCP.....Voluntary Cleanup Priority Listing State and tribal Brownfields sites BROWNFIELDS..... Identified and/or Proposed Brownfields Sites ADDITIONAL ENVIRONMENTAL RECORDS Local Brownfield lists US BROWNFIELDS..... A Listing of Brownfields Sites Local Lists of Landfill / Solid Waste Disposal Sites SWRCY...... Recycling Facilities INDIAN ODI...... Report on the Status of Open Dumps on Indian Lands DEBRIS REGION 9..... Torres Martinez Reservation Illegal Dump Site Locations Local Lists of Hazardous waste / Contaminated Sites US HIST CDL..... Delisted National Clandestine Laboratory Register CDL..... Illegal Drug Manufacturing Sites US CDL...... National Clandestine Laboratory Register Local Land Records

LIENS 2..... CERCLA Lien Information

Records of Emergency Release Reports

HMIRS...... Hazardous Materials Information Reporting System SPILLS 90...... SPILLS 90 data from FirstSearch

Other Ascertainable Records

RCRA NonGen / NLR...... RCRA - Non Generators / No Longer Regulated

FUDS Formerly Used Defense Sites DOD Department of Defense Sites

SCRD DRYCLEANERS...... State Coalition for Remediation of Drycleaners Listing

US FIN ASSUR..... Financial Assurance Information EPA WATCH LIST.... EPA WATCH LIST

TSCA...... Toxic Substances Control Act

TRIS...... Toxic Chemical Release Inventory System

RAATS______RCRA Administrative Action Tracking System

ICIS...... Integrated Compliance Information System

Act)/TSCA (Toxic Substances Control Act)

COAL ASH EPA..... Coal Combustion Residues Surface Impoundments List

PCB TRANSFORMER_____PCB Transformer Registration Database

RADINFO...... Radiation Information Database

HIST FTTS.....FIFRA/TSCA Tracking System Administrative Case Listing

DOT OPS..... Incident and Accident Data

CONSENT..... Superfund (CERCLA) Consent Decrees

INDIAN RESERV..... Indian Reservations

FUSRAP_____Formerly Utilized Sites Remedial Action Program

UMTRA..... Uranium Mill Tailings Sites

LEAD SMELTERS..... Lead Smelter Sites

US AIRS..... Aerometric Information Retrieval System Facility Subsystem

FINDS...... Facility Index System/Facility Registry System

UXO...... Unexploded Ordnance Sites

DOCKET HWC..... Hazardous Waste Compliance Docket Listing

Financial Assurance Information Listing NPDES...... Wastewater Discharge Permit Listing

UIC Information ABANDONED MINES Abandoned Mines

ECHO..... Enforcement & Compliance History Information

FUELS PROGRAM..... EPA Fuels Program Registered Listing

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP..... EDR Proprietary Manufactured Gas Plants

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

| RGA LF | Recovered Government Archive Solid Waste Facilities List |
|----------|---|
| RGA LUST | Recovered Government Archive Leaking Underground Storage Tank |

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.

Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in **bold italics** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

State- and tribal - equivalent CERCLIS

SHWS: State Hazardous Waste Sites. State hazardous waste site records are the states' equivalent to CERCLIS. These sites may or may not already be listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with where cleanup will be paid for by potentially responsible parties.

A review of the SHWS list, as provided by EDR, and dated 01/03/2017 has revealed that there are 2 SHWS sites within approximately 1 mile of the target property.

| Equal/Higher Elevation | Address | Direction / Distance | Map ID | Page |
|---|---------------|-----------------------------|--------|------|
| MANOKOTAK SCHOOL Facility Status: Active Hazard ID: 2197 | SALMON STREET | ESE 1/2 - 1 (0.682 mi.) | 6 | 12 |
| Lower Elevation | Address | Direction / Distance | Map ID | Page |
| MANOKOTAK NATIVES LI Facility Status: Active Hazard ID: 25352 | FIRST STREET | 0 - 1/8 (0.000 mi.) | A1 | 8 |

State and tribal landfill and/or solid waste disposal site lists

SWF/LF: The Solid Waste Facilities/Landfill Sites records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. The data come from the Department of Pollution Control & Ecology's Permit Data System Facilities database.

A review of the SWF/LF list, as provided by EDR, and dated 12/27/2016 has revealed that there is 1

SWF/LF site within approximately 0.5 miles of the target property.

| Lower Elevation | Address | Direction / Distance | Map ID | Page |
|-------------------------|---------|---------------------------|--------|------|
| MANOKOTAK LANDFILL | | SSE 1/4 - 1/2 (0.299 mi.) | 5 | 12 |
| Facility Status: Closed | | | | |

ADDITIONAL ENVIRONMENTAL RECORDS

Records of Emergency Release Reports

SPILLS: The Alaska Spills database.

A review of the SPILLS list, as provided by EDR, and dated 09/29/2016 has revealed that there are 2 SPILLS sites within approximately 0.001 miles of the target property.

| Lower Elevation | Address | Direction / Distance | Map ID | Page |
|---|-------------|----------------------|--------|------|
| MANOKOTAK POWER PLAN Case Closed: 11/21/2006 Case Closed: 08/31/1998 Case Closed: 08/26/2003 Case Closed: 04/17/2012 Facility Id: 06269932001 Facility Id: 97269932201 Facility Id: 02269907801 Facility Id: 09269931401 Spill ID: 27663 Spill ID: 9090 Spill ID: 16291 Spill ID: 34753 | POWER PLANT | 0 - 1/8 (0.000 mi.) | A2 | 9 |
| MANOKOTAK POWER PLAN Case Closed: 10/08/2014 Facility Id: 11269908401 Spill ID: 37361 | POWER PLANT | 0 - 1/8 (0.000 mi.) | A3 | 11 |

Other Ascertainable Records

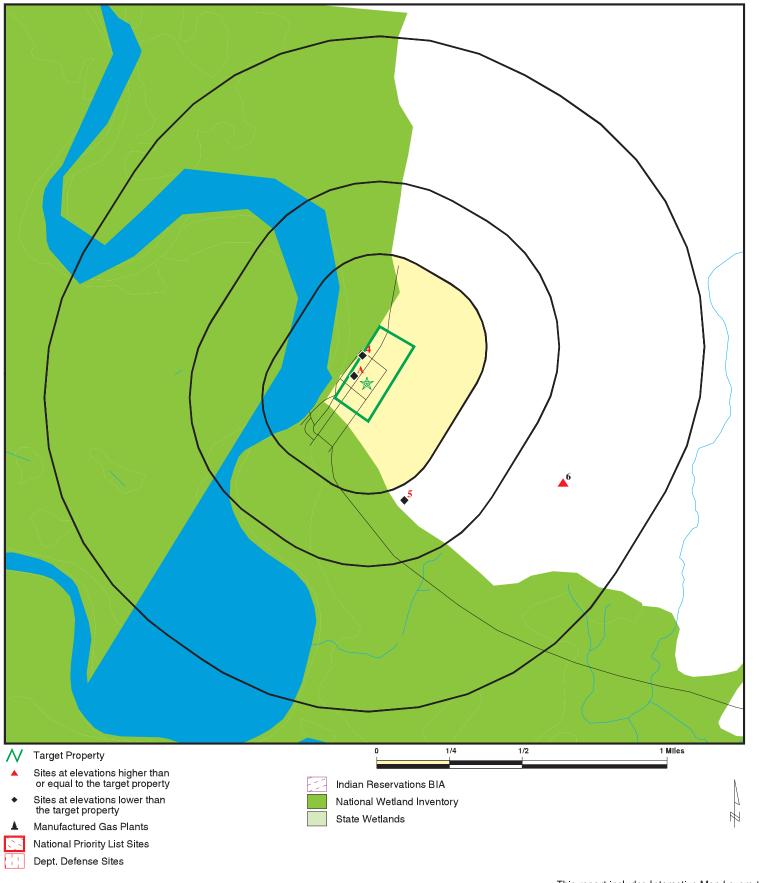
US MINES: Mines Master Index File. The source of this database is the Dept. of Labor, Mine Safety and Health Administration.

A review of the US MINES list, as provided by EDR, has revealed that there is 1 US MINES site within approximately 0.25 miles of the target property.

| Lower Elevation | Address | Direction / Distance | Map ID | Page |
|-----------------------------------|---------------------------|----------------------|--------|------|
| RIDGE CONTRACTING IN | | 0 - 1/8 (0.000 mi.) | 4 | 12 |
| Database: US MINES, Date of Gover | nment Version: 08/05/2016 | | | |

There were no unmapped sites in this report.

OVERVIEW MAP - 4887232.2S



This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: 2nd and 3rd Street Project ADDRESS: 2nd and 3rd St Street

LAT/LONG:

Manokotak AK 99628 58.980824 / 159.05596 CLIENT: CONTACT: **Bristol Engineering Services**

Jaclyn Wander

INQUIRY#: 4887232.2s DATE:

March 29, 2017 6:46 pm

DETAIL MAP - 4887232.2S



display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: 2nd and 3rd Street Project ADDRESS: 2nd and 3rd St Street

LAT/LONG:

Manokotak AK 99628 58.980824 / 159.05596 CLIENT: CONTACT: **Bristol Engineering Services**

Jaclyn Wander INQUIRY#: 4887232.2s

DATE: March 29, 2017 6:47 pm

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| Database | Search Distance (Miles) | Target Property | < 1/8 | 1/8 - 1/4 | 1/4 - 1/2 | 1/2 - 1 | > 1 | Total Plotted |
|--|-------------------------------|--------------------|-------------|--------------|----------------|----------------|----------------|------------------|
| STANDARD ENVIRONMENT | AL RECORDS | | | | | | | |
| Federal NPL site list | | | | | | | | |
| NPL Proposed NPL NPL LIENS | 1.000 1.000 0.001 | | 0 0 0 | 0 0 NR | 0 0 NR | 0 0 NR | NR NR NR | 0 0 0 |
| Federal Delisted NPL site | e list | | | | | | | |
| Delisted NPL | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| Federal CERCLIS list | | | | | | | | |
| FEDERAL FACILITY SEMS | 0.500 0.500 | | 0 0 | 0 0 | 0 0 | NR NR | NR NR | 0 0 |
| Federal CERCLIS NFRAF | P site list | | | | | | | |
| SEMS-ARCHIVE | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| Federal RCRA CORRAC | TS facilities li | st | | | | | | |
| CORRACTS | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| Federal RCRA non-CORRACTS TSD facilities list | | | | | | | | |
| RCRA-TSDF | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| Federal RCRA generator | s list | | | | | | | |
| RCRA-LQG RCRA-SQG RCRA-CESQG | 0.250 0.250 0.250 | | 0 0 0 | 0 0 0 | NR NR NR | NR NR NR | NR NR NR | 0 0 0 |
| Federal institutional controls / engineering controls registries | | | | | | | | |
| LUCIS US ENG CONTROLS US INST CONTROL | 0.500 0.500 0.500 | | 0 0 0 | 0 0 0 | 0 0 0 | NR NR NR | NR NR NR | 0 0 0 |
| Federal ERNS list | | | | | | | | |
| ERNS | 0.001 | | 0 | NR | NR | NR | NR | 0 |
| State- and tribal - equiva | lent CERCLIS | ; | | | | | | |
| SHWS | 1.000 | | 1 | 0 | 0 | 1 | NR | 2 |
| State and tribal landfill a solid waste disposal site | | | | | | | | |
| SWF/LF | 0.500 | | 0 | 0 | 1 | NR | NR | 1 |
| State and tribal leaking s | storage tank l | ists | | | | | | |
| LUST INDIAN LUST | 0.500 0.500 | | 0 0 | 0 0 | 0 0 | NR NR | NR NR | 0 0 |
| State and tribal registere | ed storage tan | k lists | | | | | | |
| FEMA UST | 0.250 | | 0 | 0 | NR | NR | NR | 0 |

| Database | Search Distance (Miles) | Target Property | < 1/8 | 1/8 - 1/4 | 1/4 - 1/2 | 1/2 - 1 | > 1 | Total Plotted | | |
|--|--|--------------------|-----------------------|------------------------------|-------------------------------|--------------------------------|-----------------------------|-----------------------|--|--|
| UST AST INDIAN UST | 0.250 0.250 0.250 | | 0 0 0 | 0 0 0 | NR NR NR | NR NR NR | NR NR NR | 0 0 0 | | |
| State and tribal institutional control / engineering control registries | | | | | | | | | | |
| ENG CONTROLS INST CONTROL | 0.500 0.500 | | 0 | 0 0 | 0 0 | NR NR | NR NR | 0 | | |
| State and tribal voluntary cleanup sites | | | | | | | | | | |
| VCP INDIAN VCP | 0.500 0.500 | | 0 0 | 0 0 | 0 0 | NR NR | NR NR | 0 0 | | |
| State and tribal Brownfields sites | | | | | | | | | | |
| BROWNFIELDS | 0.500 | | 0 | 0 | 0 | NR | NR | 0 | | |
| ADDITIONAL ENVIRONMENTAL RECORDS | | | | | | | | | | |
| Local Brownfield lists | | | | | | | | | | |
| US BROWNFIELDS | 0.500 | | 0 | 0 | 0 | NR | NR | 0 | | |
| Local Lists of Landfill / S Waste Disposal Sites | olid | | | | | | | | | |
| SWRCY INDIAN ODI DEBRIS REGION 9 ODI IHS OPEN DUMPS | 0.500 0.500 0.500 0.500 0.500 | | 0 0 0 0 | 0 0 0 0 | 0 0 0 0 | NR NR NR NR NR | NR NR NR NR | 0 0 0 0 | | |
| Local Lists of Hazardous waste / Contaminated Sites | | | | | | | | | | |
| US HIST CDL CDL US CDL | 0.001 0.001 0.001 | | 0 0 0 | NR NR NR | NR NR NR | NR NR NR | NR NR NR | 0 0 0 | | |
| Local Land Records | | | | | | | | | | |
| LIENS 2 | 0.001 | | 0 | NR | NR | NR | NR | 0 | | |
| Records of Emergency Release Reports | | | | | | | | | | |
| HMIRS SPILLS SPILLS 90 | 0.001 0.001 0.001 | | 0 2 0 | NR <mark>NR</mark> NR | NR <mark>NR</mark> NR | NR <mark>NR</mark> NR | NR <mark>NR</mark> NR | 0 2 0 | | |
| Other Ascertainable Rec | ords | | | | | | | | | |
| RCRA NonGen / NLR FUDS DOD SCRD DRYCLEANERS US FIN ASSUR EPA WATCH LIST | 0.250 1.000 1.000 0.500 0.001 0.001 | | 0 0 0 0 0 | 0 0 0 0 NR NR | NR 0 0 0 NR NR | NR 0 0 NR NR NR | NR NR NR NR NR | 0 0 0 0 0 | | |

| Database | Search Distance (Miles) | Target Property | < 1/8 | 1/8 - 1/4 | 1/4 - 1/2 | 1/2 - 1 | > 1 | Total Plotted | | |
|------------------------------------|-------------------------------|--------------------|--------|-----------|-----------|----------|----------|------------------|--|--|
| | 0.050 | | | | | | | | | |
| 2020 COR ACTION | 0.250 | | 0 | 0 | NR | NR | NR | 0 | | |
| TSCA TRIS | 0.001 | | 0 | NR | NR | NR NR | NR | 0 | | |
| SSTS | 0.001 0.001 | | 0 0 | NR NR | NR NR | NR NR | NR NR | 0 0 | | |
| ROD | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 | | |
| RMP | 0.001 | | 0 | NR | NR | NR | NR | Ö | | |
| RAATS | 0.001 | | Ö | NR | NR | NR | NR | Ö | | |
| PRP | 0.001 | | 0 | NR | NR | NR | NR | 0 | | |
| PADS | 0.001 | | 0 | NR | NR | NR | NR | 0 | | |
| ICIS | 0.001 | | 0 | NR | NR | NR | NR | 0 | | |
| FTTS | 0.001 | | 0 | NR | NR | NR | NR | 0 | | |
| MLTS | 0.001 | | 0 | NR | NR | NR | NR | 0 | | |
| COAL ASH DOE | 0.001 | | 0 | NR | NR | NR | NR | 0 | | |
| COAL ASH EPA | 0.500 | | 0 | 0 NR | 0 ND | NR | NR | 0 | | |
| PCB TRANSFORMER RADINFO | 0.001 0.001 | | 0 0 | NR NR | NR NR | NR NR | NR NR | 0 0 | | |
| HIST FTTS | 0.001 | | 0 | NR | NR | NR | NR | 0 | | |
| DOT OPS | 0.001 | | 0 | NR | NR | NR | NR | 0 | | |
| CONSENT | 1.000 | | Ő | 0 | 0 | 0 | NR | Ő | | |
| INDIAN RESERV | 0.001 | | Ö | NR | NR | NR | NR | Ō | | |
| FUSRAP | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 | | |
| UMTRA | 0.500 | | 0 | 0 | 0 | NR | NR | 0 | | |
| LEAD SMELTERS | 0.001 | | 0 | NR | NR | NR | NR | 0 | | |
| US AIRS | 0.001 | | 0 | NR | NR | NR | NR | 0 | | |
| US MINES | 0.250 | | 1 | 0 | NR | NR | NR | 1 | | |
| FINDS | 0.001 | | 0 | NR 0 | NR | NR | NR | 0 | | |
| UXO DOCKET HWC | 1.000 0.001 | | 0 0 | NR | 0 NR | 0 NR | NR NR | 0 0 | | |
| AIRS | 0.001 | | 0 | NR | NR | NR | NR | 0 | | |
| COAL ASH | 0.500 | | 0 | 0 | 0 | NR | NR | 0 | | |
| DRYCLEANERS | 0.250 | | Ö | Ö | NR | NR | NR | Ö | | |
| Financial Assurance | 0.001 | | 0 | NR | NR | NR | NR | 0 | | |
| NPDES | 0.001 | | 0 | NR | NR | NR | NR | 0 | | |
| UIC | 0.001 | | 0 | NR | NR | NR | NR | 0 | | |
| ABANDONED MINES | 0.001 | | 0 | NR | NR | NR | NR | 0 | | |
| ECHO | 0.001 | | 0 | NR | NR | NR | NR | 0 | | |
| FUELS PROGRAM | 0.250 | | 0 | 0 | NR | NR | NR | 0 | | |
| EDR HIGH RISK HISTORICAL RECORDS | | | | | | | | | | |
| EDR Exclusive Records | | | | | | | | | | |
| EDR MGP | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 | | |
| EDR RECOVERED GOVERNMENT ARCHIVES | | | | | | | | | | |
| Exclusive Recovered Govt. Archives | | | | | | | | | | |
| RGA LF | 0.001 | | 0 | NR | NR | NR | NR | 0 | | |
| RGA LUST | 0.001 | | 0 | NR | NR | NR | NR | 0 | | |
| - Totals | | 0 | 4 | 0 | 1 | 1 | 0 | 6 | | |

Search

Distance (Miles)

Target Property

< 1/8 1/8 - 1/4

1/4 - 1/2

1/2 - 1

> 1

Total Plotted

NOTES:

Database

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

Map ID
Direction

MAP FINDINGS

Distance EDR ID Number Elevation Site EDR ID Number Database(s) EPA ID Number

A1 MANOKOTAK NATIVES LIMITED BULK FARM SHWS \$109568259
FIRST STREET N/A

FIRST STREET
MANOKOTAK, AK 99628

< 1/8 1 ft.

Site 1 of 3 in cluster A

Hazard ID:

Relative: SHWS:

Lower File Number: 2611.38.003

Staff: Erin Gleason, 9072697556, erin.gleason@alaska.gov

25352

 Actual:
 Facility Status:
 Active

 10 ft.
 Latitude:
 58.981072

 Longitude:
 -159.057802

Problem: During a Reconnaissance of the Above Ground Storage Tank Farms at

Manokotak, Alaska, Diesel Range Organics was found at the former Manokotak Natives Limited Bulk Fuel Farm. The former tank farm had eight above ground storage tanks which totaled 80,000 gallons, and contained diesel fuel that supplied the village with heating fuel during the winter and summer months. A new bulk fuel above ground storage tank farm was constructed during 2000-2001 to replace the fomer Manokotak Natives Limited Bulk Fuel, and the Manokotak Power Company Tank Farm, and the Southwest Region School District's Old School AST Farm. The new tank farm is in proximity to Manokotak's former Bulk Fuel and Power Plant AST Farms, and the Igusak River.

Actions:

Action Date: 9/30/2016

Action: Update or Other Action

DEC Staff: Erin Gleason

Action Description: Sent Manokotak Natives Limited an information request letter.

Response due 10/31/2016.ADEC warns that a Notice of Environmental

Contamination will be filed if MNL does not take action.

Action Date: 9/28/2016

Action: Update or Other Action

DEC Staff: Erin Gleason

Action Description: SUMMARY: In 2001 a reconnaissance was conducted for the village of

Manokotak Natives Limited (MNL)bulk fuel storage site. In 2000-2001 the Alaska Energy Authority constructed a new consolidated above

ground storage tank (AST) farm replacing the multiple

Action Date: 7/25/2014

Action: Potentially Responsible Party/State Interest Letter

DEC Staff: Joshua Barsis

Action Description: Sent a letter of state interest on this day.

Action Date: 7/24/2014

Action: Exposure Tracking Model Ranking

DEC Staff: Joshua Barsis

Action Description: A new updated ranking with ETM has been completed for source area

78708 Above Ground Storage Tanks.

Action Date: 5/28/2009

Action: Update or Other Action

DEC Staff: Alyce Hughey

Action Description: File transferred from Soldotna to Anchorage 6-1-09. Project Manager

changed from Don Fritz to Linda Nuechterlein.

Action Date: 4/10/2015

Map ID MAP FINDINGS

Direction Distance

Elevation Site Database(s) EPA ID Number

MANOKOTAK NATIVES LIMITED BULK FARM (Continued)

S109568259

EDR ID Number

Action: Update or Other Action

DEC Staff: Joshua Barsis

Action Description: Letter with site history and request for contact sent on this day.

Action Date: 4/10/2015

Action: Update or Other Action DEC Staff: Joshua Barsis

Action Description: Letter with site history and request for contact sent on this day.

ADEC warns that a Notice of Environmental Contamination will be filed

if MNL does not take action.

Action Date: 2/18/2009

Action: Exposure Tracking Model Ranking

DEC Staff: Don Fritz

Action Description: Initial ranking with ETM completed for source area id: 78708 name:

Above Ground Storage Tanks

Action Date: 2/18/2009

Action: Site Added to Database

DEC Staff: Alyce Hughey

Action Description: A new site has been added to the database

Action Date: 2/18/2009

Action: Update or Other Action

DEC Staff: Alyce Hughey

Action Description: File number 2611.38.003 was assigned and entered into the Fileroom

Database and the Contaminated Sites Database.

Action Date: 2/18/2009

Action: Update or Other Action

DEC Staff: Alyce Hughey

Action Description: Lat/Log was obtained using Google Maps.

Contaminants:

Staff: Erin Gleason, 9072697556, erin.gleason@alaska.gov

Contaminate Name1: Manokotak Natives Limited Bulk Farm

Contaminate Level Description1: Not reported Contaminate Media1: Not reported

Control Type: Not reported
Control Details Description1: Not reported
Contaminant CTD: Not reported
Contaminant CDR: Not reported
Comments: Not reported

A2 MANOKOTAK POWER PLANT IN VILLAGE

SPILLS S103578801 N/A

POWER PLANT MANOKOTAK CITY, AK 99628

< 1/8 1 ft.

Site 2 of 3 in cluster A

Relative: SPILLS:

Lower Facility ID: 06269932001

Facility Type: Power Generation
Facilty Subject Type: Not reported

Actual: 20 ft.

TC4887232.2s Page 9

Map ID MAP FINDINGS

Direction Distance

Elevation Site Database(s) EPA ID Number

MANOKOTAK POWER PLANT IN VILLAGE (Continued)

S103578801

EDR ID Number

Region: Bristol Bay Borough

Spill ID: 27663

Spill Name: Manokotak Glycol Spill 111606

Spill Date: 11/16/2006 Case Closed: 11/21/2006

Substance ID: Hazardous Substance

Substance Subject Type: Glycol, Other Substance Area: Bristol Bay Area Name: Central Alaska

Quantity Released: 50

Quantity Potential:

Unit:

Gallons

Cause:

Human Error

Cause Type:

Human Factors

Responsible Party: MANOKOTAK POWER - NO ENTRY, NO ENTRY

Response: Phone Follow-up

Source Type: Drum(s)
Latitude: 58.97979
Longitude: -159.0591

Facility ID: 97269932201
Facility Type: Power Generation
Facilty Subject Type: Not reported
Region: Bristol Bay Borough

Spill ID: 9090

Spill Name: MANOKOTAK POWER PLANT

Spill Date: 11/18/1997
Case Closed: 08/31/1998
Substance ID: Noncrude Oil
Substance Subject Type: Diesel
Substance Area: Bristol Bay
Area Name: Central Alaska

Quantity Released: 200

Quantity Potential:

Unit:

Cause:

Cause Type:

Not reported

Gallons

Valve Failure

Structural/Mechanical

Responsible Party: MANOKOTAK POWER - NO ENTRY, NO ENTRY

Response: Phone Follow-up
Source Type: Not reported
Latitude: 58.97979
Longitude: -159.0591

Facility ID: 02269907801
Facility Type: Power Generation
Facility Subject Type: Not reported
Region: Bristol Bay Borough

Spill ID: 16291

Spill Name: Manokotak Power Plant Day Tank

Spill Date: 03/19/2002

Case Closed: 08/26/2003

Substance ID: Noncrude Oil

Substance Subject Type: Diesel

Substance Area: Bristol Bay

Area Name: Central Alaska

Quantity Released: 2164

Quantity Released: 2164

Quantity Potential: Not reported

MAP FINDINGS Map ID

Direction Distance

EDR ID Number Elevation Site Database(s) **EPA ID Number**

MANOKOTAK POWER PLANT IN VILLAGE (Continued)

S103578801

Unit: Gallons Cause: Valve Failure Cause Type: Structural/Mechanical

Responsible Party: MANOKOTAK POWER - NO ENTRY, NO ENTRY

Response: Field Visit/s Source Type: Tank, Other Latitude: 58.97979 Longitude: -159.0591

Facility ID: 09269931401 Facility Type: Power Generation Not reported Facilty Subject Type: Region: Bristol Bay Borough

Spill ID: 34753

Spill Name: Manokotak Power Plant Day Tank Overfill

Spill Date: 11/10/2009 Case Closed: 04/17/2012 Substance ID: Noncrude Oil Substance Subject Type: Diesel Substance Area: **Bristol Bay** Area Name: Central Alaska Quantity Released: 125

Quantity Potential: 10000 Unit: Gallons

Cause: **Equipment Failure** Cause Type: Structural/Mechanical

Responsible Party: Manokotak, Power Plant Operator - Alakayak, Michael

Response: Phone Follow-up

Source Type: Tank, Other, Aboveground

58.97979 Latitude: -159.0591 Longitude:

MANOKOTAK POWER PLANT IN VILLAGE А3

POWER PLANT

< 1/8 **MANOKOTAK CITY, AK 99628**

1 ft.

Site 3 of 3 in cluster A

Relative:

SPILLS:

Lower Actual: Facility ID: 11269908401 Facility Type: Power Generation Facilty Subject Type: Not reported Region: Bristol Bay Borough

20 ft.

Spill ID: 37361

Spill Name: Manokotak Power Plant

Spill Date: 03/25/2011 Case Closed: 10/08/2014 Substance ID: Noncrude Oil Substance Subject Type: Diesel Substance Area: **Bristol Bay** Area Name: Central Alaska

Quantity Released: 150 Quantity Potential: 5000 Gallons Unit: Cause: Human Error Cause Type: **Human Factors**

Responsible Party: Manokotak Native Village LTG - Nukwak, Kenneth

Response: Phone Follow-up SPILLS S110119152

N/A

MAP FINDINGS Map ID

Direction Distance

EDR ID Number Elevation Site Database(s) **EPA ID Number**

MANOKOTAK POWER PLANT IN VILLAGE (Continued)

Source Type: Tank, Other, Aboveground

Latitude: 58.97979 Longitude: -159.0591

RIDGE CONTRACTING INC **US MINES** 1016521904 4

N/A

S110119152

< 1/8 **DILLINGHAM (County), AK**

1 ft.

US MINES:

Mine ID: 5001997 Relative:

144200 000000 000000 000000 000000 000000 SIC code(s): Lower Entity name: EAGLE HORIZONTAL CRUSHER 1000-15-CC

Actual: Company: RIDGE CONTRACTING INC

8 ft. Status:

20131002 Status date: Operation Class: non-Coal Mining

Number of shops: Number of plants: 0 58 58 56 Latitude: Longitude: 159 03 24

5 **MANOKOTAK LANDFILL** SWF/LF S111703144

N/A

1/4-1/2 MANOKOTAK, AK

0.299 mi. 1580 ft.

Actual:

21 ft.

SSE

SWF/LF: Relative:

Facility Status: Closed Lower

> Permit: Not reported Not reported Permit Status: Non-Municipal Category:

Classification: Class III Landfill Issued Date: Not reported Not reported **Expiration Date:**

58.975291 / -159.051158 Lat/Long:

Meridian Range Township Section: Not reported Address: PO Box 170 Address2: Not reported City: Manokotak Zip Code: 99628-0170 Site Manager: Stephen Price

6 MANOKOTAK SCHOOL SHWS S104893597

ESE SALMON STREET 1/2-1 MANOKOTAK, AK 99628

0.682 mi. 3603 ft.

SHWS: Relative:

File Number: 2611.57.001 Higher

Joy Whitsel, 9074512156, joy.whitsel@alaska.gov Staff:

Actual: Facility Status: Active 777 ft. Latitude: 58.980258 N/A

INST CONTROL

BROWNFIELDS

Map ID MAP FINDINGS
Direction

Distance EDR ID Number Elevation Site EDR ID Number Database(s) EPA ID Number

MANOKOTAK SCHOOL (Continued)

S104893597

Longitude: -159.058445 Hazard ID: 2197

Problem: Numerous historical spills have occurred in the school area,

including the adjacent tank farm where large fuel releases have been reported. Most recent spill occurred 12/24/1994 when approximately 125 gallons of diesel fuel spilled with approximately 110 gallons recovered. School crawl space was impacted by this release. ADEC conducted limited site assessment in 1998. Results did not find any soil concentrations above cleanup levels, however additional areas of contamination may exist at the facility. Village of Manokotak obtains drinking water from groundwater well at 100 foot depth drilled by PHS. In 2001 a new school was constructed approximately 3.5 miles south of the old school site. The aboveground storage tank (AST) tank

farm was cleared of all but two tanks, one 6,500-gallon one

 $4,\!000\text{-gallon}$ AST. The 6,500-gallon tank was slated for removal, while

the 4,000-gallon tank was to be used as fuel storage for the

emergency generator. The Manokotak Village Council applied to the DEC Reuse and Redevelopment (R&R) Program for a DEC Brownfield Assessment

(DBA) in the spring 2009 DBA request period. Reassigned file no. to 2611.57.001, assigned to track assessment under the R&R

Program.Cross-reference to former CS file no. 2611.38.001.

/>

Actions:

Action Date: 9/5/1995

Action: Site Ranked Using the AHRM

DEC Staff: Bill Wright
Action Description: Initial ranking.

Action Date: 9/25/2015

Action: Institutional Control Update

DEC Staff: Joy Whitsel

Action Description: Received signed agreement from SWRSD establishing institutional

controls: 1) Installation of groundwater wells on the property of the Former Manokotak School requires DEC approval: 2) Access controls

need to be established, site characterization completed

Action Date: 9/15/2015

Action: Institutional Control Update

DEC Staff: Joy Whitsel

Action Description: Institutional controls (ICs) were established in 2012 restricting

drinking water wells, but no confirmation from Southwest Region School District (SWRSD) was ever documented. A letter was sent to

SWRSD requesting agreement and verification of the ICs.

Action Date: 9/14/2015

Action: Potentially Responsible Party/State Interest Letter

DEC Staff: Joy Whitsel

Action Description: PRP letter was sent to Bureau of Indian Affairs and to Southwest

Region School District. Alaska Department of Education and Early Development was also identified as a PRP but was sent an email

notification of responsibility.

Action Date: 9/10/1998

Action: Site Characterization Workplan Approved

DEC Staff: John Mazzitello

Action Description: ADEC approved work plan submitted by E&E to conduct site assessment

activities at the school. The purpose of the work plan is to define

Map ID MAP FINDINGS
Direction

Distance

Elevation Site Database(s) EPA ID Number

MANOKOTAK SCHOOL (Continued)

S104893597

EDR ID Number

the extent of soils and groundwater contamination at the school, and

recommend remedial options.

Action Date: 8/5/2015

Action: Update or Other Action

DEC Staff: Joy Whitsel

Action Description: Evaluating site history for evidence of contamination during Bureau

of Indian Affairs ownership.

Action Date: 8/13/2009

Action: Update or Other Action
DEC Staff: Deborah Williams

Action Description: DEC received a response from the Alaska State Historic Perservation

Office (SHPO) for the assessment work planned for FY2010/2011. SHPO

stated that this site may be considered a potentially eligible historic property. They recommend that this site be eval

Action Date: 7/27/2007

Action: Update or Other Action
DEC Staff: Shannon Oelkers

Action Description: Site transferred from Oelkers to Horwath.

Action Date: 7/18/2007

Action: Exposure Tracking Model Ranking

DEC Staff: Shannon Oelkers

Action Description: Initial ranking with ETM completed for source Area ID: 73175 School

AST Tank Farm

Action Date: 7/18/2007

Action: Exposure Tracking Model Ranking

DEC Staff: Not reported

Action Description: Updated Ranking Complete for Source Area: 73175 (Autogenerated Action)

Not reported

Action Date: 7/18/2007

Action: Exposure Tracking Model Ranking

DEC Staff: Not reported

Action Description: Intitial Ranking Complete for Source Area: 73175 (Autogenerated

Action)

Action Date: 6/4/2009

Action: Update or Other Action

DEC Staff: Sonja Benson

Action Description: Site transferred to Fairbanks for work under the R&R Program, in

response to request from community. File number reassigned to 2611.57.001. Cross-reference former CS file no. 2611.38.001, contains

previous reports and cleanup history.

Action Date: 6/27/2012

Action: Update or Other Action

DEC Staff: Sonja Benson

Action Description: Letter sent to Manokotak Village Council informing them that their

application for a DEC Brownfield Assessment or Cleanup (DBAC) of this

site ranked sixth among those received, and that funding of all

ranked projects was unlikely.

Action Date: 6/17/2009

Map ID MAP FINDINGS

Direction Distance Elevation

evation Site Database(s) EPA ID Number

MANOKOTAK SCHOOL (Continued)

S104893597

EDR ID Number

Action: Brownfield Confirmed

DEC Staff: Sonja Benson

Action Description: Letter of notification sent to Manokotak Village Council, informing them that their site is slated for work during Fiscal Year 2010 under

the R&R Program. CIP budget funds moved up from FY2014 to FY2010.

Action Date: 5/28/2009

Action: Update or Other Action
DEC Staff: Alyce Hughey

Action Description: File Transferred from Soldotna to Anchorage 6-1-09. Project Manager

changed from Don Fritz to Linda Nuechterlein.

Action Date: 5/20/2002

Action: Update or Other Action DEC Staff: Shannon Oelkers

Action Description: ADEC received the report " Aboveground Storage Tank Farms Site

Reconnaissance: Manokotak, Alaska." Report identifies the construction of a new school building and the clearing of the old school tank farm. Added to database in 2007 to reflect ad

Action Date: 5/20/2002

Action: Update or Other Action
DEC Staff: Shannon Oelkers

Action Description: ADEC received the report Aboveground Storage Tank Farms Site

Reconnaissance: Manokotak, Alaska. Report identifies the construction

of a new school building and the clearing of the old school tank farm. Added to database in 2007 to reflect administrative

Action Date: 3/3/1995

Action: Update or Other Action DEC Staff: Ray Dronenburg

Action Description: Reviewed monthly progress report.

Action Date: 3/25/2010

Action: Update or Other Action
DEC Staff: Deborah Williams

Action Description: Notice to proceed was awarded to Hoefler through SPAR term contract.

Project managed under Reuse and Redevelopment Program.

Action Date: 3/22/2012

Action: Exposure Tracking Model Ranking

DEC Staff: Melinda Brunner

Action Description: A new updated ranking with ETM has been completed for source area

73175 School AST Tank Farm.

Action Date: 2/7/1995

Action: Site Added to Database DEC Staff: Ray Dronenburg Action Description: Site added to database.

Action Date: 2/5/2007

Action: Update or Other Action DEC Staff: Linda Nuechterlein

Action Description: Site transferred to Shannon Oelkers.

Action Date: 2/27/2009

Action: Brownfield Inventory

Map ID MAP FINDINGS
Direction

Distance Flevation Site

Elevation Site Database(s) EPA ID Number

MANOKOTAK SCHOOL (Continued)

S104893597

EDR ID Number

DEC Staff: Sonja Benson

Action Description: Site is subject of a DEC Brownfield Assessment (DBA) request on the

part of the community. The Manokotak Village Council's environmental staff applied for a DBA with assistance from the Bristol Bay Native Association's brownfield coordinator. The

Action Date: 2/15/1995

Action: Update or Other Action DEC Staff: Ray Dronenburg

Action Description: (Old R:Base Action Code = SA1R - Phase I SA Review (CS/LUST)).

Approved air quality monitoring plan.

Action Date: 12/8/2010

Action: Report or Workplan Review - Other

DEC Staff: Sonja Benson

Action Description: DEC received a Property Assessment and Cleanup Plan for the former

Manokotak School. September 21 - 24, 2010, SLR conducted a site visit in Manokotak. SLR observed the Former Manokotak School site, which

includes the abandoned BIA School building, two fo

Action Date: 12/27/1995

Action: Update or Other Action

DEC Staff: Bill Wright

Action Description: (Old R:Base Action Code = RPL3 - RP Determined and Action Request).

RP letter sent and requested a corrective action plan.

Action Date: 12/27/1994
Action: Notice of Violation
DEC Staff: Ray Dronenburg

Action Description: Notice of violation sent regarding spill.

Action Date: 12/27/1994

Action: Update or Other Action DEC Staff: Ray Dronenburg

Action Description: (Old R:Base Action Code = RPL1 - Initiate Dialog with RP). Initiate

dialogue with potentially responsible party.

Action Date: 10/26/1995

Action: Cleanup Plan Approved

DEC Staff: Bill Wright

Action Description: (Old R:Base Action Code = RAPA - Remedial Action Plan Approval).

Reviewed and approved a remedial action plan.

Action Date: 1/9/1997

Action: Update or Other Action

DEC Staff: Shah Alam

Action Description: On 4/9/1996, Environmental Management, Inc. submitted a

"Manokotak School Spill Release Investigation and Corrective Action Report" dated March 1996. The Report documented contaminated soils near the Manokotak School related to the spill

that o

Action Date: 1/9/1997

Action: Update or Other Action

DEC Staff: Shah Alam

Action Description: On 4/9/1996, Environmental Management, Inc. submitted a Manokotak

School Spill Release Investigation and Corrective Action Report dated

Map ID MAP FINDINGS Direction

Distance

Elevation Site **EPA ID Number** Database(s)

MANOKOTAK SCHOOL (Continued)

S104893597

EDR ID Number

March 1996. The Report documented contaminated soils near the

Manokotak School related to the spill that occurred in D

Action Date:

Action: Site Characterization Report Approved

DEC Staff: John Mazzitello

Action Description: Report entitled " Final Site Assessment Report, Manokotak School,

Manokotak, Alaska" by E&E, dated January 1999 was received by ADEC. Results indicate that contamination of soil and groundwater by

DRO above ADEC cleanup standards does exist. Ho

Action Date: 1/27/1999

Action: Update or Other Action DEC Staff: Shannon Oelkers

Action Description: Analytical results from the E&E Final Report were as follows: DRO was

detected at 720 mg/kg at 9.5 feet bgs, and 3,000 mg/kg at 24.5 feet bgs. GRO was not detected. BTEX results were low-level, however cross

contamination was suspected, due to to BTEX

1/27/1999 Action Date:

Site Characterization Report Approved Action:

DEC Staff: John Mazzitello

Action Description: Report entitled Final Site Assessment Report, Manokotak School.

Manokotak, Alaska by E&E, dated January 1999 was received by ADEC. Results indicate that contamination of soil and groundwater by DRO

above ADEC cleanup standards does exist. However, the n

Action Date: 1/24/1995

Action: Update or Other Action DEC Staff: Ray Dronenburg

(Old R:Base Action Code = SA2R - Phase II SA Review (CS)). Reviewed Action Description:

progress report on spill cleanup - indoor - air quality.

Action Date: 1/10/1995

Update or Other Action Action: DEC Staff: Ray Dronenburg

(Old R:Base Action Code = RARR - Remedial Action Report Review (CS)). Action Description:

Reviewed a Remedial Action Report.

Contaminants:

Staff: Joy Whitsel, 9074512156, joy.whitsel@alaska.gov

Contaminate Name1: Manokotak School Contaminate Level Description1: Not reported Contaminate Media1: Not reported

Control Type: Not reported Control Details Description1: Not reported Contaminant CTD: Not reported Contaminant CDR: Not reported Not reported Comments:

Inst Control:

Hazard ID: 2197 Facility Status: Active Map ID MAP FINDINGS

Direction Distance

EDR ID Number Elevation Site Database(s) **EPA ID Number**

MANOKOTAK SCHOOL (Continued)

Action: Institutional Control Update

9/15/2015 Action Date: File Number: 2611.57.001

Hazard ID: 2197 Facility Status: Active

Institutional Control Update Action:

Action Date: 9/25/2015 File Number: 2611.57.001

BROWNFIELDS:

Facility Status: Active File Number: 2611.57.001 Action Date: 2/27/2009

Action: **Brownfield Inventory**

Hazard ID: 2197

Facility Status: Active File Number: 2611.57.001 Action Date: 6/17/2009

Brownfield Confirmed Action:

Hazard ID: 2197 S104893597

Count: 0 records. ORPHAN SUMMARY

City EDR ID Site Name Site Address Zip Database(s)

NO SITES FOUND

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 12/05/2016 Source: EPA
Date Data Arrived at EDR: 01/05/2017 Telephone: N/A

Number of Days to Update: 29 Next Scheduled EDR Contact: 04/17/2017
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources

EPA's Environmental Photographic Interpretation Center (EPIC)

Telephone: 202-564-7333

EPA Region 1 EPA Region 6

Telephone 617-918-1143 Telephone: 214-655-6659

EPA Region 3 EPA Region 7

Telephone 215-814-5418 Telephone: 913-551-7247

EPA Region 4 EPA Region 8

Telephone 404-562-8033 Telephone: 303-312-6774

EPA Region 5 EPA Region 9

Telephone 312-886-6686 Telephone: 415-947-4246

EPA Region 10

Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 12/05/2016 Source: EPA
Date Data Arrived at EDR: 01/05/2017 Telephone: N/A

Number of Days to Update: 29 Next Scheduled EDR Contact: 04/17/2017
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Source: EPA

Date of Government Version: 10/15/1991 Date Data Arrived at EDR: 02/02/1994 Date Made Active in Reports: 03/30/1994

Number of Days to Update: 56

Telephone: 202-564-4267 Last EDR Contact: 08/15/2011

Next Scheduled EDR Contact: 11/28/2011 Data Release Frequency: No Update Planned

Federal Delisted NPL site list

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 12/05/2016 Date Data Arrived at EDR: 01/05/2017 Date Made Active in Reports: 02/03/2017

Number of Days to Update: 29

Source: EPA Telephone: N/A

Last EDR Contact: 03/02/2017

Next Scheduled EDR Contact: 04/17/2017 Data Release Frequency: Quarterly

Federal CERCLIS list

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 09/14/2016 Date Data Arrived at EDR: 10/04/2016 Date Made Active in Reports: 10/21/2016

Number of Days to Update: 17

Source: Environmental Protection Agency

Telephone: 703-603-8704 Last EDR Contact: 01/05/2017

Next Scheduled EDR Contact: 04/17/2017 Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly know as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 10/10/2016 Date Data Arrived at EDR: 10/20/2016 Date Made Active in Reports: 01/06/2017

Number of Days to Update: 78

Source: EPA

Telephone: 800-424-9346 Last EDR Contact: 03/02/2017

Next Scheduled EDR Contact: 05/01/2017 Data Release Frequency: Quarterly

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 10/10/2016 Date Data Arrived at EDR: 10/20/2016 Date Made Active in Reports: 01/06/2017

Number of Days to Update: 78

Source: EPA

Telephone: 800-424-9346 Last EDR Contact: 03/02/2017

Next Scheduled EDR Contact: 05/01/2017 Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 12/12/2016 Date Data Arrived at EDR: 12/28/2016 Date Made Active in Reports: 02/10/2017

Number of Days to Update: 44

Source: EPA

Telephone: 800-424-9346 Last EDR Contact: 03/02/2017

Next Scheduled EDR Contact: 04/10/2017 Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 12/12/2016 Date Data Arrived at EDR: 12/28/2016 Date Made Active in Reports: 02/10/2017

Number of Days to Update: 44

Source: Environmental Protection Agency

Telephone: (206) 553-1200 Last EDR Contact: 03/02/2017

Next Scheduled EDR Contact: 04/10/2017 Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 12/12/2016 Date Data Arrived at EDR: 12/28/2016 Date Made Active in Reports: 02/10/2017

Number of Days to Update: 44

Source: Environmental Protection Agency

Telephone: (206) 553-1200 Last EDR Contact: 03/02/2017

Next Scheduled EDR Contact: 04/10/2017 Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 12/12/2016 Date Data Arrived at EDR: 12/28/2016 Date Made Active in Reports: 02/10/2017

Number of Days to Update: 44

Source: Environmental Protection Agency

Telephone: (206) 553-1200 Last EDR Contact: 03/02/2017

Next Scheduled EDR Contact: 04/10/2017 Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 12/12/2016 Date Data Arrived at EDR: 12/28/2016 Date Made Active in Reports: 02/10/2017

Number of Days to Update: 44

Source: Environmental Protection Agency

Telephone: (206) 553-1200 Last EDR Contact: 03/02/2017

Next Scheduled EDR Contact: 04/10/2017 Data Release Frequency: Varies

Federal institutional controls / engineering controls registries

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 05/28/2015 Date Data Arrived at EDR: 05/29/2015 Date Made Active in Reports: 06/11/2015

Number of Days to Update: 13

Source: Department of the Navy Telephone: 843-820-7326 Last EDR Contact: 02/13/2017

Next Scheduled EDR Contact: 05/29/2017 Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 11/15/2016 Date Data Arrived at EDR: 11/29/2016 Date Made Active in Reports: 02/03/2017

Number of Days to Update: 66

Source: Environmental Protection Agency

Telephone: 703-603-0695 Last EDR Contact: 02/28/2017

Next Scheduled EDR Contact: 06/12/2017 Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 11/15/2016 Date Data Arrived at EDR: 11/29/2016 Date Made Active in Reports: 02/03/2017

Number of Days to Update: 66

Source: Environmental Protection Agency

Telephone: 703-603-0695 Last EDR Contact: 02/28/2017

Next Scheduled EDR Contact: 06/12/2017 Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous

substances.

Date of Government Version: 09/26/2016 Date Data Arrived at EDR: 09/29/2016 Date Made Active in Reports: 11/11/2016

Number of Days to Update: 43

Source: National Response Center, United States Coast Guard

Telephone: 202-267-2180 Last EDR Contact: 12/28/2016

Next Scheduled EDR Contact: 04/10/2017 Data Release Frequency: Annually

State- and tribal - equivalent CERCLIS

SHWS: Contaminated Sites Database

State Hazardous Waste Sites. State hazardous waste site records are the states' equivalent to CERCLIS. These sites may or may not already be listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties. Available information varies by state.

Date of Government Version: 01/03/2017 Date Data Arrived at EDR: 01/04/2017 Date Made Active in Reports: 01/10/2017

Number of Days to Update: 6

Source: Department of Environmental Conservation

Telephone: 907-451-2143 Last EDR Contact: 02/13/2017

Next Scheduled EDR Contact: 05/29/2017 Data Release Frequency: Semi-Annually

State and tribal landfill and/or solid waste disposal site lists

SWF/LF: Solid Waste Facilities

Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 12/27/2016 Date Data Arrived at EDR: 12/28/2016 Date Made Active in Reports: 01/10/2017

Number of Days to Update: 13

Source: Department of Environmental Conservation

Telephone: 907-269-7632 Last EDR Contact: 03/23/2017

Next Scheduled EDR Contact: 01/09/2047 Data Release Frequency: Semi-Annually

State and tribal leaking storage tank lists

LUST: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 11/14/2016 Date Data Arrived at EDR: 11/15/2016 Date Made Active in Reports: 01/10/2017

Number of Days to Update: 56

Source: Department of Environmental Conservation

Telephone: 907-465-5301 Last EDR Contact: 02/15/2017

Next Scheduled EDR Contact: 05/29/2017 Data Release Frequency: Semi-Annually

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land

Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 02/17/2016 Date Data Arrived at EDR: 04/27/2016 Date Made Active in Reports: 06/03/2016

Number of Days to Update: 37

Source: EPA, Region 5 Telephone: 312-886-7439 Last EDR Contact: 01/26/2017

Next Scheduled EDR Contact: 05/08/2017 Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 12/11/2015 Date Data Arrived at EDR: 02/19/2016 Date Made Active in Reports: 06/03/2016 Number of Days to Update: 105 Source: EPA Region 6 Telephone: 214-665-6597 Last EDR Contact: 01/26/2017

Next Scheduled EDR Contact: 05/08/2017 Data Release Frequency: Varies

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 01/07/2016 Date Data Arrived at EDR: 01/08/2016 Date Made Active in Reports: 02/18/2016

Telephone: 206-553-2857 Last EDR Contact: 01/26/2017

Source: EPA Region 10

Number of Days to Update: 41

Next Scheduled EDR Contact: 05/08/2017 Data Release Frequency: Quarterly

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 02/25/2016
Date Data Arrived at EDR: 04/27/2016
Date Made Active in Reports: 06/03/2016

Source: Environmental Protection Agency Telephone: 415-972-3372

Last EDR Contact: 01/26/2017

Number of Days to Update: 37

Next Scheduled EDR Contact: 05/08/2017 Data Release Frequency: Quarterly

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 10/13/2015 Date Data Arrived at EDR: 10/23/2015 Date Made Active in Reports: 02/18/2016 Number of Days to Update: 118

Source: EPA Region 8 Telephone: 303-312-6271 Last EDR Contact: 01/26/2017

Next Scheduled EDR Contact: 05/08/2017 Data Release Frequency: Quarterly

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 10/09/2015 Date Data Arrived at EDR: 02/12/2016 Date Made Active in Reports: 06/03/2016

Source: EPA Region 7 Telephone: 913-551-7003 Last EDR Contact: 01/26/2017

Number of Days to Update: 112

Next Scheduled EDR Contact: 05/08/2017 Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 02/05/2016 Date Data Arrived at EDR: 04/29/2016 Date Made Active in Reports: 06/03/2016

Source: EPA Region 4 Telephone: 404-562-8677 Last EDR Contact: 01/24/2017

Number of Days to Update: 35

Next Scheduled EDR Contact: 05/08/2017 Data Release Frequency: Semi-Annually

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 10/27/2015 Date Data Arrived at EDR: 10/29/2015 Date Made Active in Reports: 01/04/2016 Source: EPA Region 1 Telephone: 617-918-1313 Last EDR Contact: 01/26/2017

Number of Days to Update: 67

Next Scheduled EDR Contact: 05/08/2017 Data Release Frequency: Varies

State and tribal registered storage tank lists

FEMA UST: Underground Storage Tank Listing

A listing of all FEMA owned underground storage tanks.

Date of Government Version: 01/01/2010 Date Data Arrived at EDR: 02/16/2010 Date Made Active in Reports: 04/12/2010

Number of Days to Update: 55

Source: FEMA

Telephone: 202-646-5797 Last EDR Contact: 01/23/2017

Next Scheduled EDR Contact: 04/24/2017 Data Release Frequency: Varies

UST: Underground Storage Tank Database

Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 11/14/2016 Date Data Arrived at EDR: 11/15/2016 Date Made Active in Reports: 01/10/2017

Number of Days to Update: 56

Source: Department of Environmental Conservation

Telephone: 907-269-7504 Last EDR Contact: 02/15/2017

Next Scheduled EDR Contact: 05/29/2017 Data Release Frequency: Semi-Annually

AST: Regulated Aboveground Storage Tanks

The list covers "regulated" facilities with storage capacities above 10,000 barrels (or 5,000 barrels of crude).

Date of Government Version: 01/05/2005 Date Data Arrived at EDR: 01/06/2005 Date Made Active in Reports: 02/02/2005

Number of Days to Update: 27

Source: Department of Environmental Conservation

Telephone: 907-465-5231 Last EDR Contact: 02/24/2017

Next Scheduled EDR Contact: 06/12/2017 Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 01/26/2016 Date Data Arrived at EDR: 02/05/2016 Date Made Active in Reports: 06/03/2016

Number of Days to Update: 119

Source: EPA Region 8 Telephone: 303-312-6137 Last EDR Contact: 01/26/2017

Next Scheduled EDR Contact: 05/08/2017 Data Release Frequency: Quarterly

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 02/25/2016 Date Data Arrived at EDR: 04/27/2016 Date Made Active in Reports: 06/03/2016

Number of Days to Update: 37

Source: EPA Region 9 Telephone: 415-972-3368 Last EDR Contact: 01/26/2017

Next Scheduled EDR Contact: 05/08/2017 Data Release Frequency: Quarterly

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 09/23/2014 Date Data Arrived at EDR: 11/25/2014 Date Made Active in Reports: 01/29/2015

Number of Days to Update: 65

Source: EPA Region 7 Telephone: 913-551-7003 Last EDR Contact: 01/26/2017

Next Scheduled EDR Contact: 05/08/2017 Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes). Source: EPA Region 6

Date of Government Version: 12/03/2015 Date Data Arrived at EDR: 02/04/2016 Date Made Active in Reports: 06/03/2016

Telephone: 214-665-7591 Last EDR Contact: 01/26/2017 Number of Days to Update: 120

Next Scheduled EDR Contact: 05/08/2017 Data Release Frequency: Semi-Annually

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 11/05/2015 Date Data Arrived at EDR: 11/13/2015 Date Made Active in Reports: 01/04/2016 Source: EPA Region 5 Telephone: 312-886-6136 Last EDR Contact: 01/26/2017

Number of Days to Update: 52

Next Scheduled EDR Contact: 05/08/2017 Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 02/05/2016 Date Data Arrived at EDR: 04/29/2016 Date Made Active in Reports: 06/03/2016 Source: EPA Region 4 Telephone: 404-562-9424 Last EDR Contact: 01/24/2017

Number of Days to Update: 35

Next Scheduled EDR Contact: 05/08/2017 Data Release Frequency: Semi-Annually

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 01/07/2016 Date Data Arrived at EDR: 01/08/2016 Date Made Active in Reports: 02/18/2016

Number of Days to Update: 41

Source: EPA Region 10 Telephone: 206-553-2857 Last EDR Contact: 01/26/2017

Next Scheduled EDR Contact: 05/08/2017 Data Release Frequency: Quarterly

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 10/20/2015 Date Data Arrived at EDR: 10/29/2015 Date Made Active in Reports: 01/04/2016

Number of Days to Update: 67

Source: EPA, Region 1 Telephone: 617-918-1313 Last EDR Contact: 01/26/2017

Next Scheduled EDR Contact: 05/08/2017 Data Release Frequency: Varies

State and tribal institutional control / engineering control registries

ENG CONTROLS: Engineering Controls Site Listing

A listing of sites with engineering controls in place included in the Contaminated Sites.

Date of Government Version: 01/03/2017 Date Data Arrived at EDR: 01/04/2017 Date Made Active in Reports: 01/10/2017

Number of Days to Update: 6

Source: Department of Environmental Conservation

Telephone: 907-451-2143 Last EDR Contact: 02/13/2017

Next Scheduled EDR Contact: 05/29/2017 Data Release Frequency: Quarterly

Inst Control: Contaminated Sites with Institutional Controls Contaminated sites that have institutional controls.

Date of Government Version: 01/03/2017 Date Data Arrived at EDR: 01/04/2017 Date Made Active in Reports: 01/10/2017

Number of Days to Update: 6

Source: Department of Environmental Conservation

Telephone: 907-451-2143 Last EDR Contact: 02/13/2017

Next Scheduled EDR Contact: 05/29/2017 Data Release Frequency: Semi-Annually

State and tribal voluntary cleanup sites

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng

A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008 Date Data Arrived at EDR: 04/22/2008 Date Made Active in Reports: 05/19/2008

Number of Days to Update: 27

Source: EPA, Region 7 Telephone: 913-551-7365 Last EDR Contact: 04/20/2009

Next Scheduled EDR Contact: 07/20/2009 Data Release Frequency: Varies

INDIAN VCP R1: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015 Date Data Arrived at EDR: 09/29/2015 Date Made Active in Reports: 02/18/2016

Number of Days to Update: 142

Source: EPA, Region 1 Telephone: 617-918-1102 Last EDR Contact: 03/27/2017

Next Scheduled EDR Contact: 07/10/2017 Data Release Frequency: Varies

VCP: Voluntary Cleanup Program sites

Sites involved in the Voluntary Cleanup Program.

Date of Government Version: 11/02/2016 Date Data Arrived at EDR: 12/02/2016 Date Made Active in Reports: 01/10/2017

Number of Days to Update: 39

Source: Department of Environmental Conservation

Telephone: 907-451-2143 Last EDR Contact: 03/13/2017

Next Scheduled EDR Contact: 06/12/2017 Data Release Frequency: Varies

State and tribal Brownfields sites

BROWNFIELDS: Identified and/or Proposed Brownfields Sites

Brownfield properties are defined by U.S Environmental Protection Agency (EPA) as "real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contamination." DEC is developing resources to assist eligible entities in Alaska in applying for EPA brownfields grants. The program also will provide technical assistance and perform some site assessments, The purpose of these assessments is to assist local redevelopment efforts on previously contaminated properties that are vacant or underused.

Date of Government Version: 01/03/2017 Date Data Arrived at EDR: 01/04/2017 Date Made Active in Reports: 01/10/2017

Number of Days to Update: 6

Source: Department of Environmental Conservation

Telephone: 907-451-2166 Last EDR Contact: 02/13/2017

Next Scheduled EDR Contact: 05/29/2017 Data Release Frequency: Varies

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 12/19/2016 Date Data Arrived at EDR: 12/20/2016 Date Made Active in Reports: 02/10/2017

Number of Days to Update: 52

Source: Environmental Protection Agency

Telephone: 202-566-2777 Last EDR Contact: 03/02/2017

Next Scheduled EDR Contact: 07/03/2017 Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

SWRCY: Recycling Facilities

A listing of Recycling centers in the state of Alaska.

Date of Government Version: 12/29/2014 Date Data Arrived at EDR: 12/30/2014 Date Made Active in Reports: 02/02/2015

Number of Days to Update: 34

Source: Department of Environmental Conservation

Telephone: 907-269-7802 Last EDR Contact: 03/23/2017

Next Scheduled EDR Contact: 07/10/2017 Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands

Location of open dumps on Indian land.

Date of Government Version: 12/31/1998 Date Data Arrived at EDR: 12/03/2007 Date Made Active in Reports: 01/24/2008

Number of Days to Update: 52

Source: Environmental Protection Agency

Telephone: 703-308-8245 Last EDR Contact: 10/31/2016

Next Scheduled EDR Contact: 02/13/2017 Data Release Frequency: Varies

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258

Subtitle D Criteria.

Date of Government Version: 06/30/1985 Date Data Arrived at EDR: 08/09/2004 Date Made Active in Reports: 09/17/2004

Number of Days to Update: 39

Source: Environmental Protection Agency

Telephone: 800-424-9346 Last EDR Contact: 06/09/2004 Next Scheduled EDR Contact: N/A

Data Release Frequency: No Update Planned

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside

County and northern Imperial County, California.

Date of Government Version: 01/12/2009 Date Data Arrived at EDR: 05/07/2009 Date Made Active in Reports: 09/21/2009

Number of Days to Update: 137

Source: EPA, Region 9 Telephone: 415-947-4219 Last EDR Contact: 01/23/2017

Next Scheduled EDR Contact: 05/08/2017 Data Release Frequency: No Update Planned

IHS OPEN DUMPS: Open Dumps on Indian Land

A listing of all open dumps located on Indian Land in the United States.

Date of Government Version: 04/01/2014 Date Data Arrived at EDR: 08/06/2014 Date Made Active in Reports: 01/29/2015

Number of Days to Update: 176

Source: Department of Health & Human Serivces, Indian Health Service

Telephone: 301-443-1452 Last EDR Contact: 01/30/2017

Next Scheduled EDR Contact: 05/08/2017

Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 09/30/2016 Date Data Arrived at EDR: 01/05/2017 Date Made Active in Reports: 02/10/2017

Number of Days to Update: 36

Source: Drug Enforcement Administration

Telephone: 202-307-1000 Last EDR Contact: 02/28/2017

Next Scheduled EDR Contact: 06/12/2017 Data Release Frequency: No Update Planned

CDL: Illegal Drug Manufacturing Sites

A list of properties that have been determined to be illegal drug manufacturing sites.

Date of Government Version: 05/26/2016 Date Data Arrived at EDR: 08/16/2016 Date Made Active in Reports: 09/19/2016

Number of Days to Update: 34

Source: Department of Environmental Conservation

Telephone: 907-269-7543 Last EDR Contact: 02/14/2017

Next Scheduled EDR Contact: 05/29/2017 Data Release Frequency: Varies

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 09/30/2016 Date Data Arrived at EDR: 12/05/2016 Date Made Active in Reports: 02/10/2017

Number of Days to Update: 67

Source: Drug Enforcement Administration

Telephone: 202-307-1000 Last EDR Contact: 02/28/2017

Next Scheduled EDR Contact: 06/12/2017 Data Release Frequency: Quarterly

Local Land Records

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 02/18/2014 Date Data Arrived at EDR: 03/18/2014 Date Made Active in Reports: 04/24/2014

Number of Days to Update: 37

Source: Environmental Protection Agency

Telephone: 202-564-6023 Last EDR Contact: 01/24/2017

Next Scheduled EDR Contact: 05/08/2017 Data Release Frequency: Varies

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 12/28/2016 Date Data Arrived at EDR: 12/28/2016 Date Made Active in Reports: 02/03/2017

Number of Days to Update: 37

Source: U.S. Department of Transportation

Telephone: 202-366-4555 Last EDR Contact: 12/28/2016

Next Scheduled EDR Contact: 04/10/2017 Data Release Frequency: Annually

SPILLS: Spills Database

Oil and hazardous substance releases to be reported to the Department of Environmental Conservation.

Date of Government Version: 09/29/2016 Date Data Arrived at EDR: 10/04/2016 Date Made Active in Reports: 10/24/2016

Number of Days to Update: 20

Source: Department of Environmental Conservation

Telephone: 907-465-5242 Last EDR Contact: 01/03/2017

Next Scheduled EDR Contact: 04/17/2017 Data Release Frequency: Semi-Annually

SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 07/21/2010 Date Data Arrived at EDR: 01/03/2013 Date Made Active in Reports: 02/08/2013

Number of Days to Update: 36

Source: FirstSearch Telephone: N/A

Last EDR Contact: 01/03/2013 Next Scheduled EDR Contact: N/A

Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 12/12/2016 Date Data Arrived at EDR: 12/28/2016 Date Made Active in Reports: 02/10/2017

Number of Days to Update: 44

Source: Environmental Protection Agency

Telephone: (206) 553-1200 Last EDR Contact: 03/02/2017

Next Scheduled EDR Contact: 04/10/2017 Data Release Frequency: Varies

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 01/31/2015 Date Data Arrived at EDR: 07/08/2015 Date Made Active in Reports: 10/13/2015

Number of Days to Update: 97

Source: U.S. Army Corps of Engineers

Telephone: 202-528-4285 Last EDR Contact: 02/24/2017

Next Scheduled EDR Contact: 06/05/2017 Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005 Date Data Arrived at EDR: 11/10/2006 Date Made Active in Reports: 01/11/2007

Number of Days to Update: 62

Source: USGS

Telephone: 888-275-8747 Last EDR Contact: 01/13/2017

Next Scheduled EDR Contact: 04/24/2017 Data Release Frequency: Semi-Annually

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 12/31/2005 Date Data Arrived at EDR: 02/06/2006 Date Made Active in Reports: 01/11/2007

Number of Days to Update: 339

Source: U.S. Geological Survey Telephone: 888-275-8747 Last EDR Contact: 01/13/2017

Next Scheduled EDR Contact: 04/24/2017

Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 03/07/2011 Date Data Arrived at EDR: 03/09/2011 Date Made Active in Reports: 05/02/2011

Number of Days to Update: 54

Source: Environmental Protection Agency

Telephone: 615-532-8599 Last EDR Contact: 02/03/2017

Next Scheduled EDR Contact: 05/29/2017 Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 10/11/2016 Date Data Arrived at EDR: 11/16/2016 Date Made Active in Reports: 02/03/2017

Number of Days to Update: 79

Source: Environmental Protection Agency

Telephone: 202-566-1917 Last EDR Contact: 02/15/2017

Next Scheduled EDR Contact: 05/29/2017 Data Release Frequency: Quarterly

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014

Number of Days to Update: 88

Source: Environmental Protection Agency

Telephone: 617-520-3000 Last EDR Contact: 02/03/2017

Next Scheduled EDR Contact: 05/22/2017 Data Release Frequency: Quarterly

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 04/22/2013 Date Data Arrived at EDR: 03/03/2015 Date Made Active in Reports: 03/09/2015

Number of Days to Update: 6

Source: Environmental Protection Agency Telephone: 703-308-4044

Last EDR Contact: 02/10/2017

Next Scheduled EDR Contact: 05/22/2017

Data Release Frequency: Varies

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2012 Date Data Arrived at EDR: 01/15/2015 Date Made Active in Reports: 01/29/2015

Number of Days to Update: 14

Source: EPA

Telephone: 202-260-5521 Last EDR Contact: 03/24/2017

Next Scheduled EDR Contact: 07/03/2017 Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2014 Date Data Arrived at EDR: 11/24/2015 Date Made Active in Reports: 04/05/2016

Number of Days to Update: 133

Source: EPA

Telephone: 202-566-0250 Last EDR Contact: 02/24/2017

Next Scheduled EDR Contact: 06/05/2017 Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2009 Date Data Arrived at EDR: 12/10/2010 Date Made Active in Reports: 02/25/2011

Number of Days to Update: 77

Source: EPA Telephone: 202-564-4203

Last EDR Contact: 03/09/2017

Next Scheduled EDR Contact: 05/08/2017 Data Release Frequency: Annually

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 11/25/2013
Date Data Arrived at EDR: 12/12/2013

Date Made Active in Reports: 02/24/2014 Number of Days to Update: 74 Source: EPA

Telephone: 703-416-0223 Last EDR Contact: 03/06/2017

Next Scheduled EDR Contact: 06/19/2017 Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 08/01/2016 Date Data Arrived at EDR: 08/22/2016 Date Made Active in Reports: 11/11/2016

Number of Days to Update: 81

Source: Environmental Protection Agency

Telephone: 202-564-8600 Last EDR Contact: 01/23/2017

Next Scheduled EDR Contact: 05/08/2017 Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995 Date Data Arrived at EDR: 07/03/1995 Date Made Active in Reports: 08/07/1995

Number of Days to Update: 35

Source: EPA

Telephone: 202-564-4104 Last EDR Contact: 06/02/2008

Next Scheduled EDR Contact: 09/01/2008 Data Release Frequency: No Update Planned

PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 10/25/2013 Date Data Arrived at EDR: 10/17/2014 Date Made Active in Reports: 10/20/2014

Number of Days to Update: 3

Source: EPA

Telephone: 202-564-6023 Last EDR Contact: 02/10/2017

Next Scheduled EDR Contact: 05/22/2017 Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 01/20/2016 Date Data Arrived at EDR: 04/28/2016 Date Made Active in Reports: 09/02/2016

Number of Days to Update: 127

Source: EPA

Telephone: 202-566-0500 Last EDR Contact: 01/13/2017

Next Scheduled EDR Contact: 04/24/2017 Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 11/18/2016 Date Data Arrived at EDR: 11/23/2016 Date Made Active in Reports: 02/10/2017

Number of Days to Update: 79

Source: Environmental Protection Agency

Telephone: 202-564-5088 Last EDR Contact: 01/09/2017

Next Scheduled EDR Contact: 04/24/2017 Data Release Frequency: Quarterly

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009 Date Data Arrived at EDR: 04/16/2009 Date Made Active in Reports: 05/11/2009

Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances

Telephone: 202-566-1667 Last EDR Contact: 02/17/2017

Next Scheduled EDR Contact: 06/05/2017 Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act) A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009 Date Data Arrived at EDR: 04/16/2009 Date Made Active in Reports: 05/11/2009

Number of Days to Update: 25

Source: EPA

Telephone: 202-566-1667 Last EDR Contact: 02/17/2017

Next Scheduled EDR Contact: 06/05/2017 Data Release Frequency: Quarterly

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 08/30/2016 Date Data Arrived at EDR: 09/08/2016 Date Made Active in Reports: 10/21/2016

Number of Days to Update: 43

Source: Nuclear Regulatory Commission Telephone: 301-415-7169

Next Scheduled EDR Contact: 05/22/2017 Data Release Frequency: Quarterly

Last EDR Contact: 02/03/2017

COAL ASH DOE: Steam-Electric Plant Operation Data
A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005 Date Data Arrived at EDR: 08/07/2009 Date Made Active in Reports: 10/22/2009

Number of Days to Update: 76

Source: Department of Energy Telephone: 202-586-8719 Last EDR Contact: 03/06/2017

Next Scheduled EDR Contact: 06/19/2017 Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List

A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 07/01/2014 Date Data Arrived at EDR: 09/10/2014 Date Made Active in Reports: 10/20/2014

Number of Days to Update: 40

Source: Environmental Protection Agency

Telephone: N/A

Last EDR Contact: 03/06/2017

Next Scheduled EDR Contact: 06/19/2017 Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database

The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 02/01/2011 Date Data Arrived at EDR: 10/19/2011 Date Made Active in Reports: 01/10/2012

Number of Days to Update: 83

Source: Environmental Protection Agency

Telephone: 202-566-0517 Last EDR Contact: 01/29/2016

Next Scheduled EDR Contact: 05/08/2017

Data Release Frequency: Varies

RADINFO: Radiation Information Database

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 01/04/2017 Date Data Arrived at EDR: 01/06/2017 Date Made Active in Reports: 02/10/2017

Number of Days to Update: 35

Source: Environmental Protection Agency

Telephone: 202-343-9775 Last EDR Contact: 01/06/2017

Next Scheduled EDR Contact: 04/17/2017 Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing

A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006 Date Data Arrived at EDR: 03/01/2007 Date Made Active in Reports: 04/10/2007

Number of Days to Update: 40

Source: Environmental Protection Agency

Telephone: 202-564-2501 Last EDR Contact: 12/17/2007

Next Scheduled EDR Contact: 03/17/2008

Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006 Date Data Arrived at EDR: 03/01/2007 Date Made Active in Reports: 04/10/2007

Number of Days to Update: 40

Source: Environmental Protection Agency

Telephone: 202-564-2501 Last EDR Contact: 12/17/2008

Next Scheduled EDR Contact: 03/17/2008 Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 07/31/2012 Date Data Arrived at EDR: 08/07/2012 Date Made Active in Reports: 09/18/2012

Number of Days to Update: 42

Source: Department of Transporation, Office of Pipeline Safety

Telephone: 202-366-4595 Last EDR Contact: 02/01/2017

Next Scheduled EDR Contact: 05/08/2017 Data Release Frequency: Varies

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 09/30/2016 Date Data Arrived at EDR: 11/18/2016 Date Made Active in Reports: 02/03/2017

Number of Days to Update: 77

Source: Department of Justice, Consent Decree Library

Telephone: Varies

Last EDR Contact: 03/27/2017

Next Scheduled EDR Contact: 07/10/2017 Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2013 Date Data Arrived at EDR: 02/24/2015 Date Made Active in Reports: 09/30/2015

Number of Days to Update: 218

Source: EPA/NTIS Telephone: 800-424-9346 Last EDR Contact: 02/22/2017

Next Scheduled EDR Contact: 06/05/2017 Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2014 Date Data Arrived at EDR: 07/14/2015 Date Made Active in Reports: 01/10/2017

Number of Days to Update: 546

Source: USGS

Telephone: 202-208-3710 Last EDR Contact: 01/13/2017

Next Scheduled EDR Contact: 04/24/2017 Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 12/23/2016 Date Data Arrived at EDR: 12/27/2016 Date Made Active in Reports: 02/17/2017

Number of Days to Update: 52

Source: Department of Energy Telephone: 202-586-3559 Last EDR Contact: 02/03/2017

Next Scheduled EDR Contact: 05/22/2017 Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 09/14/2010 Date Data Arrived at EDR: 10/07/2011 Date Made Active in Reports: 03/01/2012

Number of Days to Update: 146

Source: Department of Energy Telephone: 505-845-0011 Last EDR Contact: 02/21/2017

Next Scheduled EDR Contact: 06/05/2017 Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 12/05/2016 Date Data Arrived at EDR: 01/05/2017 Date Made Active in Reports: 02/10/2017

Number of Days to Update: 36

Source: Environmental Protection Agency

Telephone: 703-603-8787 Last EDR Contact: 03/02/2017

Next Scheduled EDR Contact: 04/17/2017 Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites

may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001 Date Data Arrived at EDR: 10/27/2010 Date Made Active in Reports: 12/02/2010

Number of Days to Update: 36

Source: American Journal of Public Health Telephone: 703-305-6451

Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A

Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/12/2016 Date Data Arrived at EDR: 10/26/2016 Date Made Active in Reports: 02/03/2017

Number of Days to Update: 100

Source: EPA

Telephone: 202-564-2496 Last EDR Contact: 03/07/2017

Next Scheduled EDR Contact: 07/10/2017 Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data A listing of minor source facilities.

Date of Government Version: 10/12/2016 Date Data Arrived at EDR: 10/26/2016 Date Made Active in Reports: 02/03/2017

Number of Days to Update: 100

Source: EPA

Telephone: 202-564-2496 Last EDR Contact: 03/07/2017

Next Scheduled EDR Contact: 04/10/2017 Data Release Frequency: Annually

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 08/05/2016 Date Data Arrived at EDR: 09/01/2016 Date Made Active in Reports: 09/23/2016

Number of Days to Update: 22

Source: Department of Labor, Mine Safety and Health Administration

Telephone: 303-231-5959 Last EDR Contact: 02/28/2017

Next Scheduled EDR Contact: 06/12/2017 Data Release Frequency: Semi-Annually

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing

This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 12/05/2005 Date Data Arrived at EDR: 02/29/2008 Date Made Active in Reports: 04/18/2008

Number of Days to Update: 49

Source: USGS

Telephone: 703-648-7709 Last EDR Contact: 03/03/2017

Next Scheduled EDR Contact: 06/12/2017 Data Release Frequency: Varies

US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team

of the USGS.

Date of Government Version: 04/14/2011 Date Data Arrived at EDR: 06/08/2011 Date Made Active in Reports: 09/13/2011

Number of Days to Update: 97

Source: USGS

Telephone: 703-648-7709 Last EDR Contact: 03/03/2017

Next Scheduled EDR Contact: 06/12/2017 Data Release Frequency: Varies

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 07/15/2016 Date Data Arrived at EDR: 09/07/2016 Date Made Active in Reports: 11/11/2016

Number of Days to Update: 65

Source: EPA

Telephone: (206) 553-1200 Last EDR Contact: 03/06/2017

Next Scheduled EDR Contact: 06/19/2017 Data Release Frequency: Quarterly

UXO: Unexploded Ordnance Sites

A listing of unexploded ordnance site locations

Date of Government Version: 10/25/2015 Date Data Arrived at EDR: 01/29/2016 Date Made Active in Reports: 04/05/2016

Number of Days to Update: 67

Source: Department of Defense Telephone: 571-373-0407 Last EDR Contact: 01/20/2017

Next Scheduled EDR Contact: 05/01/2017 Data Release Frequency: Varies

DOCKET HWC: Hazardous Waste Compliance Docket Listing

A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 06/02/2016 Date Data Arrived at EDR: 06/03/2016 Date Made Active in Reports: 09/02/2016

Number of Days to Update: 91

Source: Environmental Protection Agency

Telephone: 202-564-0527 Last EDR Contact: 02/24/2017

Next Scheduled EDR Contact: 06/12/2017 Data Release Frequency: Varies

AIRS: AIRS Facility Listing

A listing of permitted airs facilities.

Date of Government Version: 10/07/2016 Date Data Arrived at EDR: 10/11/2016 Date Made Active in Reports: 10/24/2016

Number of Days to Update: 13

Source: Department of Environmental Conservation

Telephone: 907-451-2103 Last EDR Contact: 01/09/2017

Next Scheduled EDR Contact: 04/24/2017

Data Release Frequency: Varies

COAL ASH: Coal Ash Disposal Sites

A listing of coal ash disposal site locations.

Date of Government Version: 11/01/2016 Date Data Arrived at EDR: 12/27/2016 Date Made Active in Reports: 01/10/2017

Number of Days to Update: 14

DRYCLEANERS: Drycleaner Facility Listing
A listing of drycleaning facilities in Alaska.

Date of Government Version: 02/15/2006 Date Data Arrived at EDR: 02/16/2006 Date Made Active in Reports: 03/15/2006

Number of Days to Update: 27

Source: Department of Environmental Conservation

Telephone: 907-451-2135 Last EDR Contact: 03/23/2017

Next Scheduled EDR Contact: 07/10/2017 Data Release Frequency: Varies

Source: Department of Environmental Conservation

Telephone: 907-269-7577 Last EDR Contact: 03/23/2017

Next Scheduled EDR Contact: 07/10/2017 Data Release Frequency: No Update Planned

Financial Assurance 1: Financial Assurance Information Listing

Financial assurance information for underground storage tank facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 11/14/2016 Date Data Arrived at EDR: 11/15/2016 Date Made Active in Reports: 01/10/2017

Number of Days to Update: 56

Source: Department of Environmental Conservation

Telephone: 907-269-8149 Last EDR Contact: 02/15/2017

Next Scheduled EDR Contact: 05/29/2017 Data Release Frequency: Quarterly

Financial Assurance 2: Financial Assurance Information Listing

Financial Assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 04/24/2007 Date Data Arrived at EDR: 04/26/2007 Date Made Active in Reports: 05/14/2007

Number of Days to Update: 18

Source: Department of Environmental Conservation

Telephone: 907-269-7802 Last EDR Contact: 03/23/2017

Next Scheduled EDR Contact: 07/10/2017 Data Release Frequency: Varies

NPDES: Wastwater Discharge Permit Listing
A listing of permitted wastewater facilities.

Date of Government Version: 12/19/2016 Date Data Arrived at EDR: 12/20/2016 Date Made Active in Reports: 01/10/2017

Number of Days to Update: 21

Source: Department of Environmental Conservation

Telephone: 907-465-5480 Last EDR Contact: 03/21/2017

Next Scheduled EDR Contact: 07/03/2017 Data Release Frequency: Varies

UIC: UIC Information

A listing of underground injection control wells.

Date of Government Version: 11/14/2016 Date Data Arrived at EDR: 11/15/2016 Date Made Active in Reports: 01/10/2017

Number of Days to Update: 56

Source: Oil & Gas Conservation Commission

Telephone: 907-793-1224 Last EDR Contact: 02/15/2017

Next Scheduled EDR Contact: 05/29/2017 Data Release Frequency: Quarterly

FUELS PROGRAM: EPA Fuels Program Registered Listing

This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels

Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 11/21/2016 Date Data Arrived at EDR: 11/22/2016 Date Made Active in Reports: 02/03/2017

Number of Days to Update: 73

Source: EPA

Telephone: 800-385-6164 Last EDR Contact: 02/22/2017

Next Scheduled EDR Contact: 06/05/2017 Data Release Frequency: Quarterly

ECHO: Enforcement & Compliance History Information

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 12/11/2016 Date Data Arrived at EDR: 12/20/2016 Date Made Active in Reports: 02/17/2017

Number of Days to Update: 59

Source: Environmental Protection Agency

Telephone: 202-564-2280 Last EDR Contact: 03/21/2017

Next Scheduled EDR Contact: 07/03/2017 Data Release Frequency: Quarterly

ABANDONED MINES: Abandoned Mines

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by OSMRE to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Date of Government Version: 06/09/2016 Date Data Arrived at EDR: 06/13/2016 Date Made Active in Reports: 09/02/2016

Number of Days to Update: 81

Source: Department of Interior Telephone: 202-208-2609 Last EDR Contact: 03/13/2017

Next Scheduled EDR Contact: 06/26/2017 Data Release Frequency: Quarterly

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A

Number of Days to Update: N/A

Source: EDR, Inc. Telephone: N/A Last EDR Contact: N/A

Next Scheduled EDR Contact: N/A

Data Release Frequency: No Update Planned

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Environmental Conservation in Alaska.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/17/2014
Number of Days to Update: 200

Source: Department of Environmental Conservation

Telephone: N/A

Last EDR Contact: 06/01/2012 Next Scheduled EDR Contact: N/A Data Release Frequency: Varies

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Environmental Conservation in Alaska.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/04/2014
Number of Days to Update: 187

Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

Source: Department of Environmental Conservation

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

NY MANIFEST: Facility and Manifest Data

Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 01/30/2017 Date Data Arrived at EDR: 02/01/2017 Date Made Active in Reports: 02/13/2017

Number of Days to Update: 12

Source: Department of Environmental Conservation

Telephone: 518-402-8651 Last EDR Contact: 02/01/2017

Next Scheduled EDR Contact: 05/08/2017 Data Release Frequency: Annually

Oil/Gas Pipelines

Source: PennWell Corporation

Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Electric Power Transmission Line Data

Source: PennWell Corporation

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Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:

Source: American Hospital Association, Inc.

Telephone: 312-280-5991

The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing

Source: Centers for Medicare & Medicaid Services

Telephone: 410-786-3000

A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services,

a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes

Source: National Institutes of Health

Telephone: 301-594-6248

Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools

Source: National Center for Education Statistics

Telephone: 202-502-7300

The National Center for Education Statistics' primary database on elementary

and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are

comparable across all states.

Private Schools

Source: National Center for Education Statistics

Telephone: 202-502-7300

The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Child Care Facilities Database

Source: Department of Education & Early Development

Telephone: 907-465-2800

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.

Source: FEMA

Telephone: 877-336-2627

Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Classification and Mapping

Source: Alaska Natural Heritage Program

Telephone: 907-235-2218

Current USGS 7.5 Minute Topographic Map Source: U.S. Geological Survey

STREET AND ADDRESS INFORMATION

2008 TIGER© Map, produced by the U.S. Census Bureau.

GEOCHECK®-PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

2ND AND 3RD STREET PROJECT 2ND AND 3RD ST STREET MANOKOTAK, AK 99628

TARGET PROPERTY COORDINATES

Latitude (North): 58.980824 - 58° 58' 50.97" Longitude (West): 159.05596 - 159° 3' 21.46"

Universal Tranverse Mercator: Zone 4 UTM X (Meters): 496783.1 UTM Y (Meters): 6537709.5

Elevation: 30 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property: N/A

Source: USGS 7.5 min quad index

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principal investigative components:

- 1. Groundwater flow direction, and
- 2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

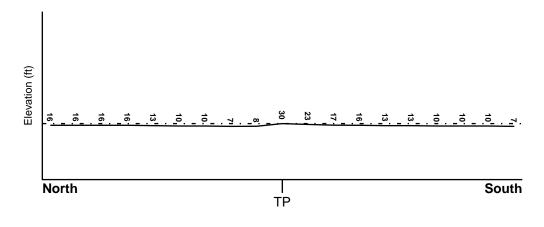
TOPOGRAPHIC INFORMATION

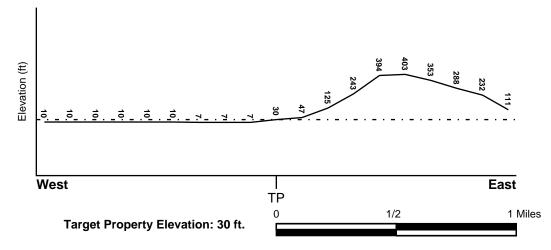
Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General West

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES





Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Flood Plain Panel at Target Property FEMA Source Type

Not Reported

Additional Panels in search area: FEMA Source Type

Not Reported

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property Data Coverage

Not Reported

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

LOCATION GENERAL DIRECTION

MAP ID FROM TP GROUNDWATER FLOW

Not Reported

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

GEOLOGIC AGE IDENTIFICATION

Era: - Category: -

System: -

Series: -

Code: N/A (decoded above as Era, System & Series)

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps. The following information is based on Soil Conservation Service STATSGO data.

Soil Component Name: HISTIC PERGELIC CRYAQUEPTS

Soil Surface Texture: peat

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high

water table, or are shallow to an impervious layer.

Soil Drainage Class: Poorly. Soils may have a saturated zone, a layer of low hydraulic

conductivity, or seepage. Depth to water table is less than 1 foot.

Hydric Status: Soil meets the requirements for a hydric soil.

Corrosion Potential - Uncoated Steel: HIGH

Depth to Bedrock Min: > 60 inches

Depth to Bedrock Max: > 60 inches

| Soil Layer Information | | | | | | | |
|------------------------|-------------------------|-----------|-----------------------|--------------|-----------------------------|------------------------------|------------------------|
| | Boundary Classification | | | | | | |
| Layer | Upper | Lower | Soil Texture Class | AASHTO Group | Unified Soil | Permeability Rate (in/hr) | Soil Reaction (pH) |
| 1 | 8 inches | 0 inches | peat | A-8 | Highly organic soils, Peat. | Max: 2.00 Min: 0.60 | Max: 5.00 Min: 4.50 |
| 2 | 9 inches | 60 inches | ice or frozen soil | Not reported | Not reported | Max: 0.00 Min: 0.00 | Max: 0.00 Min: 0.00 |

OTHER SOIL TYPES IN AREA

Based on Soil Conservation Service STATSGO data, the following additional subordinant soil types may appear within the general area of target property.

Soil Surface Textures: silt loam
Surficial Soil Types: silt loam

Shallow Soil Types: No Other Soil Types

Deeper Soil Types: No Other Soil Types

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE SEARCH DISTANCE (miles)

Federal USGS 1.000

Federal FRDS PWS Nearest PWS within 0.001 miles

FEDERAL USGS WELL INFORMATION

MAP ID WELL ID FROM TP

No Wells Found

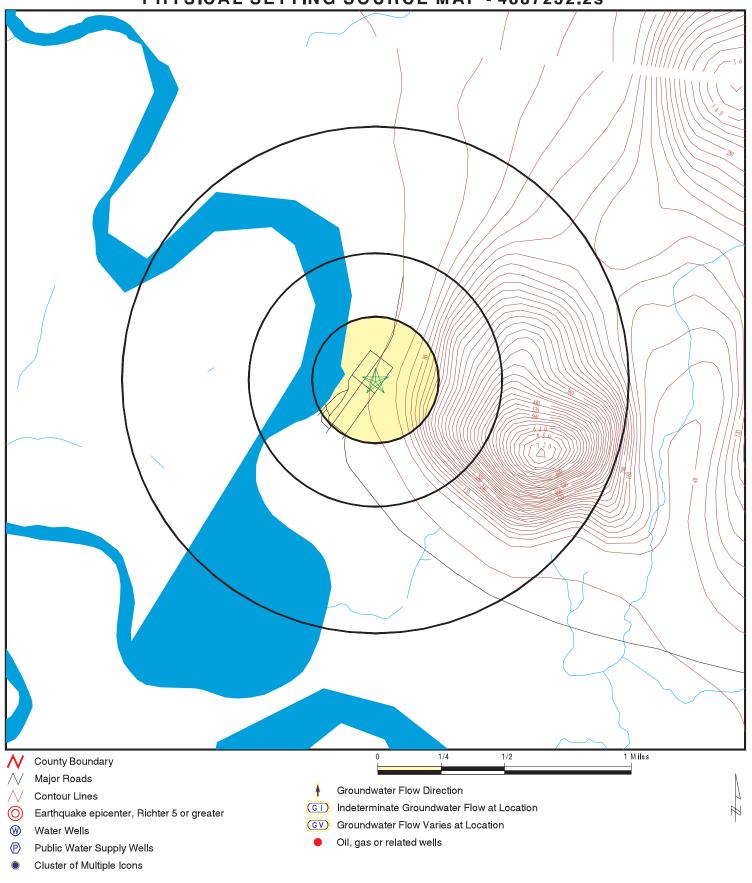
FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID WELL ID FROM TP

No PWS System Found

Note: PWS System location is not always the same as well location.

PHYSICAL SETTING SOURCE MAP - 4887232.2s



SITE NAME: 2nd and 3rd Street Project ADDRESS: 2nd and 3rd St Street

Manokotak AK 99628 LAT/LONG: 58.980824 / 159.05596 CLIENT: Bristol Engineer
CONTACT: Jaclyn Wander **Bristol Engineering Services**

INQUIRY#: 4887232.2s

March 29, 2017 6:47 pm DATE:

GEOCHECK®-PHYSICAL SETTING SOURCE MAP FINDINGS RADON

AREA RADON INFORMATION

State Database: AK Radon

Radon Test Results

| Num Tests | < 0.5 pCi/L | 0.5 - 2.0 | 2.1 - 4.0 | 4.1 - 10 | 10-20 | > 20 pCi/L |
|-----------|-------------|-----------|-----------|----------|-------|------------|
| | | | | | | |
| 4 | 2 | 1 | 0 | 1 | 0 | 0 |

Federal EPA Radon Zone for DILLINGHAM County: 3

Note: Zone 1 indoor average level > 4 pCi/L.

: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L. : Zone 3 indoor average level < 2 pCi/L.

Not Reported

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)

Source: United States Geologic Survey

EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Current USGS 7.5 Minute Topographic Map Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.

Source: FEMA

Telephone: 877-336-2627

Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Classification and Mapping

Source: Alaska Natural Heritage Program

Telephone: 907-235-2218

HYDROGEOLOGIC INFORMATION

AQUIFLOW^R Information System

Source: EDR proprietary database of groundwater flow information

EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit

Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database

Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)

The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database

Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)

Telephone: 800-672-5559

SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems

Source: EPA/Office of Drinking Water

Telephone: 202-564-3750

Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data

Source: EPA/Office of Drinking Water

Telephone: 202-564-3750

Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)

This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

OTHER STATE DATABASE INFORMATION

Oil and Gas Well Database

Source: Department of Administration, Oil & Gas Conservation Commission.

Oil and gas well locations in the state.

RADON

State Database: AK Radon

Source: University of Alaska Fairbanks

Telephone: 907-474-7201 Radon Information

Area Radon Information Source: USGS

Telephone: 703-356-4020

The National Radon Database has been developed by the U.S. Environmental Protection Agency

(USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at

private sources such as universities and research institutions.

EPA Radon Zones Source: EPA

Telephone: 703-356-4020

Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor

radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities

Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater

Source: Department of Commerce, National Oceanic and Atmospheric Administration

Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary faultlines, prepared

in 1975 by the United State Geological Survey

PHYSICAL SETTING SOURCE RECORDS SEARCHED

STREET AND ADDRESS INFORMATION

2008 TIGER© Map, produced by the U.S. Census Bureau.

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2nd and 3rd Street Project 2nd and 3rd St Street Manokotak, AK 99628

Inquiry Number: 4887232.3

March 29, 2017

Certified Sanborn® Map Report



6 Armstrong Road, 4th floor Shelton, CT 06484 Toll Free: 800.352.0050 www.edrnet.com

Certified Sanborn® Map Report

03/29/17

Site Name: Client Name:

2nd and 3rd Street Project 2nd and 3rd St Street Manokotak, AK 99628 EDR Inquiry # 4887232.3 Bristol Engineering Services 111 W. 16th Avenue Anchorage, AK 99501 Contact: Jaclyn Wander



The Sanborn Library has been searched by EDR and maps covering the target property location as provided by Bristol Engineering Services were identified for the years listed below. The Sanborn Library is the largest, most complete collection of fire insurance maps. The collection includes maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow, and others. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by the Sanborn Library LLC, the copyright holder for the collection. Results can be authenticated by visiting www.edrnet.com/sanborn.

The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

Certified Sanborn Results:

Certification # 5A56-4DAE-9FE3

PO# NA Project NA

UNMAPPED PROPERTY

This report certifies that the complete holdings of the Sanborn Library, LLC collection have been searched based on client supplied target property information, and fire insurance maps covering the target property were not found.



Sanborn® Library search results
Certification #: 5A56-4DAE-9FE3

The Sanborn Library includes more than 1.2 million fire insurance maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow and others which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

Library of Congress

University Publications of America

EDR Private Collection

The Sanborn Library LLC Since 1866™

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APPENDIX C ADEC Contaminated Sites Figure & Site Reports

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This online query application searches the Statewide Oil and Hazardous Substance Spills Database. The period of record for this database is July 1, 1995 to present. Records for earlier spills exist in the database, but there are no database records for most spills reported to DEC prior to July 1, 1995.

- For some recent spills, data may not have been entered yet or may not be complete.
- The data presented is provisional and subject to ongoing quality assurance/quality control. Ongoing reviews may further refine the accuracy of the data.
- For additional details and the most up-to-date information about a specific spill, please call the response team office for the Area in which the spill occurred:

Alaska Response Team Juneau (907) 465-5340 Central Alaska Response Team Anchorage (907) 269-3063 Northern Alaska Response Team Fairbanks (907) 451-2121

For more information, contact Jason Seifert at Jason.Seifert@alaska.gov.

| Spill Search | Spill Date: | to 5/3/2016 | |
|--------------------------|-----------------|----------------------------|---|
| Facility Search | Area: | Central Alaska | ~ |
| Responsible Party Search | Subarea: | Bristol Bay | ~ |
| | Region: | Bristol Bay Borough | ~ |
| | Locations: | MANOKOTAK CITY | ~ |
| | Substance Type: | Select All Substance Types | ~ |
| | Substance: | Select All Substances | ~ |
| | Cause Type: | Select All Cause Types | ~ |
| | Cause: | Select All Causes | ~ |
| | Spill Number: | | |

Clear Search

Count: 9

| Spill Number | Spill Name | Spill Date | Facility Name |
|--------------|---|------------|--|
| 11269908401 | Manokotak Power Plant | 3/25/2011 | MANOKOTAK POWER PLANT IN VILLAGE |
| 10269905301 | Top Rd, home heating oil spill | 2/22/2010 | Local Residence No Address |
| 09269931401 | Manokotak Power Plant Day Tank Overfill | 11/10/2009 | MANOKOTAK POWER PLANT IN VILLAGE |
| 08269921101 | Monokotak Airport DOT Equipment Shed | 7/29/2008 | Old Airport DOT Heavy Equipment Building |
| 07269926801 | Monokotak City Oil 9.25.07 | 9/25/2007 | Manokotak |

| 06269932001 | Manokotak Glycol Spill 111606 | 11/16/2006 | MANOKOTAK POWER PLANT IN VILLAGE |
|-------------|----------------------------------|------------|----------------------------------|
| 06269924001 | Manokotak 50 gallon Diesel Spill | 8/28/2006 | Local Residence No Address |
| 02269907801 | Manokotak Power Plant Day Tank | 3/19/2002 | MANOKOTAK POWER PLANT IN VILLAGE |
| 97269932201 | MANOKOTAK POWER PLANT | 11/18/1997 | MANOKOTAK POWER PLANT IN VILLAGE |

1

Alaska DEC Contaminated Sites

Contaminated Site Locations with Cleanup Chronology Reports from Alaska DEC





© 2017 DigitalGlobe, Earthstar Geographics SIO, © 2017 Microsoft Corporation, © 2017 HERE, © AND | Copyright: © 2013 National Geographic Society, i-cubed | SOA, DCCED, DCRA | SOA DCCED DCRA | Alaska Department of Environmental Conservation - Contaminated Sites Program

Legend

Contaminated_Sites

Contaminated Sites



Cleanup Complete



▲ Informational



Site Report: Manokotak Natives Limited Bulk Farm

Site Name: Manokotak Natives Limited Bulk Farm

Address: First Street, Manokotak, AK 99628

File Number: 2611.38.003

Hazard ID: 25352
Status: Active

Staff: Erin Gleason, 9072697556 erin.gleason@alaska.gov

Latitude: 58.981072 **Longitude:** -159.057802

Horizontal WGS84

We make every effort to ensure the data presented here is accurate based on the best available information currently on file with DEC. It is therefore subject to change as new information becomes available. We recommend contacting the assigned project staff prior to making decisions based on this information.

Problems/Comments

During a Reconnaissance of the Above Ground Storage Tank Farms at Manokotak, Alaska, Diesel Range Organics was found at the former Manokotak Natives Limited Bulk Fuel Farm. The former tank farm had eight above ground storage tanks which totaled 80,000 gallons, and contained diesel fuel that supplied the village with heating fuel during the winter and summer months. A new bulk fuel above ground storage tank farm was constructed during 2000-2001 to replace the fomer Manokotak Natives Limited Bulk Fuel, and the Manokotak Power Company Tank Farm, and the Southwest Region School District's Old School AST Farm. The new tank farm is in proximity to Manokotak's former Bulk Fuel and Power Plant AST Farms, and the Igusak River.

Action Information

| Action Date | Action | Description | DEC Staff |
|------------------------------|---|---|---------------|
| 2/18/2009 | Site Added to Database | A new site has been added to the database | Alyce Hughey |
| 2/18/2009 Update or Other Ac | | File number 2611.38.003 was assigned and entered into the Fileroom Database and the Contaminated Sites Database. | Alyce Hughey |
| 2/18/2009 | Update or Other Action | Lat/Log was obtained using Google Maps. | Alyce Hughey |
| 2/18/2009 | Exposure Tracking Model Ranking | Initial ranking with ETM completed for source area id: 78708 name: Above Ground Storage Tanks | Don Fritz |
| 5/28/2009 | Update or Other Action | File transferred from Soldotna to Anchorage 6-1-09. Project Manager changed from Don Fritz to Linda Nuechterlein. | Alyce Hughey |
| 7/24/2014 | Exposure Tracking Model Ranking | A new updated ranking with ETM has been completed for source area 78708 Above Ground Storage Tanks. | Joshua Barsis |
| 7/25/2014 | Potentially Responsible Party/State Interest | Sent a letter of state interest on this day. | Joshua Barsis |

Letter

| 4/10/2015 | Update or Other Action | Letter with site history and request for contact sent on this day. ADEC warns that a Notice of Environmental Contamination will be filed if MNL does not take action. | Joshua Barsis |
|-----------|------------------------|--|---------------|
| 9/28/2016 | Update or Other Action | SUMMARY: In 2001 a reconnaissance was conducted for the village of Manokotak Natives Limited (MNL)bulk fuel storage site. In 2000-2001 the Alaska Energy Authority constructed a new consolidated above ground storage tank (AST) farm replacing the multiple smaller tank farms in the community. Including the MNL tank farm. Subsurface soil samples showed diesel range organics (DRO) of 684 ppm and 727 ppm, and gasoline range organics (GRO) 187 ppm and 20.8 ppm. | Erin Gleason |
| 9/30/2016 | Update or Other Action | Sent Manokotak Natives Limited an information request letter. Response due 10/31/2016.ADEC warns that a Notice of Environmental Contamination will be filed if MNL does not take action. | Erin Gleason |
| 1/5/2017 | Enforcement Action | Recorded Notice of Environmental Contamination (NEC). Letter sent to Manokotak Natives Limited informing them of the NEC. | Erin Gleason |

Contaminant Information

| ı | Name | Level Description | | Media | Comments |
|---|--------------|-------------------|---------|---------|----------|
| ı | | | | | |
| | Control Type | | | | |
| ı | Туре | | Details | | |
| ı | | | | | |
| ı | Requirements | | | | |
| ı | Description | | | Details | |



Site Report: Manokotak School

Site Name: Manokotak School

Address: Salmon Street, Manokotak, AK 99628

File Number: 2611.57.001

Hazard ID: 2197
Status: Active

Staff: Joy Whitsel, 9074512156 joy.whitsel@alaska.gov

Latitude: 58.980258 **Longitude:** -159.058445

Horizontal NAD83

We make every effort to ensure the data presented here is accurate based on the best available information currently on file with DEC. It is therefore subject to change as new information becomes available. We recommend contacting the assigned project staff prior to making decisions based on this information.

Problems/Comments

Numerous historical spills have occurred in the school area, including the adjacent tank farm where "large" fuel releases have been reported. Most recent spill occurred 12/24/1994 when approximately 125 gallons of diesel fuel spilled with approximately 110 gallons recovered. School crawl space was impacted by this release. ADEC conducted limited site assessment in 1998. Results did not find any soil concentrations above cleanup levels, however additional areas of contamination may exist at the facility. Village of Manokotak obtains drinking water from groundwater well at 100 foot depth drilled by PHS. In 2001 a new school was constructed approximately 3.5 miles south of the old school site. The aboveground storage tank (AST) tank farm was cleared of all but two tanks, one 6,500-gallon one 4,000-gallon AST. The 6,500-gallon tank was slated for removal, while the 4,000-gallon tank was to be used as fuel storage for the emergency generator. The Manokotak Village Council applied to the DEC Reuse and Redevelopment (R&R) Program for a DEC Brownfield Assessment (DBA) in the spring 2009 DBA request period. Reassigned file no. to 2611.57.001, assigned to track assessment under the R&R Program. Cross-reference to former CS file no. 2611.38.001.

Action Information

| Action Date | Action | Description | DEC Staff |
|-------------|------------------------|--|----------------|
| 12/27/1994 | Update or Other Action | (Old R:Base Action Code = RPL1 - Initiate Dialog with RP). Initiate dialogue with potentially responsible party. | Ray Dronenburg |
| 12/27/1994 | Notice of Violation | Notice of violation sent regarding spill. | Ray Dronenburg |
| 1/10/1995 | Update or Other Action | (Old R:Base Action Code = RARR - Remedial Action Report Review (CS)). Reviewed a Remedial Action Report. | Ray Dronenburg |
| 1/24/1995 | Update or Other Action | (Old R:Base Action Code = SA2R - Phase II SA Review (CS)). Reviewed progress report on spill cleanup - indoor - air quality. | Ray Dronenburg |
| 2/7/1995 | Site Added to Database | Site added to database. | Ray Dronenburg |
| 2/15/1995 | Update or Other Action | (Old R:Base Action Code = SA1R - Phase I SA Review (CS/LUST)). Approved | Ray Dronenburg |

| Site Ranked Using the AHRM | Ray Dronenburg Bill Wright Bill Wright Bill Wright |
|--|---|
| Site Ranked Using the AHRM | Bill Wright Bill Wright Bill Wright |
| 10/26/1995 Cleanup Plan Approved (Old R:Base Action Code = RAPA - Remedial Action Plan Approval), Reviewed and approved a remedial action plan. 12/27/1995 Update or Other Action (Old R:Base Action Code = RPL3 - RP Determined and Action Request), RP letter sent and requested a corrective action plan. On 4/9/1996, Environmental Management, Inc., submitted a "Manokotak School Spill Release Investigation and Corrective Action Report" dated March 1996, The Report documented contaminated soils near the Manokotak School related to the spill that occurred in December 1994. The report also discovered additional contaminated soils near the Manokotak School related to the spill that occurred in December 1994. The report also discovered additional contaminated soils near the Manokotak School related to the spill that occurred in December 1994. The report also discovered additional contaminated soils near the Manokotak School related to the spill that occurred in December 1994. The report also discovered additional contaminated soils near the Manokotak School related to the spill that occurred in December 1994. The report also discovered additional contaminated soils near the Manokotak School related to the spill state the service of the service of Southwest Region Schools, asking him to submit a work plan to remediate contaminated soils, and to submit information as to the final disposition of the stockpile. ADEC approved additional contamination as to the final disposition of the stockpile. ADEC approved work plan submitted by E&E to conduct site assessment activities at the school. The purpose of the work plan is to define the extent of soils and groundwater oppose of the work plan is to define the extent of soils and groundwater by DRO above ADEC. Results indicate that contamination of soil and groundwater by DRO above ADEC. Results indicate that contamination of soil and groundwater by DRO above ADEC. Results indicate that contamination of soil and groundwater by DRO above ADEC deanup standards dose exist. However, t | Bill Wright |
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| 7/18/2007 Exposure Tracking Model Ranking Exposure Tracking Intitial Ranking Complete for Source Area: 73175 (Autogenerated Action) | |
| 7/18/2007 Exposure Tracking Model Ranking Updated Ranking Complete for Source Area: 73175 (Autogenerated Action) | |
| 7/27/2007 Update or Other Action Site transferred from Oelkers to Horwath. | Shannon Oelkers |
| Site is subject of a DEC Brownfield Assessment (DBA) request on the part of the community. The Manokotak Village Council's environmental staff applied for a DBA with assistance from the Bristol Bay Native Association's brownfield coordinator. The DEC Reuse and Redevelopment (R&R) Program staff reviewed the request and determined that the site is a potential brownfield, because of environmental concerns that are precluding its tranfer from the Southwest Region School District to the village, which would like to reuse this site for a new multi-purpose facility, as is described in their Business Plan for the proposed facility. New brownfield file number assigned, 2611.57.001, and additional information was requested from the DEC project manager for the site. | Sonja Benson |
| 5/28/2009 Update or Other Action File Transferred from Soldotna to Anchorage 6-1-09. Project Manager Al | |

| 15/2017 | | Division of Spill Prevention and Response | |
|-----------|---|---|------------------|
| | | changed from Don Fritz to Linda Nuechterlein. | |
| 6/4/2009 | Update or Other Action | Site transferred to Fairbanks for work under the R&R Program, in response to request from community. File number reassigned to 2611.57.001. Cross-reference former CS file no. 2611.38.001, contains previous reports and cleanup history. | Sonja Benson |
| 6/17/2009 | Brownfield Confirmed | Letter of notification sent to Manokotak Village Council, informing them that their site is slated for work during Fiscal Year 2010 under the R&R Program. CIP budget funds moved up from FY2014 to FY2010. | Sonja Benson |
| 8/13/2009 | Update or Other Action | DEC received a response from the Alaska State Historic Perservation Office (SHPO) for the assessment work planned for FY2010/2011. SHPO stated that this site may be considered a potentially eligible historic property. They recommend that this site be evaluated for eligibility for inclusion in the National Register of Historic Places. | Deborah Williams |
| 3/25/2010 | Update or Other Action | Notice to proceed was awarded to Hoefler through SPAR term contract. Project managed under Reuse and Redevelopment Program. | Deborah Williams |
| 12/8/2010 | Report or Workplan Review - Other | DEC received a Property Assessment and Cleanup Plan for the former Manokotak School. September 21 - 24, 2010, SLR conducted a site visit in Manokotak. SLR observed the Former Manokotak School site, which includes the abandoned BIA School building, two former teacher housing buildings, and an equipment storage/old generator building. In additon to the buildings, three ASTs were present at the site: One 500-gallon AST on the east end of the generator shed building, one 750-gallon AST within the former school generator area, and one 8,000-gallon AST within the former AST tank farm area. A total of 98 field screening soil samples were collected from 21 test borings and three test pits that were excavated across the Site. Hydrocarbon odors were noted at the Site near areas of recently disturbed soil. Areas of stained soil and gravel were also noted at the Site, particularly near ASTs. During this field effort, ninety-seven field screening soil samples were collected from multiple depth intervals. Eight analytical samples including one duplicate were also collected and analyzed for GRO, DRO, RRO, BTEX, lead, and PAHs. The maximum detected concentration of DRO was 39,600 mg/kg and the max. concentration for GRO was 637 mg/kg and ethylbenzene was 8.11 mg/kg. Two drinking water samples were collected from the "Old Village" drinking water system. The results from the wells had a detection of trichlorofluoromethane, but below drinking water cleanup levels. SLR estimates approximately 1,000 cubic yards of contaminated soil in the top 5 feet (1994 Spill Area, Former Tank Farm Area, Former Generator Area, and other isolated spots) that should be excavated and treated.SLR also recommends that the solid waste be removed, asbestos abatement and sampling be conducted, buildings be demolished (if not needed), and the contaminated soil in the area be excavated to five feet bgs at a minimum. | Sonja Benson |
| 3/22/2012 | Exposure Tracking Model Ranking | A new updated ranking with ETM has been completed for source area 73175 School AST Tank Farm. | Melinda Brunner |
| 6/27/2012 | Update or Other Action | Letter sent to Manokotak Village Council informing them that their application for a DEC Brownfield Assessment or Cleanup (DBAC) of this site ranked sixth among those received, and that funding of all ranked projects was unlikely. | Sonja Benson |
| 8/5/2015 | Update or Other Action | Evaluating site history for evidence of contamination during Bureau of Indian Affairs ownership. | Joy Whitsel |
| 9/14/2015 | Potentially Responsible Party/State Interest Letter | PRP letter was sent to Bureau of Indian Affairs and to Southwest Region School District. Alaska Department of Education and Early Development was also identified as a PRP but was sent an email notification of responsibility. | Joy Whitsel |
| 9/15/2015 | Institutional Control Update | Institutional controls (ICs) were established in 2012 restricting drinking water wells, but no confirmation from Southwest Region School District (SWRSD) was ever documented. A letter was sent to SWRSD requesting agreement and verification of the ICs. | Joy Whitsel |
| 9/25/2015 | Institutional Control Update | Received signed agreement from SWRSD establishing institutional controls: 1) Installation of groundwater wells on the property of the Former Manokotak School requires DEC approval; 2) Access controls need to be established, site characterization completed, and a cleanup plan must be proposed as required by 18 AAC 75.325; 3) No excavation or demolition activity on school property may proceed without an ADEC approved work plan; 4) Any proposal to transport soil or groundwater off-site requires ADEC approval in accordance with 18 AAC 75.325. 5) Movement or use of contaminated material in a manner that results in a violation of 18 AAC 70 water quality standards is | Joy Whitsel |

prohibited; 6) In the event that the property is transferred prior to meeting ADEC approved cleanup levels, a Notice of Environmental Contamination (deed notice) shall be recorded in the State Recorder's Office as an institutional control that identifies the nature and extent of contamination at the property.

| Contaminant Information | | | | | | | |
|-------------------------|-------------------|---------|---------|----------|--|--|--|
| Name | Level Description | | Media | Comments | | | |
| | | | | | | | |
| Control Type | | | | | | | |
| Type | | Details | | | | | |
| | | | | | | | |
| Requirements | | | | | | | |
| Description | | | Details | | | | |
| | | | | | | | |

Search Page Tips:

Simple Search – Type a simple search in the 'Query' field, Example: 'Noorvik' will find any sites associated with the location of Noorvik.

Advanced Search – Use the Advanced Search Parameters for complex searches. Limit the amount of selections to obtain the best search results. Example: 'Site Status = Active' and 'Region = Bethel'.

Contacts:

Contact the landfill before you go. Confirm they will accept your waste. Landfills can refuse waste.

For specific site questions, contact the DEC Manager listed on the Facility Info screen. Their contact is on our contacts page.

For SWIMS help, please contact us at 907-269-7802.

Manokotak Landfill

Facility Info Authorizations Inspections WEAR Info Contacts

Site Information

Updated: 02/25/2014

Name: Manokotak Landfill

Site Type: Landfill Status: Covered/Closed

Location

Region:DillinghamLocation:ManokotakLatitude:58.975291Longitude:-159.051158

MTRS:

Description: It is located along the road heading towards the airport, about 1,200 feet southeast of town and

1,800 feet in the same direction from the river.

Acres: 0.76 **Years of Operation** 1970 - 2011

Contamination

Possible Contaminants: Exposure Pathways:

Municipal Waste Human Direct Contact, Inhalation, Wildlife

Direct Contact

Distances to (ft)

Erosion: 2,300 **Water Body:** 2,300 **Water Name:** Igushik River

Subsistence2,000Critical Habitat:100,000Residences:1,200Stressed Habitat:999

Erosion

Type: Factors: Symptoms:

(no items specified) Flooding, Storm Surge (no items specified)

Erosion Rate: 1 Rate QA: Calculated

Current No Mitigation:

Soil

 Silt %:
 Clay %:
 Cobble %:

 Organics %: 10
 Sand %:
 20
 Gravel %:
 70

Boulder %: Loam %:

File Details

Manager: Stephen Price File Location: Anchorage File Number:

Drinking Water Sources

There are no water sources for this site.

Tanks (if Applicable)

There are no tanks for this site.

Files

No files have been attached to this item.

APPENDIX E ARCHAEOLOGICAL SURVEY

(Intentionally Blank)

CULTURAL RESOURCES REPORT COVERSHEET Date Received: Must Accompany All Reports Submitted To OHA/SHPO For Office Alaska Department of Natural Resources, Office of History and Archaeology Use Only 550 W. 7th Ave., Suite 1310 Anchorage, AK 99501-3565 ID: Phone: (907) 269-8718; Fax (907) 269-8908 http://www.dnr.state.ak.us/parks/oha/index.htm A. Project/Report Cover Sheet Information Reset Form 1. Date Submitted: August 2016 2. Project Number: Manokotak Second and Third Street Rehabilitation Project 4. Project Name: 2016 Report of Cultural Resources Investigation and Recommendations for Issuing a Finding Pursuant to Section 106 of 5. Report Title: the National Historic Preservation Act of 1966 for the Manokotak Second and Third Street Rehabilitation Project 6. Report Authors: Robert Meinhardt and Amy Ramirez 7. Submitting Organization/Agency: BIA 8. Organization/Agency Prepared For: BESC 9. Principal Investigator(s): Robert Meinhardt archaeological survey and historic 10. Type of Investigation: 11. Sites found/revisited: 1 No structures survey 11. List New AHRS Site #: n/a 12. List Updated AHRS Site #: n/a **B.** Geographic Information Tract A of USS 4875 Salmon, Alder, C, First, Second, and Third Streets 1. Brief Description of the Project Area: 3. MTRS (ex. 2. USGS Map Sheet(s): Nushagak Bay D-4 S14S59W12 C41S67E23): 4. Land Owner(s): village of Manokotak 5. Acres Surveyed: <15 C. Cultural Resources Management Questions No Yes Is the report part of a National Historic Preservation Act - Section 106 Consultation? Yes No 2. Is the report part of an Alaska Historic Preservation Act Compliance Consultation? No Yes 3. Does the report's data support the submitting agency's determination of eligibility? 4. Does the report's data support the submitting agency's determination of effect? Yes No 5. Was this report submitted to fulfill State Field Archaeology Permit Requirements If yes, please provide the Permit #: Yes No 6. Was this project and/or report overseen or authored by someone meeting the minimum Yes No qualifications of the Secretary of the Interior Standards and Guidelines (48 FR 44738-44739)? 7. Is the Principal Investigator's resume appended to the report or on file at OHA? Yes No 8. Additional

Comments:

TINSDS

true north sustainable development solutions

2016 REPORT OF CULTURAL RESOURCES
INVESTIGATION AND RECOMMENDATIONS FOR
ISSUING A FINDING PURSUANT TO SECTION 106 OF
THE NATIONAL HISTORIC PRESERVATION ACT OF
1966 FOR THE MANOKOTAK SECOND AND THIRD
STREET REHABILITATION PROJECT, LOCATED IN
MANOKOTAK, ALASKA



Prepared for:

Bristol Engineering Services Corporation

Prepared by:

Robert L. Meinhardt, M.A. Amy Ramirez Tiffany Curtis, M.A. of

True North Sustainable

Development Solutions, LLC

PO Box 874135 · Wasilla, Alaska 99687-4135

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LIST OF ACRONYMS/ABBREVIATIONS

ADCCED – Alaska Department of Commerce, Community, and Economic Development

ADNRMLW – Alaska Department of Natural Resources, Division of Mining, Land, and Water

AHA – Alaska Housing Authority

AHRS - Alaska Heritage Resource Survey

AMSL - Above Mean Sea Level

ANCSA – Alaska Native Claims Settlement Act

ANTHC - Alaska Native Tribal Health Consortium

APE - Area of Potential Effects

ARPA – Archaeological Resources Protection Act

ASHA – Alaska State Housing Authority

BESC – Bristol Engineering Services Corporation

BIA - Bureau of Indian Affairs

BLM - Bureau of Land Management

DOE - Determination of Eligibility

EPA – Environmental Protection Agency

HSS – Historic Structures Survey

IBS – Integrated Business Suite

LTA - Local Training Area

NHPA – National Historic Preservation Act

NLUR - Northern Land Use Research

NPS - National Park Service

NRHP – National Register of Historic Places

OHA – Office of History and Archaeology

ROE – Right-of-entry

ROW - Right-of-way

RUP - Revocable Use Permit

SHPO – State Historic Preservation Officer

TNSDS – True North Sustainable Development Solutions

TTP - Tribal Transportation Program

USGS – United States Geological Survey

EXECUTIVE SUMMARY

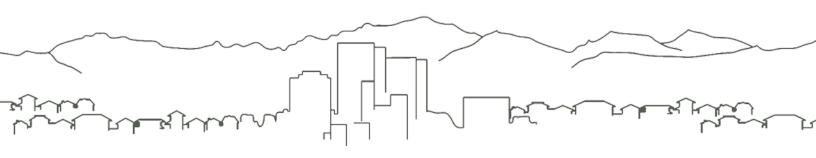
Manokotak Village Council received federal funds through the Bureau of Indian Affairs Tribal Transportation Program (TTP) for rehabilitation of streets and installations of drainage swales in Manokotak. The project consists of the rehabilitation of six existing roads, seven parking areas along one of the roadways, and installation of five drainage swales between roads. Given that the project is being funded by the BIA, agency compliance with Section 106 of the National Historic Preservation Act of 1966 (NHPA) and its implementing regulations (36CFR§800) is required. As lead federal agency, the BIA is responsible for carrying out consultation with the Alaska State Historic Preservation Officer (SHPO) and other consulting parties per the Act. Bristol Engineering Services Corporation (BESC) is contracted to design the road rehab and drainage swales and to assist with this agency compliance, which includes providing recommendations to BIA on whether or not the federal undertaking will result in adverse effects to historic properties. To assist with following the consultation process per 36CFR§800, BESC will need to propose an Area of Potential Effects (APE) and identify any cultural resources that may constitute historic properties per the Act, and subsequently make recommendations to the lead federal agency for issuing a finding for the undertaking.

True North Sustainable Development Solutions (TNSDS), LLC, was sub-contracted to perform a cultural resources investigation within a proposed APE and provide the federal agency

with information and recommendations for issuing a Section 106 finding for the Manokotak Second and Third Street Rehabilitation Project.

TNSDS Archaeologist Tiffany Curtis, M.A., carried out an on-site investigation, and Principal Historic Preservation and Cultural Resource Consultant Robert L. Meinhardt, III, M.A., and Project Coordinator Amy Ramirez provided project oversight and assisted in the preparation of a comprehensive report intended to provide BESC with information necessary for making recommendations to the federal agency for compliance with Section 106 of the NHPA. A summary of the results from the literature review, archival research, archaeological survey, and historic structures survey is included in this report. Also included in this report are context statements for the prehistory and history of the lower Naknek River drainage and Manokotak, a description of survey methodology, and Section 106 recommendations.

TNSDS initiated its cultural resources investigation by conducting a literature and archival review of previous cultural resources surveys and sites in the area that have been recorded in the Alaska Heritage Resources Survey (AHRS) database. This was followed by defining a proposed APE and carrying out an intensive archaeological and historic structures survey. Neither the literature and archival review, nor the site visit revealed any cultural resources in the project area that constitute historic properties pursuant to Section 106 of the NHPA. As such, a finding of no historic properties affected is recommended for the Manokotak Second and Third Street Rehabilitation Project.



INTRODUCTION

Project Location and Physical Setting

Manokotak is located in the Bristol Bay region of Southwest Alaska. It is 25 miles southwest of Dillingham and 347 miles southwest of Anchorage. The village is situated along the east bank of the Igushik River, with a hill rising to 859 feet above mean sea level (amsl) directly to the east. The city limits encompass 36.4 square miles of land bound by the Togiak National Wildlife Refuge to the west, south, and north. The Igushik River is included in the refuge. The Alaska Maritime National Wildlife Refuge, Bering Sea Unit is to the east. The community is located at 58.9828 North Latitude and -159.0531 West Longitude in Section 12 of Township 14 South, Range 59 West of the Seward Meridian (ADCCED 2016). Manokotak is located within the Nushagak Bay D-4 quadrangle and is in the Bristol Bay Recording District (Figure 1).

Manokotak is within the Nushagak-Bristol Bay Lowland physiographic province on the southern edge of the Ahklun Mountains, which range in elevation from 1,500 to 2,500 feet amsl (Wahrhaftig 1965), and were glaciated during the Illinoian and Wisconsinan periods (Pewe 1975). The village is set in a low-land

area with the mountains and glacial features providing topographic relief and varying climates. Manokotak falls within the transitional climate zone, characterized by tundra interspersed with boreal forests in low-lying areas, and weather patterns of long, cold winters and shorter, warm summers. Fog and high winds occur periodically through the year, driven from the Bering Sea and Bristol Bay. The river is ice-free from June through mid-November (ADCCED 2016).

Culturally, Manokotak is predominately a Yup'ik Eskimo village with residents living a subsistence lifestyle. It is one of the more recent villages in the Bristol Bay region, as it was established in the late 1940s after the villages of Igushik and Tuklung merged to form Manokotak (ADCCED 2016). Available resources for supporting a subsistence lifestyle are within a variety of terrestrial, freshwater, and marine areas and include rock ptarmigan, squirrel, hare, brown bear, wolverine, wolf, moose, caribou, fox, numerous ducks and swans, otter, beaver, porcupine, harbor and bearded seal, beluga whale, and sea lion. Five salmon species are available, as well as grayling, whitefish, trout, char, pike, and smelt. Sockeye salmon are the primary focus of the areas commercial fishing industry.

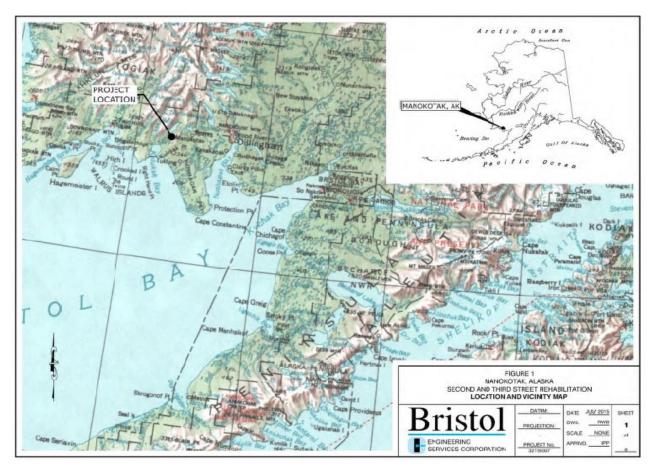


Figure 1. Project Location Map.

Project Description

Manokotak Village Council contracted Bristol Engineering Services Corporation (BESC) to design road rehabilitation and improvements in Manokotak. Funding for the proposed roads will be through the Bureau of Indian Affairs (BIA) Tribal Transportation Program (TTP). The proposed project will improve the road infrastructure of six existing roads and create new drainage channels to redirect storm water to culverts and ditches (Figure 2). The six roads vary in width from 10 to 15 feet within an existing 20-foot right-of-way (ROW). The rehabilitation will involve elevating them to a minimum of 18 inches and installing geotextile material. Drainage ditches, or swales, will be constructed along one side of each road. Construction on Third Street (Route 1008-10) will include onstreet parking areas and ramps for access to residential lots (Figure 3). The drainage swales will be one foot in depth, with a four foot wide bottom floor, lined in rock and underlain with geotextile material (Figure 4). Gravel fill for this project will be extracted from an existing borrow source.

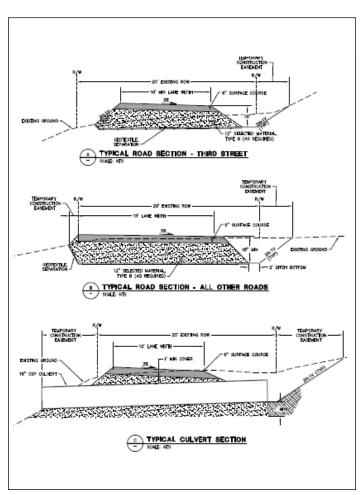


Figure 2. Project design specifications for the road rehabilitation and culvert placement.

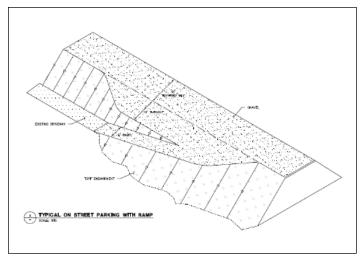


Figure 3. Project design specifications for the parking areas and residential access ramps.

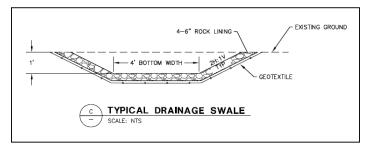


Figure 4. Cross-cut view of the design specifications for the drainage swales.

Project Purpose

The purpose of the project is to rehabilitate existing roads in Manokotak by leveling and grading the existing roads and installing drainage swales to remove excess water. Installation of drainage swales will aid in facilitating water removal from road surfaces and help to extend the longevity of the roads, and divert runoff to prevent seasonal flooding in the village.

PROPOSED AREA OF POTENTIAL EFFECTS (APE)

The Manokotak Second and Third Street Rehabilitation Project consists of the proposed improvement of six roads, installation of five drainage swales, and construction of seven parking areas with access ramps to residential lots. Each proposed road route varies in length, with a constructed width of 10 to 15 feet (Figure 5). The proposed APE for the archaeological survey corridor for this project is 20 feet in width, approximately 10 feet off the centerline in either direction. It is intended to allow for shifts in alignment of the road improvements within the ROW. The proposed APE for the historic structures survey is defined as those lots directly abutting the ROW (Figure 6).

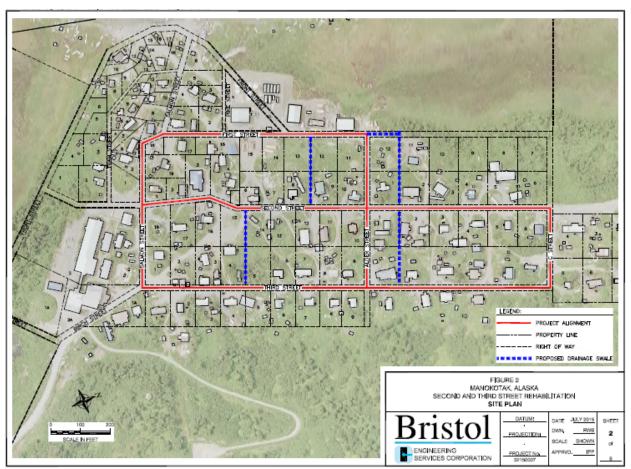


Figure 5. Proposed APE for potential effects to archaeological resources that may result from the road rehabilitation (in red) and proposed drainage swale installation (in blue).

The specifications and total length of each road and drainage within the proposed APE are as follows:

| Number | Route Name | Width/Length | Description |
|---------|----------------------|--------------------------|--|
| 1010-10 | Alder Street | 15 ft wide/270 ft long | Alder Street, from Second Street to Third Street; 18-inch deep ditch will be constructed on the south side of the road. |
| 1012-10 | C Street | 15 ft wide/270 ft long | C Street, from Second Street to Third Street; 18-inch deep ditch will be constructed on the south side of the road. |
| 1006-10 | First Street | 15 ft wide/770 ft long | First Street, from Salmon Street to Alder Street; 18-inch deep ditch will be constructed on the east side of the road. |
| 1014-10 | Salmon Street | 15 ft wide/280 ft long | Salmon Street, from Second Street to Third Street; 18-inch deep ditch will be constructed on the north side of the road. |
| 1007-10 | Second Street | 15 ft wide/1,390 ft long | Second Street, from Salmon Street to C Street; 18-inch deep ditch will be constructed on the east side of the road. |
| 1008-10 | Third Street | 10 ft wide/1,380 ft long | Third Street, from Salmon Street to C Street; an approximately 18-inch deep ditch will be constructed on the east side of the road. On street parking areas (n=7) will be constructed along the west side, with ramps to access residential properties |
| n/a | Drainage Channels | Minimum 4 ft wide | Two proposed between Third and Second Street, two proposed between Second and First Streets, and one proposed north of Alder street along the west ROW of First Street. The new channels will convey storm water to new/replaced culverts and ditching |

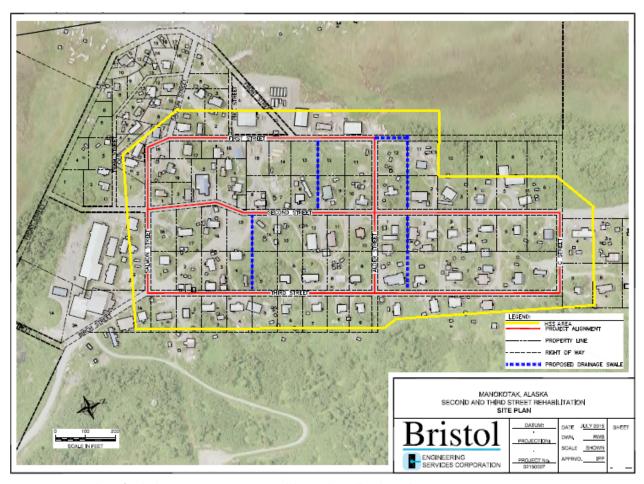


Figure 6. Proposed APE for the historic structures survey (all lots within yellow boundary).

METHODOLOGY

Methods used to conduct a cultural resources investigation for the Manokotak Second and Third Street Rehabilitation Project included a literature review of relevant studies and various file searches, including those held at the Alaska Office of History and Archaeology (OHA) and the BIA Branch of Regional Archeology. Precursory research focused on the location, size, and age of cultural resources reported within and/or near the proposed project area, thus providing context for the prehistoric and historic development and/or cultural patterns of the region. Information gathered from the research was synthesized to direct the cultural resources survey and for the preparation of a report containing results from the survey and recommendations for agency compliance with Section 106 of the NHPA. Land ownership was also reviewed to determine whether or not field study permits would be necessary for the cultural resource investigation. An Archaeological Resources Protection Act (ARPA) permit was obtained

from the BIA prior to carrying out a site investigation on federally restricted Native townsite lots. This was followed by a pedestrian survey of the proposed APE, including an archaeological reconnaissance and historic structures survey for those buildings situated on lots adjacent to the ROW. The results of both the archaeological investigation and historic structures survey are presented in this findings report, along with recommendations and an assessment of potential effects to historic properties pursuant to 36CFR§800.

Literature Review and Archival Research

TNSDS reviewed multiple agency, online resources, and public records in an effort to determine if there was a potential for previously documented cultural resources to exist within the proposed APE. Prior to fieldwork, the Integrated Business Suite (IBS) Portal database at OHA was reviewed to determine the extent of previous cultural resource investigations in the area. The purpose of the file search was to identify any previ-

ous cultural resources studies, culturally sensitive areas, and documented prehistoric and/or historic archaeological sites located within or around the proposed APE. In addition, reports not readily available on file at OHA were obtained from Anchorage area libraries and reviewed for relevance to the project. The information obtained from this review aided in identifying various types of resources that might be encountered within the APE during the cultural resource survey. It was also used to develop a context from which cultural resources can be evaluated for inclusion in the NRHP. Of particular relevance were archived annual reports of the Alaska Housing Authority (later the Alaska State Housing Authority) obtained from the University of Alaska Anchorage/Alaska Pacific University Consortium Library. The publication years of 1948 through 1970 were reviewed for information regarding general housing trends and federally-funded housing projects in remote villages. Information obtained from this review was applied to the historic structures survey as a means of determining possible construction dates and for the development of a historic context for buildings situated within the proposed APE.

Literature Review

A literature review was conducted in coordination with project background research to identify previous cultural resources report of investigations in and around the proposed APE. As a part of this process, relevant sources including archives, online databases, agency databases, and public database resources were consulted and reviewed in an effort to yield information pertinent to the project. The IBS Portal online at OHA was reviewed to determine the extent of previous archaeological research and surveys that were conducted in the area. Various files at the BIA Branch of Regional Archeology and the National Register of Historic Places held on file at the National Park Service (NPS) were also reviewed (NPS 2016).

Archival Research

The search area for the archival research focused on the six proposed road routes and adjacent townsite lots. The search was expanded to gain an understanding of the prehistoric and historic trends and settlement patterns within and adjacent to the proposed APE. The search of the IBS Portal at the OHA covered all available modules: Alaska Heritage Resources Survey (AHRS), the AHRS Mapper, AHRS References, National Register Nominations, Determinations of Eligibility (DOEs), Surveys, RS-2477 Historic Trails Data Layer, Bureau of Land Management (BLM) Native Allotment Selections Layer,

and the Document Repository (OHA 2016a). The archaeological survey files maintained by the BIA Branch of Regional Archeology and not held on file at OHA were researched, as well as the National Register of Historic Places held on file at the National Park Service (NPS).

Cultural Resources Survey

A cultural resources survey for the archaeological resources and historic structures and buildings was conducted for the Manokotak Second and Third Street Rehabilitation Project. The literature review and archival search aided in identifying the level of effort necessary for identifying cultural resources that may constitute historic properties pursuant to 36CFR§800. It was determined a cultural resources survey consisting of pedestrian reconnaissance of each road route and proposed drainage swale conducted by walking in 15-20 meter intervals was an adequate level of effort. Subsurface testing was also carried out in some of the proposed drainage swales. A historic structures survey was conducted for those buildings situated adjacent to roads slated for improvement or areas where new roads are proposed. The cultural resources survey adhered to the guidance provided in National Register Bulletin #24 – Guidelines for Local Surveys: A Basis for Preservation Planning prepared by the National Park Service (NPS 1985) and the Alaska Historic Resource Survey Manual prepared by the Alaska Office of History and Archaeology (OHA 2012).

Archaeological Survey

An APRA permit was obtained from the BIA (BIA/ARPA Permit 2016-1) prior to carrying out a cultural resources survey within the proposed APE. The permit allowed for visual inspection of the ground surface with possible collection and documentation of surficial artifacts. The permit specified any items collected in the field would be returned to landowner and testing conducted in the areas of proposed drainage swales was not to exceed six shovel tests. The cultural resources survey was performed on June 21 and 22, 2016 and each of the proposed roads subject to rehabilitation and each prosed drainage swale installation was intensively surveyed for cultural resources. The routes were surveyed in 15-20 meter intervals and documented using a hand-held Global Positioning System (GPS) unit (Appendix A) and digital photography. Areas within proposed drainage swale locations containing ground surfaces that appeared to be undisturbed were subject to subsurface testing. Soils were observed and screened for archaeological material using a 1/4" mesh, and the soil stratigraphy was recorded at each test location (Appendix B).

Historic Structures Survey

The historic structures survey (HSS) was completed on June 21, 2016 and included a survey of the exterior of buildings located on property lots abutting the proposed APE (Figure 4). The survey adhered to the guidance provided in *National Register Bulletin #24 – Guidelines for Local Surveys: A Basis for Preservation Planning* prepared by the National Park Service (NPS 1985) and the *Alaska Historic Resource Survey Manual* prepared by the Alaska Office of History and Archaeology (OHA 2012). Structures were evaluated for inclusion in the NRHP by following guidelines set forth in *National Register Bulletin #15 – How to Apply the National Register Criteria for Evaluation* (NPS 1997).

Each building located within the APE was designated a building number and documented (Figure 7). Attention was given to those tangible and intangible elements that may qualify them for inclusion in the NRHP. No materials and/or artifacts observed within the residential lots were collected. GPS waypoints collected during this survey are provided in Appendix C.



Figure 7. Map with building designations used to guide the historic structures survey.

Applying National Register Criteria for Evaluation

Section 106 of the National Historic Preservation Act (NHPA) (16 USC 470a[a]) established the National Register of Historic Places (NRHP) as a means to catalog historic properties significant in American history, architecture, archaeology, engineering, and culture. NHPA defines "historic properties" as prehistoric and historic districts, sites, buildings, structures, and objects listed or eligible for inclusion on the NRHP including artifacts, records, and material remains related to the property (16 USC 470w, Sec. 301.5). A Determination of Eligibility (DOE) for the NRHP is based on a description and evaluation of a property; a statement of significance; a selected list of sources; and maps, photographs, or other illustrations. Consideration is given to both the criteria of significance and integrity of the site condition. The evaluation should consider the historic context of the

property, including its relation to other known historic properties OHA 2003). The NRHP (36 CFR 60.4) outlines the criteria (A-D) for determining the eligibility for a historic property as follows:

The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and

- (a) that are associated with events that have made a significant contribution to the broad patterns of our history; or
- (b) that are associated with the lives of persons significant in our past; or
- (c) that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- (d) that have yielded, or may be likely to yield, information important in prehistory or history (36 CFR 60.4).

Certain classes of cultural resources that are not ordinarily eligible for the NRHP, but may be determined eligible under certain circumstances include cemeteries, birthplaces or graves of important people, religious properties, moved structures, reconstructed buildings, commemorative properties or properties achieving significance within the last fifty years (36 CFR 60.4).

Evaluating Physical Integrity

The requirements for a site or property to be listed on the NRHP must demonstrate or display the attributes necessary to qualify as significant, possessing certain aspects of integrity consistent with the evaluation criteria of the NRHP. The integrity of a structure, site, or property is categorized and evaluated by its ability to retain integrity and express significance in accordance with the NRHP criteria. This criterion provides seven characteristics that are to be utilized to assess integrity and assist in making a DOE. These seven attributes are location, design, setting, materials, workmanship, feeling, and association. The following tables give an illustration of how these attributes can be applied while demonstrating a basis for asking the what, when, and why questions of a specific site, structure, or property that will sustain assessments of integrity and provide the foundation for DOE's. The information displayed in Table 1 shows the seven aspects of integrity, and explains how they can be united to produce integrity. The information provided in Table 2 discusses the seven aspects of integrity in relation to the NRHP criteria A through D.

| | Aspects of Integrity in Evaluating Properties for Inclusion in the NRHP | | | | |
|-------------|---|--|--|--|--|
| ASPECT | DESCRIPTION | | | | |
| Location | Location is the place where the historic property was constructed or the place where the historic event occurred. The relationship between the property and its location is often important to understanding why the property was created or why something happened. The actual location of a historic property, complemented by its setting, is particularly important in recapturing the sense of historic events and persons. Except in rare cases, the relationship between a property and its historic associations is destroyed if the property is moved. | | | | |
| Design | Design is the combination of elements that create the form, plan, space, structure, and style of a property. It results from conscious decisions made during the original conception and planning of a property (or its significant alteration) and applies to activities as diverse as community planning, engineering, architecture, and landscape architecture. Design includes such elements as organization of space, proportion, scale, technology, ornamentation, and materials. | | | | |
| | A property's design reflects historic functions and technologies as well as aesthetics. It includes such considerations as the structural system; massing; arrangement of spaces; pattern of fenestration; textures and colors of surface materials; type, amount, and style of ornamental detailing; and arrangement and type of plantings in a designed landscape. | | | | |
| Setting | Setting is the physical environment of a historic property. Whereas location refers to the specific place where a property was built or an event occurred, setting refers to the <i>character</i> of the place in which the property played its historical role. It involves <i>how</i> , not just where, the property is situated and its relationship to surrounding features and open space. | | | | |
| | Setting often reflects the basic physical conditions under which a property was built and the functions it was intended to serve. In addition, the way in which a property is positioned in its environment can reflect the designer's concept of nature and aesthetic preferences. | | | | |
| | The physical features that constitute the setting of a historic property can be either natural or manmade, including such elements as: | | | | |
| | Topographic features (a gorge or the crest of a hill); Vegetation; Simple manmade features (paths or fences); and Relationships between buildings and other features or open space. | | | | |
| | These features and their relationships should be examined not only within the exact boundaries of the property, but also between the property and its <i>surroundings</i> . This is particularly important for districts. | | | | |
| Materials | Materials are the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property. The choice and combination of materials reveal the preferences of those who created the property and indicate the availability of particular types of materials and technologies Indigenous materials are often the focus of regional building traditions and thereby help define an area's sense of time and place. | | | | |
| | A property must retain the key exterior materials dating from the period of its historic significance. If the property has been rehabilitated, the historic materials and significant features must have been preserved. The property must also be an actual historic resource, not a recreation; a recent structure fabricated to look historic is not eligible. Likewise, a property whose historic features and materials have been lost and then reconstructed is usually not eligible. | | | | |
| Workmanship | Workmanship is the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory. It is the evidence of artisans' labor and skill in constructing or altering a building, structure, object, or site. Workmanship can apply to the property as a whole or to its individual components. It can be expressed in vernacular methods of construction and plain finishes or in highly sophisticated configurations and ornamental detailing It can be based on common traditions or innovative period techniques. | | | | |
| | Workmanship is important because it can furnish evidence of the technology of a craft, illustrate the aesthetic principles of a historic or prehistoric period, and reveal individual, local, regional, or national applications of both technological practices and aesthetic principles. Examples of workmanship in historic buildings include tooling, carving, painting, graining, turning, and joinery. Examples of workmanship in prehistoric contexts include projectile points, beveled adzes, and worked bone pendants. | | | | |
| Feeling | Feeling is a property's expression of the aesthetic or historic sense of a particular period of time. It results from the presence of physical features that, taken together, convey the property's historic character. For example, a rural historic district retaining original design, materials, and workmanship; petroglyphs, unmarred by graffiti and intrusions, can evoke a sense of tribal spiritual life. | | | | |
| Association | Association is the direct link between an important historic event or person and a historic property. A property retains association if it is the place where the event or activity occurred and is sufficiently intact to convey that relationship to an observer. Like feeling, association requires the presence of physical features that convey a property's historic character. For example, the Sitka National Monument, the remains of a Tlingit fort and battleground upon which Tlingit and Russians fought in 1804 whose natural and manmade elements have remained intact since the battle. | | | | |

^{*}Adapted from NPS 1997 (revised): 44-45

| Table 2. A | Table 2. Assessing Integrity of Historic Properties | | | | | | |
|------------|--|---|--|--|--|--|--|
| Criteria | Integrity Retained If: | Integrity Lost If: | | | | | |
| A & B | The property is still on its original site (Location), and The essential features of its setting are intact (Setting), and | The property has been moved during or after its Period of Significance (Location , Setting , Feeling , and Association), except for portable structures, or | | | | | |
| | It retains most of its historic materials (Materials), and It has the essential features expressive of its design and function, such as configuration, proportions, and patterns (Design), and these features are visible enough to convey their significance. | Substantial amounts of new materials have been incorporated (Materials, Feeling, and Workmanship), or It no longer retains basic design features that convey its historic appearance or function (Design, Workmanship, and Feeling). | | | | | |
| C | The essential features of the property's design are intact, such as walls, roofs, windows, and doors, and the features are visible enough to convey their significance (Design , Workmanship , and Feeling), and Most of the historic materials are present (Materials , Workmanship , and Feeling), and Evidence of the craft of construction remains, such as the structural system, and original details (Workmanship), and The property is still sited on its original lot (except in the case of portable structures) (Setting , Location , Feeling , and Association). | The essential features of the structure's design such as walls, roofs, windows, and doors are substantially altered (Design , Workmanship , and Feeling), or Considerable amounts of new materials are incorporated (Materials , Workmanship , and Feeling), or It is no longer in a place that conveys its original function and purpose (Setting , Location , Feeling , and Association). | | | | | |
| D | The property must have, or have had, information that contributes, or can contribute to our understanding of human history or prehistory, and The information must be considered important. | Generally not applicable to historic period structures, buildings, or objects. Most commonly applies to historic or prehistoric archaeological sites. | | | | | |

^{*}Adapted from USDOI, NPS 1997b (revised): 44-45

An assessment of physical integrity based on location, setting, design, workmanship, materials, association, and feeling was completed for each building to determine whether or not the buildings could be considered eligible for listing in the NRHP either individually or collectively as a historic district.

Evaluating Significance and Physical Integrity of the Recent Past in Alaska

Historic preservation of the recent past poses significant challenges. Many argue that preservation of our older heritage is challenging enough and focusing on more recent heritage diverts needed resources, yet that same argument was made by previous generations arguing that more recent heritage was less important. Alaska, like many states in the post-WWII period, experienced significant growth in the decades following World War II. Due to changes in development patterns, economic growth, seismic activity and other factors, many of those resources have already been lost. Of those that remain, many are now or have the potential to be historic. Identifica-

tion and evaluation of these resources is important for future generations. Moreover, survey, documentation, and evaluation of these resources including integrity are an important part of identifying and assessing effects to historic properties for the Manokotak Second and Third Street Rehabilitation Project.

CONTEXT STATEMENTS

Applicability of Context Statements

Context statements are an important aspect of conducting a cultural resources survey. Such statements aid in evaluating the significance of a property and, therefore, identifying whether or not it is a historic property that may be adversely affected by a federal undertaking. As is the case for the Manokotak Second and Third Street Rehabilitation Project, context statements will help to avoid and minimize potential effects to resources located within and adjacent to the proposed APEs that are eligible for inclusion in the NRHP.

Manokotak is located in a dynamic region of known indigenous population movement (Reuther et al. 2003). The prehistory of Southwest Alaska is poorly understood, with much of the academic research in the area having been conducted along coastal areas, with a smaller number of surveys and excavations having occurred in the interior. Extensive archaeological survey began in the region in the 1960s (Cressman and Dumond 1962; Dumond 1981; Ackerman 1964). Through this work, a regional cultural chronology has been developed, and is constantly changing as new data is acquired.

The context provided below will focus on the prehistoric and historic context most relevant to resources within or around the proposed APE. It is important to note the date ranges provided in Table 3 for prehistoric cultural traditions are general and overlap in time, as one tradition slowly incorporated new technologies, and thus became defined as a new, distinctly different tradition.

Prehistory

The prehistoric context of the region has been derived from archaeological sites discovered west of Manokotak in the Platinum/Good News Bay area, south to Togiak, Dillingham, and the Naknek Drainage, and north to the Wood River Lakes and the Ahklun Mountains. A regional prehistoric chronology for Southwest Alaska has been developed through the archaeological investigations of Ackerman (1980; 1988; 1994; 1996a&b), Anderson (1970), Dumond (1984; 1987), Henn (1978), Holmes (1986), and VanStone (1967; 1984). The identified traditions have been called the American Paleoarctic, Northern Archaic, Arctic Small Tool tradition, Norton, and Western Thule/Late Prehistoric Eskimo. Archaeological evidence suggests that each tradition was uniquely adept at exploiting the available resources in a given environment and that the toolkit assemblages became more refined and specialized over time. The region has ethnographic connections to Central Yupik.

American Paleoarctic Tradition (10,000 – 6, 000 years ago)

The earliest dated sites in Southwest Alaska date to 10,000 years ago (Ackerman 1996a) with some suggestive evidence of even earlier occupation. The Paleoarctic tradition proposed by Anderson (1970) groups early artifact assemblages which show resemblances to materials found in northeast Asia, suggesting connections across the Bering Land Bridge. Paleoarctic tradition assemblages include microblades, wedge-shaped cores, bifacial tools, burins, endscrapers, and expedient tools made on blades (Ackerman 1994a). Groups were highly mobile, with seasonal encampments located in opportune locations for hunting late Pleistocene-early Holocene fauna (NLUR 2004). The tradition is based on materials originally found at Onion Portage in northwestern Alaska (Anderson 1970). The Kagati Lake complexes, located north-northwest of Manokotak, fall under this cultural tradition (Ackerman 1980; 1996b).

Northern Archaic Tradition (6,000 – 4,000 years ago)

The Northern Archaic tradition shows an increased use of marine resources, primarily salmon, with continued use of big game species. Side-notched projectile point/biface forms begin to appear in Alaskan archaeological assemblages (Braund 2001) as well as incised pebbles, and continued use of microblade technology is present. Dwellings are made of willow frame and covered with skins, with semi-subterranean floors that contain thick midden deposits. The middens commonly contain caribou bone, oxidized lenses of sand and charcoal. Northern Archaic tradition sites are numerous in tundra areas, both on the upper Alaska Peninsula and in the far north (Lobdell 1981, 1995), and reach as far south as Ugashik Lakes (Henn 1978). Components of this tradition have been identified in coastal areas such as Security Cove, southwest of Manokotak, and at interior locations like Kagati Lake (Ackerman 1980) and Good News Lake (Ackerman 1979) to the north of Manokotak.

| Table 3. Cultural Traditions in the Region | | | | | | |
|--|----------------------|--|--|--|--|--|
| Tradition | Age (Before Present) | Material Items and Site Characteristics | | | | |
| American Paleoarctic | 10,000 – 6,000 | Microblades, wedge-shaped cores with platform tablet removal, bifacial tools, burins, endscrapers | | | | |
| Northern Archaic | 6,000 – 4,000 | Microblades, wedge-shaped cores, side-notched projectile points/bifaces | | | | |
| Arctic Small Tool | 4,500 – 3,000 | Abundant microblades, finely detailed end and side scrapers | | | | |
| Norton | 3,000 – 1,000 | Chipped stone, pecked stone vessels, oil lamps, organic tempered pottery, labrets, ground stone, net weights | | | | |
| Western Thule and Late Prehistoric/Protohistoric Eskimo | 1,000 - 200 | Chipped stone, pottery, organic material use, depression dwellings with sunken entrances, European trade goods (glass/metal) | | | | |

^{*}Adapted from Ackerman 1980; Dumond 1984; NLUR 2004; Braund 2001; Reuther et al. 2003; Biddle 2006; Clarus 2009.

Arctic Small Tool Tradition (4,500 – 3,000 years ago)

This tradition is marked by small, finely made endblades and sideblades, distinctive burins and abundant use of microblades, which intensified as the tradition continued to develop. Along with the progressive increase in tool workmanship is the introduction of the bow and arrow (NLUR 2004). Near the end of the tradition, salmon is intensely harvested (Irving 1962: 77). Many feel that the Arctic Small Tool tradition is ancestral to Eskimo culture (Giddings 1967; Irving 1964; Dumond 1987). Dwellings early in the tradition are square, semi-subterranean sod enclosures, which gradually became round in floor plan. Excavation of dwelling floors indicates distinct activity areas within the houses. Habitation sites were seasonal, with coastal areas being inhabited in the spring and summer, and interior tundra sites in the fall and winter. Sites containing this phase have been identified in a number of locations in the upper Naknek and Kvichak drainages (NLUR 2009) to the east of Manokotak.

Norton Tradition (3,000 – 1,000 years ago)

The Norton tradition represents the convergence of two social groups, one from each side of the upper Alaska Peninsula, across the entirety of the landform. By 1,000 BP, both sides of the upper Alaska Peninsula maintained contact with each other and have been referred to as a single social group (Dumond 1987:71). Artifact assemblages contain both flaked stone tools and coarsely ground slate implements. Some Norton stone tools show evidence of having originated from the preceding Arctic Small Tool tradition. Pecked stone vessels, some used as oil lamps, also occurred along with thin and hard organic tempered pottery, labrets from organic material, and notched stones thought to be net sinkers. Use of marine resources increased, and dwellings varied from large, square, deeply set houses to small, semi-subterranean houses. All houses had entrance tunnels to prevent the cold from entering the living space. Norton sites are widely spread across the Alaska Peninsula (Ackerman 1988), with sites containing Norton components having been identified along the Kuskokwim-Bristol Bay coasts at Chagvan Bay (XHI-00001), Asvigyaq IV (XHI-00030) and the Tuglia site (XNB-00051), and also at Togiak Bay (GDN-00201 and GDN-00206; West et al 1980) to the west of Manokotak. Norton sites have also been identified in the Akhlun Mountains to the north (Ackerman 1980). To the east, Norton component sites have been identified at Clark's Point (XNB-00055), New Stuyahok (DIL-000164), Ekwok (DIL-00002), and the Naknek River drainage (NAK-00001).

Western Thule and Late Prehistoric/Protohistoric Eskimo Tradition (1,000 – 200 years ago)

People of the Western Thule tradition were Yup'ik Eskimo speakers from the coastal areas of southwestern and southern Alaska. The appearance of Eskimo culture on the Alaska Peninsula occurred immediately after the disappearance of the Norton tradition (Braund 2001) and display the use of a broad range of subsistence resources. Sites representative of the Thule tradition are thought to have been inhabited by the direct ancestors of the Alaskan Yup'ik Eskimos (NLUR 2009). The Thule people relied heavily on ground slate for cutting and thrusting implements, though some forms of chipped stone tools persisted. Thick, poorly fired, gravel tempered pottery is created, and use of organic materials, as seen in birch bark bowls, intensifies. Houses employed a sunken entrance to restrict flow of cold air into the structure and evidence of dogs being used for transportation is present (Dumond 1984: 101). Late phases of the tradition are distinguished by the replacement of Native implements by European or Euroamerican goods (NLUR 2009). Archaeological sites that contain Thule components include coastal sites at Platinum (GDN-00239) and Chagvan Bay (XHI-00001), and the Tuqlia site (XNB-00051) to the west. To the southwest, on Round Island, the Round Island Archaeological District (XNB-00043) contains Thule components, as well as components of the Norton and Arctic Small Tool traditions. Thule component sites are present in areas north of Dillingham (DIL-00169) and in the upper Naknek drainage (XMK-00011) to the east of Manokotak.

Regional Ethnohistory

As previous stated, Manokotak is located in a transitional zone, where the Bristol Bay and Alaska Peninsula regions converge and ethic boundaries shifted through time. Central Yup'ik Eskimo, Pacific Eskimo, and Athabascan Indians lived in relative proximity to one another and interacted during various periods of the region's history (Reuther et al. 2003). The interaction of multiple ethic groups is evident in oral histories and in the archaeological record, where the co-occurrence of chipped and polished stone tools has been observed (VanStone 1984b; Dumond 1981; Dumond 1984).

Linguistically, Manokotak is located within the Central Alaska Yup'ik territory, which consisted of seven different subcategories of cultural groups. Athabascan Indian groups inhabited the lands to the east, in Cook Inlet, and likely had trade interaction with the Eskimo groups to the west (Clark 1984). It has been well documented that the peoples in Bristol Bay, along the Kus-

kokwim and Nushagak Rivers, and those on the Pacific side of the Alaska Peninsula were frequently at war (Nelson 1983; Dumond and VanStone 1995). Three Central Yup'ik speaking subcultural groups were located in the area in the 19th century; the Tuyuryamiut, the Kiatagmiut, and the Aglurmiut. Manokotak is located at the boundary between the Tuyuryamiut and the Kiatagmiut.

The people of the Togiak River region, to the west of Manokotak, are referred to as Tuyuryamiut (VanStone 1984: 224) or Togiagmiut (Oswalt 1967: 8). In general, Togiagmiut peoples followed a seasonal subsistence pattern of fishing and hunting. Salmon and sea mammals were exploited heavily from coastal and riverine areas, while games species were hunted from the surrounding mountain ranges. The subsistence rounds included seasonal camps for hunting, fishing, and gathering, as well as a winter camp (Mobley 1996) and utilized sea mammals, marine and fresh water fishes, terrestrial mammals, and migratory birds. The traditional territory of the Kiatagmiut includes the Nushagak River drainage, to the east of Manokotak. Historically, the Kiatagmiut, or Nushagak River Eskimos, occupied the entire Nushagak River, the lower Mulchatna River, and areas to the north including Wood River Lakes, upper Kivchak River, and Lake Illiamna (VanStone 1984). Kiatagmiut loosely translates to "People of the Nushagak River" (VanStone 1984). They did not venture into the coastal areas of Nushugak Bay, likely due to the occupation of area by the Aglurmiut. The Aglurmiut inhabited the Nushagak Bay coastal area and the upper portion of the Alaska Peninsula and focused heavily on coastal and marine resources.

Regional History

The contact period began in the early nineteenth century with Russian explorers entering the Bristol Bay and Nushagak areas in search of furs. The explorers brought with them disease and trade goods (AK ARNG 2004). The Manokotak region was relatively untouched by Euroamerican interests in the early years of exploration. A Russian Orthodox Church was established in 1841 at the Aleksandrivskiy Redoubt, bringing Christianity to Southwest Alaska. Christianity was adopted by many residents sometime after 1822, with Russian orthodoxy being established in the region around 1829 (Kowta 1965: 17). Moravian missionaries entered the area in 1884. Also in 1844, the first cannery was established in Bristol Bay, bringing with it increased pressure from outside influences.

Manokotak is one of the more recent villages in the Bristol Bay region, as it was founded sometime between 1947 and 1948. The early inhabitants came from the villages of Igushik and Tuk-

lung, as well as Kulukak, Togiak, and Aleknagik. Igushik is now used as a summer fish camp by many of the residents of Manokotak (ADCCED 2016). Many residents of the new village began their first formal education in 1948 through education provided by Julia Beaver, the Yup'ik wife of a local Moravian lay pastor (Cassell 2010). Most of the material was presented in English, with more complicated concepts explained in Yup'ik.

In the early 1950s, the first Manokotak Village Council was formed as a Native institution under the Johnson-O'Malley Act – a provision of the Indian Reorganization Act of 1934. Through the new organizational structure, the village could receive federal funding for educational facilitates. In 1958, the Bureau of Indian Affairs (BIA) constructed a school in Manokotak (Harrison 1986). Education was provided for children fourteen and under, with eighth grade as the highest level. By the 1960s, Native cannery crews were common, which combined with commercial fish earnings, became the major annual source of cash income for many families (Figure 8; Anders and Clark 2009). However, traditional subsistence activities continued as common practice among Manokotak residents.



Figure 8. Moving salmon off a fishing boat at the cannery, Bristol Bay, ca. 1955 (Anchorage Museum at Rasmuson Center, Ward Wells Collection, AMRC-wws-156-R23).

The Alaska Native Claims Settlement Act of 1971 (ANCSA) provided the framework for Native corporations to convey lands to villages. Manokotak is part of two corporations established under ANCSA – Manokotak Natives Limited (Village Corporation) and Bristol Bay Native Corporation (BBNC) which is the regional corporation. BBNC was formed in 1971 and encompasses 34 million acres of land. There are nearly 10,000 shareholders, who

are Eskimo, Indian and Aleut (BBNC 2016). BBNC is a diversified company with investment and business holdings in oilfield and industrial services, construction, government contracting and petroleum distribution.

According to the Alaska Department of Labor and Workforce Development, Division of Research and Analysis, there were 482 individuals residing in Manokotak in 2015 (DLWDDRA 2016). Manokotak's economic base is primarily commercial fishing and the community depends heavily on subsistence activities.

The Remote Dwellings Program and Manokotak Housing

Manokotak was established as a community sometime between 1947 and 1948, and federal funding in the form of loans from the Alaska Housing Authority (AHA) was available soon thereafter. The Federal Housing Administration (FHA) launched the Remote Dwellings Program in 1949 and offered loans to residents of the territory of Alaska after World War II through the AHA. The program secured \$1 million appropriated from the US Congress to be provided as small loans to individuals living in rural locations in Alaska. The loan had a maximum of \$500 and was intended for building materials (ASHA 1970).

The Remote Dwellings Program grew as AHA offered small houses that could be built in a day (Figure 9). The design of these prefabricated houses was overseen by Anchorage architect Edwin B. Crittenden (ASHA 1970). Initial designs were small, either 10' x 14' or 14' x 18', and were without arctic entries. They contained a large interior room, a door, and two-to-four windows (Figures 10 and 11). The buildings were delivered to villages as kits that could be assembled in three to five days (AHA 1970).

By 1951, 606 loans totaling \$262,650 were approved for housing improvements and new construction (AHA 1951). Upon loan approval, an individual could choose form a 10' x 14' or 14' x 18' single-family dwelling for delivery to the village as kit and built on site. The program ended in 1952 after funding was exhausted. A total of 700 loans were issued under this program (ASHA 1970).

In 1966, research conducted by the BIA into the health and general welfare of rural residents of Alaska, with emphasis placed on Alaskan Natives, found that housing was generally unsanitary and in need of improvement to promote the health and wellbeing of the residents (BIA 1966). Housing also needed to

be economically attainable to a large group of individuals with little to no income. As a result, efforts to provide suitable housing in the villages resumed in 1968. The Remote Dwellings Program was reinstated in 1968 and by 1969 loans were once again available to rural residents. A manufacturing plant was established in Bethel after the program was re-launched. The plant assembled turnkey housing for coastal communities along the Bering Sea (AHA 1970). The designs were referred to as H-plan houses for their internal configuration of living spaces. The homes were larger than the initial RDP houses, with some measuring up to 30° x 30° (AHA 1969).

Entire villages, such as Chevak and Grayling, were also relocated under this loan program (Figure 12). Manokotak applied for funding to construct a new housing development but its application was declined; however, 19 new housing units were built in the village in 1971 (ASHA 1970; DOWL 1982). Houses in Manokotak built under the Remote Dwellings Program were prefabricated or kit house construction that followed AHA plans. Nearly all houses were single story with a gabled roof, and with very minimal materials and adornment.

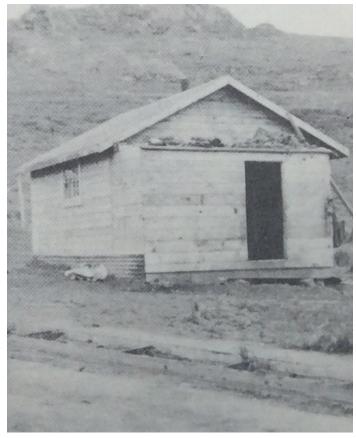


Figure 9. Typical house design funded under the RDP between 1950 and 1952 (Abrams 1967).



Figure 10. Example of early RDP housing in a Bering Sea coastal village, 1958 (AHA 1958).



Figure 11. Experimental house in Aniak, 1957; note the artic entryway is part of the design (Abrams 1967).

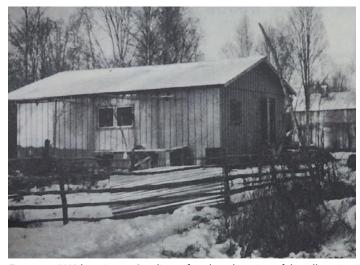


Figure 12. AHA housing at Grayling, after the relocation of the village in 1963-1965 (Abrams 1967).

RESULTS OF CULTURAL RESOURCE INVESTIGATION

Research of previous cultural resource investigations revealed very few cultural resources discovered within the vicinity of Manokotak. A small number of investigations were completed within the village and did not result in the identification of cultural resources. Archaeological sites have been recorded approximately six miles from the village.

Previous Cultural Resource Investigations

A review of the OHA Surveys Module and Document Repository revealed documentation for 22 previous cultural resource investigations in Manokotak (Table 4). Three of the investigations have formal Alaska Cultural Resource Permit survey identification numbers. These investigations were carried out mostly as a result of compliance with state and federal historic preservation laws and regulations for infrastructure improvements and real estate transactions on federally restricted townsite lots. The following cultural resources investigations were reviewed for relevance to the Manokotak Second and Third Street Rehabilitation Project:

- pedestrian survey of the proposed Manokotak Heights Road completed in 1987 by Linda Finn Yarborough which resulted in no historic properties (Yarborough 1987);
- BIA completed cultural resource investigations in Manokotak beginning in 1991 for the installation of sewer lines to nine townsite lots on Block 9 and Block 10 of Tract A, U.S. Survey 4875, and a finding of no historic properties was issued (Tyler 1991);
- BIA completed additional pedestrian surveys of two townsite lots on Block 7, Tracy A of U.S. Survey 4875 in 1991, and no cultural resources were identified on the lots (Tyler 1993);
- cultural resources investigation for the Manokotak Road Project in 1994 in areas southeast of town, along 2.4 miles of Manokotak Heights Road, from the east side of town to Manokotak Heights Subdivision, along a proposed landfill access road south of the subdivision, and to a new material site just east of the subdivision, and a finding of no historic properties was issued because the area was found to by low-lying with hydric soils and a wetland environment (Tyler 1994);
- addendum report to the Manokotak Road Project in 1994 contained results from an aerial reconnaissance of the proposed route of the Weary River Road in 1997, which is a 1.6

- mile section of road from the Manokotak Heights Subdivision to the Weary River and concluded no historic properties would be affected (Tyler 1997);
- literature review for a proposed material site along Weary River Road completed in 1999 based findings of no historic properties affected from previous cultural resource investigations completed by Tyler in 1994 and 1997 (DeCleva 1999);
- literature review completed for the construction of a new school along the Manokotak Heights Road in 2001 based a findings of no historic properties affected from previous investigations completed by Tyler in 1994 and 1997 (Boatwright 2000);
- literature review completed for permitting, design, and construction of a new health clinic on Lot 15, Block 4, along Second Street resulted in a finding of no historic properties affected (Frisby 2002);
- cultural resources investigation by Northern Land Use Research (NLUR) in 2003 for construction of three proposed airstrip alternatives, access roads, and material sites consisted of limited subsurface testing and resulted in of no historic properties affected (Reuther et al. 2003);
- cultural investigation in 2004 for change in scope to airstrip
 alternative 3 consisting of a slight change in realignment
 of the previously surveyed access road was investigated for
 cultural resources and it was recommended a finding of no
 historic properties affected be issued based on previous
 survey (Williams and Reuther 2004);
- literature review for a proposed new power plant with a 5,000 gallon fuel tank in Manokotak along First Street in 2003 resulted in a finding of no historic properties affected (Howard 2003); literature review in 2004 of a lot slated for the construction of a new health clinic resulted in a finding of no historic properties (Dunham 2004);
- literature review for the proposed construction of three multi-unit dwellings, each containing four housing units, in the Manokotak Heights Subdivision southeast of the main village resulted in a finding of no historic properties affected (Tennyson 2004);
- pedestrian survey of the Federal Scout Readiness Center (FSRC) conducted in Manokotak in 2005 and a finding of no historic properties affected was issued (Schwimmer et al. 2005);

- Alaska Native Tribal Health Consortium (ANTHC) proposed to drill three new wells under the Village Safe Water Program north of the existing water treatment plant in 2006 and a finding of no historic properties affected was issued based on the area previously assessed for the Manokotak Heights Subdivision as having low potential for archaeological resources (Campbell 2006);
- literature review conducted for the construction of a proposed landfill in 2007 and a finding of no historic properties affected issued based on previous surveys of the area and the low potential for archaeological sites (KAE 2007);
- literature review completed in 2009 for the Alaska Army National Guard Local Training Area (LTA) in Manokotak and no historic properties were identified and the Alaska SHPO requested that future training events be assessed under the Alaska Historic Preservation Act, Section 41.35.070 (Anders and Clark 2009);
- historic structures survey of the school along Salmon Street in 2010 for environmental remediation through the Brownfields Program resulted in a finding that the property built in 1958 had lost its physical integrity to be eligible for inclusion in the NRHP and a finding of no historic properties affected was issued (Cassell 2010);
- letter request to the BIA for a literature review for the Second Street realignment in 2010 (KAE 2010) resulted in BIA issuing a finding of no historic properties and recommendation that a historic structures survey (HSS) be completed (Hoff 2011);
- literature review for the rehabilitation of Manokotak
 Heights Road in 2012 and a finding of no historic properties affected was issued base on previous cultural resource investigations (Greiser 2012);
- cultural resources investigation in 2014 of Lot 17, Block 4 and Lot 5, Block 10 subject to the construction of new houses through the BIA Housing Improvement Program resulted in a pedestrian survey and subsurface testing and a subsequent finding of no historic properties affected by BIA (Miraglia 2014);
- cultural resources investigation in 2015 of Lot 2, Block 4 subject to the construction of new houses through the BIA Housing Improvement Program resulted in a pedestrian survey and subsurface testing and a subsequent finding of no historic properties affected by BIA (Miraglia 2015).

| | evious Cultural Resource In | | Reference |
|-----------|-------------------------------------|--|---------------------------|
| Record ID | Level | Document | |
| | Level IIC - Pedestrian | Archaeological Survey of a Proposed Road in Manokotak, Alaska. | Yarborough 1987 |
| | Level IIC - Pedestrian | Letter RE: No Historic Properties for the Village of Manokotak Sewer Installation Right-of-Way. | Tyler 1991 |
| | Level IIC - Pedestrian | Determination of No Historic Properties, Negotiated Sale of the Billie and Elsie Bartman Townsite Lot | Tyler 1993 |
| | Level IIC - Pedestrian | The Manokotak Road Project Cultural Resource Report of Investigations | Tyler 1994 |
| | Level II - Reconnaissance Survey | Section 106 Review of the Proposed Weary River Road Corridor | Tyler 1997 |
| | Level I - Literature Review | Letter RE: New Material Source for Weary River Road | DeCleva 1999 |
| | Level I - Literature Review | Letter RE: New School Site Request for Cultural Resource Review | Boatwright 2000 |
| 1379 | Level I - Literature Review | Letter Report RE: Construction of New Health Clinic Within the Village of Manokotak | Frisby 2002 |
| 1349 | Level IIC - Pedestrian | Cultural Resources Survey Of Three Proposed Airstrip Alternatives In Manokotak, Alaska | Reuther et al. 2003 |
| 2696 | n/a | Letter Report Re: Proposed Power Plant Upgrade For The Manokotak Power Company, Manokotak, AK | Howard 2003 |
| 3608 | n/a | Letter Report Re: Manokotak Village Health Clinic Project | Dunham 2004 |
| 3689 | n/a | Letter Report Re: Building Three 4-Unit Complexes, Manokotak | Tennyson 2004 |
| 4446 | n/a | Letter Report Re: Manokotak Airport Alternative R3 Revised APE Cultural Resource Evaluation | Williams and Reuther 2004 |
| 3464 | Level IIC - Pedestrian | AK ARNG Final Cultural Resource Survey Manokotak, AK, Armory Site | Schwimmer et al. 2005 |
| 8169 | n/a | Letter Re Drilling Of Three Wells At Manokotak | Campbell 2006 |
| | Level I - Literature Review | Letter RE: Municipal Landfill Section 106 Consultation, Request for Literature Review | KAE 2007 |
| 9731 | Level I - Literature Review | Manokotak LTA Cultural Resources Survey Manokotak, Alaska | Anders and Clark 2009 |
| | Level I - Literature Review | Letter RE Second Street Reconstruction | KAE 2010 Hoff 2011 |
| 16006278 | Level IIB - Architectural | Determination of Eligibility for the Manokotak BIA School (XNB-140) Manokotak, Alaska | Cassell 2010 |
| 16050006 | Level I - Literature Review | Cultural Resources Research for the Manokotak Heights Road Reconstruction [AK DEN 2009(8)] Project, Southwest Alaska | Greiser 2012 |
| 16252892 | Level IIC - Pedestrian | Finding of No Historic Properties Affected for the Construction of Two New HIP Houses in Manokotak, Alaska | Miraglia 2014 |
| 16338207 | Level IIC - Pedestrian | Findings of Section 106 Review for the Construction of a New HIP House on the Christian and Vera Gloko Townsite Lots BIA 2015 | Miraglia 2015 |

Bureau of Indian Affairs (BIA) Alaska Native Townsite Lot Cultural Resources Investigations

The BIA Branch of Regional Archaeology conducted several cultural resources investigations in Manokotak that are not listed on the OHA Surveys Module and Document Repository. Such investigations consist of those Alaska Native townsite lots sub-

ject to a cultural resources investigation and Section 106 review for various federal undertakings involving real estate transactions, including land sales, revocable use permits (RUPs), leases, easements, and gift deeds. Table 5 provides a list of townsite lots and blocks investigated by BIA as well as the results from these investigations.

| Table 5. BIA Cultural Resource Investigations within the Village of Manokotak. | | | | | | | |
|--|-------|-------|--|------------------------|------|--|--|
| Individual | Lot | Block | Purpose | Finding | Year | | |
| Mary Stephan | 3 | 10 | Sewer ROW | No Historic Properties | 1991 | | |
| John and Annie Etumula | 5 | 10 | Sewer ROW | No Historic Properties | 1991 | | |
| Billie and Elsie Bartman | 3 | 7 | Negotiated Sale | No Historic Properties | 1991 | | |
| Gust and Helen Toyukak | 9 | 7 | Gift Deed Unrestricted | No Historic Properties | 1991 | | |
| John Stephan | 10 | 9 | Sewer ROW | No Historic Properties | 1991 | | |
| Evon and Palakea John | 12 | 9 | Sewer ROW | No Historic Properties | 1991 | | |
| Simeon Bartman | 2 | 9 | Sewer ROW | No Historic Properties | 1991 | | |
| John and Anuska Nanalook | 3 | 9 | Sewer ROW | No Historic Properties | 1991 | | |
| Gus and Anuska Kusegta | 5 | 9 | Sewer ROW | No Historic Properties | 1991 | | |
| Henry Medicine | 8 | 9 | Sewer ROW | No Historic Properties | 1991 | | |
| Carl and Nettie Evon | 9, 11 | 9 | Sewer ROW | No Historic Properties | 1991 | | |
| Henry and Julia Alakayak | 1 | 5 | Gift Deed | No Historic Properties | 2010 | | |
| Henry and Julia Alakayak | 7 | 9 | Gift Deed | No Historic Properties | 2010 | | |
| Henry and Julia Alakayak | 9 | 8 | Gift Deed | No Historic Properties | 2010 | | |
| Wassillie Alakayak | 8 | 8 | Sale | No Historic Properties | 2010 | | |
| Petla and Julia Apalayak | 13 | 4 | New Construction, Home Improvement Program | No Historic Properties | 2010 | | |
| Jessie and Anecia Ayojiak | 16 | 4 | Gift Deed | No Historic Properties | 2016 | | |
| Anuska Bartman | 2 | 9 | New Construction, Home Improvement Program | No Historic Properties | 2011 | | |
| Albert Etumulla | 7 | 3 | Third Street ROW | No Historic Properties | 2003 | | |
| Carl and Elena Evon | 6 | 7 | New Construction, Home Improvement Program | No Historic Properties | 2005 | | |
| Christian and Dinah Itumulria | 4 | 10 | Gift Deed | No Historic Properties | 2001 | | |
| Gus and Anuska Kusegta | 3, 4 | 8 | Gift Deed | No Historic Properties | 2007 | | |
| Henry Medicine | 8 | 9 | New Construction, Home Improvement Program | No Historic Properties | 2010 | | |
| John and Anuska Nanalook | 3 | 9 | New Construction, Home Improvement Program | No Historic Properties | 2004 | | |

Previously Documented Cultural Resources

The archival search revealed one previously documented cultural resource within the village of Manokotak. As such, the search was expanded to include previously documented cultural resources from the Wood River Lakes to the north and southeast to the lower Snake River so the types and likelihood of encountering cultural resources within and around the proposed APE could be better understood (Table 6). Archaeological sites in the region are typically found near water sources (i.e. rivers and creeks), and contain evidence of modern use and/or occupation. In the Wood River lakes area, north of Manokotak, the sites are located along rivers and on the shores of the lakes. They generally include both prehistoric and historic sites, with a long time span of use and occupation.

Previously Documented Cultural Resources in the Proposed APE

Records held on file at OHA indicate there is only one previously documented cultural resource recorded within the proposed APE. The Manokotak BIA School was recorded on the AHRS database as XNB-00140. It is located on a townsite lot abutting the proposed APE on Salmon Street (OHA 2016a). In 2010, the building complex was documented and evaluated for inclusion in the NRHP as part of Environmental Protection Agency's (EPA) compliance with Section 106 of the NHPA for the allocation of Brownfields funds. An assessment of the building's physical integrity resulted in a finding that the Manokotak BIA School was not eligible for inclusion and a no historic properties affected was issued by the agency (Cassell 2010).

| Table 6. Prev | Table 6. Previously Documented Cultural Resources in the Vicinity of Manokotak. | | | | | | | |
|---------------|---|---------------------------------|------|--------------------------|--|--|--|--|
| AHRS# | Site Name | Resource Type | NRHP | Reference | Location | | | |
| XNB-00140 | Manokotak BIA School | Building | DNE | Cassell 2010 | Salmon Street, Manokotak | | | |
| XNB-00038 | Dre-ni-ak-ha-mut | Historic Site | UNE | VanStone 1971 | Coastal, mouth of the Snake River | | | |
| XNB-00039 | XNB-00039 | Prehistoric House Depressions | UNE | VanStone 1971 | Riverine, west bank of Snake River | | | |
| XNB-00040 | XNB-00040 | Prehistoric House Depressions | UNE | VanStone 1971 | Riverine, east bank of Snake River, across from site XNB-00039 | | | |
| XNB-00041 | Tuchuktovik | Historic Cabins and Depressions | UNE | VanStone 1971 | Coastal, west side of Nushagak Bay | | | |
| XNB-00042 | Miogavik | Historic Site | UNE | VanStone 1971 | Coastal, west side of Nushagak Bay | | | |
| GDN-00026 | GDN-00026 | Historic camp with depressions | UNE | Shields 1977 | Amanka Lake | | | |
| GDN-00027 | GDN-00027 | Historic camp with depressions | UNE | Shields 1977 | Amanka Lake | | | |
| GDN-00028 | GDN-00028 | Historic camp with depressions | UNE | Shields 1977 | Amanka Lake | | | |
| GDN-00029 | GDN-00029 | Historic camp with depressions | UNE | BIA 2002 | Amanka Lake | | | |
| GDN-00030 | Insiachamute | Prehistoric/historic settlement | UNE | Sields 1977 Orth 1971 | Riverine, confluence of Ongoke River and Ualik Lake outlet | | | |
| GDN-00031 | GDN-00031 | Prehistoric House Depressions | UNE | Shields 1977 | Riverine, confluence of Ongoke River and Ualik Lake outlet | | | |
| GDN-00032 | GDN-00032 | Historic camp with depressions | UNE | Shields 1977 | Riverine, Igushik River, outlet of Amanka Lake | | | |
| GDN-00033 | Yachergamut | Historic Site | UNE | Sields 1977 Orth 1971 | Riverine, upper Igushik River | | | |
| GDN-00238 | Amanka Lake House Pits | Prehistoric House Depressions | UNE | n/a | Riverine, Igushik River, outlet of Amanka Lake | | | |

DNE = Determined Not Eligible; UNE = Unevaluated

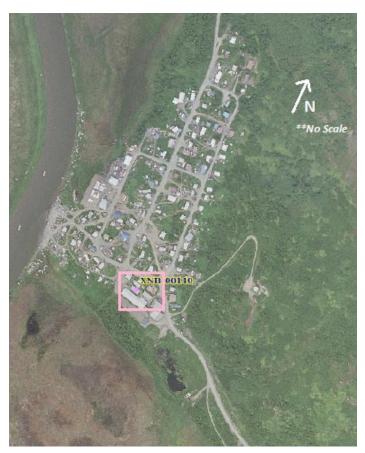


Figure 13. Location of previously documented site XNB-00140, Manokotak BIA School.

Cultural Resources Listed in the National Register of Historic Places (NRHP)

A review of the NRHP database held on file at NPS was conducted as part of the archival search for this project. The search revealed there are no cultural resources in Manokotak listed on the NRHP (NPS 2016).

Historic Trails

A review of the RS-2477 Historic Trails Data Layer in the IBS database was conducted to ascertain the presence of any historic routes within or adjacent to the proposed APE. The review indicated no documented RS2477 historic routes traversing the project area (OHA 2016a; Figure 14). The nearest RS2477 trail is the Togiak - Nushagak Trail (RST 215) located 3.5 miles north of the proposed APE. This trail was a 125-mile winter trail that began at Togiak and continued east to Dillingham, and then onto Lewis Point, where it redirected west and crossed the Nushagak River and continued for eight miles to the village of Nushagak (Alaska DMLW 2016).

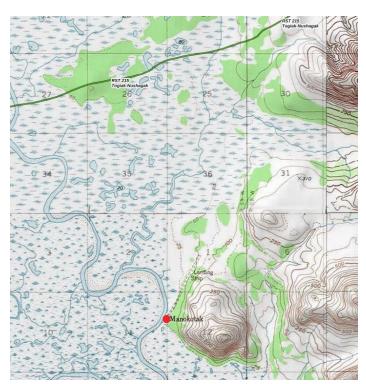


Figure 14. Map of RST 215, Togiak - Nushagak Trail (in green), north of Manokotak (red dot).

Cultural Resource Survey

An intensive cultural resources survey of the proposed APE for road rehabilitation and drainage swales was completed on June 21 and 22, 2016. Right-of-entry (ROE) was granted from landowners for those lots impacted by the project. The surveyed areas were photographed and GPS waypoints were collected to document survey coverage, which consisted of those roads subject to rehabilitation and areas where drainage swales will be installed.

| Table 7. GPS Waypoints for Road Rehabilitation and Drainage Swales Proposed APEs. | | | | | | | |
|---|--|-----------|------------|--|--|--|--|
| Waypoint | Description | Latitude | Longitude | | | | |
| 12 | Cemetery adjacent to Salmon Street | N58.97975 | W159.05739 | | | | |
| 13 | First drainage swell | N58.98127 | W159.05647 | | | | |
| 14 | Trash dump at first drainage swell | N58.98141 | W159.05667 | | | | |
| 15 | Second drainage swell approximate location | N58.98224 | W159.05626 | | | | |
| 16 | Current culvert and marker for second drainage swell | N58.98219 | W159.05615 | | | | |
| 17 | Midway 2nd Street | N58.98154 | W159.05524 | | | | |
| 18 | Barrels in ROW off 2nd Street | N58.98071 | W159.05589 | | | | |
| 19 | Fifth drainage swell | N58.98014 | W159.05496 | | | | |
| 20 | Shovel Test 1 | N58.98217 | W159.05617 | | | | |
| 21 | Shovel Test 2 | N58.98032 | W159.05481 | | | | |

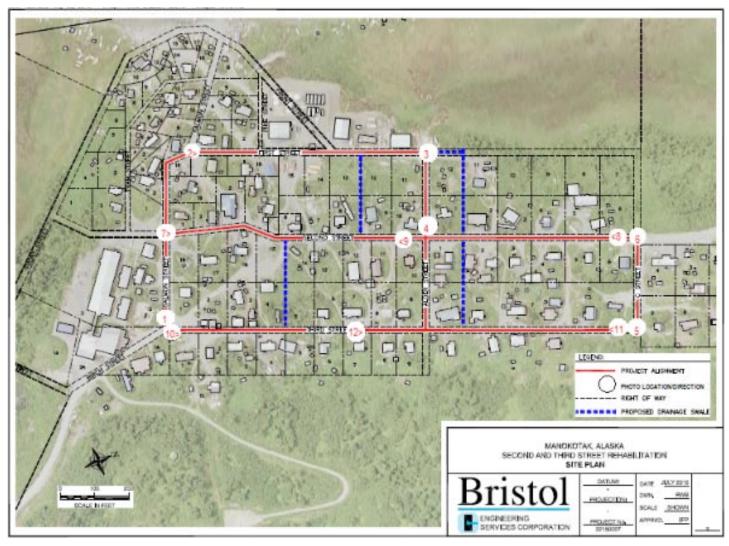


Figure 15. Map indicating the location of pedestrian survey proposed APE overview photographs.

Road Rehabilitation

A pedestrian survey was completed for all roads subject to rehabilitation within the proposed APE. Transects were completed along the ROW of each road, with special attention given to the proposed locations of seven pullouts along the west side of Third Street. Photographs were taken of the proposed APE and each surveyed road keyed to the map in Figure 15 for reference.

Salmon Street (Route 1014-10)

The Salmon Street ROW was surveyed beginning at its intersection with Third Street and continuing west to First Street for approximately 280 feet (Figure 16).



Figure 16. Overview of Salmon Street, view west from intersection with Third, photo location #1 (©TNSDS 2016).

First Street (Route 1006-10)

First Street was surveyed from its intersection with Salmon Street to the north for approximately 770 feet (Figure 17).



Figure 17. Overview of First Street, view north from intersection with Salmon Street, photo location #2 (©TNSDS 2016).

Alder Street(Route 1010-10)

Alder Street was surveyed from its intersection with First Street, moving east to Third Street for approximately 270 feet (Figures 18 and 19).



Figure 18. Overview of proposed APE, view facing south from the intersection of Alder and First Streets, photo location 3 (©TNSDS 2016).



Figure 19. Proposed APE, view facing east from intersection of Alder and Second Streets, photo location 4 (©TNSDS 2016).

C Street (Route 1012-10)

C Street was surveyed from its intersection with Second Street, east to Third Street, for a distance of approximately 270 feet (Figures 20 and 21).



Figure 20. Overview of C Street, view facing west to Second Street, photo location 5 (©TNSDS 2016).



Figure 21. Overview of C Street, view facing east to Third Street, photo location 6 (©TNSDS 2016).

Second Street (Route 1007-10)

Second Street was surveyed twice, first from its intersection at Alder Street as the pedestrian survey moved north to C Street and second south from Alder Street to Salmon Street. The total distance covered was 1,390 feet (Figures 22 to 24).



Figure 22. Overview of Second Street, view facing north from the intersection with Salmon Street, photo location 7 (©TNSDS 2016).



Figure 23. Overview of Second Street, view facing south from C Street, photo location 8 (©TNSDS 2016).



Figure 24. Over of Second Street from the intersection with Alder Street, view facing south, photo location 9 (©TNSDS 2016).

Third Street (Route 1008-10)

Third Street was surveyed from C Street, moving south to Salmon Street, for an approximate distance of 1,380 feet (Figures 25 to 27). The west side of the ROW was intensively inspected for proposed on-street parking and residential access ramps.



Figure 25. Overview of Third Street from Salmon Street, view facing north, photo location 10 (©TNSDS 2016).



Figure 26. Overview of the north end of Third Street, view facing south from C Street, photo location 11 (©TNSDS 2016).



Figure 27. Overview of Third Street, photo location 12 (©TNSDS 2016).

Drainage Swale Installation

Five areas where drainage swales are proposed were also intensively surveyed. Subsurface shovel probes were placed within these locales based on the professional judgment of the field archaeologist.

<u>Drainage Swale #1 – Third Street to Second Street (South of Alder Street)</u>

Drainage swale #1 will be installed on an unimproved road that borders residential lots (Figures 28 and 29). Standing water was observed on the road which cuts through what appeared to be disturbance vegetation. Based on the survey and information gathered from residents, the proposed route is located in an area that floods seasonally.



Figure 28. Proposed location of drainage swale #1, west half, view facing west towards Second Street (©TNSDS 2016).



Figure 29. East end of the proposed location for drainage swale #1, view facing west to Second Street (©TNSDS 2016).

<u>Drainage Swale #2 – Second Street to First Street (south of Alder Street)</u>

The proposed route of the second drainage swale also follows an unimproved road (Figures 30 and 31). Areas of rutting were observed on the exposed surface. Surrounding vegetation on both sides of the proposed alignment consists of disturbance vegetation in the form of tall grasses and cow parsnip, or puschki (*Heracleum maximum*). Aside from debris and scattered litter, the intensive survey was negative for cultural resources. A shovel probe was placed along this proposed route with negative findings.



Figure 30. Overview of the proposed location of drainage swale #2, looking east from First Street to Second Street (©TNSDS 2016).



Figure 31. Overview of the proposed location of drainage swale #2 from mid-route between First and Second Streets, view facing west (©TNSDS 2016).

<u>Drainage Swale #3 – West Side ROW of First Street from Alder Street</u> to the east side of Block 12, Lot 6

The proposed route of the third drainage swale follows an existing footpath, from First Street east to Second Street (Figure 32). The exposed surface showed signs of rutting. Surrounding vegetation on both sides of the proposed alignment also consists of disturbance vegetation in the form of tall grasses and abundant cow parsnip. The intensive survey resulted in negative findings for cultural resources.



Figure 32. Location of proposed drainage swale #3, from First Street facing east to Second Street (©TNSDS 2016).

<u>Drainage Swale #4 - Second Street to First Street (north of Alder Street)</u>

The proposed location for drainage swale #4 follows a footpath and existing culvert. The route passes beneath utility lines and the surrounding area is covered with disturbance vegetation (Figure 33). Sorted gravels were observed which might indicate this is another area subject to seasonal flooding. The intensive survey resulted in negative findings for cultural resources.



Figure 33. Proposed location of drainage swale #4, view facing west from Second Street towards First Street (©TNSDS 2016).

<u>Drainage Swale #5 - Third Street to Second Street (north of Alder Street)</u>

The proposed location for drainage swale #5 follows an existing footpath traversing residential lots (Figures 34 and 35). The west end of the proposed route is surrounded by willow thickets, while the east end is primarily low-lying grasses. The soils appear more compacted than other proposed drainage swale

locations. Two 55-gallon drums and discarded wooden signs are scattered within the route. The intensive survey resulted in negative findings for cultural resources. A shovel test was placed along this proposed route.



Figure 34. Overview of proposed drainage swale #5 location (note footpath), view facing east from Second Street to Third Street (©TNSDS 2016).



Figure 35. Proposed location of drainage swale #5, (east half) view facing west from Third Street towards Second Street (©TNSDS 2016).

Subsurface Testing

No subsurface testing was completed along the existing roadways subject to rehabilitation and improvements. Given the low probability combined with impacts from previous road construction, it was determined by the on-site archaeologist that subsurface testing was not warranted along the road alignments. Two shovel probes were excavated within the proposed drainage swales where minimal surface disturbances were observed (Table 8, Figure 36).

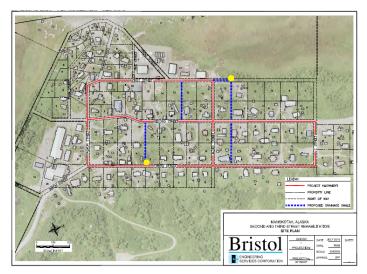


Figure 36. Location of subsurface testing (yellow).

Shovel Probe 1 was placed along drainage swale #3, just west of First Street, within the existing right-of-way (ROW). The area was covered in dense vegetation and there was a culvert observed within the proposed swale route. The 30 cm wide shovel test revealed homogenous dark brown peat to a depth of 76 centimeters below the surface (cmbs). The test was terminated when the water table was encountered and sands became evident in the peat soil (Figure 37). No cultural materials were observed in Shovel Probe 1.



Figure 37. Shovel Probe 1 during excavation (©TNSDS 2016).

Shovel Probe 2 was placed in the location of proposed drainage swale #1, near its east end and intersection with Third Street (Figure 38). The probe revealed semi-homogenous soil with small pebbles, likely from a water source. The probe was excavated to a depth of 50 cmbs where medium-sized cobbles made excavating to deeper depths more difficult. Shovel Probe 2 also resulted in negative findings for cultural materials.



Figure 38. Shovel Probe 2 during excavation (©TNSDS 2016).

| Table 8. Archaeological Shovel Probe Results for the Manokotak Second and Third Street Road Rehabilitation Project | | | | | | | | |
|--|-------|---------|-----------|---------------------------------|--|--|-------------|----------|
| Probe # | Diam. | Depth | Artifacts | | Artifacts | | Soil Matrix | Comments |
| 1 | 30 cm | 76 cmbs | none | Nega- tive for artifacts. | Deep brown peat to 76 cmbs then water- logged sandy soil. | 3rd drainage swell, W. of First St. ROW. N. of Alder St. Lat: N 58.98217 Long: W 159.05617 | | |
| 2 | 30 cm | 50 cmbs | none | Nega- tive for artifacts. | Mostly river gravels, at 50 cmbs hit cobbles. | 1st drainage swell S. end of Third St. Lat: N 58.98032 Long: W 159.05481 | | |

The results of the subsurface testing reflect the geomorphology of the area. Manokotak is located in an area of coastal geology interlaid with alluvial and marine sediments. The presence of homogenous sediment and water-worn gravels in the shovel probes suggests it is unlikely that buried prehistoric archaeological deposits with an intact context are present in the proposed APE. As such, no further testing was carried out for the Manakotak Second and Third Street Road Rehabilitation Project.

Conclusion

The archaeological survey of the roads proposed for rehabilitation and the areas selected for proposed drainage swales did not reveal any evidence of cultural resources. The road rehabilitation involves existing road surfaces and the five proposed drainage swales are to be installed along unimproved roads and footpaths traversing residential lots. The intensive survey revealed some of the proposed locales for the installation of drainage swales showed signs of possible seasonal flooding and various other surface disturbances. Two shovel probes were excavated within the proposed drainage swales where minimal disturbance was observed. No cultural resources were unearthed from these shovel probes and the soil matrices were homogenous, lacking distinguishable stratigraphy and cultural horizons, and showed signs of fluvial deposition. As such, the proposed APE is considered low probability for containing archaeological resources, which supports findings from previous cultural resource investigations in Manokotak (Tyler 1991; Tyler 1994; Tyler 1997; DeCleva 1999; Boatwright 2000; Hoff 2011; Miraglia 2014).

Historic Structures Survey

The historic structures survey was completed for each property lot abutting the proposed APE. Buildings and structures located on what is being referred to as the first tier of lots (i.e. closest to the proposed APE) were reviewed for building dates to determine whether or not any of them have the potential to qualify as historic properties per Section 106. There are no available tax records and information for improvements in the village of Manokotak is minimal at best. As such, aerial images, planning maps, and annual reports from the Alaska Housing Authority were the primary sources from a literature review and archival search to identify estimated construction dates for the buildings located within the proposed APE for the project.

Building Types and Styles

The building types observed during the survey for the Manokotak Second and Third Street Rehabilitation Project are primarily single-family residences and include rental housing designed for single families. Civic buildings, including two religious facilities on Second Street and seven municipal/government buildings, were also observed throughout the proposed APE. Three buildings used for educational purposes were observed near the Manokotak School, and one health care buildings was observed on Third Street. Three commercial buildings were also inventoried within the proposed APE, on Third and Second Streets.

Designs Observed in Manokotak

Three vernacular designs were observed during the historic structures survey of the proposed APE in Manokotak. The designs are prefabricated and kit house, with small additions and alterations completed over the years by the owners. The buildings, while initially intended to serve as residences, have multiple uses in the village. Other building designs are vernacular repurposed buildings.

Small Side Gable

Fifteen houses have a small, rectangular plan with a side-gabled roof and narrow eaves. Window openings vary in size but the arrangement is similar among the houses. While some retain their small square footage, many have been enlarged by the construction of additions. Later window replacements are also common.



Figure 39. Building #29 is an example of the small side gable design (©TNSDS 2016).



Figure 40. Building #34 is an example of a small side-gable house with additions at both gable ends (©TNSDS 2016).

Large Side Gable

Four buildings have a large rectangular plan with a side-gabled roof with either narrow eaves on all elevations or narrow eaves on long axis walls. Some of these have no eaves on the gable ends. This style is similar to the small side gable but only larger.



Figure 41. Building #41 is an example of a large side-gable house with an addition to the gable end in the left of the image (©TNSDS 2016).

Small Front Gable - Steep Pitch

Eight houses are one and a half or two-story buildings with a rectangular plan and steeply-pitched front gable. Window openings vary in size but arrangement is similar among the houses. At least two have undergone renovations but the basic form is retained.



Figure 42. Building #35 is an example of the steep front-gable house with an added window to the left of the door (©TNSDS 2016).



Figure 43. Building #45 is an example of the steep pitch, front-gable house with typical window arrangement (©TNSDS 2016).

Small Rectangle

Four buildings have a small rectangular plan with a single story. Measuring roughly 10' x 14' or 14' x 18' the tiny dwellings are similar in size and evoke the simple design from those built out of the Remote Dwelling Program under the Alaska Housing Authority. They have a moderately-pitched, front-gable roof window openings on all sides, a single entrance, and some have no eave at the gable ends.



Figure 44. Building #85 is a possible example of early remote dwelling housing stock from 1949-1952; the building has updated siding, windows, and roofing material (©TNSDS 2016).

Inventory

Although it is difficult to narrow down specific dates for individual building prior to 1974, a total of 40 buildings inventoried within the proposed APE are determined as having been built between 1947 and 1974. Development appears to have started in the southern portion of the APE, along Salmon, First and Third Street. These older buildings are located within Blocks 1, 2, 3, 4, 7 and 8 of US Survey 4875 (survey completed in 1968). The northern portion of the proposed APE (north of Alder Street) contain buildings along Second Street on Blocks 5 and 6 that were built by 1974. All buildings identified within the proposed APE with construction dates estimated between 1947 and 1974 were documented.

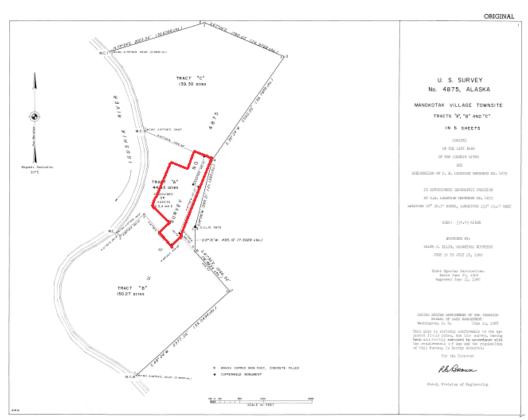


Figure 45. US Survey 4875, with Tracts A, B, and C depicted; proposed APE depicted in Red in Tract A and small portion of Tract C (©TNSDS 2016).

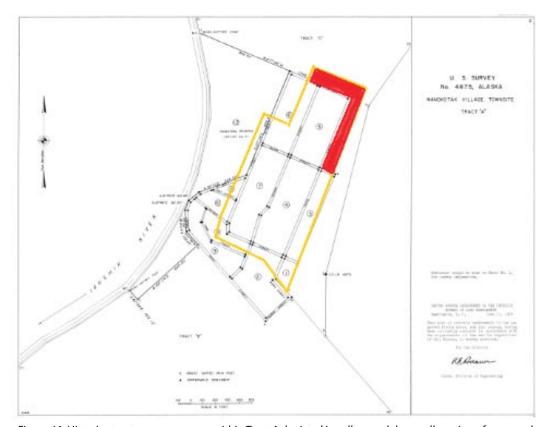


Figure 46. Historic structures survey area within Tract A depicted in yellow and the small portion of proposed APE surveyed for historic structures in Tract C is depicted in red (\bigcirc TNSDS 2016).



Figure 47. Map illustrating all buildings subject to an inventory as part of the historic structures survey.

A total of 95 buildings and structures were surveyed for the Manokotak Second and Third Street Rehabilitation Project. The building types included single-family residences, outbuildings, civic buildings, educational facilities, and healthcare clinics. A review of historical aerial images and maps resulted in finding shifts in development patterns that reduced the potential for a high concentration of historic buildings and structures. A 1974 Alaska Department of Transportation and Public Facilities community road map with aerial imagery was a primary source for defining a baseline for construction dates (DOT&PF 1974). A comparison of those depicted on this imagery to what was inventoried during the survey was helpful in reducing the number of potentially historic buildings from 95 to 40.

For the purposes of this inventory, a total of 40 buildings are documented in this report because of the possibility of meeting the age requirement for the NRHP (Table 9).

Salmon Street

Salmon Street was surveyed north to First Street from its intersection with Third Street. Several buildings have been relocated or demolished along Salmon Street in recent years, particularly at the ease end, near where the road passes the school property. The west end of Salmon Street, which is beyond the proposed APE, has some of the oldest buildings in Manokotak. It is estimated these older buildings were constructed between 1947 and 1948.

A total of 11 property lots were identified as potentially having historic buildings and structures. This includes one building located at the intersection of Birch and Third Streets and the

| Table 9. Buildings Possibly Built between 1947 and 1974 | | | | | | | |
|---|------------------|---------|-------|--|--|--|--|
| Map# | Street | Block | Lot | | | | |
| 2 | Salmon | 2 | 2 | | | | |
| 4 | Salmon | 8 | 6 | | | | |
| 5 | Salmon | 8 | 7 | | | | |
| 14 | First | 6 | 1 | | | | |
| 15 | Alder | 6 | 1 | | | | |
| 15A | Alder | 6 | 1 | | | | |
| 16 | Second | 6 | 2 | | | | |
| 26 | Third | Tract C | | | | | |
| 28 | Third | 3 | 9 | | | | |
| 29 | Third | 3 | 8 | | | | |
| 30 | Third | 3 | 7 | | | | |
| 31 | Third | 3 | 6 | | | | |
| 33 | Third | 3 | 4 | | | | |
| 34 | Third | 3 | 3 | | | | |
| 35 | Third | 3 | 2 | | | | |
| 38 | Birch | 1 | 1 | | | | |
| 41 | Second | 4 | 17 | | | | |
| 42 | Second | 4 | 16 | | | | |
| 43 | Second | 4 | 16 | | | | |
| 45 | Second | 4 | 13-14 | | | | |
| 47 | Second | 4 | 11 | | | | |
| 48 | Alder and Second | 4 | 10 | | | | |
| 50 | Second | 5 | 1 | | | | |
| 52 | Second | 5 | 2 | | | | |
| 53 | Second | 5 | 3 | | | | |
| 54 | Second | 5 | 4 | | | | |
| 55 | Second | 5 | 5 | | | | |
| 63 | Alder and Third | 4 | 9 | | | | |
| 64 | Third | 4 | 8 | | | | |
| 65 | Third | 4 | 7 | | | | |
| 66 | Third | 4 | 6 | | | | |
| 70 | Third | 4 | 2 | | | | |
| 70A | Third | 4 | 2 | | | | |
| 72 | Salmon | 7 | 1 | | | | |
| 73 | Salmon | 7 | 19 | | | | |
| 75 | First | 7 | 17 | | | | |
| 76 | First | 7 | 16 | | | | |
| 84 | Second | 7 | 8 | | | | |
| 85 | Second | 7 | 7 | | | | |
| 88 | Second | 7 | 4 | | | | |

first tier of buildings on the school property abutting Salmon Street. It was determined from this historic structures survey that one of the two school buildings is no longer on the property. The aerial image from 1974 also shows only six of the eight buildings present along Salmon Street.

Block 2, Lot 2 (Building #2)

This building is a single-story duplex used as single teacher's quarters by the BIA school. Built in 1958 along with the main school building, the rectangular building has a side-gabled roof with entrance doors on both the north and south facades. The building envelope is clad in wood sheeting and the roof is covered with corrugated metal roofing. The building is clearly visible in the 1974 aerial image. Windows consist of recently replaced vertical and horizontal sliding windows. In 2010, the building was evaluated for inclusion in the NRHP and designated as XNB-00140 on the AHRS database as part of EPA's compliance with Section 106 of the NHPA for funding allocated from the Brownsfield Program (Cassell 2010). The school property, which consists of the main school, the singles quarters, a light plant, tank farm, boardwalks, and a tramway, as well as a storage shed built in 1967 were recommended not eligible for inclusion because of a lack of physical integrity. The storage shed has since been demolished.



Figure 48. Building #2 (single teacher quarters) on Block 2, Lot 2, Salmon Street, north facade (right) (©TNSDS 2016).

Block 8, Lot 6 (Building #4)

This building is a one-story, single-family residence with a rectangular plan and a side-gabled roof. The exterior is clad in wood sheeting with corrugated metal roofing and exposed rafter ends. The window fenestrations are relatively small in size and all of the original windows appear to have been replaced with vinyl windows. The house is set back from Salmon Street and the property has a small cluster of outbuildings. The building is clearly visible in the 1974 aerial image. A 1982 report of community resources indicates the building was once used as an educational facility (Dowl 1982).



Figure 49. Building #4 on Block 8, Lot 6, Salmon Street, view facing south (©TNSDS 2016).

Block 8, Lot 7 (Building #5)

This building is a single-family residence located on the south side of the intersection of Salmon Street and First Street. The house has a rectangular plan and is clad in wood sheeting. It has a saltbox roof covered with raised seam metal roofing. Windows are casement and awning of various sizes and configurations. The building is clearly visible in the 1974 aerial image.



Figure 50. Building #5, Block 8, Lot 7, intersection of Salmon Street and First Street, view facing south (©TNSDS 2016).

Block 7, Lot 1 (Building #72)

This building is small, single-family residence with a rectangular plan located on the northwest corner of the intersection of Salmon Street and Second Street. It is wood-frame construction clad with plywood. The front-gabled roof is covered with two types of metal roofing. The north half of the building is covered with corrugated metal and the south half is covered with metal folded seam roofing. The windows are wood sash with casement, awning, and fixed window types set in square and small rectangular fenestrations. A shed-roofed artic entry was built

onto entrance on the north façade, and an addition extends off of the south façade. The function of the building is unknown and the only evidence of occupancy is an attached heating oil tank on the east façade. The size and original dimensions of the building prior to the addition are consistent with homes built under the Remote Dwellings Program.



Figure 51. Building #72, Block 7, Lot 1, view facing west from Second Street (©TNSDS 2016).

Block 7, Lot 19 (Building #73)

This building is a single-story residence with an L shaped plan. The northern portion of the building is original construction with a moderately-pitched, gabled roof. The southern portion is an addition with a slightly-pitched, gabled roof. The roof is covered with rolled seam metal roofing. The house is clad in wood sheeting. Window openings are trimmed and windows consist of various types and sizes. The building is clearly visible in the 1974 aerial image.



Figure 52. Building #73, Block 7, Lot 19, view facing north from Salmon Street (©TNSDS 2016).

Block 1, Lot 1A (Building #38)

This building is situated on the east end of Salmon Street, where the road shifts southeast and turns into Birch Street. The building is a one and a half story, single-family residence, with a side-gabled roof. It has a wooden-post foundation and is clad in wood sheeting. The roof consists of rolled seam metal roofing and wood end boards on the eaves. The primary façade faces west, with an arctic entry and stoop addition across the front of the building. Windows appear to have been replaced and window openings are trimmed. All windows are sliding sash, with a centrally placed window in the half story of the gabled roof on both the north and south facades. The building is clearly visible in the 1974 aerial image.



Figure 53. Building #38, Lot 1A of Block 1, view facing southeast (©TNSDS 2016).

First Street

First Street was surveyed north from the intersection of First Street and Salmon Street, past Alder Street, to the northern edge of Lot 11 of Block 6. Building density along First Street diminishes from south to north, with the lots just north of the proposed APE being void of building improvements.

Eight building along First Street was surveyed. Building #80, as shown on Figure 47, has since been removed. The buildings from the 1974 aerial image still extant along First Street were surveyed as part of this cultural resources investigation.

Block 7, Lot 17 (Building #75)

This building is a single-family residence with a rectangular plan and southern exposure. This single-story building has a rectangular plan, is sided with wood sheeting, and has trimmed window openings. The side-gabled roof is covered with raised seam metal and has boxed eaves on all sides of the building. Windows are sliders with either wood or aluminum

sash. A wooden stoop with one step leads to the main door on the south façade and a large heating oil tank and crib are set along the west façade. The building is clearly visible in the 1974 aerial image.



Figure 54. Building #75, Lot 17 of Block 7, view facing northwest (©TNSDS 2016).

Block 7, Lot 16 (Building #76)

The building on Lot 16 of Block 7 is very similar to the adjacent building on Lot 17. It is a one-story, single-family residence, with a rectangular floor plan. The primary façade has a shedroof arctic entry and faces north to a group of houses that share a parking area. The walls are clad in wood sheeting, with the side-gabled roof covered with corrugated metal. The house has boxed eaves on the north and south facades. Window openings vary in size and are either square or rectangular. Windows appear to have been replaced recently with vinyl windows. The building is clearly visible in the 1974 aerial image.



Figure 55. Building #76, Lot 16 of Block 7, view facing northeast (©TNSDS 2016).

Block 6, Lot 1 (Building #14)

This building is a single-family residence with a wooden-post foundation. The side-gabled house is a single story home with a rectangular plan. It is clad in wood sheeting, and the roof is covered with corrugated metal roofing. The primary façade faces west with a wooden stoop for accessing the main door. Window openings are minimal with one on each façade. The vinyl sliders are trimmed with wood finishes. An addition was observed on the north end of the building. This observation is based on new treated timber post and beam foundation, a visible break in the wall cladding, a change in the seam pattern of the roofing material, and the crimped joinery of two ridge caps. The building is clearly visible in the 1974 aerial image.



Figure 56. Building #14, Lot 1 of Block 6, view facing northeast (©TNSDS 2016).

Alder Street

Alder Street was surveyed beginning at the intersection with First Street and ending at its intersection with Third Street. Seven buildings were present along the street; however, only two were observed on the 1974 map. The two buildings surveyed along Alder Street are possibly historic in age.

Block 6, Lot 1 (Survey Buildings 15 and 15A)

Two buildings on this lot are possibly historic in age. The first building appears on the 1974 aerial image. It is a single-family residence with several additions. The house has a rectangular plan and is situated on the lot north-to-south. The gable roof has a steep pitch and open eaves. An artic entry has been added to the south façade, making it the primary entrance. A large, one and a half story square addition with low-pitch, gabled roof and boxed eaves is set on the west façade. The roof and roof additions are covered with raised seam metal. Window openings

vary in size and placement. Some of the windows have been boarded over with plywood. The original house design is still visible and may have been designed under the Remote Dwelling Program. The building is clearly visible in the 1974 aerial image.



Figure 57. Building #15, Block 6, Lot 1, view facing north; note large addition in background (©TNSDS 2016).

The second building on the lot, Building #15A, is very similar in size and scale to the original design of Building #15. It is a single-story, single-family residence with a small rectangular plan and a front-gabled roof. It is clad in plywood sheeting and the roof is covered with raised seam metal roofing. There is one window opening on each façade, except for the south facing primary facade that has an entrance door and an arctic entry. Windows are sliders of various sash materials and arrangements. There is a poorly defined shape in the same location in the 1974 aerial image.



Figure 58. Building #15A, Block 6, Lot 1, view facing northeast (©TNSDS 2016).

Block 4, Lot 10 (Building #48)

This building is a small, single-family residence with a rectangular plan facing Second Street. It has a side-gabled roof with a moderate pitch and is covered with corrugated metal roofing. The building envelope is clad in asbestos shingle siding. Some of the original wooden, fixed and casement windows were observed. A few of the fenestrations contain windows that have been replaced with windows of a smaller size. Arctic entries are present on both the west and east facades, although the entry on the west façade does not appear to be in use. The building is clearly visible in the 1974 aerial image.



Figure 59. Building #48, Block 4, Lot 10, view facing east (©TNSDS 2016).

Second Street

The historic structures survey of Second Street began at its intersection with Salmon Street and proceeded north to C Street. Second Street is the longest street within the proposed APE and a total of 30 buildings were surveyed along this route. Based on the 1974 aerial image, Second Street may have the highest density of historic properties in Tract A of US Survey 4875. The image depicts 16 buildings on Second Street, although the site visit confirmed two of the buildings are no longer extant. The remaining 14 buildings were documented as part of the historic structures survey of Second Street.

Block 4, Lot 17 (Building #41)

This building is a one-story, single-family residence with a rectangular plan situated on the lot facing west towards Second Street. It is built on a wooden-post foundation and clad in wood sheeting. The side-gable roof has both corrugated and raised seam metal roofing material. Window openings are various sizes and trimmed with wood. Windows are a combination of wood and metal sash with fixed, awning, and casement types.

A possible addition to the original structure can be seen on the north end of the house. The 1974 aerial image supports this observation, as there is a building in the same location, with same ridgeline alignment and arctic entry, but that is smaller in size as the current building. The building is clearly visible in the 1974 aerial image.



Figure 60. Building #41, view facing east from Second Street (©TNSDS 2016).

Block 4, Lot 16 (Buildings #42 and #43)

Two buildings are located on Lot 14 of Block 4 that possibly correlate with buildings depicted in the 1974 aerial image. Building #42 is a rectangular, single-story outbuilding located within the ROW of Second Street. The one-room, wooden-framed building has a wooden-sill foundation, side-gable roof, an entryway opening (no door) in its south façade, and two window openings (no glazing) at each gable peak. The walls are clad in shortcut wood board and plywood. The roof is covered with raised seam metal and has open eaves with exposed rafter tails. The 1974 aerial image displays a building of similar size and alignment in the exact location.

Building #43 is a single-family residence built on a woodenpost foundation, skirted with wood sheeting. The single-story, rectangular plan house is facing west and has an arctic entry with wooden stoop and stairs. The side-gabled house is clad in wood sheeting and the roof is covered with rolled seam metal. The 1974 aerial image shows a building at the exact location, although Building #43 is slightly larger and situated in a different alignment than that of which is shown on the aerial image.



Figure 61. Building# 42, view facing north (©TNSDS 2016).



Figure 62. Building #43, view facing east (©TNSDS 2016).

Block 4, Lots 13 and 14 (Building #45)

Building #45 is a one and a half story, single-family residence, with a rectangular plan and front-gabled roof. It is situated on the east-west property line dividing Lots 13 and 14 of Block 4. It has a wooden post foundation and is clad in wood sheeting. The roof is covered with rolled seam metal roofing material. The building faces west and has a wooden stoop and stairs. Windows appear to have been replaced and window openings are trimmed. All windows are sliding sash, with a centrally placed window in the half story of the gabled roof on both the east and west facades. The building is identifiable on the 1974 aerial image.



Figure 63. Building #45, Lots 13 and 14 of Block 4, view facing east (©TNSDS 2016).

Block 4, Lot 11 (Building #47)

Building #47 is a one-story, single-family residence with a rectangular plan. It is built on a wooden-post foundation and has a gabled roof that extends over an arctic entry on the west

façade. The exterior walls are clad in plywood and the roof is covered with corrugated metal roofing and has boxed eaves. Window openings have new metal sash sliding windows. The building is identifiable on the 1974 aerial image.



Figure 64. Building #47, view facing east (©TNSDS 2016).

Block 5, Lot 1 (Building #50)

Building #50 is a one and a half story, single-family residence with a rectangular plan and steeply-pitched, front-gabled roof. It has a wooden-post foundation and is clad in wood sheeting, fiberboard, and Tyvek moisture barrier. The roof has rolled seam metal and wood end boards on the eaves. The primary façade faces west and has a wooden stoop and stairs. Window openings are trimmed but no glazing is present. There is a centrally placed window opening in the half story of the gabled roof on both the east and west facades. The chimney/stove pipe has been removed and the opening is visible on the gable edge. The building is identifiable on the 1974 aerial image.



Figure 65. Building #50, Lot 1 of Block 5, view facing east (©TNSDS 2016).

Block 5, Lot 2 (Building #52)

Building #52 is a single-family residence with a rectangular plan. It is built on a wooden-post foundation skirted by plywood. This single-story house has a gabled roof and an arctic entry on the west façade. It is clad in wood sheeting and the roof is covered with corrugated metal roofing material. Windows consist of newer vinyl sash sliders. The simple design is one that has been observed on several lots in Manokotak and is likely a prefabricated or kit house design. The building is easily identifiable on the 1974 aerial image.



Figure 66. Building #52, view facing east (©TNSDS 2016).

Block 5, Lot 3 (Building #53)

Building #53 is a single-family residence with a rectangular plan and a side-gabled roof. The primary façade faces east and away from Second Street. The foundation is wooden post and the envelope is clad with wood sheeting. The roof is covered with corrugated metal roofing and has boxed eaves. Windows appear to have been replaced and consist of casement and slider types. Window openings are finished with trim. An artic entry is located on the primary/east façade. The building identifiable on the 1974 aerial image.



Figure 67. Building #53, Lot 3 of Block 5, view facing east (©TNSDS 2016).

Block 5, Lot 4 (Building #54)

Building #54 is a single-family residence with a rectangular plan and a side-gabled roof. The primary façade faces south and has an arctic entry that extends from the south façade. Wooden stairs lead to the entrance on this elevation. The foundation is wooden post and the walls are clad in wood sheeting. A gable-

roofed addition is present on the north façade and has raised seam metal roofing material. The original building is covered with corrugated metal and has boxed eaves. Windows are wood sash and consist of casement and slider types. The building is identifiable on the 1974 aerial image.



Figure 68. Survey Building 54, view facing east (©TNSDS 2016).

Block 5, Lot 5 (Building #55)

Building #55 is a one and a half story, single-family residence with a rectangular plan and a steeply-pitched, front-gable roof. The building has the same form and identical window opening arrangement as several others in proposed APE. It has a wooden-post foundation covered with a plywood skirt. The building envelope is clad with wood sheeting. The roof is covered with corrugated metal roofing and wood-end boards on the eaves. The primary façade faces west and has a wooden stoop and stairs. Windows are wood and vinyl sash casements and sliders. A centrally placed window is set in the half story of the gabled roof on both the east and west facades. The building is identifiable on the 1974 aerial image.



Figure 69. Building #55, Lot 5 of Block 5, view facing east (©TNSDS 2016).

Block 6, Lot 2 (Building #16)

Building #16 is a single-story civic building with a rectangular plan. It has an unknown foundation covered with plywood skirting. The roof is a moderately-pitched, side gable. The building envelope is clad in wood sheeting and the roof is covered with corrugated metal and has boxed eaves. The primary façade faces east and has an entry door and large awning extending over a wood stoop and stairs asymmetrically placed on this elevation. Window openings have wooden sash slider windows. The building is identifiable on the 1974 aerial image as the village co-operative store. It is currently being used as the tribal office building.



Figure 70. Building #16, village offices, view facing west (©TNSDS 2016).

Block 7, Lot 8 (Building #84)

Building #84 is a single-family residence with a rectangular plan and side-gabled roof. The primary façade faces east and has an arctic entry that extends across a large of the façade and is clad in fiberboard. The remaining building envelope is clad in plywood and the roof is covered with raised seam metal roofing and has boxed eaves. Window openings are small and have casement windows that do not appear to be original. The building is identifiable on the 1974 aerial image.



Figure 71. Building #84, Lot 8 of Block 7, view facing west (©TNSDS 2016).

Block 7, Lot 7 (Building #85)

Building #85 has a rectangular plan and is situated on the lot in a northeast-southwest orientation. It has a wooden-sill foundation and a combination of plywood and vinyl-strip siding. The front-gabled roof has no eaves on the gable ends, with boxed eaves on the southeast and northwest facades. The primary façade faces northeast and contains a metal door with a small wood stoop. Windows are vinyl sliders and the roof is covered with raised seam metal roofing. No utilities were observed servicing the building, which implies residential use is unlikely at this time. The 1974 aerial image depicts a building of similar size and features on Lot 7 of Block 7, although it is currently situated on a different area of the lot. Building #85 has a similar design to the small houses built between 1965 and 1970 under the Alaska State Housing Authority (ASHA) Remote Dwellings Program. These buildings were typically 10' x 14' or 14' x 18' in dimension. Building #85 is 10' x 14' and very simple in its design.



Figure 72. Building #85, Lot 7 of Block 7, view facing west (©TNSDS 2016).

Block 7, Lot 4 (Building #88)

Building #88 is a single-family residence with a rectangular plan. It is located just south of where the village offices used to be located and may have been part of that building complex. An arctic entry with an entry door facing east was added to the south façade. The house is clad in wood sheeting and the roof is covered with raised seam metal roofing and has boxed eaves. Windows consist of both wood and metal sash casements and sliders. There is a building present in the same location in the 1974 aerial image, although it is difficult to determine if this is the same building.



Figure 73. Building# 88, view facing west (©TNSDS 2016).

Third Street

The survey along Third Street began at its intersection with C Street and proceeded south to the intersection with Salmon Street. Eighteen buildings were observed in the survey area from Alder Street south to Salmon Street. A review of the 1974 aerial image shows fourteen buildings in the surveyed area that may be historic in age.

Block 3, Lot 9 (Survey Building 28)

Building #28 is a single-family residence with a rectangular plan built on a wooden-post foundation. The primary façade faces west and has an arctic entry extending south along this elevation. A wood stoop with stairs is present on the primary façade. The building envelope is clad in wood sheeting. The front-gabled roof has a has a slightly-pitched, salt-box roof covered with corrugated metal roofing. Windows consist of wood and metal awning and casement types of various sizes and configuration. The building is identifiable on the 1974 aerial image.



Figure 74. Building #28, Lot 9 of Block 3, view facing east (©TNSDS 2016).

Block 3, Lot 8 (Building #29)

Building #29 is a one story, rectangular plan, single-family residence with a slightly-pitched, side-gabled roof and its primary façade facing east from Third Street. The foundation is wooden post and the envelope is clad with wood sheeting. The roof is covered with corrugated metal and has boxed eaves. Windows appear to have been replaced and are now metal sash in both awning and casement types. All window openings are finished with trim. An arctic entry with wood stoop is on the primary (east) façade. Aside from the placement of the artic entry, this building is nearly identical in size, plan, materials, and workmanship as the building located directly to the north on Lot 9 of Block 3. It is identifiable on the 1974 aerial image.



Figure 75. Building #29, view facing east (©TNSDS 2016).

Block 3, Lot 7 (Building #30)

Building #30 is a single-family residence with a rectangular plan and side-gabled roof. Its primary façade faces west to Third Street and the foundation is built on wooden post. The building envelope is wood sheeting and the roof is covered with corrugated metal roofing material and has boxed eaves. The primary façade has an arctic entry with a wood porch and wood railed stairs. The house is similar in size, plan, materials, and workmanship to the two buildings located to the north of this lot (Buildings #29 and #28). It is identifiable on the 1974 aerial image.



Figure 76. Building #30, Lot 3 of Block 7, view facing east (©TNSDS 2016).

Block 3, Lot 6 (Building #31)

Building #31 is a one and a half story, single-family residence, with a steeply-pitched, front-gabled roof. The building faces west and there is an arctic entry with shed roof on the northern façade. Original wood sash casement and awning are still intact. A centrally placed window is set in the half story of the gabled roof on both the east and west facades. It was built on a wooden-post foundation and the envelope is clad with plywood. The roof is covered with corrugated metal roofing. The building is identifiable on the 1974 aerial image.



Figure 77. Building# 31, a steeply pitched front gable house, view facing east (©TNSDS 2016).

Block 3, Lot 4 (Building #33)

Building #33 is a single-family residence with a rectangular plan. This single-story house has a wooden-post foundation covered with plywood skirting. The primary façade faces west to Third Street and has an asymmetrically placed arctic entry with wood stoop and railed stairs. The building envelope is clad with wood sheeting and side gable roof is covered with corrugated and raised seam metal. Windows are awning and casement types with either metal or wood sash. Some of the windows have finished trim. There is a small addition on the building's north façade. The addition has newer metal sash casement windows and raised seam metal roofing material. A sign on the entryway says "GCI Community Agent," and there are communications dishes and small lattice towers surround the building. The building is identifiable on the 1974 aerial image, although the addition on the north elevation is absent.



Figure 78. Building #33, Lot 3 of Block 4, view facing east (©TNSDS 2016).

Block 3, Lot 3 (Building #34)

Building #34 is a single-family residence with a rectangular plan. This single-story house has a wooden-post foundation covered with plywood skirting. The primary façade faces west to Third Street. An artic entry with a wood porch and railed stairs is on the north side of the west façade. The building envelope is clad in wood sheeting and side-gable roof is covered with corrugated and raised seam metal. Windows are awning and casement types with metal sash that have finished trim. A small addition lacking windows is on the south façade of the house. It is covered with raised seam metal roofing material. This building is similar in design as Building #33 on the adjacent lot. Building #34 is identifiable on the 1974 aerial image, although the addition on the south side is absent.



Figure 79. Building #34, with addition visible to the right of the image, view facing east (©TNSDS 2016).

Block 3, Lot 2 (Building #35)

Building #35 is a one and a half story, single-family residence with a steeply-pitched, front-gabled roof. The building is similar in form and window arrangement as several other buildings inventoried in the proposed APE. It has a wooden-post foundation and the building envelope is clad in plywood sheeting. The roof is covered with corrugated metal roofing. The primary façade faces west and has a wood stoop with railed stairs. Metal sash casement and awning windows appears to have replaced the original windows. A centrally placed window is set in the half story of the gabled roof on both the east and west facades. A small awning window was installed adjacent to main door (a deviation from the design). The building is identifiable on the 1974 aerial image.



Figure 80. Building #35, Lot 2 of Block 3, view facing east (©TNSDS 2016).

Block 4, Lot 9 (Building #63)

Building #63 is located at the southwest corner of Third Street and Alder Street. The building is a one and a half story, singlefamily residence, with a steeply-pitched, front-gabled roof. This building is also similar in form and window arrangement as other houses inventoried in the proposed APE. It has a woodenpost foundation and the building envelope is clad with wood sheeting that extends down over the foundation. The roof is covered with corrugated metal roofing. The primary façade faces north and has a wood stoop with railed stairs. The original windows have been replaced with casement and awning metal sash windows with finished trim. A centrally placed window is set in the half story of the gabled roof on both the north and south facades. The building is identifiable on the 1974 aerial image.



Figure 81. Building #63, view facing south (©TNSDS 2016).

Block 4, Lot 8 (Building #64)

Building #64 is a one and a half story, single-family residence with a steeply-pitched, front-gabled roof. This building is also similar in form and window arrangement as other houses inventoried in the proposed APE. It has a wood post foundation and the building envelope is clad with wood sheeting that extends over the foundation. The roof is covered with corrugated metal roofing. The primary façade faces south and has a wood stoop with railed stairs. Some of the windows have been replaced with metal or wood sash casement and awning windows. Some are finished with trim. A centrally placed window is set in the half story of the gabled roof on both the north and south facades. The building is identifiable on the 1974 aerial image.



Figure 82. Building # 64, view facing north with Building 63 in background (©TNSDS 2016).

Block 4, Lot 7 (Survey Building 65)

Building #65 is a single-family residence with a rectangular plan and side-gable roof. This single story house has a wooden-post foundation covered by skirting that is an extension of the wood sheeting that clads the building envelope. The side-gabled roof is covered with a combination of corrugated metal and raised seam metal roofing. Windows consist of wood sash awning and casement windows. An arctic entry is asymmetrically placed on the primary (east) façade. Two additions were built on the north and south elevations. The building is similar in design to several other houses inventoried in the proposed APE. The building is identifiable on the 1974 aerial image, although the two additions are absent



Figure 83. Building #65, view facing west (note additions to the building on the left and right of image) (©TNSDS 2016).

Block 4, Lot 6 (Building #66)

Building #66 is a single-family residence with a rectangular plan and side-gable roof. It is a single-story house built on a wooden-post foundation. The building envelope is clad with wood sheeting and the side-gabled roof is covered with corrugated metal roofing. Windows are wood sash awning and casement windows. The primary façade faces east towards Third Street and an arctic entry on the north side of the façade. With the exception of later additions, this building is similar in design to other houses inventoried within the proposed APE (Building #33, 34, and 65). The building is identifiable on the 1974 aerial image.



Figure 84. Building #66, view facing west (©TNSDS 2016).

Block 4, Lot 2 (Buildings #70 and #70a)

Building #70 and #70a are situated in a cluster of three community buildings that include a gabled-roof shed (Survey

Building 70a), and two flat-roofed sheds (Survey Buildings 70 and 71). Building #70 and #70a are shown on the 1974 aerial imagery. Both of these structures are located within the Third Street ROW.

Survey Building 70 is a square plan, single-story building that houses the community water pump. The roof is slightly pitched to the south. Roofing material consists of raised seam metal and the eaves are boxed. The building envelope is clad with wood sheeting and has one metal sash window on the east façade. Building #71, which does not show on the 1974 aerial image, is directly adjacent to Building #70. It is of similar design and construction, but with a slightly smaller footprint. Buildings #70 and #71 are connected by a 12-inch diameter corrugated metal ventilation pipe placed directly below the roofline of both buildings.

Survey Building #70a is situated north of Building #70. This building is a small shed with a rectangular plan and a front-gabled roof. The primary façade faces east and has a metal exterior door. The envelope is clad with wood sheeting there is a window covered with plywood on both the north and south facades. The roof is covered with raised seam metal roofing.



Figure 85. Survey Building 70 (right) and Survey Building 71 (left); the building on the left is not depicted in the 1974 aerial image (©TNSDS 2016).



Figure 86. Survey Building 70a with Survey Building 70 directly to the left (©TNSDS 2016).

Statement of Significance

Construction dates for the oldest buildings located on lots within Tract A of US Survey 4875 and inventoried as part of the cultural resources investigation for the Manokotak Second and Third Street Road Rehabilitation are estimated to range from 1947 to 1974. Houses were constructed as part of a national, state, and regional effort to address the post-WWII housing shortage and, more specifically, the adverse housing crisis in remote villages. It is estimated nearly \$1 million was appropriated by the US Congress under the Remote Dwellings Program of the Alaska Housing Authority. The program generated new housing designs for remote locations, with easy to construct plans and efficient use of minimal materials. The designs were either prefabricated or delivered as complete kits to be built upon arrival. Over 700 individual loans were approved through the program, which exhausted its monetary base within four years. Although the program was considered a financial failure, lessons were learned and the Remote Dwellings Program was reinstated and expanded upon in the 1960s which included new housing designs with innovations in cold climate construction methods.

NRHP Evaluation

Information pertaining to the construction of individual buildings in Manokotak is not readily available and, therefore, poses a challenge for evaluation for inclusion in the NRHP. Aerial imagery from 1974 combined with research into the Remote Dwellings Program was a useful tool for providing baseline construction dates and for identifying possible historic designs of buildings inventoried within the project area. The buildings have undergone extensive alterations that included an increase in square footage, arctic entries, reconfiguration of window and door fenestrations, and continuous replacement of building materials that include windows, cladding, and roofing materials. In some instances, some buildings were relocated from their original locations. As such, it is determined the 40 buildings inventoried as part of this cultural resources investigation do not retain enough physical integrity (location, setting, design, workmanship, materials, feeling, and association) to be considered eligible for individual inclusion in the NRHP.

Historic District Evaluation

According to the National Register Bulletin 15 issued by the National Park Service as an aid to evaluating historic properties, an historic district "possesses a significant concentration, linkage, or continuity of sites, buildings, structures, or objects united historically or aesthetically by plan or physical devel-

opment" (NPS 1997:5). In essence, a district needs to visually convey the sense of a unified whole, either in appearance or purpose. A district must also be significant for historic, architectural, archaeological, engineering, or cultural values. While a district can have both individual and uniform features and one or more focal points, the grouping must "achieve significance as a whole within its historic context" (NPS 1997:5). A district may contain properties that do not contribute to the district, but the proportion of contributing to noncontributing properties will vary with each evaluation. Finally, "a district must be a definable geographic area that can be distinguished from the surrounding properties" (NPS 1997:6).

The 40 buildings inventoried in the proposed APE and estimated to be 42 to 69 years were evaluated to assess whether or not they retain enough integrity to possess a concentration, linkage, or continuity and convey a sense of appearance and purpose to a housing development built under the Remote Dwellings Program. Whereas the buildings share some of the characteristics and design elements from the AHA designs, continuous updates, upgrades, and additions have compromised the physical integrity of their design, workmanship, and materials to which the buildings as a group no longer visually convey a sense of feeling of a development funded under the Remote Dwellings Program. In essence, there is not a sense of a unified whole due to years of renovations among so many of the original buildings.

Section 106 Recommendations

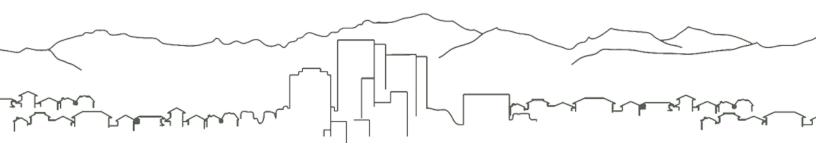
TNSDS completed an archaeological survey and a historic structures survey in the village of Manokotak for the Manokotak Second and Third Street Rehabilitation Project in June of 2016 to determine whether or not there are cultural resources within the proposed APE that constitute historic properties that may be adversely affected by the improvements pursuant to Section 106 of the National Historic Preservation Act of 1966 and its implementing regulations 36CFR§800. A literature review and archival search was conducted prior to carrying out a cultural resources survey. A historic context from which cultural resources can be evaluated for inclusion in the NRHP was also developed.

A pedestrian reconnaissance consisting of a surface survey for archaeological resources was conducted in the existing ROW of areas slated for rehabilitation. The results from this survey were negative for cultural resources. Proposed drainage swales were also subject to a cultural resources survey and subsurface testing for archaeological resources. The survey and testing were

negative for cultural resources, as soils observed in tests were indicative of natural soil stratigraphy with no historic and/or prehistoric intrusions. Moreover, the survey supported findings from previous cultural resource investigations that asserted to the low probability of archaeological findings in Manokotak.

Given the BIA has made previous recommendations to carry out survey of historic buildings in Manokotak, it was determined the scope of this undertaking warranted a historic structures survey. An intensive survey was conducted to inventory historic buildings within the proposed APE, which included all first-tier buildings situated on property lots abutting road ROW subject to improvements and rehabilitation. A total of 95 buildings were inventoried as part of this survey. A literature review and archival search helped to estimate age and identify the origin of various building types and styles in Manokotak. It was determined that 40 of the 95 buildings inventoried were built sometime between 1947 and 1974. Although some of these buildings may meet age requirements for inclusion in the NRHP, it was determined after an evaluation from within the historic context of the development of Manokotak from funding made available in the form of loans offered through the Remote Dwellings Program and an assessment of integrity of location, setting, design, workmanship, materials, feeling, and association that both individual buildings and the buildings collectively as a unified whole should not be considered eligible for inclusion in the NRHP.

Based on the results of a literature review and archival search which was followed by a cultural resources survey within a proposed APE, there are no archaeological resources or historic structures within the proposed APE that constitute historic properties pursuant to 36CFR§800. As such, it is recommended the agency define an APE based on what is proposed for this cultural resource investigation and issue a finding of no historic properties affected for the Manokotak Second and Third Street Rehabilitation Project.



REFERENCES

Abrams, Charles

1967 "Housing the Alaska Native." Alaska State Housing Authority, Remote Housing Report No. 1. Anchorage, Alaska.

Ackerman, Robert A.

- Prehistory of the Kuskokwim-Bristol Bay region, southwestern Alaska. Report of Investigations No. 26. Laboratory of Anthropology, Washington State University, Pullman.
- 1979 Southwestern Alaska Archaeological Survey: Ahklun Kuskokwim Mountains. A final research report to the National Geographic Society. Grant No. 80749.
- 1980 Southwest Alaska Archaeological Survey: Kagati Lake, Kisaralik-Kwethluk. A final research report to the National Geographic Society. Grant No. 2032.
- 1985 Southwestern Alaska Archaeological Survey. National Geographic Society Research Reports. 1967-94.
- Late Prehistoric Settlement at Chagvan Bay, Southwestern Alaska. In *The Late Prehistoric Development of Alaska's Native People*, edited by R. D. Shaw, R. K. Harritt, and D. E. Dumond, pp. 169-188. Aurora: Alaska Anthropological Association Monograph Series No.4.
- 1994a The Early Prehistory of Southwestern and Southeastern Alaska. Paper presented at the 45th Annual Arctic Science Conference, Anchorage, Alaska.
- 1994b Report on Archaeological Investigations in Southwestern Alaska 1992 1994. Report to Yukon Delta National Wildlife Refuge, U.S. Fish and Wildlife Service, USDOI, Office of History and Archaeology, Division of Parks and Recreation, Department of Natural Resources, State of Alaska, and Arctic Social Sciences Program, Division of Polar Studies, National Science Foundation.
- 1996a Lime Hills, Cave 1. In *American Beginnings*, edited by Frederick Hadleigh West, pp. 470-478. University of Chicago Press, Chicago.
- 1996b Spein Mountain. In *American Beginnings*, edited by Frederick Hadleigh West, pp. 456-460. University of Chicago Press, Chicago.
- 1996c Nukluk Mountain. In *American Beginnings*, edited by Frederick Hadleigh West, pp. 461-463. University of Chicago Press, Chicago.
- 1996d Ilnuk Site. In *American Beginnings*, edited by Frederick Hadleigh West, pp. 464-469. University of Chicago Press, Chicago.

Alaska Department of Commerce, Community, and Economic Development (ADCCED)

2016 Community Profile: Manokotak. Available at: https://www.commerce.alaska.gov/dcra/DCRAExternal/community/Details/bfce1319-9a9a-4b1b-86b2-6d9067351939. Accessed May 18, 2016.

Alaska Department of Labor and Workforce Development, Division of Research and Analysis (DLWDDRA)

Population Data: Cities and Census Designated Places, 2010-2015 (Excel). Accessed May 18, 2016. http://laborstats.alaska.gov/pop/popest.htm.

Alaska Department of Transportation and Public Facilities (DOT&PF)

1974 "City of Manokotak." Unit Support Section – Mapping. IN cooperation with the US Department of Transportation, Federal Highways Administration. Juneau, Alaska.

Alaska Office of History and Archaeology (OHA)

- 2003 *Historic Preservation Series No. 7 Determinations of Eligibility.* Alaska Department of Natural Resources, Division of Parks and Outdoor Recreation, Office of History and Archaeology, Anchorage.
- 2007 Saving Our Past: Alaska's Historic Preservation Plan 2011-2017. Division of Parks and Outdoor Recreation, Office of History and Archaeology, Anchorage.
- 2012 *Alaska Historic Resource Survey Manual.* Alaska Department of Natural Resources, Division of Parks and Outdoor Recreation, Office of History and Archaeology, Anchorage.
- 2016a Integrated Business Suite Portal, Nominations and Determinations of Eligibility. Digital database available online with limited access. Division of Parks and Outdoor Recreation, Office of History and Archaeology, Anchorage.
- 2016b Alaska Historic Buildings Survey Manual and Style Guide. Written by Summer Rickman, OHA Report No. 162. Alaska Department of Natural Resources, Division of Parks and Outdoor Recreation, Office of History and Archaeology, Anchorage.

Alaska Department of Natural Resources [ADNR], Division of Mining, Land, and Water (DMLW)

2016 RS2477 Trails Search Database. Available at http://dnr.alaska.gov/mlw/trails/rs2477/rst_legal.cfm. Accessed June 2, 2016.

Alaska Department of Transportation and Public Facilities (DOT&PF)

1980 Inventory and Condition Survey of Public Facilities: Southwest Region, Summary Volume II. Division of Planning and Research, Facility Planning Section. Juneau, Alaska.

Alaska Housing Authority (AHA)

- 1951 Alaska Housing Authority Annual Report 1951.
- 1958 Alaska Housing Authority Annual Report 1957-1958. Graphic Arts Press, Anchorage.

Alaska State Housing Authority (ASHA)

- 1969 Alaska Remote Housing Improvement Plan. State of Alaska, Anchorage.
- 1970 Building Alaska 1965-1970: Newsletters of the ASHA. Anchorage, Alaska.

Anders, Jake and Aspen Clark

2009 Manokotak LTA Cultural Resources Survey Manokotak, Alaska. Written By Clarus Tech., Inc. for AKANG 3130-2R DMVA. Report written by Clarus Environmental Services for the Alaska Army National Guard. Available at the Alaska Office of History and Archaeology, Anchorage office.

Anderson, Douglas D.

1970 Akmak: An Early Archaeological Assemblage from Northwest Alaska. Acta Arctica 16:1-180.

Biddle, Gregory

Excavation at 49GDN-00233: Archaeology on the Middle Togiak River, Southwest Alaska. Master's Thesis ms. University of Alaska Fairbanks. Available at the BIA Archaeological Survey Unit Office, Anchorage.

Boatwright, Mark

2000 Letter RE: New School Site Request for Cultural Resource Review. Bureau of Indian Affairs, Alaska, Office of Regional Archaeology. Available at the BIA Anchorage office.

Braund, Stephen R. and Associates

2001 Unolocal Archaeological Compliance Iliamna Prospect Section 106 Final Report. Written by Roger Harritt, Elizabeth Grover, and Stephen Braund. Document available at the Alaska Office of History and Archaeology, Anchorage.

Bristol Bay Native Corporation (BBNC)

2016 "About." Accessed June 21, 2016. http://www.bbnc.net/our-corporation/about/

Bureau of Indian Affairs (BIA)

1966 Manokotak, Alaska – Village Study. BIA Alaska Region. GSA Report 67-374. Juneau, Alaska.

Campbell, Chris

Letter Re Drilling Of Three Wells At Manokotak, ADP File 3130-3R ANTHC. Written for the Alaska Native Tribal Health Consortium. Available at the Alaska Office of History and Archaeology, Anchorage office.

Cassell, Mark

2010 Determination of Eligibility for the Manokotak BIA School (XNB-140) Manokotak, Alaska. Written for Hoefler Consulting Group. Available at the Alaska Office of History and Archaeology, Anchorage office.

Clarus Technologies

2009 Togiak LTA Cultural Resources Survey, Togiak, Alaska. Available at the Alaska OHA Offices, Anchorage.

Cressman, L, and Donald Dumond

1962 Research on Northwest Prehistory: Prehistory in the Naknek Drainage, Southwestern Alaska. Final report submitted to the National Science Foundation, Research Grant G-12964. Department of Anthropology, University of Oregon, Eugene.

DeCleva, Edward

1999 Letter RE: New Material Source for Weary River Road. Bureau of Indian Affairs, Alaska, Office of Regional Archaeology. Available at the BIA Anchorage office.

DOWL

1982 Upper Bristol Bay Region Community Planning Profiles: Manokotak. Prepared with NoPac Aerial Surveys for Alaska Department of Community and Regional Affairs, Anchorage.

Dumond, Donald E.

- 1962 *Human Prehistory in the Naknek Drainage, Alaska*. Ph.D. dissertation, Department of Anthropology, University of Oregon, Eugene.
- 1981 Archaeology on the Alaska Peninsula: The Naknek Region, 1960-75. Anthropological Papers of the University of Oregon 21, Eugene.
- Prehistory of the Bering Sea Region. In *Handbook of North American Indians, Volume 5: Arctic*, pp. 94-105. D. Damas, Editor. Smithsonian Institution, Washington, D.C.
- 1987 A Reexamination of Eskimo-Aleut Prehistory. American Anthropologist 89:32-56.

Dumond, Donald E. and James VanStone

1995 Paugvik: A Nineteenth-Century Native Village on Bristol Nay, Alaska. Fieldiana (n.s.) No. 24.

Dunham, Teresa

2004 Letter Report Re: Manokotak Village Health Clinic Project. Written for Bristol Environmental and Engineering Services Corporation. Available at the Alaska Office of History and Archaeology, Anchorage office.

Giddings, J. Louis

1967 Ancient Men of the Arctic. Alfred A. Knopf, New York.

Greiser, T. Weber

2012 Cultural Resources Research for the Manokotak Heights Road Reconstruction [AK DEN 2009(8)] Project, Southwest Alaska. Written by Historical Research Associates for the Federal Highway Administration, Western Lands Highway Division. Available at the Alaska Office of History and Archaeology, Anchorage office.

Harrison, Barbara

1986 "Manokotak: A study of school adaptation." Anthropology and Education Quarterly 17(2):100-110.

Henn, W.

1978 Archaeology on the Alaska Peninsula: The Ugashik Drainage, 1973-1975. University of Oregon Anthropological Papers No. 14, Eugene.

Hoff, Ricky

Letter RE Second Street Reconstruction, to KAE, Inc. Bureau of Indian Affairs, Alaska, Office of Regional Archaeology. Available at the BIA Anchorage office.

Holmes, Charles

1986 Lake Minchumina Prehistory: An Archaeological Analysis. *Aurora Alaska Anthropological Association Monograph Series 2*, Alaska Anthropological Association, Anchorage.

Howard, Derek

2003 Letter Report Re: Proposed Power Plant Upgrade For The Manokotak Power Company, Manokotak, AK. Written for LCMF Incorporated. Document available at the Alaska Office of History and Archaeology, Anchorage.

Irving, William

- 1962 1961 Field Work in the Western Brooks Range, Alaska: Preliminary Report. Arctic Anthropology 1(1):76-83.
- 1964 Punyik Point and the Arctic Small Tool Tradition. Ph.D. Dissertation, University of Wisconsin, Madison.

KAE, Inc.

- 2007 Letter RE: Municipal Landfill Section 106 Consultation, Request for Literature Review. Available at the BIA Anchorage office.
- 2010 Letter RE Second Street Reconstruction. Available at the BIA Anchorage office.

Lobdell, John E.

- The Putuligayuk River Overlook Site: Fragile Traces of Ancient Man at Prudhoe Bay, Beaufort Sea, Alaska. Environmental Conservation Department, ARCO Alaska, Inc., Anchorage.
- 1995 North Alaskan Pingos: Ephemeral Refugia in Prehistory. Arctic Anthropology 32(1):62-81.

Miraglia, Rita

- Finding of No Historic Properties Affected for the Construction of Two New HIP Houses in Manokotak, Alaska. Bureau of Indian Affairs, Alaska, Office of Regional Archaeology. Available at the BIA Anchorage office.
- Findings of Section 106 Review for the Construction of a New HIP House on the Christian and Vera Gloko Townsite Lots BIA 2015. Bureau of Indian Affairs, Alaska, Office of Regional Archaeology. Available at the BIA Anchorage office.

National Park Service (NPS)

- National Register Bulletin 24: Guidelines for Local Surveys: A Basis for Preservation Planning. Originally published 1977. U.S. Department of the Interior, National Park Service, Cultural Resources. Available at: http://www.nps.gov/nr/publications/bulletins/nrb24/.
- 1997 National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation. U.S. Department of the Interior, National Park Service, Cultural Resources. Available at: http://www.nps.gov/nr/publications/index.htm.
- 2016 National Register of Historic Places; Manokotak, Alaska. Available at: http://focus.nps.gov/nrhp/ SearchResults/. Accessed May 18, 2016.

Nelson, E. W.

1983 *The Eskimo About Bering Strait*. Bureau of American Ethnology, Reprint for the Eighteenth Annual Report, originally published in 1889. Smithsonian Institution Press, Washington, D.C.

Northern Land Use Research, Inc. (NLUR)

- 2004 Cultural Resource Survey of Proposed Transmission Line from Red Devil to Sleetmute, Alaska. Prepared for Hattenburg, Dilley, and Linnell. Available at the Alaska OHA Offices, Anchorage.
- 2009 Cultural Resources Survey for Proposed Road Construction Near Iliamna, Alaska. Written for Bristol Environmental and Engineering Services by Howard Smith, Molly Proue, and Justin Hays. Document available at the Alaska Office of History and Archaeology, Anchorage.

Orth, Donald

1971 Dictionary of Alaska Place Names. Available online at http://pubs.er.usgs.gov/publication/pp567.

Oswalt, W.H.

1967 Alaskan Eskimos. Chandler Press. San Francisco.

Pewe. T.L.

1975 *Quaternary Geology of Alaska*. U.S. geological Survey Professional Paper 835. U.S. Government Printing Office, Washington, D.C.

Reuther, Josh, Catherine Williams, and Ben Potter

2003 Cultural Resources Survey of Three Proposed Airstrip Alternatives in Manokotak, Alaska. Written For PDC, Inc., Consulting Engineers, by Northern Land Use Research, Inc. Available at the Alaska Office of History and Archaeology, Anchorage office.

Schwimmer, Rosalie, Bonnie Morris, and Bruce Ream

AK ARNG Final Cultural Resource Survey Manokotak, AK, Armory Site, ADP File # 3130-2R DMVA. Report written by Clarus Environmental Services for the Alaska Army National Guard. Available at the Alaska Office of History and Archaeology, Anchorage office.

Shields, Harvey

1977 Report on the Historic Use of Amanka and Uulik Lakes, Manuscript, copy on file at the Alaska Office of History and Archaeology, Anchorage office.

Tennyson, Kevin

Letter Report Re: Building Three 4-Unit Complexes, Manokotak, Alaska. Written for Bristol Bay Housing Authority. Available at the Alaska Office of History and Archaeology, Anchorage office.

Tyler, Edward

- 1991 Letter RE: No Historic Properties for the Village of Manokotak Sewer Installation Right-of-Way. Bureau of Indian Affairs, Alaska, Office of Regional Archaeology. Available at the BIA Anchorage office.
- 1993 Determination of No Historic Properties, Negotiated Sale of the Billie and Elsie Bartman Townsite Lot. Bureau of Indian Affairs, Alaska, Office of Regional Archaeology. Available at the BIA Anchorage office.
- The Manokotak Road Project Cultural Resource Report of Investigations. Bureau of Indian Affairs, Alaska, Office of Regional Archaeology. Available at the BIA Anchorage office.
- 1997 Section 106 Review of the Proposed Weary River Road Corridor. Bureau of Indian Affairs, Alaska, Office of Regional Archaeology. Available at the BIA Anchorage office.

VanStone, James W.

- 1967 Eskimos of the Nushagak River: An Ethnographic Study. University of Washington Press, Seattle.
- 1971 Historic Settlement Patterns In The Nushagak River Region, Alaska. Fieldiana: Anthropology, A Continuation Of The Anthropological Series Of Field Museum Of Natural History, Volume 61. Field Museum Of Natural History, Chicago.
- 1984b Mainland Southwest Alaska Eskimo. In *Handbook of North American Indians. Arctic*, vol. 5, edited by D. Damas, pp. 224-242. Smithsonian Institution, Washington, D. C.

Warhaftig, C.

1965 *Physiographic Divisions of Alaska*. U.S. geological Survey Professional Paper 482. U.S. Government Printing Office, Washington, D.C.

West, C.E., M. Standly, D. Sims, and E.J. Dixon

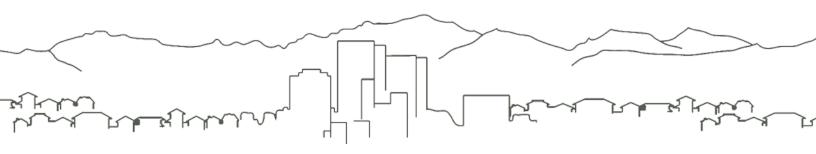
1980 Preconstruction Cultural Resources Survey of the Airport Expansion Project, Togiak, Alaska. Final report submitted to the State of Alaska Division of Aviation Design and Construction.

Williams, Catherine, and Josh Reuther

2004 Letter Report Re: Manokotak Airport Alternative R3 Revised APE Cultural Resource Evaluation.
Written For PDC, Inc., Consulting Engineers. Available at the Alaska Office of History and Archaeology, Anchorage office.

Yarborough, Linda Finn

1987 Archaeological Survey of a Proposed Road in Manokotak, Alaska. Report prepared by Cultural Resource Consultants, Anchorage, for Alaska Department of Transportation and Public Facilities, Anchorage.

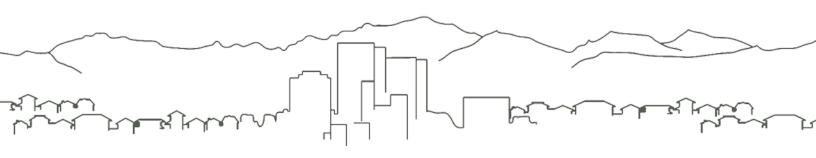


APPENDIX A: ARCHAEOLOGICAL SURVEY GPS LOG

| True North Sustainable Development Solutions | Primary # |
|--|-----------|
| CIC DECORD | HRI# |
| GIS RECORD | Trinomial |

Project: Manakotak Road Rehab Year: 2016
Field Dates: 06.22.2016

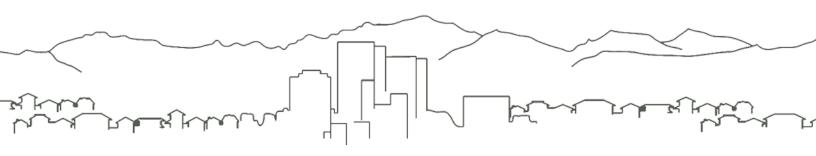
| Waypoint | Description | Latitude | Longitude |
|----------|--|-----------|------------|
| 12 | Cemetery adjacent to Salmon Street | N58.97975 | W159.05739 |
| 13 | First drainage swell | N58.98127 | W159.05647 |
| 14 | Trash dump at first drainage swell | N58.98141 | W159.05667 |
| 15 | Second drainage swell approximate location | N58.98224 | W159.05626 |
| 16 | Current culvert and marker for second drainage swell | N58.98219 | W159.05615 |
| 17 | Midway 2nd Street | N58.98154 | W159.05524 |
| 18 | Barrels in ROW off 2nd Street | N58.98071 | W159.05589 |
| 19 | Fifth drainage swell | N58.98014 | W159.05496 |
| 20 | Shovel Test 1 | N58.98217 | W159.05617 |
| 21 | Shovel Test 2 | N58.98032 | W159.05481 |



APPENDIX B: ARCHAEOLOGICAL SURVEY SHOVEL PROBE FORM

| True North Sustainable Development Solutions | Project | Manokotak Rehab Project |
|--|---------|-------------------------|
| CHOVEL BRODE FORM | Name | TAC |
| SHOVEL PROBE FORM | Date | 6.22.2016 |

| Probe # | Diameter | Depth | Artifacts | | Soil Matrix/Munsell | Comments |
|---------|----------|-------|-----------------------------|------------------------|---|---|
| 1 | 30cm | 76cm | none Negative for artifacts | | Deep brown peat to 76 cmbs then water- logged sandy soil. | 3rd drainage swell, W. of First St. ROW. N. of Alder St. Lat: N 58.98217 Long: W 159.05617 |
| 2 | 30cm | 50cm | none | Negative for artifacts | Mostly river gravels, at 50 cmbs hit cobbles. | 1st drainage swell S. end of Third St. Lat: N 58.98032 Long: W 159.05481 |



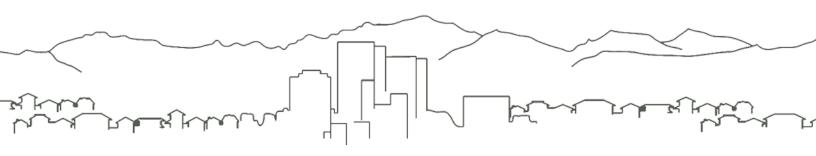
APPENDIX C: HISTORIC STRUCTURES SURVEY GPS LOG

| True North Sustainable Development Solutions | Primary # |
|--|-----------|
| CIC DECORD | HRI# |
| GIS RECORD | Trinomial |

Project: Manakotak Building Survey Year: 2016

Field Dates: 06.21.2016

| Waypoint | Description | Latitude | Longitude |
|----------|--|-----------|------------|
| 1 | Intersection of Salmon and 3rd Streets | N58.97948 | W159.05550 |
| 2 | Intersection of Salmon and 2nd Streets | N58.97978 | W159.05678 |
| 3 | Intersection of Salmon and 1st Street | N58.98016 | W159.05789 |
| 4 | Building Cluster 76,77,78 | N58.98061 | W159.05759 |
| 5 | Intersection of 1st and Alder Streets | N58.98185 | W159.05641 |
| 6 | Building 14 | N58.98216 | W159.05615 |
| 7 | Building 41 | N58.98003 | W159.05672 |
| 8 | Building 45 | N58.98077 | W159.05588 |
| 9 | Intersection of 2nd and C Streets | N58.98309 | W159.05408 |
| 10 | Intersection of 3rd and C Streets | N58.98283 | W159.05283 |
| 11 | Intersection of 3rd and Salmon Streets | N58.97960 | W159.05540 |



(Intentionally Blank)

APPENDIX F RIGHT-OF-WAY ACQUISITION SUMMARY TABLE

(Intentionally Blank)

Manokotak Right-of-Way Acquisition Summary Table

| Parcel No. | Legal Description | Ownership Type | Identified Owner(s) (At time of EA development) | Road Easement | Drainage Easement (SF) | Total ROW Acquisition |
|---------------|------------------------------------|-------------------|---|------------------|------------------------------|-----------------------|
| 1 | ASLS 77-155 Block 2 Lot 2A | | Not Required (No ROW Acquisition) | (SF) | (3F) | Area (SF) |
| 2 | USS 4875 Tract A Block 2 Lot 2 | Private | City of Manokotak | 1,298 | - | 1,298 |
| | USS 4875 Tract A Block 8 Lot 1 | Private | City of Manokotak | 383 | - | 383 |
| 4 | USS 4875 Tract A Block 8 Lot 2 | Restricted | Mike Minista | 370 | - | 370 |
| | | | Provincial Board of the Alaska Moravian | | | |
| 5 | USS 4875 Tract A Block 8 Lot 6 | Private | Church | 309 | - | 309 |
| 6 | USS 4875 Tract A Block 8 Lot 7 | Private | Provincial Board of the Alaska Moravian Church | 392 | - | 392 |
| 7 | USS 4875 Tract A Block 7 Lot 19 | Restricted | Carrie Itumulra | 320 | - | 320 |
| 8 | USS 4875 Tract A Block 10 Lot 1 | Private | Manokotak Natives Ltd. | 687 | - | 687 |
| 9 | USS 4875 Tract A Block 10 Lot 2 | Restricted | Michael Gloko | 400 | • | 400 |
| | USS 4875 Tract A Block 11 Ptn of | | | | | |
| 10 | Remainder ("A") | Private | City of Manokotak | 500 | - | 500 |
| | USS 4875 Tract A Block 11 & 12 | | | | | |
| 11 | M&B (Bk.56 Pg.679) | Private | Manokotak Natives Ltd. | 421 | - | 421 |
| | USS 4875 Tract A Block 12 Ptn of | | | | | |
| 12 | Remainder ("B") | Private | City of Manokotak | 325 | - | 325 |
| | USS 4875 Tract A Block 12 | | | | | |
| 13 | Remainder PP Lease | Private | Manokotak Natives Ltd. | 475 | - | 475 |
| | USS 4875 Tract A Block 12 Ptn of | | | | | |
| 14 | Remainder ("C") | Private | City of Manokotak | 520 | - | 520 |
| 15 | USS 4875 Tract A Block 6 Lot 11 | Private | Linda Jordan | - | 858 | 858 |
| 16 | USS 4875 Tract A Block 6 Lot 12 | Restricted | Wassillie Tugatuk | 571 | 857 | 1,428 |
| 17 | USS 4875 Tract A Block 7 Lot 11 | Private | Ben Maud | 1,189 | - | 1,189 |
| 18 | USS 4875 Tract A Block 7 Lot 12 | Restricted | Mike & Anecia Toyukak | 460 | 822 | 1,282 |
| 19 | USS 4875 Tract A Block 7 Lot 13 | Private | Tiffany Alakayak | 450 | 823 | 1,273 |
| 20 | USS 4875 Tract A Block 7 Lot 14 | Private | City of Manokotak | 375 | - | 375 |
| 21 | USS 4875 Tract A Block 7 Lot 15 | Private | City of Manokotak | 375 | - | 375 |
| 22 | USS 4875 Tract A Block 7 Lot 16 | Restricted | Jerry A. Pat | 791 | - | 791 |
| 23 | USS 4875 Tract A Block 7 Lot 17 | Private | Manokotak Natives Ltd. | 535 | - | 535 |
| 24 | USS 4875 Tract A Block 7 Lot 18 | Private | City of Manokotak | 481 | - | 481 |
| 25 | USS 4875 Tract A Block 7 Lot 1 | Private | Billie Itumulria | 792 | - | 792 |
| 26 | USS 4875 Tract A Block 7 Lot 2 | Private | Manuquutag Trading Company | 327 | - | 327 |
| 27 | USS 4875 Tract A Block 7 Lot 3 | Private | Manokotak Natives Ltd. | 429 | - | 429 |
| | Easterly M&B E Portion of USS 4875 | | | | | |
| 28 | Tract A Block 7 Lot 4 | Restricted | Billy & Lillie Gamechuk | 367 | - | 367 |
| 29 | USS 4875 Tract A Block 7 Lot 5 | Private | City of Manokotak | 158 | - | 158 |
| 30 | USS 4875 Tract A Block 7 Lot 6 | Restricted | Judy & Roger Evon | 326 | - | 326 |
| 31 | USS 4875 Tract A Block 7 Lot 7 | Restricted | Judy & George Evon | 425 | - | 425 |
| 32 | USS 4875 Tract A Block 7 Lot 8 | Restricted | Nellie Paul | 454 | 823 | 1,277 |
| 33 | USS 4875 Tract A Block 7 Lot 9 | Restricted | Moses E. Toyukak | 454 | 823 | 1,277 |
| 34 | USS 4875 Tract A Block 7 Lot 10 | Restricted | Sassa C. Moore | 1,048 | - | 1,048 |
| 35 | USS 4875 Tract A Block 6 Lot 1 | Restricted | Wassillie K. & Annie Tugatuk | 1,092 | 819 | 1,911 |
| 36 | USS 4875 Tract A Block 6 Lot 2 | Private | City of Manokotak | 498 | 823 | 1,321 |
| 37 | USS 4875 Tract A Block 6 Lot 3 | Private | Alaska Housing Finance Corporation | 500 | - | 500 |
| 38 | USS 4875 Tract A Block 6 Lot 4 | Private | City of Manokotak | 500 | - | 500 |
| 39 | USS 4875 Tract A Block 6 Lot 5 | Private | Moravian Church | 500 | - | 500 |
| 40 | USS 4875 Tract A Block 6 Lot 6 | Private | Moravian Church | 500 | - | 500 |
| 41 | USS 4875 Tract A Block 5 Lot 6 | Private | Julia M. Pleasant | 1,124 | - | 1,124 |
| 42 | USS 4875 Tract A Block 5 Lot 5 | Restricted | Paul B. Gloko | 500 | - | 500 |
| 43 | USS 4875 Tract A Block 5 Lot 4 | Private | Dan Pauk | 500 | - | 500 |
| 44 | USS 4875 Tract A Block 5 Lot 3 | Restricted | John Pauk | 500 | _ | 500 |

| Darcol | | Ownership | Identified Owner(s) | Road | Drainage | Total ROW |
|--------|-----------------------------------|------------|---|----------|----------|------------------|
| Parcel | Legal Description | - | Identified Owner(s) (At time of EA development) | Easement | Easement | Acquisition |
| No. | | Туре | (At time of EA development) | (SF) | (SF) | Area (SF) |
| 45 | USS 4875 Tract A Block 5 Lot 2 | Restricted | Massa Allen | 498 | 585 | 1,083 |
| 46 | USS 4875 Tract A Block 5 Lot 1 | Restricted | Alexie Alakayak | 1,122 | 858 | 1,980 |
| 47 | USS 4875 Tract A Block 4 Lot 10 | Restricted | Mike & Anecia Toyukak | 998 | - | 998 |
| 48 | USS 4875 Tract A Block 4 Lot 11 | Restricted | Martha Franklin | 374 | - | 374 |
| 49 | USS 4875 Tract A Block 4 Lot 12 | Restricted | Martha Franklin | 399 | - | 399 |
| 50 | USS 4875 Tract A Block 4 Lot 13 | Restricted | Lucy Gloko | 424 | - | 424 |
| | | | Jeremiah Kyakwok, Tina Kyakwok, | | | |
| 51 | USS 4875 Tract A Block 4 Lot 14 | Restricted | Wassillie Kyakwok | 424 | 866 | 1,290 |
| 52 | USS 4875 Tract A Block 4 Lot 15 | Private | Manokotak Village Council | 445 | 866 | 1,311 |
| 53 | USS 4875 Tract A Block 4 Lot 16 | Restricted | Bonnie Ayojiak | 437 | - | 437 |
| 54 | USS 4875 Tract A Block 4 Lot 17 | Restricted | Vera & Christian Gloko | 429 | - | 429 |
| 55 | USS 4875 Tract A Block 4 Lot 18 | Private | City of Manokotak | 1,094 | - | 1,094 |
| 56 | USS 4875 Tract A Block 4 Lot 1 | Private | Tessa Nickerson | 651 | - | 651 |
| 57 | USS 4875 Tract A Block 4 Lot 2 | | Not Required (No ROW Acquisition) | - | - | - |
| 58 | USS 4875 Tract A Block 4 Lot 3 | | Not Required (No ROW Acquisition) | - | - | - |
| 59 | USS 4875 Tract A Block 4 Lot 4 | Private | Manokotak Village Council | 426 | 933 | 1,359 |
| 60 | USS 4875 Tract A Block 4 Lot 5 | Private | Manokotak Village Council | 425 | 933 | 1,358 |
| 61 | USS 4875 Tract A Block 4 Lot 6 | Restricted | Billie Bartman | 425 | - | 425 |
| 62 | USS 4875 Tract A Block 4 Lot 7 | Restricted | Nellie Gamechuck | 400 | - | 400 |
| 63 | USS 4875 Tract A Block 4 Lot 8 | Restricted | Lucy & Michael Gloko | 374 | - | 374 |
| 64 | USS 4875 Tract A Block 4 Lot 9 | Restricted | Laura John | 1,048 | - | 1,048 |
| 65 | Manokotak Subdivision 2010 Lot 7A | Private | City of Manokotak | 1,171 | 935 | 2,106 |
| 66 | Manokotak Subdivision 2010 Lot 7B | Private | City of Manokotak | 1,598 | - | 1,598 |
| 67 | Manokotak Subdivision 2010 Lot 7C | Private | Anecia Ayojiak | 1,598 | - | 1,598 |
| 68 | Manokotak Subdivision 2010 Lot 7D | Private | Howard & Teresa Ayojiak | 1,600 | - | 1,600 |
| 69 | Manokotak Subdivision 2010 Lot 7E | Private | Frank Gloko | 1,598 | - | 1,598 |
| 70 | Manokotak Subdivision 2010 Lot 7F | Private | City of Manokotak | 1,173 | - | 1,173 |
| 71 | Manokotak Subdivision 2010 Lot 5 | Private | City of Manokotak | 1,001 | - | 1,001 |
| 72 | Manokotak Subdivision 2010 Lot 4 | Private | Michael Alakayak Sr. | 499 | - | 499 |
| 73 | Manokotak Subdivision 2010 Lot 3 | Private | City of Manokotak | 500 | - | 500 |
| 74 | Manokotak Subdivision 2010 Lot 2 | Private | City of Manokotak | 550 | - | 550 |
| 75 | Manokotak Subdivision 2010 Lot 1 | Private | Louie Alakayak Sr. | 550 | - | 550 |
| 76 | USS 4875 Tract A Block 3 Lot 9 | Restricted | Isaac Wood | 374 | - | 374 |
| | | | Nellie Itumulria, Albert Itumulria, Mike | | | |
| | | | Itumulria (Deceased probate not | | | |
| | | | finished), Christian Itumulria, Martha | | | |
| | | | Itumulria, Casey Dray, Angela Dray, Carl | | | |
| | | | Itumulria, Alice Itumulria, Adam | | | |
| 77 | USS 4875 Tract A Block 3 Lot 8 | Restricted | Itumulria, Billy Itumulria | 374 | _ | 374 |
| 78 | USS 4875 Tract A Block 3 Lot 7 | Restricted | Albert Etumulla | 399 | - | 399 |
| 79 | USS 4875 Tract A Block 3 Lot 6 | Restricted | Larry & Victoria Bartman | 424 | - | 424 |
| 80 | USS 4875 Tract A Block 3 Lot 5 | Private | City of Manokotak | 424 | - | 424 |
| 81 | USS 4875 Tract A Block 3 Lot 4 | Restricted | Mary Alakayak | 427 | _ | 427 |
| 82 | USS 4875 Tract A Block 3 Lot 3 | Restricted | Anuska Kusegta | 427 | _ | 427 |
| 83 | USS 4875 Tract A Block 3 Lot 2 | Restricted | Anuska Nanalook | 427 | _ | 427 |
| 84 | USS 4875 Tract A Block 3 Lot 1 | Private | City of Manokotak | 425 | _ | 425 |
| 85 | ASLS 77-155 Block 1 Lot 1A | Private | Louie Alakayak Sr. | 89 | _ | 89 |
| 86 | Toyukak Subdivision Lot 4 | Private | Carl Evon | 752 | _ | 752 |
| 87 | Toyukak Subdivision Lot 5 | Private | City of Manokotak | 574 | _ | 574 |
| | | 1 | Total Acquisition Area, Square Feet (SF) | 49,968 | 12,624 | 62,592 |
| | | | | +3,300 | , | 02,332 |

Notes:

- 1. Acquisition areas are rounded.
- 2. Identified owners are based on preliminary land status records and may not be accurate. Owners will be verified through the easement approval process.