STATE OF ALASKA

DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SPILL PREVENTION AND RESPONSE
CONTAMINATED SITES PROGRAM

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File: 110.38.005

May 31, 2012

Scott Berglund
FAA Alaska Region Technical Operation
222 W 7th Ave #14
Anchorage, AK 99513-7587

Re: Record of Decision – FAA Nenana Station

Dear Mr. Berglund:

The Alaska Department of Environmental Conservation Contaminated Sites Program (DEC) has completed a review of the environmental records associated with the Federal Aviation Administration (FAA) Nenana Station. The current status of each area of concern at the FAA Nenana Station has been determined based on the information provided to date. Currently, two source areas require further action; three source areas are considered cleanup complete; three source areas are considered to be non-qualifying as further investigation has determined that no significant releases were evident at these source areas. The body of the letter summarizes the site history and explains how site status was determined for each area of concern. Please note, the separate Record of Decision which describes the cleanup and closure determination for a small pesticide release at the FAA Nenana Station Barbecue Building (DEC, October 2009).

Comprehensive Site Status Summary for All FAA Nenana Station Areas of Concern

The FAA Nenana Station is composed of three separate tracts of discontinuous property. Environmental investigations and cleanup actions are tracked in the DEC Contaminated Sites Database file number 110.38.005, with the exception of the Julius H-Marker facility which is tracked under the file number 110.26.001.

The North Nenana site is located two miles north of the city of Nenana and east of the Parks Highway on a 1600 ft hill, and is comprised of:

- the VORTAC facility
- the Utility Building
- the Former Pumphouse Building

- the Barbecue Building source areas
- the Former Landfill Site
- the Former Fuel Storage and Pipeline Area

The Landfill site and the Fuel Storage and Pipeline are in the Northern Nenana area, but are tracked as separate entries in the Contaminated Sites Database due to the need for further action.

The South Nenana site is located south of the city of Nenana and is comprised of:

- the Non-Directional Beacon Building
- the Visual Approach Slope Indicator or VASI

The Julius H-Marker facility is located approximately two miles south of the South Nenana site.

- UST Database Facility ID #1997, tanks 1 and 2

An additional area of concern is documented in the 1992 Environmental Compliance Investigation Report (ECIR), the Alascom Communications Facility, which is also located at the North Nenana Site. This area contained two 1000 gallon Above-ground Storage Tanks (ASTs) that did not appear to meet EPA regulations for containment. This facility, previously leased to Alascom, is on property that has been transferred to the Toghotthele Corporation. This letter will not address this area of concern as no releases have been reported. Further investigation may be needed at some future date.

Please see the attached maps. Additional maps are available in the DEC office. The following list identifies site status determinations for each area of concern.

Site Status Determinations of AOCs Addressed in this Letter

Further Action Required

- Former Fuel Storage and Pipelines
- Former Landfill

Cleanup Complete

- Very high frequency, omni-directional range tactical aircraft control and navigation (VORTAC) Facility (402)
- Utilities Building 602 Former Quarters Area

Cleanup Complete – LUST

- Julius H-Marker Building (401)

Non-Qualifying Sites

- Former Pumphouse Building 604
- Non-directional Beacon Building 605
- Visual Approach Slope Indicator (VASI)

Introduction
Site status decisions are based on the administrative record for FAA Nenana Station, which is located in the offices of DEC in Fairbanks, AK. This letter summarizes the decision process used to determine the environmental status of the areas of concern at this site and provides a summary of the regulatory issues considered in the determination.

Regulatory Authority under which this site is being cleaned up:
18 AAC 75 - Oil and other Hazardous Substances Pollution Control
18 AAC 78 - Underground Storage Tanks

Background
The FAA began activities at the Nenana Station in 1940, originally manned by FAA personnel, the site switched to remote operations during the 1970's. At the time of the 1992 Environmental Compliance Investigation (ECI) the majority of the facilities had been decommissioned, and to date all underground storage tanks (USTs) and all unused above-ground storage tanks (ASTs) have been decommissioned and removed from the site. The Utility Building 602, Quarters Buildings 105 and 106, the Water Pumphouse (Former Pumphouse Building), and the Barbecue Building at the former Quarters area were demolished in 2007. Current landowners are varied and include the State of Alaska, the Episcopal Diocese of Alaska, the Alaska Railroad Corporation, and the Toghotthele Native Corporation.

Characterization and Cleanup Activities
The following reports document characterization and cleanup actions taken at the FAA Nenana Station:

- Ecology and Environment, Inc. *Environmental Compliance Investigation Report (ECIR), Nenana FAA Station, Nenana, Alaska.* November 1992.
- Harding Lawson Associates. *Release Investigation Report, Julius H Marker Facility Site, Nenana, Alaska.* October 1993.
- Montgomery Watson. *Final Site Cleanup and Investigation Report.* June 1998.
- CH2-OH. *North Nenana FAA Station Landfill Closure Documentation.* January 1998.
- CH2-OH. *Release Investigation Report, Nenana FAA Station, Building 602.* February 1999.
- US Army Core of Engineers. *Environmental Restoration Investigation, Julius H Marker Site, Nenana, Alaska.* January 2005.
- AHTNA Government Services Corporation. *Site Cleanup and Investigation North and South Nenana, Federal Aviation Administration, Nenana, Alaska.* December 2011.

Potential Contaminants of Concern

The potential contaminants of concern at the FAA Nenana Station are:

- Diesel Range Organics (DRO)
- Gasoline Range Organics (GRO)
- Residual Range Organics (RRO)
- Benzene, toluene, ethyl benzene, and xylenes (BTEX)
- Polynuclear aromatic Hydrocarbons (PAHs)
- Polychlorinated Biphenyls (PCBs)
- Lead

Cleanup Levels

The cleanup levels for the FAA Nenana Station are drawn from 18 AAC 75.341 Table B-2 Method 2 Under 40 Inch Zone and 18 AAC 75.345 Table C. Groundwater Cleanup Levels.

Contaminant	Method 2 Under 40 Inch Zone Cleanup Levels (mg/kg)					Table C
	Migration to Groundwater	Ingestion	Inhalation	Direct Contact	Outdoor Inhalation	Ground water (mg/L)
Diesel Range Organics (DRO)	250	10250	12500			1.5
Gasoline Range Organics (GRO)	300	1400	1400			2.2
Residual Range Organics (RRO)	11000	10000	22000			1.1
Benzene	0.025			150	11	0.005
Toluene	6.5			8100	220	1.0
Ethylbenzene	6.9			10,100	110	0.7
Xylenes	63			20,300	63	10
Polychlorinated Biphenyls (PCBs)				1		0.0005
Polynuclear Aromatic Hydrocarbons (PAHs)	Various	Various	Various	Various	Various	Various
Lead				400		0.015

DEC Further Action Required Determination

DEC has determined that further action is required to address soil contamination that exists or may exist at the following sites:

Former Fuel Storage and Pipeline – The FAA facilities at this area of concern were dismantled in the 1970s and no significant investigation has occurred. Sections of the old pipeline were identified in the 1992 ECIR, as well as a large amount of railroad-related debris. Insufficient sampling has been done to determine if the area of concern qualifies as a site under 18 AAC 75. Further investigation is necessary.

Former Landfill – In 1992, the ECIR identified the Former Landfill site, indicating that it appeared unused for many years, due to the growth of moderately tall trees. A surface soil sample collected on the east edge of the landfill contained 950mg/kg lead, although no other samples contained any contaminants. A 1998 CH2-OH report describes the landfill in more detail. A small area along the north side of the slope contained less than 2ft of cover (an average of 4 inches) and debris were observed on the surface. Exposed debris included a range of building materials (lumber, wire cable, insulators) to garbage associated with the North Nenana facilities (bottles, cans, pipe, batteries). CH2-OH concluded that low permeability of the cover material, age of debris, and the presence of dense vegetation indicate a low probability of either discharge of solid waste, or leaching of hazardous chemicals from the landfill. A survey of the landfill, including a cap evaluation and proof of documentation with the Fairbanks Recorders Office, are required, as well as removal of exposed batteries. In addition, the Toghotthele Corporation, as the landowner, must be notified of the presence and location of the landfill and approve the required institutional controls prior to site closure.

DEC Cleanup Complete Determination

DEC has concluded that the following sites are approved for a Cleanup Complete determination.

VORTAC Building 402 – In the 1992 ECIR, E&E identified surface-stained soil that contained up to 10,000mg/kg total petroleum hydrocarbons (TPH) and samples of oil from a transformer on site contained 18mg/kg PCBs, below the cleanup level at the time. In 1997 Montgomery Watson decommissioned a diesel UST designated UST 5-A-001. Five cubic yards of potentially contaminated soil were removed from the excavation and treated. Confirmation samples collected from the excavation were found to contain up to 469mg/kg DRO, below the Method 1 cleanup level used at the time.

A 2011 visual investigation did not identify surface staining or stressed vegetation. Two soil samples were collected in the approximate areas of past detections of petroleum contaminants and analyzed for GRO, DRO, RRO, and BTEX. One sample contained DRO at 69.5mg/kg and RRO at 268mg/kg, the other sample contained 86.4mg/kg DRO; these results were all below the most stringent cleanup levels. All other analytes were below laboratory reporting limits. Additionally the ground around the active transformer was inspected for potential PCB contamination. No soil staining or stressed vegetation was observed. Four soil samples were collected around the transformer and analyzed for PCBs. All samples were below the laboratory reporting limits. Site observation and confirmation sampling indicate that this site poses no risk to human health, welfare, or the environment, and a Cleanup Complete Determination is approved for the VORTAC Building 402 source area.

Utility Building 602 Former Quarters Area – In 1992, three fuel tanks, two USTs (5-B-001 and 5-B-002) and one AST (5-B-003) were identified and recommended for evaluation and decommissioning. Additionally, samples were collected from standing water in a sump in the Utility Building and analysis detected lead and petroleum fractions above the established evaluation criteria. The three fuel tanks were removed in 1997. 4yd^3 of soil was removed from beneath UST 5-B-001, 70yd^3 of soil were removed from underneath the UST 5-B-002, and 30yd^3 of soil was removed from under AST 5-B-003. All soil removed was thermally treated. Confirmation soil samples were collected at the limits of the UST excavations and DRO was detected up to 8200mg/kg and total BTEX was detected up to 156mg/kg. In 2011 persistent petroleum contaminated soil was excavated from the former sites of the two USTs and the AST. A total of 1025 tons of petroleum soil was excavated and treated by thermal desorption. Confirmation samples from the excavations were analyzed for GRO, DRO, RRO, BTEX, as well as extractable petroleum hydrocarbons (EPH), volatile petroleum hydrocarbons (VPH), and PAHs. All confirmation analyses were below the DEC Method 2 Migration to Groundwater cleanup levels. Three test pits were dug at the site of the former sump and samples were collected for analysis of GRO, DRO, RRO, BTEX, PAHs, VOCs, and Resource Conservation Recovery Act (RCRA) metals. results indicated that all contaminants were below the cleanup levels. As the expected sources of release have been removed from the site, petroleum contaminated soil has been excavated and treated, and all confirmation samples are below DEC Method 2 Migration to Groundwater Cleanup levels, this source area has been approved for a Cleanup Complete Determination.

DEC Cleanup Complete Determination – LUST

The following site is listed in the DEC database as a LUST (Leaking Underground Storage Tank) Site under the DEC file number 110.26.001, and as such is regulated under 18 AAC 78.

DEC has determined that a Cleanup Complete determination is appropriate for the FAA Nenana Julius "H" (LUST) site.

Former Julius H-Marker Facility

In 1989 two USTs previously used for gasoline and diesel were removed, and the excavation was backfilled with the original soil. Confirmation samples collected from the excavation contained up to 80,000mg/kg TPH. A subsequent Release Investigation conducted in 1993 identified subsurface soil samples containing up to 1900mg/kg TPH and 2.24mg/L TPH in groundwater, which was above the soil and groundwater cleanup levels applicable at the time. BTEX concentrations in the soil were below the cleanup level based on 18 AAC 78.315 (August 21, 1991). A total of 35yd^3 of soil was estimated to be impacted by the release. The RI considered potential remediation alternatives, and the limited extent and level of contamination at

the site led to the suggestion that no further action was necessary, and to allow the site to remediate by natural attenuation.

A 2004 site investigation by the US Army Core of Engineers collected and analyzed groundwater samples from the monitoring wells. GRO, RRO, and PAHs were all below DEC Groundwater Cleanup Levels, but DRO was detected in one well at 3.36mg/L, above the cleanup level. In 2011 five new monitoring wells were installed because the old wells were no longer viable. Soil from the well borings and groundwater samples from the wells were collected and analyzed for DRO and BTEX. All analytes in groundwater samples were below the cleanup levels, and only one soil sample tested above the Migration to Groundwater cleanup level. That one sample was identified as anomalous due to the presence of creosote-soaked wood in the sampling spoon and laboratory verification of the sample as containing a mix of DRO and RRO consistent with creosote. This site status determination is based on the results of the most recent investigation, which show that natural attenuation of the soil and groundwater at this site has likely occurred, and contaminant levels at the site are now below the applicable cleanup levels. Conditions at this site are considered to be protective of human health, welfare, and the environment. The FAA Nenana Julius "H" site, DEC file number 110.26.001 is approved for a Cleanup Complete Determination concurrent with both 18 AAC 75 and 18 AAC 78.

Pathway Evaluation

The following exposure pathways were evaluated for potential effects on human health to satisfy site closure criteria: soil ingestion and direct contact; indoor and outdoor inhalation of vapors; and groundwater ingestion and direct contact. The soil ingestion and direct contact pathway has been mitigated by the removal of petroleum impacted soil from the site, reducing the contaminants effect to a minimal (de minimus) exposure. The indoor inhalation pathway has been mitigated by removal of unused structures, and both indoor and outdoor inhalation pathways are addressed by the removal of impacted soils from the site. Groundwater ingestion and direct contact pathways were addressed as potentially complete. The City of Nenana has a municipal drinking water well located on the north edge of the city, and there are a number of private residences that use personal drinking water wells. The North Nenana area is on a 1600 ft hill, and groundwater was not encountered during remedial activities on site, and the groundwater ingestion and direct contact pathway is considered incomplete. At the South Nenana and Julius "H" areas the groundwater is less than 10ft bgs, but the most recent data provided to DEC has shown that contaminants are not present above the Migration to Groundwater or Groundwater Cleanup Levels, and thus the exposure through groundwater ingestion or direct contact is considered minimal or de minimus.

This exposure pathway analysis is supported by the most recent DEC Exposure Tracking Model (ETM) ranking. The ETM results determine that, for all sites listed

for closure, all exposure pathways have been determined to be a de minimus Exposure or Pathway Incomplete. This supports the DEC decision to close these sites as Cleanup Complete.

DEC Non-Qualifying Site Determination

Non-Qualifying site status is used for sites where contamination was suspected or confirmed, but was determined to be below action levels, or did not otherwise meet inclusion criteria. DEC has determined that there is no evidence for concern at the following sites and they shall be designated with a Non-Qualifying determination. It should be noted that Non-qualifying sites do not appear on the public version of the Contaminated Sites database; these sites are tracked by the department and can be reopened if new information indicates that further investigation is warranted.

Visual Approach Slope Indicator (VASI) – The 1992 ECI identified two empty tar pails and a 55-gal drum near a site of stressed vegetation. A surface soil sample near the drum contained 36,000mg/kg of TPH. In 2011 a visual inspection was made of the area to identify the presence of either debris or stressed vegetation. The gravel along the runway was clean and undisturbed, and the vegetation was mowed and maintained, with no sign of debris. No samples were collected, as there were no areas of soil staining or stressed vegetation. DEC has determined that this source area may be classified with a Non-Qualifying Determination.

Former Water Pumphouse (Building 604) – During the 1992 ECI a water sample taken from the water collection "crib" contained 0.2mg/L VPH and the ECIR suggested further investigation. The Former Water Pumphouse was included in the 2006/2007 demolition activities, and no further evidence of contamination has been presented. DEC has determined that this source area be given a Non-Qualifying Determination.

Non-Direction Beacon Building 605 – A 400 gal AST was identified for evaluation of compliance, but no further concerns were raised. During the 1997 decommissioning of the tank, the FAA Administrative Record reports a release and excavation of approximately 1 cubic yard of petroleum contaminate soil. Confirmation samples collected around the excavation and location of the former AST were all below DEC cleanup level, and no further action was recommended. The low level of potential exposure and confirmation samples below DEC Method 2 Migration to Groundwater cleanup levels indicate that this site is suitable for a Non Qualifying status.

Appeal

Any person who disagrees with this decision may request an adjudicatory hearing in accordance with 18 AAC 15.195 -18 AAC 15.340 or an informal review by the Division Director in accordance with 18 AAC 15.185. Informal review requests

must be delivered to the Division Director, 410 Willoughby Avenue, Suite 303, Juneau, Alaska 99801, within 15 days after receiving the department's decision reviewable under this section. Adjudicatory hearing requests must be delivered to the Commissioner of the Department of Environmental Conservation, 410 Willoughby Avenue, Suite 303, Juneau, Alaska 99801, within 30 days after the date of issuance of this letter, or within 30 days after the department issues a final decision under 18 AAC 15.185. If a hearing is not requested within 30 days, the right to appeal is waived.

If you have questions regarding any of these sites and determinations, please contact David Robinson at 907-451-2787 or via e-mail at david.robinson@alaska.gov.

Prepared By:

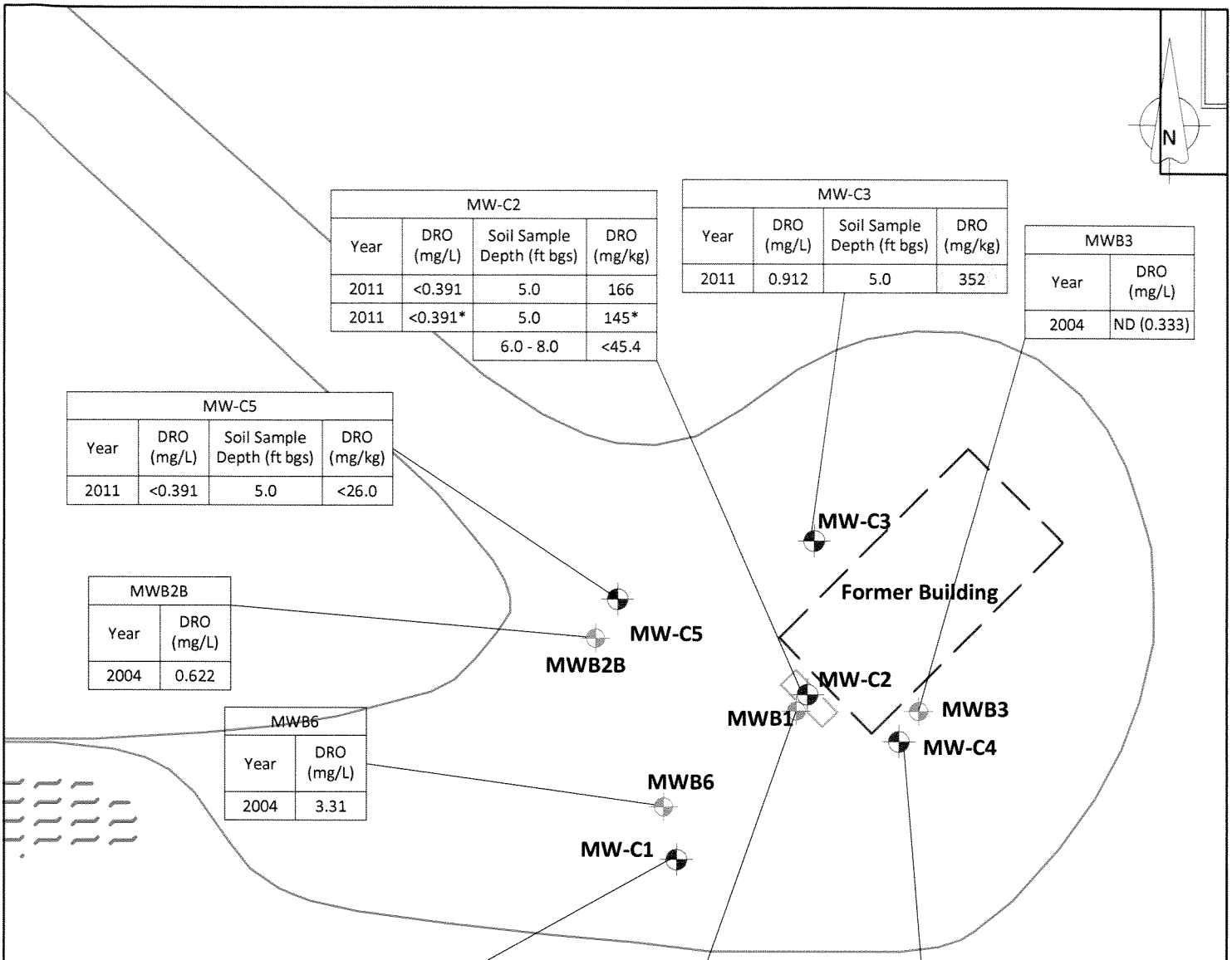
David Robinson
Graduate Intern

Approved By:

Fred Vreeman
Environmental Program Manager

Enclosure: Site Maps:
North Nenana Property
South Nenana Property
Julius H-Marker Monitoring Wells Locations

cc: Lance Raymore, FAA
Jim Kubits, VP Real Estate and Facilities, Alaska Railroad Corporation
Jim Sackett, CEO Toghotthele Native Corporation
Episcopal Diocese of Alaska, Property Committee



MW-C2			
Year	DRO (mg/L)	Soil Sample Depth (ft bgs)	DRO (mg/kg)
2011	<0.391	5.0	166
2011	<0.391*	5.0	145*
		6.0 - 8.0	<45.4

MW-C3			
Year	DRO (mg/L)	Soil Sample Depth (ft bgs)	DRO (mg/kg)
2011	0.912	5.0	352

MWB3	
Year	DRO (mg/L)
2004	ND (0.333)

MW-C5			
Year	DRO (mg/L)	Soil Sample Depth (ft bgs)	DRO (mg/kg)
2011	<0.391	5.0	<26.0

MWB2B	
Year	DRO (mg/L)
2004	0.622

MWB6	
Year	DRO (mg/L)
2004	3.31

MW-C1			
Year	DRO (mg/L)	Soil Sample Depth (ft bgs)	DRO (mg/kg)
2011	<0.391	2.0 - 4.0	<25.3
2011	<0.391*	5.0 - 6.0	<36.7

MWB1	
Year	DRO (mg/L)
2004	1.27

MW-C4			
Year	DRO (mg/L)	Soil Sample Depth (ft bgs)	DRO (mg/kg)
2011	<0.391	5.0	<31.3

Key:

ADEC	Alaska Department of Environmental Conservation
DRO	Diesel Range Organics
ft bgs	Feet below ground surface
mg/kg	Milligrams per kilogram
mg/L	Milligrams per liter
MW	Monitoring well
MW-1	Monitoring well identifier
ND	Non-detect
UST	Underground Storage Tank
	Existing MW location
	Former Structure
	Former UST
	Previous MW location
	Road
	Water [Seasonal]

Notes:

1. All locations are approximate.
2. Locations based off of previous figures (Harding Lawson Associates, Release Investigation Report, 1993; and USACE, Environmental Restoration Investigation, 2005).
3. Previous Monitoring Well groundwater sample results collected by USACE during the 2004 Environmental Restoration Investigation.
4. 2011 Monitoring well locations based on GPS coordinate locations provided by Registered Land Surveyor from Mammoth Consulting of Anchorage, AK.
5. Yellow shaded results indicate that the value exceeds ½ of the primary cleanup criteria (applicable for accumulative risk) or secondary screening criteria (migration to groundwater).
6. An asterisk indicates that the sample is a field duplicate.

0 10 20

SCALE IN FEET (APPROXIMATE)

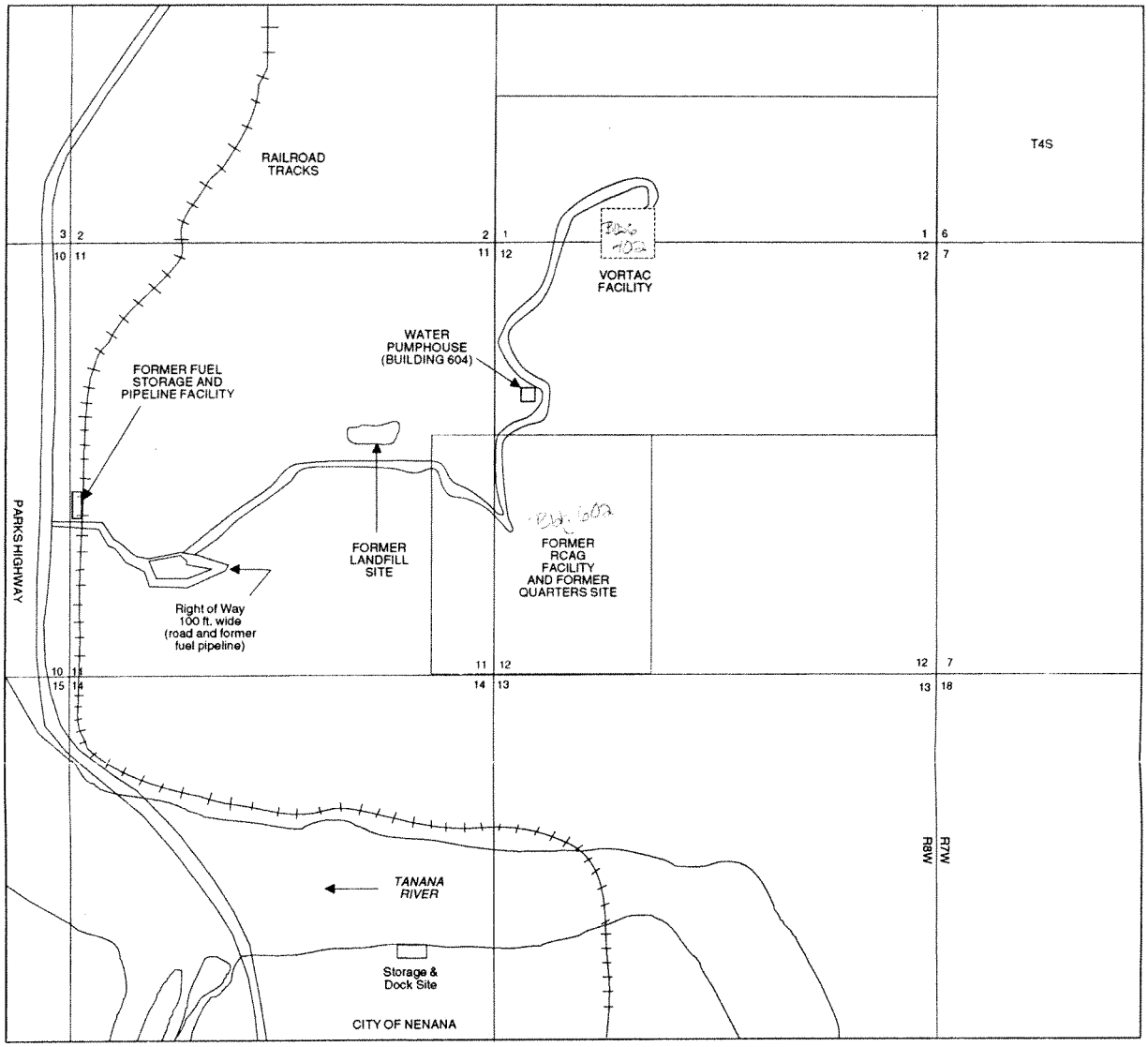
Site Cleanup and Investigation at Nenana FAA Station, Nenana, Alaska

AHTNA Government Services Corporation
560 E. 34th Street · Suite 101 · Anchorage, Alaska 99503
p. 907.646.2969 f. 907.561.5475

Julius H-Marker Monitoring Well Locations and Analytical Sample Results

Project Number:	Figure Number:
10002.057	2
Date: 12-13-2011	
Drawn By: L.B.	

SOURCE: FAA 1984, Real Estate Plan, Nenana, Alaska, Drawing No. ALD-ENN-040.000



KEY

- Facility or Site Requiring Further Action and/or Further Investigation.
- Facility or Site Requiring No Further Action and/or Further Investigation

N

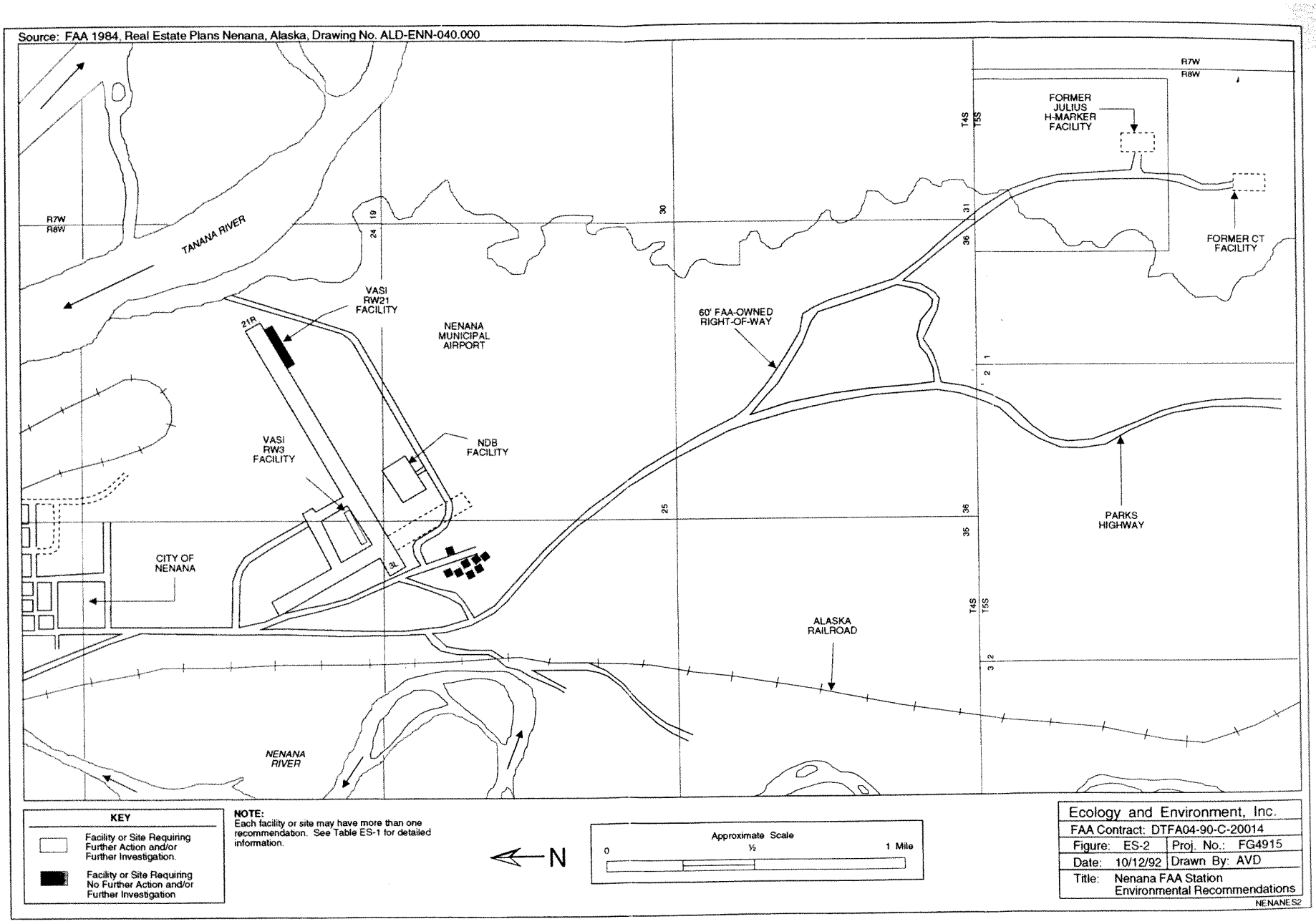
SCALE

0 ½ 1 Mile

NOTE:
Each facility or site may have more than one recommendation. See Table ES-1 for detailed information.

Ecology and Environment, Inc.	
FAA Contract: DTFA04-90-C-20014	
Figure: ES-1	Proj. No.: FG4915
Date: 10/12/92	Drawn By: JGM
Title: North Nenana Property Nenana FAA Station Environmental Recommendations	

NENANES1


Source: FAA 1984, Real Estate Plans Nenana, Alaska, Drawing No. ALD-ENN-040.000
R7W
R8W
T4S
T5S
FORMER JULIUS H-MARKER FACILITY
FORMER CT FACILITY
TANANA RIVER
VASI RW21 FACILITY
21R
NENANA MUNICIPAL AIRPORT
60' FAA-OWNED RIGHT-OF-WAY
VASI RW3 FACILITY
NDB FACILITY
3L
CITY OF NENANA
PARKS HIGHWAY
ALASKA RAILROAD
NENANA RIVER
19
24
25
30
31
36
1
2
35
3
KEY
Facility or Site Requiring Further Action and/or Further Investigation.
Facility or Site Requiring No Further Action and/or Further Investigation
NOTE:
Each facility or site may have more than one recommendation. See Table ES-1 for detailed information.
N
Approximate Scale
0
½
1 Mile
Ecology and Environment, Inc.
FAA Contract: DTFA04-90-C-20014
Figure: ES-2
Proj. No.: FG4915
Date: 10/12/92
Drawn By: AVD
Title: Nenana FAA Station
Environmental Recommendations
NENANES2