

State of Alaska  
Department of Transportation & Public Facilities

**ENVIRONMENTAL RE-EVALUATION FORM  
FOR FEDERAL HIGHWAY ADMINISTRATION PROJECTS**



Project Name: Kotzebue to Cape Blossom Road  
Project Number (state/federal): Z768840000/NCPD-0002(204)  
Date: 05/25/2017

Document Type:

CE

CE Designation: 23 CFR 771.117 ( ) ( )

EA

EIS

Approval Date of Original Environmental Document:  
12/10/2013

Date(s) of Previous Re-evaluation(s):  
02/19/2015

List of Attachments:

Figure 1. EA/FONSI approved route.

Figures 2-7. Proposed Route Revisions

Attachment 1 General Electric (GE) Wind Turbine Ice Throw Guidance

Attachment 2. KEA-provided cost estimate for wind tower relocation

Attachment 3. Proposed Route Segment Revision Section 106 Initiation and Findings Letters

Attachment 6. City of Kotzebue Supporting Resolution for Proposed Route Segment Revision

Attachment 7. NANA Regional Corporation Letter of Support for Proposed Route Segment Revision

**I. Proposed Action**

N/A    YES    NO

Have there been any changes to the following since the approval of the original environmental document:

- |   |                                     |                                     |
|---|-------------------------------------|-------------------------------------|
| 1. The project scope?   | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 2. The project design?  | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| 3. The project funding sources?   | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 4. Describe changes, including prior re-evaluations, compared to original environmental document: |                                     |                                     |

**Changes to the Proposed Action Subsequent to the 12/2013 EA/FONSI:** Minor design changes to road alignment and embankment geometry were made at several locations (Figures 2-6) to avoid the need to place fill in coastal wetlands which was not foreseeable during preliminary design, and to eliminate curves with radii that do not meet AASHTO guidelines. Additionally, subsequent to the

FONSI but during project final design, new information was provided by a project stakeholder that raised safety concerns over a short segment of the preferred alternative passing through the existing Kotzebue Electric Association (KEA) wind tower array (wind farm). Specifically, newly obtained technical guidance on wind turbine operation (Attachment 1), not made available or considered during development of the EA, has been provided by KEA and indicates by modeling data that the potential ice-throw radius for six existing wind turbines adjacent to the approved route may pose a serious risk to the traveling public under certain climatic conditions. To responsibly address this threat to public safety, during project construction each of the six wind turbines would need to be relocated away from the approved route by a distance greater than their individual, modeled ice throw potential. KEA has provided DOT&PF an estimated cost of \$5.24 million in materials, equipment, engineering and labor to re-locate the six wind turbines (Attachment 2). Additionally, wind turbine relocation would increase both temporary and permanent impacts to wetlands though associated construction of required new access roads and foundation gravel pads. ADOT&PF is also proposing an additional revision (Figure 7) to the 2013 EA/FONSI approved route that sufficiently avoids the KEA wind farm to effectively eliminate potential wind turbine ice throw hazard. The proposed route revision would deviate northward from the existing KEA access road at a point approximately 2500-ft northwest of the wind farm, extend eastward north of the wind farm property for approximately 4000' before bearing southeasterly to tie back into the approved preferred alternative route approximately 2300-ft southeast of the wind farm. The proposed revised routing would add approximately 500 feet to the FONSI-approved route, resulting in a revised total alignment length of 11.64 miles. As an additional beneficial consequence of this proposed route revision, the planned relocation of the KOTZ Radio tower grounding array would no longer be necessary, providing an additional cost savings as well as reduction in anticipated wetland impacts.

- |   |            |                          |                                     |
|---|------------|--------------------------|-------------------------------------|
| <b>II. Purpose and Need</b>   | <u>N/A</u> | <u>YES</u>               | <u>NO</u>                           |
| 1. Have there been any changes in the project purpose and need from that described in the original approved environmental document? |            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 2. Describe changes, including prior re-evaluations, compared to original environmental document:<br>No change.                     |            |                          |                                     |

- |  |            |            |           |
|--|------------|------------|-----------|
| <b>III. Environmental Consequences</b>   | <u>N/A</u> | <u>YES</u> | <u>NO</u> |
| <i>Identify (yes or no) if there have been any changes in project impacts from those identified in the original environmental document, including prior re-evaluations. For each "yes", describe changes, including any changes to previously proposed mitigation and/or environmental commitments compared to original environmental document including any changes to previously proposed mitigation and/or environmental commitments. Attach any supporting analysis or studies as attachments.</i> |            |            |           |

- |  |                                     |                          |
|--|-------------------------------------|--------------------------|
| 1. Have there been any changes in the affected environment within or adjacent to the project area that could affect any of the impact categories (e.g. new regulations, transportation infrastructure, protected resources, land use plans, etc.)? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Describe changes compared to original environmental document:   |                                     |                          |

**Changes to Environmental Consequences subsequent to the 12/2013 EA/FONSI:**  
 New wind tower operational guidance (Attachment 1) provided to ADOT&PF by Kotzebue Electric Association (KEA) has changed the affected environment by qualifying a safety concern that ice throw by existing wind turbines could potentially impact, both literally and figuratively, users of the EA-approved route alternative.

Consequent to this proposed revision of the EA/FONSI approved route, the potential ice throw hazard would be eliminated. Additionally, overall project wetland impacts will be reduced due to the proposed segment revision impacting 0.3 acres less than the combined wetland impacts of the EA/FONSI-

approved route embankment that required relocation of the KEA wind turbines and the KOTZ Radio grounding array.

**A. Right-of-Way Impacts**

N/A    YES    NO

Have there been any changes to the following since the approval of the original environmental document:

- 1. The right-of-way requirements for the project?
- 2. The project's effects on minority or low income populations as defined in [E.O. 12898](#) (FHWA Order 6640.23A, June 2012)?
- 3. The project's use of ANILCA land?
- 4. Describe changes compared to original environmental document:

**Changes to Right-of-Way Impacts subsequent to the EA/FONSI:** The siting of Proposed Right-of-Way (ROW) acquisition (not completed) will be revised to reflect the minor route revisions as described in Section 1.4.a. As both the EA-approved route and proposed segment revision Rights-of-Way lie within the same private Kikiktagruk Inupiat Corporation (KIC) land parcels, no new or additional land ownerships will be impacted. Additionally, revision of the EA-approved route to a location outside the boundaries of KEA- and KOTZ Radio-leased KIC lands eliminates a need for relocation of KEA wind towers as well as the KOTZ Radio tower grounding array, for a combined estimated project cost savings of \$5.6M. As the proposed segment revision ROW will be deflected to the north around the KEA wind farm, it would now be possible to acquire 300' of ROW width on the revised segment as is also being done for the remainder of new project road construction. At present, only an average of 150' feet in width of ROW is available along the length of the EA-approved segment passing by the KOTZ Radio antenna/ground array and through the KEA wind farm. A consistent 300' ROW width for the full length of project new road construction will allow for greater flexibility for installation of roadside utilities while also serving to provide for adequate roadside clear zone area to maintain road safety. Establishment of a 300' ROW width for the revised segment length around the wind farm will add approximately 22 acres to the necessary project ROW acquisition total.

**B. Social and Cultural Impacts**

N/A    YES    NO

Have there been any changes to the following since the approval of the original environmental document:

- 1. The project's effect on neighborhoods or community cohesion?
- 2. The project's effect on travel patterns and accessibility (e.g. vehicular, commuter, bicycle, or pedestrian)?
- 3. The project's effect on schools, recreation areas, churches, businesses, police and fire protection, etc.?
- 4. The project's effect on the elderly, handicapped, non-drivers, transit-dependent, minority and ethnic groups, or the economically disadvantaged?
- 5. Unresolved project issues or concerns of a federally recognized Indian Tribe [as defined in [36 CFR 800.16\(m\)](#)]?
- 6. Describe changes compared to original environmental document:

**Changes to Social and Cultural Impacts subsequent to the 12/2013 EA/FONSI :** Businesses of the KIC-land lessees KEA and KOTZ Radio will benefit from the elimination of impact or disruption that had been anticipated during relocation of wind towers and radio transmission infrastructure.

**C. Economic Impacts**

N/A    YES    NO

Have there been any changes to the following since the approval of the original

**C. Economic Impacts**

N/A    YES    NO

environmental document:

- 1. The project's potential to have adverse economic impacts on the regional and/or local economy, such as the effects of the project on development, tax revenues and public expenditures, employment opportunities, accessibility, and retail sales?
- 2. The project's potential to have an adverse effect on established businesses or business districts?
- 3. Describe changes compared to original environmental document:

**Changes to Economic Impacts subsequent to the 12/2013 EA/FONSI:**

The route segment revision will result in changes substantially reducing potentials for adverse impacts and effects. Businesses of KIC-land lessees KEA and KOTZ Radio will benefit from eliminating impacts or disruption that were anticipated during relocation of wind towers and radio transmission infrastructure.

**D. Local Land Use and Transportation Plan**

N/A    YES    NO

Have there been any changes to the following since the approval of the original environmental document:

- 1. Local land use or transportation plan(s)?
- 2. The potential for the project to have adverse indirect and cumulative effects on land use or transportation?
- 3. Is the project, as currently proposed, consistent with current land use and transportation plans?
- 4. Describe changes compared to original environmental document:

No change.

**E. Impacts to Historic Properties**

N/A    YES    NO

Have there been any changes to the following since the approval of the original environmental document:

- 1. The status of National Register-listed or eligible sites in the project area?
- 2. The involvement of any road that is included on the "[List of Roads Treated as Eligible](#)" in the Alaska Historic Roads PA?
- 3. The conclusions reached in the original environmental document regarding the project's effect on cultural and historical resources?
- 4. The project activities described in consultation or findings letters previously submitted SHPO or other consulting parties?
- 5. Describe changes, including any changes to previously proposed mitigation and/or environmental commitments compared to original environmental document:

**Changes to Historic Properties Impacts subsequent to the 12/2013 EA/FONSI**

The proposed route segment revisions would represent a minor deviation from the 2013 EA/FONSI; however they would be constructed within the Area of Potential Affect (APE) originally surveyed for cultural resources during development of the December 2013 EA. Section 106 initiation for the EA/FONSI was conducted in July, 2013, for which the Alaska SHPO provided concurrence on a finding of No Historic Properties Affected.

To ensure diligence for proposed segment revisions, additional Section 106 initiation was undertaken in April, 2017 (SHPO & Native Village of Kotzebue letters provided) to reconfirm 2013 finding. Alaska SHPO again concurred on No Historic Properties Affected on April 12, 2017 (Attachment 3).

**F. Wetlands Impacts**

N/A YES NO

Have there been any changes to the following since the approval of the original environmental document:

- 1. The project's wetland impacts? *If yes, complete a through d and resource agency coordination is required.*  
  - a. List total acres of impact (original/changed): est. 104 ac. / 103.7
  - b. List total fill quantities in wetlands (original/changed): 1.012 mcy/1.047 mcy
  - c. List total dredge quantities (original/changed): \_\_\_\_\_
  - d. Have mitigation measures changed?
- 2. Describe changes, including any changes to previously proposed mitigation and/or environmental commitments compared to original environmental document:

**Changes to Wetland Impacts subsequent to the the 12/2013 EA/FONSI :**

Subsequent to the project FONSI, minor geometric refinements were made to several locations within the initial 2.7 mile section of the approved alignment to ensure meeting AASHTO standards for horizontal curves and grades, and to avoid both placement of fill within valuable coastal wetlands and excavation of a potentially contaminated beach ridge. Additionally, a revised route segment bypassing the KEA wind farm and KOTZ Radio antenna ground array was incorporated into project design.

These cumulative revisions to design have reduced the net acreage of project wetland impacts by 0.3 acres by eliminating the need to relocate six KEA wind towers to new gravel pads as well as the need to relocate the KOTZ Radio antenna grounding array to a new location. Overall proposed fill quantity will incrementally increase due only to the requirement of greater embankment fill depth over the proposed route segment revision around the wind farm being constructed on unaltered terrain versus over the existing access road through the wind farm.

**G. Water Body Involvement**

N/A YES NO

Have there been any changes to the following since the approval of the original environmental document:

- 1. The project's effects on water bodies?
- 2. The project's effects on a navigable water body as defined by USCG (Section 9)?
- 3. The project's effects on Waters of the U.S. as defined by the USACE (Section 404)?
- 4. The project's effects on Navigable Waters of the U.S. as defined by the USACE (Section 10)?
- 5. The project's effect on a resident fish stream ([Title 16.05.841](#))?
- 6. The project's effects on a Catalogued Anadromous Fish Stream ([Title 16.05.871](#))?
- 7. The project's effects on a designated Wild and Scenic River or land adjacent to a Wild and Scenic River?
- 8. Describe changes, including any changes to previously proposed mitigation and/or environmental commitments compared to original environmental document:

No change.

**H. Fish and Wildlife Impacts**

N/A YES NO

Have there been any changes to the following since the approval of the original environmental document:

- 1. The project's effects on anadromous or resident fish habitat?
- 2. The project's effects on Essential Fish Habitat (EFH)?
- 3. The project's effects on wildlife resources?
- 4. The project's effect on bald eagles or golden eagles?

**H. Fish and Wildlife Impacts**

N/A    YES    NO

- 5. The project's compliance with the Bald and Golden Eagle Protection Act?  YES  NO
- 6. The project's effect on migratory birds?  YES  NO
- 7. The project's compliance with the Migratory Bird Treaty Act?  YES  NO
- 8. Describe changes, including any changes to previously proposed mitigation and/or environmental commitments compared to original environmental document:

No change.

**I. Threatened and Endangered Species (T&E) Impacts**

N/A    YES    NO

Have there been any changes to the following since the approval of the original environmental document:

- 1. The status of listed, proposed or candidate T&E species that will be directly or indirectly affected by the project?  YES  NO
- 2. The status of critical habitat in the project area?  YES  NO
- 3. The project's effect on listed, proposed or candidate T&E species or designated critical habitat?  YES  NO
- 4. Describe changes, including any changes to previously proposed mitigation and/or environmental commitments compared to original environmental document:

No change.

**J. Invasive Species**

N/A    YES    NO

Have there been any changes to the following since the approval of the original environmental document:

- 1. The measures that will be used to minimize the introduction or spread of invasive species?  YES  NO
- 2. The project's consistency with [E.O. 13112](#) (Invasive Species)?  YES  NO
- 3. Describe changes, including any changes to previously proposed mitigation and/or environmental commitments compared to original environmental document:

No change.

**K. Hazardous Waste**

N/A    YES    NO

Have there been any changes to the following since the approval of the original environmental document:

- 1. The status of known or potentially contaminated sites within or adjacent to the existing and/or proposed ROW?  YES  NO
- 2. Any proposed excavation plans adjacent to, or within, a known hazardous waste site?  YES  NO
- 3. The potential for encountering hazardous waste during construction?  YES  NO
- 4. Describe changes, including any changes to previously proposed mitigation and/or environmental commitments compared to original environmental document:

No change.

**L. Air Quality (Conformity)**

N/A    YES    NO

Have there been any changes to the following since the approval of the original environmental document:

**L. Air Quality (Conformity)** N/A    YES    NO

1. The project's effect on a nonattainment area or maintenance area, which will require a new or revised conformity determination?        

2. Describe changes, including any changes to previously proposed mitigation and/or environmental commitments compared to original environmental document:

No change.

**M. Floodplains Impacts** N/A    YES    NO

Have there been any changes to the following since the approval of the original environmental document:

1. The project's encroachment into the 100-year floodplain (i.e. base floodplain in fresh or marine waters). *If yes, attach documentation of public involvement conducted per [E.O. 11988](#) and [23 CFR 650.109](#). Consultation with a regional or statewide Hydraulics/Hydrology expert and a location hydraulic study will be required per [23 CFR 650.111\(c\)](#).*    

2. The project's potential to have significant encroachment as defined by [23 CFR 650.105\(q\)](#)?        

3. The project's potential to encroach on a regulatory floodway?        

4. The status of local flood hazard ordinances?        

5. The project's consistency with local flood protection standards and [E.O. 11988](#)?        

6. Describe changes, including any changes to previously proposed mitigation and/or environmental commitments compared to original environmental document:

No change.

**N. Noise Impacts** N/A    YES    NO

1. Does the project as currently proposed involve any of the activities, listed below, that would trigger the need for a noise analysis? Activity list:    

- Construction of a highway on a new location
- Substantial alteration in vertical or horizontal alignment as defined in [23 CFR 772.5](#)
- Increase in the number of through lanes
- Addition of an auxiliary lane (except a turn lane)
- Addition or relocation of interchange lanes or ramps added to a quadrant to complete an existing partial interchange
- Restriping existing pavement for the purpose of adding a through-traffic lane or an auxiliary lane
- Addition of a new or substantial alteration of a weigh station, rest stop, ride share lot or toll plaza)

2. Was a noise analysis completed on the original project?    

a. Was the noise analysis completed prior to implementation of the final noise rule ([23 CFR 772](#)) and the current DOT&PF Noise Policy (April 2011)?        

**NOTE:** If yes, the project likely needs a revised noise analysis to comply with the current noise rule.

3. If the project needed a noise analysis are there any newly identified noise sensitive receivers in the project area?        

4. Describe results of a new noise analysis, identification of new impacts, newly identified noise sensitive receivers or changes in noise abatement measures

**N. Noise Impacts**

N/A   YES   NO

compared to original environmental document:

No change to noise impacts. No receptors are within or adjacent to the project area, therefore the project does not require a noise analysis or consideration of noise abatement.

**O. Water Quality Impacts**

N/A   YES   NO

Have there been any changes to the following since the approval of the original environmental document:

- |   |                          |                                     |
|---|--------------------------|-------------------------------------|
| 1. The project's involvement with a public or private drinking water source?  | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 2. The project's effect on discharges of storm water into Waters of the U.S.?   | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 3. The project's effect on ADEC designated Impaired Waterbody?  | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 4. The project's involvement with an area that is covered by a municipal separate storm sewer system (MS4) APDES permit?  | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 5. The potential for the project's runoff to be mixed with discharges from an APDES permitted industrial facility?  | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 6. The potential for the project to discharge storm water to a water body within a national park or state park, a national or state wildlife refuge? <i>If yes and an Alaska Construction General Permit applies to the project, consultation with ADEC is required at least 30 days prior to planned start of construction activities.</i> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 7. Describe changes, including any changes to previously proposed mitigation and/or environmental commitments compared to original environmental document:  |                          |                                     |

No change.

**P. Construction Impacts**

N/A   YES   NO

Have there been any changes to the following since the approval of the original environmental document:

- |  |                                     |                                     |
|--|-------------------------------------|-------------------------------------|
| 1. Temporary degradation of water quality?   | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 2. Temporary stream diversion?   | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 3. Temporary degradation of air quality?   | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 4. Temporary delays and detours of traffic?  | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 5. Temporary impacts on businesses?  | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| 6. Temporary noise impacts?  | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 7. Other construction impacts?   | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 8. Describe changes, including any changes to previously proposed mitigation and/or environmental commitments compared to original environmental document: |                                     |                                     |

**Changes to Construction Impacts subsequent to the 2013 EA/FONSI:**

Businesses of the KIC-land lessees KEA and KOTZ Radio will benefit from elimination of impact or disruption that was anticipated during relocation of wind towers and radio transmission infrastructure.

**Q. Section 4(f)/6(f)**

N/A   YES   NO

Have there been any changes to the following since the approval of the original environmental document:

- |   |                          |                          |                                     |
|---|--------------------------|--------------------------|-------------------------------------|
| 1. The status of Section 4(f) properties affected by the proposed action or the project's effects on such properties? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 2. The determination of whether the project would "use" land from a Section 4(f)                                      | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

**Q. Section 4(f)/6(f)** N/A    YES    NO  
 property?

- |  |                          |                          |                                     |
|--|--------------------------|--------------------------|-------------------------------------|
| 3. The status of Section 6(f) properties affected by the proposed action?  | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 4. The determination of whether the use of a Section 6(f) property is a "conversion of use" per Section 6(f) of the LWCFA? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

*If yes to any of the above, attach appropriate Section 4(f) and Section 6(f) documentation.*

5. Describe changes, including any changes to previously proposed mitigation and/or environmental commitments compared to original environmental document:

No change.

**IV. Permits and Authorizations** N/A    YES    NO

Have there been any changes to the status of the following permits and authorizations since the approval of the original environmental document:

- |  |                          |                          |                                     |
|--|--------------------------|--------------------------|-------------------------------------|
| 1. USACE, Section 404/10 Includes Abbreviated Permit Process, Nationwide Permit, and General Permit  | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 2. Coast Guard, Section 9  | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 3. ADF&G Fish Habitat Permit ( <a href="#">Title 16.05.871</a> and <a href="#">Title 16.05.841</a> ) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 4. Flood Hazard  | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 5. ADEC Non-domestic Wastewater Plan Approval  | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 6. ADEC 401  | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 7. ADEC APDES  | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 8. Noise   | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 9. Eagle Permit  | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 10. Other. If yes, list below.   | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

11. Describe changes compared to original environmental document:

No change. A USACE Section 404 permit application and Northwest Arctic Borough Title 9 development permit application will be submitted subsequent to approval of this reevaluation.

**V. Comments and Coordination Conducted for the Re-evaluation** N/A    YES    NO

- |   |                                     |                          |
|---|-------------------------------------|--------------------------|
| 1. Has public/agency coordination occurred since the original environmental document was approved?  | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Describe all outreach and coordination efforts taken for this project since approval of the original environmental document. Discuss pertinent issues raised by the public and other agencies. Attach applicable correspondence and responses. |                                     |                          |

Numerous agency and public coordination efforts were undertaken subsequent to the 2013 EA/FONSI, including multiple-group and individual meetings with area stakeholders. No additional project related issues were raised with the exception of the concern over potential ice throw by KEA wind towers, which will be eliminated by a minor route segment revision considered in this reevaluation.

Agencies and other stakeholders' meetings/presentations/consultations during which project information was presented and additional public input sought:

- Northwest Arctic Borough Office of the Mayor
- Northwest Arctic Borough Planning Commission
- Northwest Arctic Borough Assembly
- City of Kotzebue
- Native Village of Kotzebue
- Kikiktagruk Inupiat Corporation (KIC)
- NANA Regional Corporation
- Kotzebue Electric Association
- KOTZ Radio
- NANA Regional Corporation
- Kotzebue TriLateral Group (Native Village of Kotzebue, KIC, City of Kotzebue)
- ADNR Office of History and Archeology/State Historic Preservation Officer (OHA/SHPO)
- Alaska Department of Environmental Conservation
- US Army Corps of Engineers

**VI. Changes in Environmental Commitments or Mitigation Measures**

N/A YES NO

1. Have there been any changes in the environmental commitments or proposed mitigation?  YES  NO

2. Describe all changes compared to original environmental document:

No change.

**VII. Environmental Re-evaluation Determination**

N/A YES NO

1. The conclusions of the original environmental document approval remain valid.  YES  NO

2. The project meets the criteria of the [DOT&PF Programmatic Approval 2](#) authorized in the December 8, 2015 "[Chief Engineer Directive – 6004 Programmatic Categorical Exclusions](#)". *If yes, the Re-evaluation may be approved by the Regional Environmental Manager. If no, the Re-evaluation must be approved by a Statewide NEPA Manager.*  YES  NO

3. The project meets the criteria of the April 13, 2012 "Programmatic Categorical Exclusion for Use on Federal-Aid Highway Projects in Alaska" agreement between FHWA and DOT&PF. *If yes, the Re-evaluation may be approved by the Regional Environmental Manager. If no, the Re-evaluation may be approved by the FHWA Area Engineer.*  YES  NO

4. The changes in the project scope, environmental consequences, environmental commitments or public controversy require a new or supplemental environmental document. *If yes, consultation with the FHWA Area Engineer and the FHWA NEPA Project Manager or DOT&PF Statewide NEPA Manager is required.*  YES  NO  NO

**VIII. Environmental Documentation Approval Signatures**

Prepared by: [Signature]  
[Sign] Environmental Impact Analyst

Date: 5/25/17

Paci F. KARZMARZYK  
[Print Name] Environmental Impact Analyst

Reviewed by: [Signature]  
[Sign] Engineering Manager

Date: 5/25/17

Jonathan Hutchins  
[Print Name] Engineering Manager

Approved by: [Signature]  
[Sign] Regional Environmental Manager

Date: 5-26-17

Brett Nelson  
[Print Name] Regional Environmental Manager

**Assigned CE Re-evaluation**

Approved by: \_\_\_\_\_  
[Sign] DOT&PF Statewide NEPA Manager

Date: \_\_\_\_\_

\_\_\_\_\_  
[Print Name] DOT&PF Statewide NEPA Manager

**Non-Assigned CE Re-evaluation**

Approved by: \_\_\_\_\_  
[Sign] FHWA Area Engineer or FHWA NEPA Project Manager

Date: \_\_\_\_\_

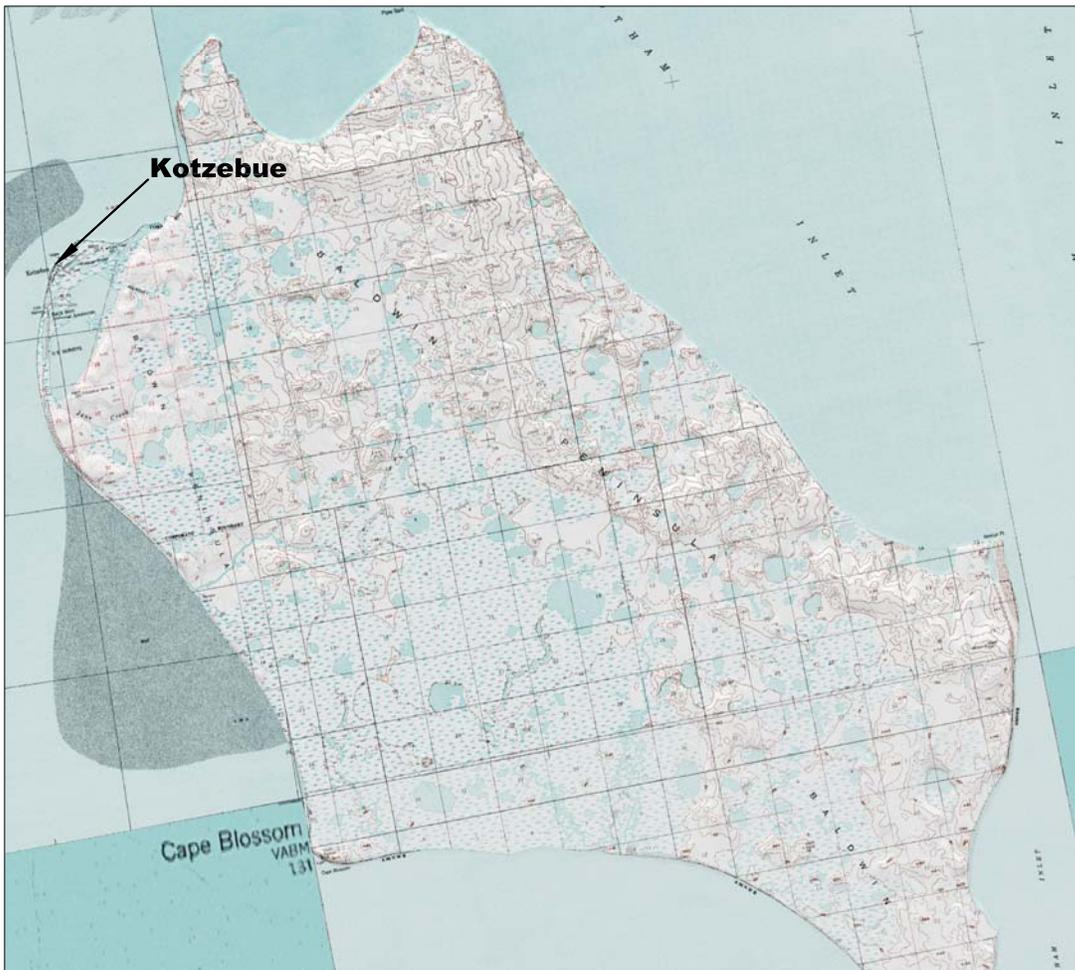
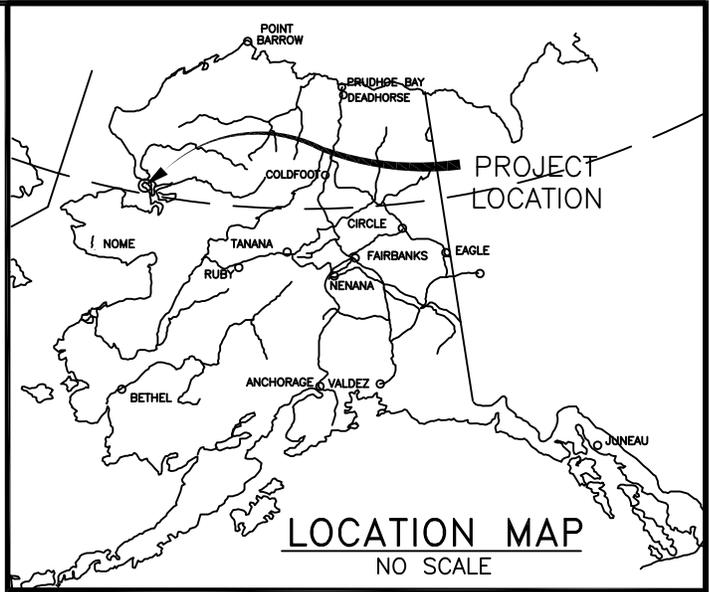
\_\_\_\_\_  
[Print Name] FHWA Area Engineer or FHWA NEPA Project Manager

**EA or EIS Re-evaluation**

Approved by: [Signature]  
[Sign] FHWA Area Engineer or FHWA NEPA Project Manager

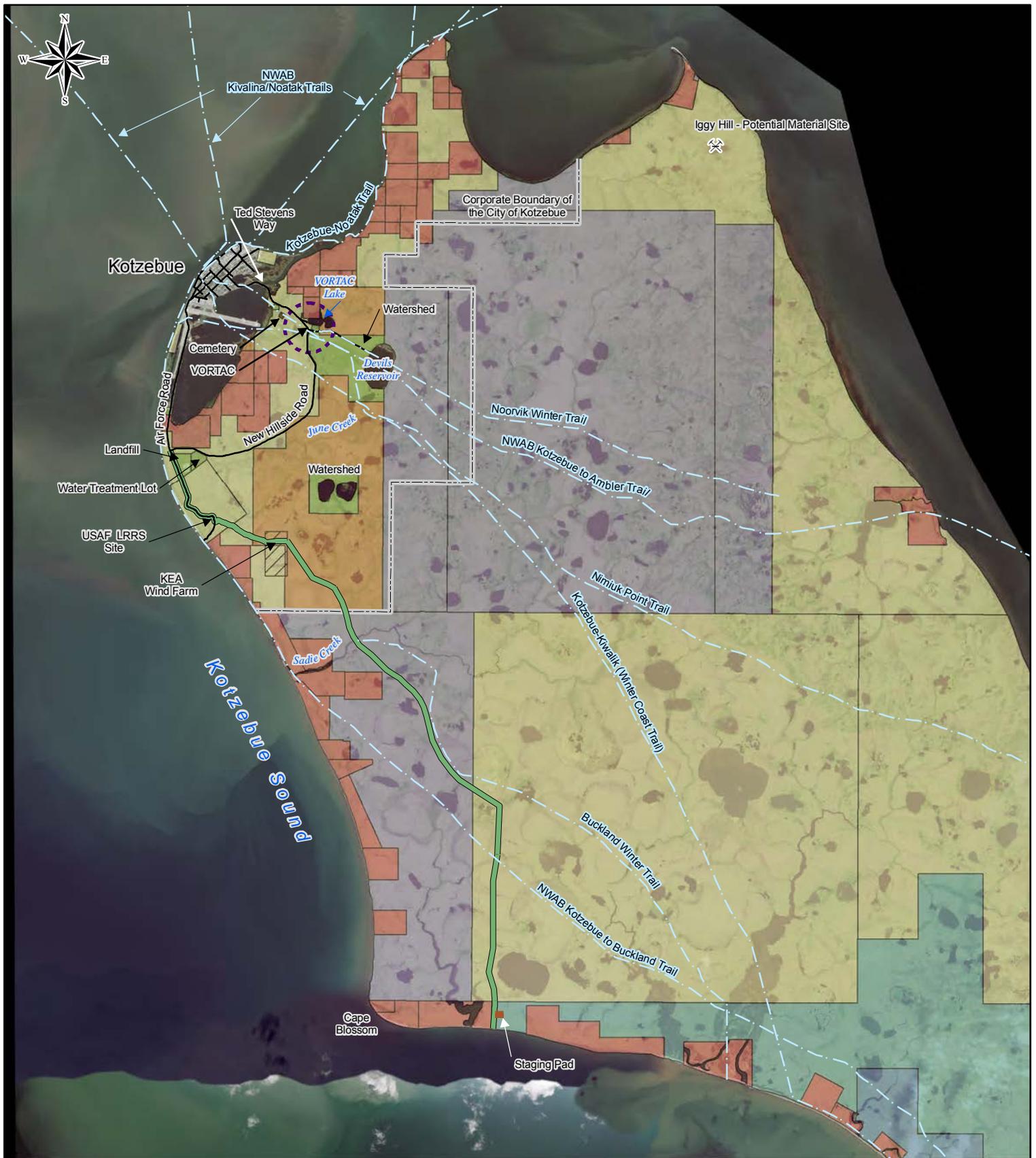
Date: 6-1-17

Michael J. Cain Jr.  
[Print Name] FHWA Area Engineer or FHWA NEPA Project Manager



VICINITY MAP

STATE OF ALASKA Department of Transportation and Public Facilities 2301 Peger Rd. Fairbanks, AK 99709	
KOTZEBUE TO CAPE BLOSSOM ROAD NCPD-0002(204)/76884	
KOTZEBUE, ALASKA	
DATE: APRIL 2013	FIGURE 1



**Kotzebue to Cape Blossom Road  
Project Location**

0 1 2 4 Miles

Date: 4/19/2017      Scale:

Revision:      Figure: 2

Legend	
	Material Site
	Stream Crossing
	Winter Trail
	Kotzebue Corp. Boundary
	Vortac array
	2013 EA Approved Route
	Staging Pad
Land Status	
	Cemetery
	KEA Windfarm
	ANCSA - City
	KIC Patent
	KIC Selection
	KIC & NANA
	NANA Patent
	Native Allotment
	State Selection Application

Sources: DOT&PF, BLM, DNR, FWS, McClintock Land Associates Inc.

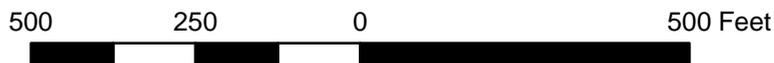




\* Kotzebue to Cape Blossom Road  
 Finding of No Significant Impact  
 FHWA Approved Dec. 10, 2013  
 Fed. Proj.: NCPD-0002(204)  
 State Proj.: 76884

STATE OF ALASKA  
 Department of Transportation and Public Facilities  
 2301 Peger Road Fairbanks, AK 99709

**Kotzebue to Cape Blossom Road  
 Project No. NCPD-0002(204)/76884**



DATE: April 19, 2017

FIGURE 3



Preferred Alternative Alignment\*

Revised Alignment



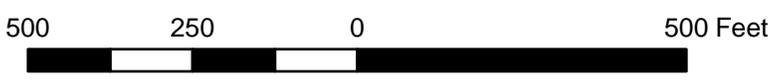
\* Kotzebue to Cape Blossom Road  
 Finding of No Significant Impact  
 FHWA Approved Dec. 10, 2013  
 Fed. Proj.: NCPD-0002(204)  
 State Proj.: 76884

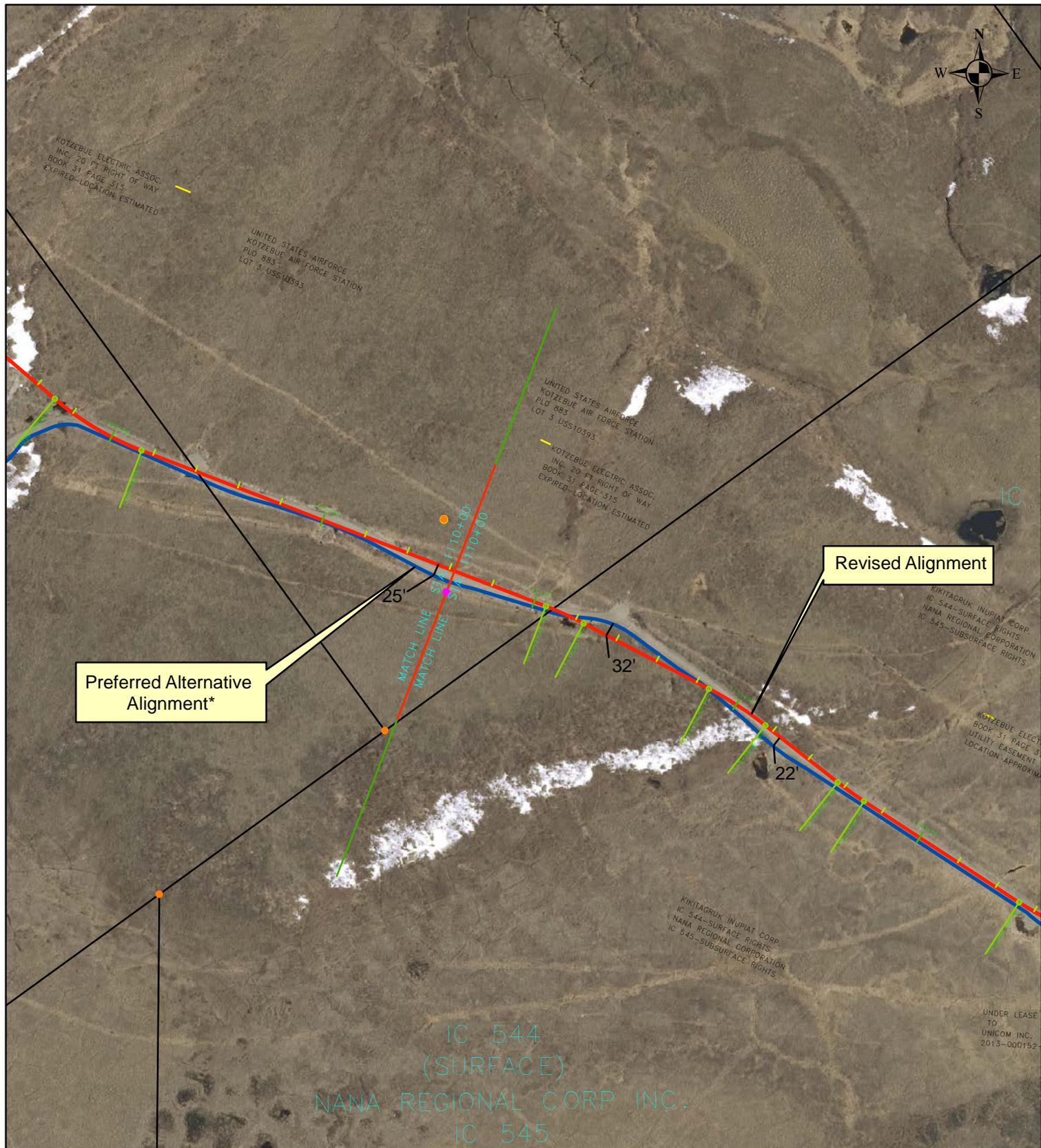
STATE OF ALASKA  
 Department of Transportation and Public Facilities  
 2301 Peger Road Fairbanks, AK 99709

**Kotzebue to Cape Blossom Road  
 Project No. NCPD-0002(204)/76884**

DATE: April 19, 2017

FIGURE 4





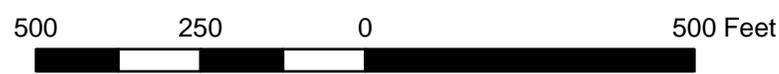
IC 544  
(SURFACE)  
NANA REGIONAL CORP INC.  
IC 545



\* Kotzebue to Cape Blossom Road  
Finding of No Significant Impact  
FHWA Approved Dec. 10, 2013  
Fed. Proj.: NCPD-0002(204)  
State Proj.: 76884

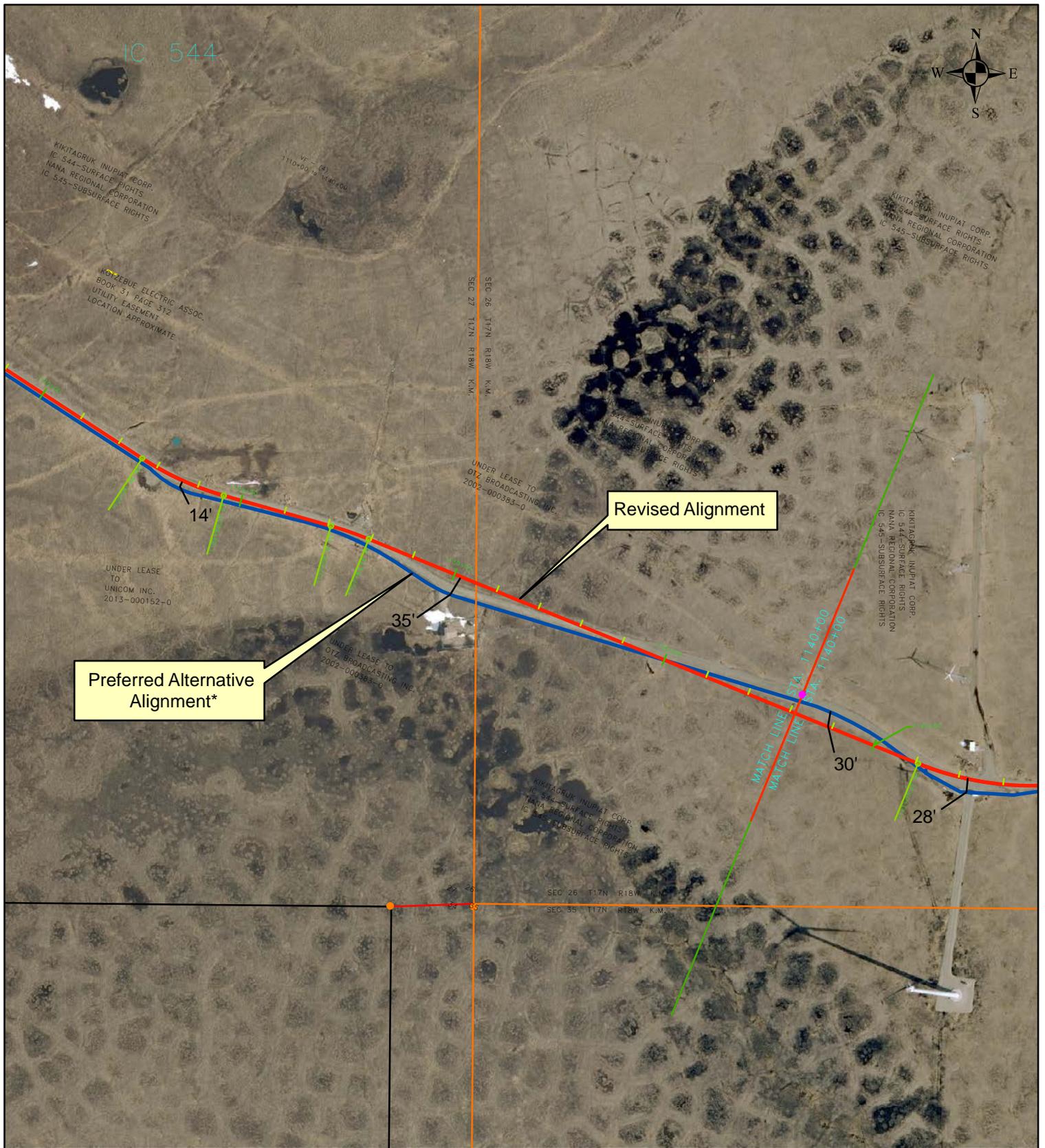
STATE OF ALASKA  
Department of Transportation and Public Facilities  
2301 Peger Road Fairbanks, AK 99709

**Kotzebue to Cape Blossom Road  
Project No. NCPD-0002(204)/76884**



DATE: April 19, 2017

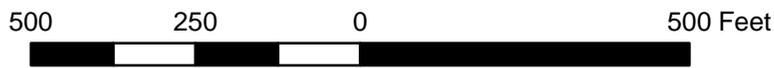
FIGURE 5



\* Kotzebue to Cape Blossom Road  
 Finding of No Significant Impact  
 FHWA Approved Dec. 10, 2013  
 Fed. Proj.: NCPD-0002(204)  
 State Proj.: 76884

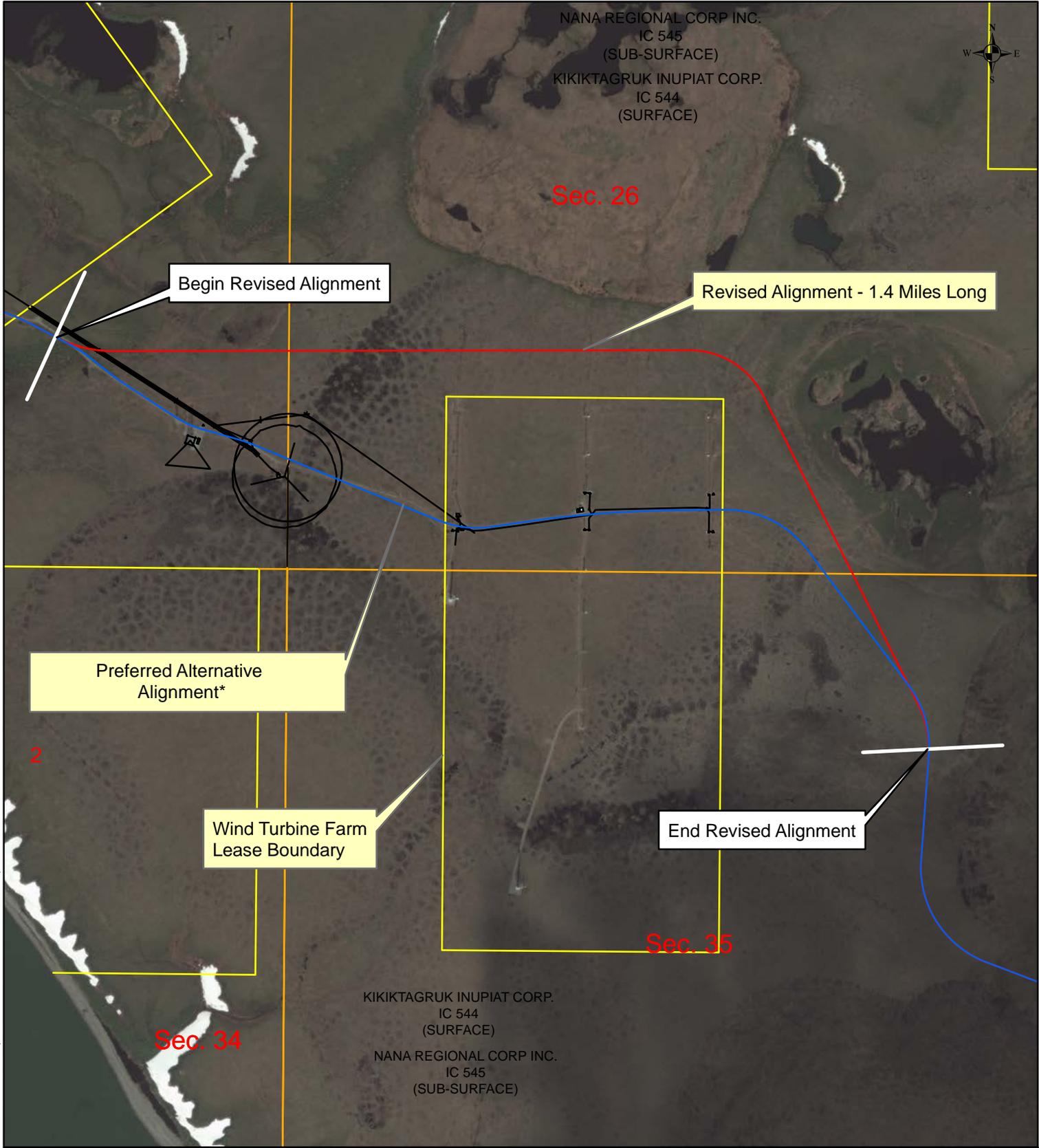
STATE OF ALASKA  
 Department of Transportation and Public Facilities  
 2301 Peger Road Fairbanks, AK 99709

**Kotzebue to Cape Blossom Road  
 Project No. NCPD-0002(204)/76884**



DATE: April 19, 2017

FIGURE 6



\* Kotzebue to Cape Blossom Road  
 Finding of No Significant Impact  
 FHWA Approved Dec. 10, 2013  
 Re-Evaluation Approved February 19, 2015  
 Fed. Proj.: NCPD-0002(204)  
 State Proj.: Z768840000

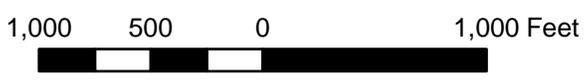
STATE OF ALASKA  
 Department of Transportation and Public Facilities  
 2301 Peger Road Fairbanks, AK 99709

**Kotzebue to Cape Blossom Road  
 Project No. NCPD-0002(204)/76884**

PROPOSED ALIGNMENT SEGMENT REVISION

DATE: February 2017

FIGURE 7



Attachment 1.

General Electric (GE) Wind Turbine Ice Throw Guidance

GE  
Energy

# Ice Shedding and Ice Throw – Risk and Mitigation

**David Wahl**

**Philippe Giguere**

Wind Application Engineering

GE Energy

Greenville, SC



# Ice Shedding and Ice Throw – Risk and Mitigation

## Introduction

As with any structure, wind turbines can accumulate ice under certain atmospheric conditions, such as ambient temperatures near freezing (0°C) combined with high relative humidity, freezing rain, or sleet. Since weather conditions may then cause this ice to be shed, there are safety concerns that must be considered during project development and operation. The intent of this paper is to share knowledge and recommendations in order to mitigate risk.

## The Risk

The accumulation of ice is highly dependent on local weather conditions and the turbine's operational state.<sup>[2,4]</sup> Any ice that is accumulated may be shed from the turbine due to both gravity and the mechanical forces of the rotating blades. An increase in ambient temperature, wind, or solar radiation may cause sheets or fragments of ice to loosen and fall, making the area directly under the rotor subject to the greatest risks<sup>[1]</sup>. In addition, rotating turbine blades may propel ice fragments some distance from the turbine—up to several hundred meters if conditions are right.<sup>[1,2,3]</sup> Falling ice may cause damage to structures and vehicles, and injury to site personnel and the general public, unless adequate measures are put in place for protection.

## Risk Mitigation

The risk of ice throw must be taken into account during both project planning and wind farm operation. GE suggests that the following actions, which are based on recognized industry practices, be considered when siting turbines to mitigate risk for ice-prone project locations:

- **Turbine Siting:** Locating turbines a safe distance from any occupied structure, road, or public use area. Some consultant groups have the capability to provide risk assessment based on site-specific conditions that will lead to suggestions for turbine locations. In the absence of such an assessment, other guidelines may be used. Wind Energy Production in Cold Climate<sup>[6]</sup> provides the following formula for calculating a safe distance:

$$1.5 * (\text{hub height} + \text{rotor diameter})$$

While this guideline is recommended by the certifying agency Germanischer Lloyd as well as the Deutsches Windenergie-

Institut (DEWI), it should be noted that the actual distance is dependant upon turbine dimensions, rotational speed and many other potential factors. Please refer to the *References* for more resources.

- **Physical and Visual Warnings:** Placing fences and warning signs as appropriate for the protection of site personnel and the public.<sup>[4]</sup>
- **Turbine Deactivation:** Remotely switching off the turbine when site personnel detect ice accumulation. Additionally there are several scenarios which could lead to an automatic shutdown of the turbine:
  - Detection of ice by a nacelle-mounted ice sensor which is available for some models (with current sensor technology, ice detection is not highly reliable)
  - Detection of rotor imbalance caused by blade ice formation by a shaft vibration sensor; note, however, that it is possible for ice to build in a symmetric manner on all blades and not trigger the sensor<sup>[2]</sup>
  - Anemometer icing that leads to a measured wind speed below cut-in
- **Operator Safety:** Restricting access to turbines by site personnel while ice remains on the turbine structure. If site personnel absolutely must access the turbine while iced, safety precautions may include remotely shutting down the turbine, yawing to place the rotor on the opposite side of the tower door, parking vehicles at a distance of at least 100 m from the tower, and restarting the turbine remotely when work is complete. As always, standard protective gear should be worn.

## References

The following are informative papers that address the topic of wind turbine icing and safety. These papers are created and maintained by other public and private organizations. GE does not control or guarantee the accuracy, relevance, timeliness, or completeness of this outside information. Further, the order of the references is not intended to reflect their importance, nor is it intended to endorse any views expressed or products or services offered by the authors of the references.

- [1] *Wind Turbine Icing and Public Safety – a Quantifiable Risk?:* Colin Morgan and Ervin Bossanyi of Garrad Hassan, 1996.
- [2] *Assessment of Safety Risks Arising From Wind Turbine Icing:* Colin Morgan and Ervin Bossanyi of Garrad Hassan, and Henry Seifert of DEWI, 1998.
- [3] *Risk Analysis of Ice Throw From Wind Turbines:* Henry Seifert, Annette Westerhellweg, and Jürgen Kröning of DEWI, 2003.
- [4] *State-of-the-Art of Wind Energy in Cold Climates:* produced by the International Energy Agency, IEA, 2003.
- [5] *On-Site Cold Climate Problems:* Michael Durstewitz, Institut für Solare Energieversorgungstechnik e.V. (ISET), 2003.
- [6] *Wind Energy Production in Cold Climate:* Tammelin, Cavaliere, Holttinen, Hannele, Morgan, Seifert, and Sääntti, 1997.



Attachment 2.

KEA-provided cost estimate for wind tower relocation

## Cape Blossom DOT Cost Estimate to Relocate Facilities Impacted by the Road.

Prepared by GCI, for Kotezbue Electric Association

ITEM	DESCRIPTION		Cost
1	Crane rental large	32000/mo	\$384,000
	Crane rental medium	22000/mo	\$264,000
2	Move Unit 18		\$1,200,000
3	3 Phase 25kv line 4750' x (3 .85+2) x 3		\$85,000
4	10 ea sectionalizers		\$20,000
5	Transformers            5 ea		\$100,000
6	Gravel (5000' x 8x1)/27=about 1500 cu yds		\$150,000
7	Linemen labor 3men x 8/day x 90 days x 100/mh		\$220,000
8	other equipment		\$25,000
9	Remove refrigerant from 6 wind turbines		\$90,000
10	Lower -remove and stockpile 6 turbines		\$1,200,000
11	Fiber optic wire		\$10,000
12	HDPE		\$24,000
		Total	\$3,772,000
	Enginerring	5%	188,600
		Subtotal	\$3,960,600
	Misc	15%	\$594,090
		Subtotal	\$4,554,690
	Overhead	15%	\$683,203
		<b>Total</b>	<b>\$5,237,893</b>

Attachment 3.

Proposed Route Segment Revision Section 106 Findings Letter

4/12/17

3130-1R FAWA

## Department of Transportation and Public Facilities



THE STATE  
of **ALASKA**  
GOVERNOR BILL WALKER

Northern Region  
Design and Engineering Services  
Preliminary Design and Environmental Section

2301 Peger Road  
Fairbanks, Alaska 99709-5316  
Main: 907-451-2237  
Toll free: 800-451-2363  
Fax: 907-451-5126

In Reply Refer To:  
Kotzebue to Cape Blossom Road-Update  
Project Number: Z768840000  
No Historic Properties Affected  
ATTENTION: This finding contains no DOE's

**No Historic Properties Affected**  
**Alaska State Historic Preservation Officer**  
Date: 4/12/17 File No.: 3130-1R FAWA  
Please review: 36 CFR 800.13 / A.S. 41.35.070(d)

April 5, 2017

Ms. Judith E. Bittner  
State Historic Preservation Officer  
Alaska Office of History and Archaeology  
550 W. 7<sup>th</sup> Avenue, Suite 1310  
Anchorage, Alaska 99501-3565

RECEIVED  
APR 07 2017  
OHA

Dear Ms. Bittner:

The Alaska Department of Transportation and Public Facilities (DOT&PF) has assumed the responsibilities of the Federal Highway Administration under 23 U.S.C. §326, and is proposing to construct the Kotzebue to Cape Blossom Road from the City of Kotzebue, Alaska, south across the Baldwin Peninsula to a beach access area above the ordinary high water level near Cape Blossom. The City of Kotzebue is located on the Baldwin Peninsula adjacent to Kotzebue Sound, approximately 26 miles north of the Arctic Circle (Figure 1). The project will originate at the intersection of Air Force Road and New Hillside Road at 66.858° N, 162.617° W. The project is located within:

Section 06; T15N, R17W, Kateel Meridian;  
Sections 18, 19, 30, 31; T16N, R17W, Kateel Meridian;  
Sections 02, 03, 11, 12, 13; T16N, R18W, Kateel Meridian;  
Sections 21, 26, 27, 28, 35, 36; T17N, R18W, Kateel Meridian;  
USGS Quadrangles Kotzebue D-1 & D-2 1:63,360 (Figure 1).

Consultation for this project is being conducted in accordance with the 2014 *Programmatic Agreement... for the Federal-Aid Highway Program in Alaska*. The DOT&PF, acting as a Federal agency, finds that **no historic properties would be affected** by the proposed project pursuant to 36 CFR Part 800.4(d)(1), implementing regulations of Section 106 of the National

Historic Preservation Act. This submission provides documentation in support of this finding, as required at 36 CFR § 800.11(d).

### **Background**

This project was previously coordinated by the Federal Highway Administration (FHWA) with the State Historic Preservation Officer (SHPO) and additional identified potentially interested parties in 2013 under the same project name: Kotzebue to Cape Blossom Road (HPRM-NCPD-0002(204)/76884). The project findings letters were submitted by the FHWA on June 13, 2013 (Attachment 1) and received a concurrence from the SHPO on a determination of **No Historic Properties Affected** on July 10, 2013 (Attachment 2). Since that time there has been a design change to the project which includes a realignment of the proposed road segment which was not previously included in the project Area of Potential Effect (APE).

Subsequent to completion of the Environmental Assessment (EA) and during the final design process, new information was provided by Kotzebue Electric Association (KEA) that has raised concerns over the safety of a short segment of the preferred alternative passing through the existing KEA wind farm. Specifically, updated technical guidance on wind turbine operation provided by KEA, has indicated by modeling data that the potential ice throw radius of six existing wind turbines adjacent to the approved route may pose a serious risk to the traveling public under certain climatic conditions.

Due to a revision to the alignment segment causing a respective change to the project APE proximate to the affected segment, and also to the amount of time which has passed since the original SHPO response, this letter is to confirm SHPO's concurrence with the **No Historic Properties Affected** determination for this project.

### **Project Description**

The proposed project activities have not changed and will include:

- 1) Reconstruction of approximately 2.7 miles of Air Force Road south from the Hillside Road intersection to the KEA Wind Farm;
- 2) Construction of a new, two-lane, gravel road with a 24' surface width and side slopes 3:1 or steeper southward for another 8.9 miles with turnout and trail access (Figures 2-4), crossing Sadie Creek and terminating at a beach access ramp above ordinary high water (OHW). No construction would occur below the high tide line; and
- 3) Construction of a staging pad on the east side of the proposed road approximately 0.25 miles north of the Cape Blossom shoreline. Anticipated uses of the pad include container storage, vehicle and boat trailer parking, and materials stockpiling.

Turnouts with ramps down to existing grade tundra would be constructed along the road near traditional trail crossings and potentially in other areas identified by scoping as being important for establishing access to the surrounding undeveloped area. Geotechnical materials for the project will be contractor furnished.

As the Baldwin Peninsula is underlain by continuous permafrost and thermal degradation could lead to thaw, settlement, and loss of embankment stability, the road would be constructed on an embankment up to eight feet thick. Embankment height would be engineered to minimize potential road surface snow drifting and to provide thermal protection for the permafrost. Sadie Creek would be crossed by a bridge, and smaller drainage crossings would use appropriately sized culverts, with additional cross culverts placed at minor drainages and as necessary along the road.

### **Area of Potential Effect (APE)**

DOT&PF is proposing to revise the approved alignment design and sufficiently avoid the KEA wind farm to eliminate potential wind turbine ice throw. The revised route would deviate from the existing KEA access road at a point approximately 2500-ft northwest of the windfarm, and from that point extend eastward paralleling the northern boundary of the wind farm property for 4000 feet before bearing southeasterly to tie back into the approved preferred route alternative approximately 2300 feet southeast of the wind farm (Figure 2). The remainder of the project APE is unchanged.

### **Identification Efforts**

A cultural resource report of the project Study Area conducted in 2012 was included with the June 17, 2013 Findings entitled: *Kotzebue to Cape Blossom Road Environmental Document Cultural Resource Survey (ADOT&PF Project No. 76884)*, and is currently on file at the Office of History and Archaeology (OHA). The results of the investigation were that **no historic properties** were identified within the portion of the Study Area that became the APE (pp. 36, 38 & 57) or the portion being proposed to be included in the adjusted APE in this Update. An April 3, 2017 review of the AHRS database did not result in the identification of any new cultural resources either within the previously identified APE, or the newly added portion of the APE (Figures 2 & 3).

### **Finding of Effect**

The DOT&PF finds that the proposed project will have no effect on historic properties. The adjustment to the road alignment occurs within the cultural resource Study Area for the project. No cultural resources were encountered by the survey crew within the portion of the Study Area where this route adjustment is occurring. Furthermore, this area was considered low probability to yield cultural resources due to the high instances of standing water and tussocks bog conditions.

The DOT&PF finds that **no historic properties will be affected** by adjustment of the road alignment and seeks the SHPO's concurrence with this finding.

Under the Alaska Historic Roads Programmatic Agreement Interim Guidance, a group of Alaska roads has been identified which are being treated as eligible for the National Register of Historic Places (NRHP). None of these roads are included within this project APE.

### **Consultation Efforts**

The FHWA sent findings letters to 26 parties on June 17, 2013 (Attachment 1) and did not receive any responses, save the SHPO concurrence on July 10, 2013. Due to the size and nature

of the change the DOT&PF is sending letters to: the Alaska state Historic Preservation Officer, the Native Village of Kotzebue, the City of Kotzebue, the Kotzebue Electric Association, the Northwest Arctic Borough, Maniilaq Association, NANA Regional Corporation, Kikiktagruk Inupiat Corporation, and the 611<sup>th</sup> Air Support Group.

Since so much time has passed and there has been an adjustment to the APE within the originally surveyed area in 2012, the DOT&PF has determined that it would be prudent to once again contact the SHPO to re-confirm the **no historic properties affected** determination regarding the Kotzebue to Cape Blossom Road Project. Likewise, it seemed appropriate to contact the above listed consulting parties regarding the change in APE.

Please direct your concurrence or comments to me at the address above, by telephone at 907-451-5293, or by e-mail at [thomas.gamza@alaska.gov](mailto:thomas.gamza@alaska.gov).

Sincerely,



Thomas A. Gamza  
Cultural Resource Specialist-Archaeologist (PQI)  
State of Alaska DOT&PF, Northern Region

Enclosures:

- Figure 1: Location and Vicinity Map
- Figure 2: Original Area of Potential Effect
- Figure 3: Original alignment of road segment and proposed change location

Attachment 1: DOT&PF Findings Letter June 17, 2013

Attachment 2: SHPO Concurrence June 17, 2013

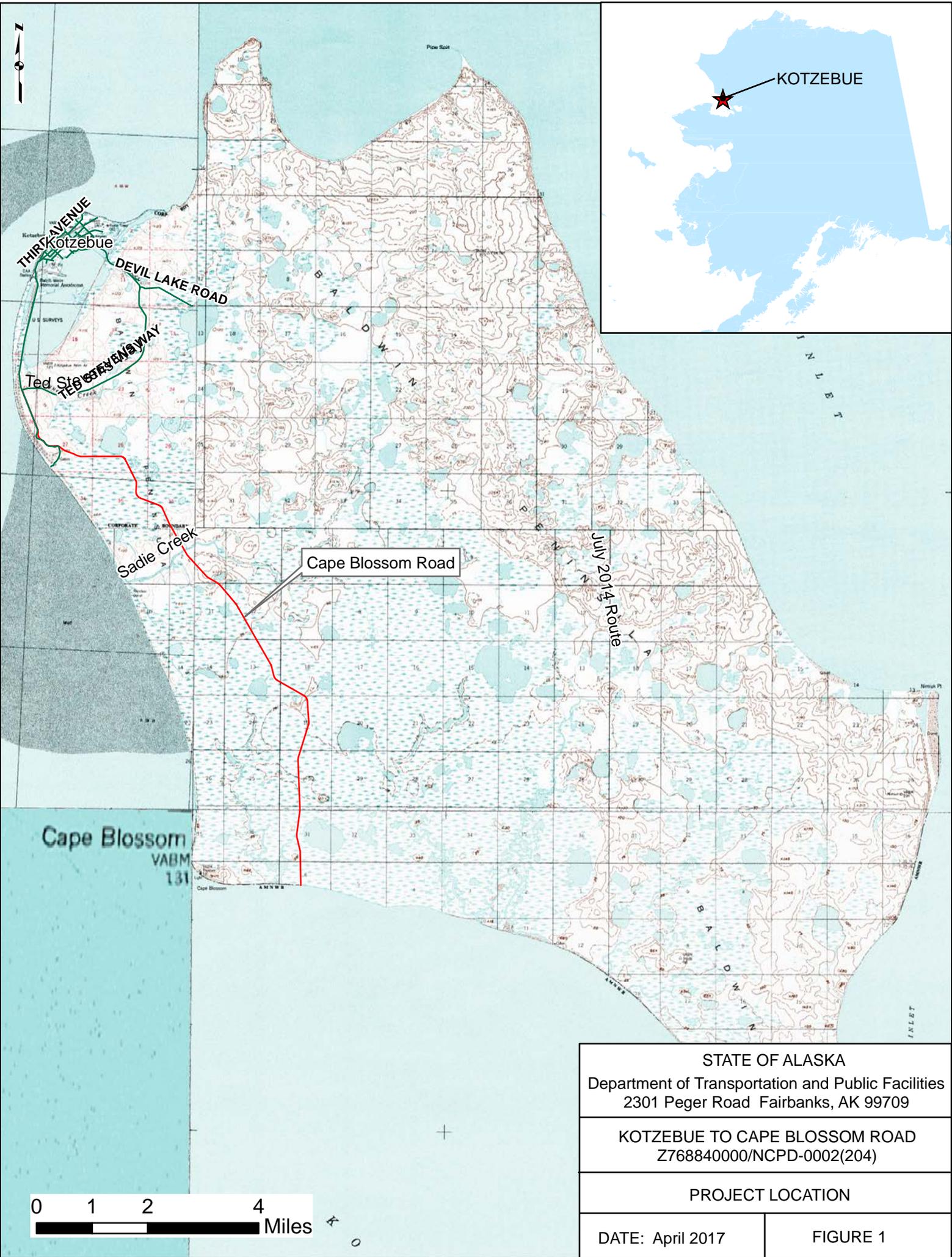
Electronic cc w/ enclosures:

- Jonathan Hutchinson, P.E., Northern Region Design Engineer
- Paul Karczmarczyk, DOT Northern Region, Environmental Impact Analyst
- Brett Nelson, DOT&PF Northern Region, Regional Environmental Manager
- Kathy Price, DOT&PF Statewide Cultural Resources Specialist
- Amy Sumner, DOT&PF Statewide Cultural Resources Specialist

Reference:

Blanchard, Morgan

- 2013 *Kotzebue to Cape Blossom Road Environmental Document Cultural Resource Survey (ADOT&PF Project No. 76884)* Report prepared for: Michael Baker, Jr. Incorporated by Northern Land Use Research Inc., Fairbanks, Alaska. On File at the Alaska Office of History and Archaeology, Anchorage, AK.



STATE OF ALASKA  
 Department of Transportation and Public Facilities  
 2301 Peger Road Fairbanks, AK 99709

KOTZEBUE TO CAPE BLOSSOM ROAD  
 Z768840000/NCPD-0002(204)

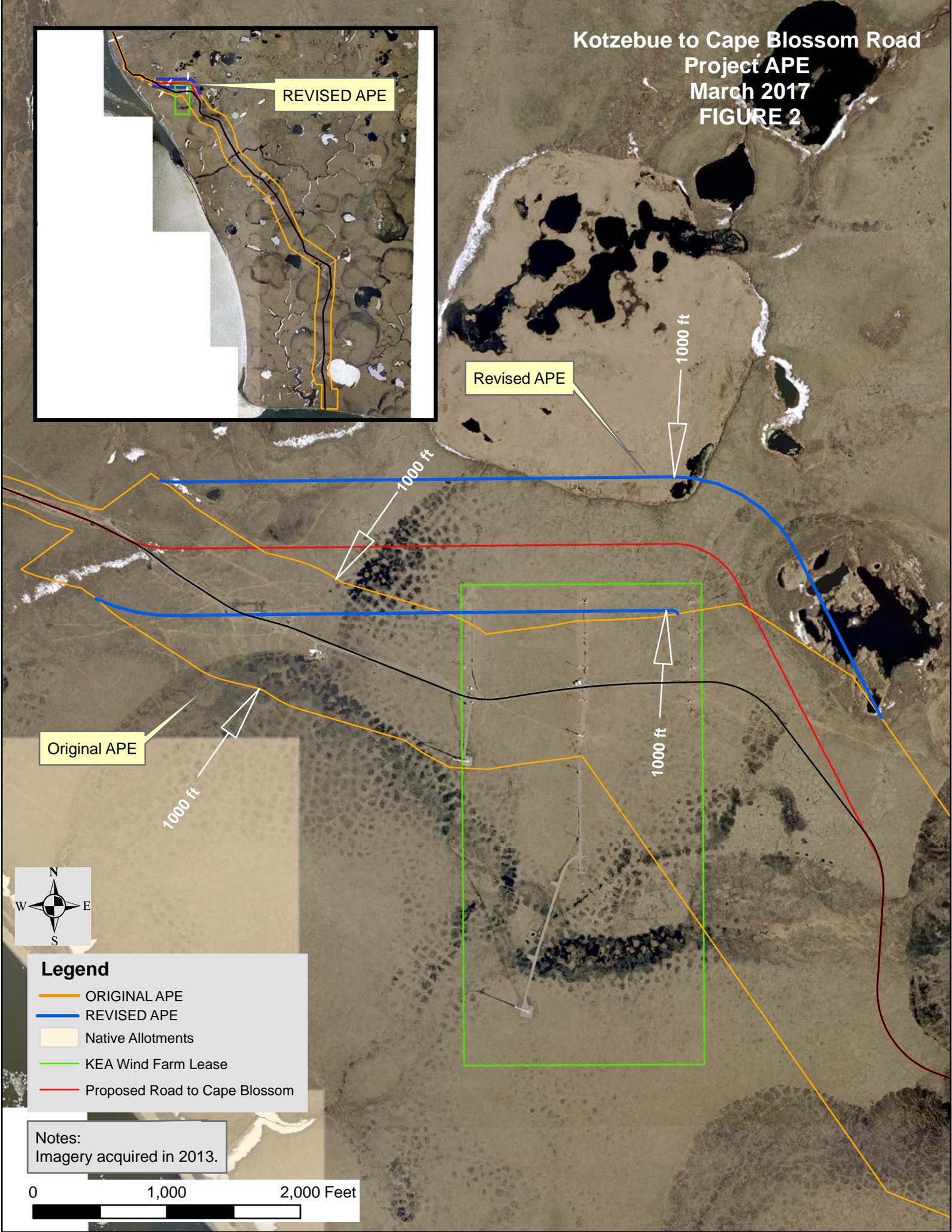
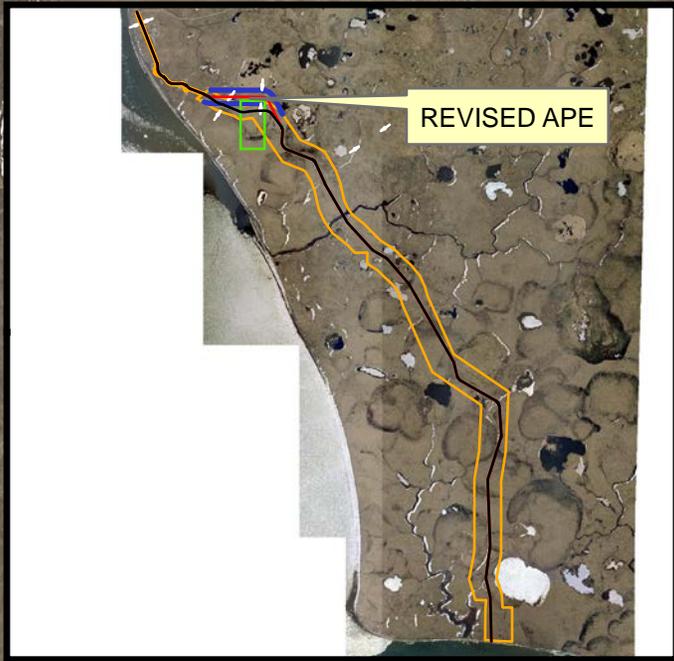
PROJECT LOCATION

DATE: April 2017

FIGURE 1

0 1 2 4 Miles

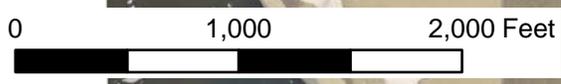
Kotzebue to Cape Blossom Road  
Project APE  
March 2017  
FIGURE 2



**Legend**

- ORIGINAL APE
- REVISED APE
- Native Allotments
- KEA Wind Farm Lease
- Proposed Road to Cape Blossom

Notes:  
Imagery acquired in 2013.



Kotzebue to Cape Blossom Road  
Project APE  
May 2013  
FIGURE 7



Long Range Radar Site

Sadie Creek

- Legend**
- Potential New Road
  - Upgrade Route
  - APE
  - KEA Wind Farm Lease
  - Native Allotments

Notes:  
Imagery acquired August 4, 2010.



# Attachment 1



U.S. Department  
of Transportation  
**Federal Highway  
Administration**

**Alaska Division**

June 17, 2013

P.O. Box 21648  
Juneau, AK 99802-1648  
(907) 586-7418  
(907) 586-7420  
[www.fhwa.dot.gov/akdiv](http://www.fhwa.dot.gov/akdiv)

In Reply Refer To:  
HPRM-NCPD-0002(204)/76884

Ms. Judith Bittner  
State Historic Preservation Officer  
Alaska Office of History and Archaeology  
550W. 7<sup>th</sup> Avenue, Suite 1310  
Anchorage, AK 99501

Dear Ms. Bittner:

The Department of Transportation and Public Facilities (DOT&PF), in cooperation with the Federal Highway Administration (FHWA), is proposing to construct the Kotzebue to Cape Blossom Road from the City of Kotzebue, Alaska, south across the Baldwin Peninsula to a beach access area above the ordinary high water level near Cape Blossom. The City of Kotzebue is located on the Baldwin Peninsula adjacent to Kotzebue Sound, approximately 26 miles north of the Arctic Circle (Figure 1). The project will originate at the intersection of Air Force Road and New Hillside Road at 66.858° N, 162.617° W. The project is located within:

- Sections 21, 26, 27, 28, 35, 36; T17N, R18W, Kateel Meridian
- Sections 2, 3, 11, 12, 13; T16N, R18W, Kateel Meridian
- Sections 18, 19, 30, 31; T16N, R17W, Kateel Meridian
- Section 6; T15N, R17W, Kateel Meridian

Pursuant to 36 CFR 800.4(d)(1), implementing regulations of Section 106 of the National Historic Preservation Act, the FHWA finds that no historic properties would be affected by the proposed project. This submission provides documentation in support of this finding, as required at 36 CFR 800.11(d).

## **Project Description**

The proposed project will include:

- a) Reconstruction of approximately 2.7 miles of Air Force Road south from the Hillside Road intersection to the Kotzebue Electric Association Wind Farm;
- b) Construction of a new, two-lane, gravel road with a 24' surface width and side slopes 3:1 or steeper southward for another 8.9 miles with turnout and trail access (Figures 2-4), crossing

Sadie Creek and terminating at a beach access ramp above Ordinary High Water (OHW). No construction would occur below the high tide line; and

- c) Construction of a staging pad on the east side of the proposed road approximately 0.25 miles north of the Cape Blossom shoreline (Figures 5 and 6). Anticipated uses of the pad include container storage, vehicle and boat trailer parking, and materials stockpiling.

Turnouts with ramps down to existing grade tundra would be constructed along the road near traditional trail crossings and potentially in other areas identified by scoping as being important for establishing access to the surrounding undeveloped area. Geotechnical materials for the project will be contractor furnished.

As the Baldwin Peninsula is underlain by continuous permafrost and thermal degradation could lead to thaw, settlement, and loss of embankment stability, the road would be constructed on an embankment up to eight feet thick. Embankment height would be engineered to minimize potential road surface snow drifting and to provide thermal protection for the permafrost. Sadie Creek would be crossed by a bridge, and smaller drainage crossings would use appropriately sized culverts, with additional cross culverts placed at minor drainages and as necessary along the road.

### **Area of Potential Effect (APE)**

The APE (Figure 7) encompasses the proposed project right of way to be acquired. Potential direct effects include the construction footprints of the following proposed project actions:

- a) the improvements to existing Air Force Road;
- b) the new road and its associated turnouts;
- c) the staging pad near the south end of the new road; and
- d) the beach access ramp to its terminus above OHW at Cape Blossom.

No indirect effects are anticipated from project activities.

### **Identification Efforts**

The DOT&PF contracted with Michael Baker Jr., Inc. (Baker) to provide environmental and engineering services for the project. Baker contracted with Northern Land Use Research, Inc. (NLUR) to conduct a cultural resources survey of the proposed Kotzebue to Cape Blossom Road. NLUR was tasked with surveying initial alternatives for connecting the proposed Kotzebue to Cape Blossom Road to the existing Kotzebue road system, of which the proposed project alternative (Alternative A-Upgrade Route and its corresponding South Route) were included. The cultural resources survey area for the project was defined as 1,000 ft. on each side of proposed alternative segment centerlines as provided by Baker. The survey area crossed lands owned by the Kikiktagruk Iñupiat Corporation, Inc., the NANA Regional Corporation, Inc. (NANA) and the U.S. Air Force. The cultural resources survey was conducted with written permission of the landowners.

Prior to the cultural resources survey, NLUR completed a data gap and archaeological sensitivity analysis for the upper Baldwin Peninsula in the vicinity of the survey area. These analyses resulted in a predictive model, which classified land within the survey area as having either a low (Type A) or high (Type B) potential to contain archaeological sites, features or artifacts. During the August 12, 2012, cultural resources survey of the proposed Kotzebue to Cape Blossom Road project, low probability areas were subjected to helicopter survey and high probability areas were subjected to helicopter survey, ground survey, and selective subsurface testing. The survey area consists of a roughly 11.2 mile-long (18 km) 2,000 ft. wide (0.61 km) road corridor extending south from Kotzebue to Cape Blossom. No new cultural resources were identified.

A search of the on-line Alaska Heritage Resources Survey (AHRs) database by NLUR identified 29 sites located within a mile of the APE (Table 1). A majority of the known sites are clustered together and are associated with the Kotzebue White Alice Communication System Station Historic District (HD) (KTZ-037). There are 22 sites associated with the HD that have been determined eligible for listing on the National Register of Historic Places (NRHP), with only one remaining (KTZ-190), following documentation prior to destruction. Two other sites (KTZ-231 and KTZ-232) have a broad association with the HD and have been determined eligible for the NRHP, though the official status on eligibility is questionable (see page 26 of attached NLUR report).

The results of the NLUR efforts to characterize cultural resources within the APE of the proposed project alternative and other initially considered routes are summarized in the report entitled *Kotzebue to Cape Blossom Road Environmental Document Cultural Resources Survey (ADOT&PF PROJECT NO. 76884)* which is included as an attachment to this letter for your review.

**Table 1: AHRs Sites in the Vicinity of the APE**

AHRs #	Name	Resource	NRHP Eligible	In APE
KTZ-037	Kotzebue White Alice Communication System Station Historic District	Historic District	Yes	Yes
KTZ-172	Building 100	Building (Mitigated and Demolished)	Yes	No
KTZ-173	Building 101	Building (Mitigated and Demolished)	Yes	No
KTZ-174	Building 102	Building (Mitigated and Demolished)	Yes	No
KTZ-175	Building 103	Building (Mitigated and Demolished)	Yes	No
KTZ-176	Building 104	Building (Mitigated and Demolished)	Yes	No
KTZ-177	Building 105	Building (Mitigated and Demolished)	Yes	No
KTZ-178	Building 106	Building (Demolished)	No	No
KTZ-179	Building 107	Building (Mitigated and Demolished)	Yes	No
KTZ-180	Building 108	Building (Mitigated and Demolished)	Yes	No
KTZ-181	Building 109	Building (Mitigated and Demolished)	Yes	No

AHRS	Name	Resource	NRHP Eligible	In APE
KTZ-182	Building 110	Building (Mitigated and Demolished)	Yes	No
KTZ-183	Building 111	Building (Mitigated and Demolished)	Yes	No
KTZ-184	Building 112	Building (Mitigated and Demolished)	Yes	No
KTZ-185	Building 114	Building (Mitigated and Demolished)	Yes	No
KTZ-186	Building 115	Building (Mitigated and Demolished)	Yes	No
KTZ-187	Building 200/404	Building (Mitigated and Demolished)	Yes	No
KTZ-188	Building 201	Building (Mitigated and Demolished)	Yes	No
KTZ-189	Building 202	Building (Mitigated and Demolished)	Yes	No
KTZ-190	Building 203 (Radome Tower Building)	Building	Yes	No <sup>1</sup>
KTZ-191	Building 204	Building (Mitigated and Demolished)	Yes	No
KTZ-192	Building 205	Building (Mitigated and Demolished)	Yes	No
KTZ-193	Building 206	Building (Demolished)	No	No
KTZ-194	Building 1001	Building (Mitigated and Demolished)	Yes	No
KTZ-195	Building 1015	Building (Mitigated and Demolished)	Yes	No
KTZ-230	Historic Site (no details)	N/A	No Determination	No
KTZ-231	Kotzebue LRRS Road System	Road	Yes	Yes
KTZ-232	Kotzebue LRRS Gravel Pad System	Foundation	Yes	Yes
KTZ-234	Meat Cache	Structure	No Determination	No

### *Staging Pad Area*

The August 12, 2012, NLUR survey terminated just under half a mile from the shoreline and did not include the beach access ramp or staging pad. Although the beach access ramp and staging pad would be located within half a mile of the shoreline and are therefore classified as high probability, observations made during the helicopter survey at the southern end of the South Route indicate that the vegetation on the plateau above the shoreline in the vicinity of the beach access ramp and staging area is predominantly waterlogged tussock tundra, which is considered to have a low potential to contain archaeological resources.

<sup>1</sup> KTZ-190 was included as inside the study area in the NLUR report, but is not located in the established APE.

### **Determination of Eligibility**

Due to changes in historical integrity, the FHWA has reevaluated properties previously determined eligible for the NRHP pursuant to 36 CFR 800.4 (c) (1) and herein explains the findings and determinations as listed by site number below.

#### *KTZ-037*

All but one of the contributing elements of the Kotzebue White Alice Communication System Station Historic District (KTZ-037) were mitigated and demolished under a Memorandum of Agreement during the 1990s. As such, the DOT&PF believes the Kotzebue White Alice Communication System Station Historic District (KTZ-037) and 22 of its contributing elements (KTZ-172, KTZ-173, KTZ-174, KTZ-175, KTZ-176, KTZ-177, KTZ-179, KTZ-180, KTZ-181, KTZ-182, KTZ-183, KTZ-184, KTZ-185, KTZ-186, KTZ-187, KTZ-188, KTZ-189, KTZ-190, KTZ-191, KTZ-192, KTZ-194 and KTZ-195) no longer retain the integrity required for listing on the NRHP. The FHWA agrees with DOT&PF's recommendation, and has determined that KTZ-037 and its 22 contributing elements are not eligible for the NRHP.

#### *KTZ-190*

The DOT&PF recommends that the Kotzebue Radome Tower (KTZ-190) is no longer a contributing element to the Kotzebue White Alice Communication System Station Historic District (KTZ-037) but is individually eligible for listing on the NRHP under Criterion A. The FHWA agrees with DOT&PF's recommendation and has determined that KTZ-190 is eligible for the NRHP.

#### *KTZ-231 and KTZ-232*

The demolition of the structures associated with the Kotzebue White Alice Communication System Station Historic District (KTZ-037) has also adversely affected the integrity of setting, feeling and association for the Kotzebue LRRS Road System (KTZ-231) and Kotzebue LRRS Gravel Pad System (KTZ-232). In addition, maintenance and modification have decreased these sites' integrity of design and materials, particularly for the LRRS road system. As a result of these changes, the DOT&PF recommends that Kotzebue LRRS Road System (KTZ-231) and Kotzebue LRRS Gravel Pad System (KTZ-232) no longer retain the integrity required to be eligible for listing on the NRHP. The FHWA agrees with DOT&PF's recommendation and has determined that KTZ-231 and KTZ-232 are not eligible for the NRHP.

### **Finding of Effect**

The DOT&PF finds that no historic properties are present within the project's APE, and consequently recommends no historic properties would be affected by the proposed project. This recommendation is based on evidence that the proposed project has low potential to impact subsurface archaeological resources and the lone NRHP eligible site (KTZ-190) is outside of the APE. The FHWA agrees with DOT&PF's recommendation, and finds that no historic properties will be affected by the proposed project.

Under the Alaska Historic Roads Programmatic Agreement Interim Guidance, a core group of Alaska roads has been identified which would be treated as eligible for the NRHP. This project does not affect any of these roads.

## **Consultation Efforts**

The DOT&PF has provided an opportunity for consultation on cultural resource impacts, and presented information on the project as follows:

- November 14, 2007, NWAB
- November 14, 2007, City of Kotzebue
- January 16, 2008 NWAB Joint Planning Commissions
- February 02, 2010 NWAB Joint Planning Commissions
- November 10, 2010 NWAB Joint Planning Commissions
- May 24, 2011, Trilateral Organization Meeting
- September 30, 2011 NWAB Joint Planning Commissions
- January 31, 2012, NWAB Joint Planning Commissions
- March 15, 2012, Trilateral Organization Meeting
- March 22, 2012, NWAB Joint Planning Commissions
- May 10, 2012, Project Scoping Meeting; Kotzebue
- May 10, 2012, Project Scoping Meeting; Buckland
- September 27, 2012, NWAB Joint Planning Commissions
- January 30, 2013, Trilateral Organization Meeting
- January 31, 2013, NWAB Joint Planning Commissions

DOT&PF has solicited public input on potential cultural resources impacts through project scoping, and requested information and comments directly from governments, agencies and Tribal organizations including:

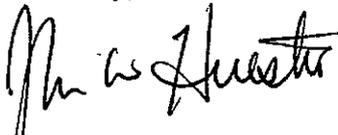
- Native Village of Ambler
- City of Ambler
- Native Village of Buckland
- City of Buckland
- Native Village of Deering
- City of Deering
- Native Village of Kiana
- City of Kiana
- Native Village of Kivalina
- City of Kivalina
- Native Village of Kobuk
- City of Kobuk
- Native Village of Kotzebue
- City of Kotzebue
- Native Village of Noatak
- Noorvik Native Community
- City of Noorvik
- Native Village of Selawik
- City of Selawik
- Native Village of Shungnak
- City of Shungnak
- Northwest Arctic Borough

- NANA Regional Corporation
- Maniilaq Association
- Kikiktagruk Inupiat Corporation
- 611<sup>th</sup> Air Support Group
- State of Alaska, Department of Natural Resources, Office of History and Archaeology

To date there has been no comments received and no indication that there are concerns with the project having impacts to cultural resources. No Historic Properties Affected findings letters are being sent to the following parties: the Native Village of Ambler, City of Ambler, Native Village of Buckland, City of Buckland, Native Village of Deering, City of Deering, Native Village of Kiana, City of Kiana, Native Village of Kivalina, City of Kivalina, Native Village of Kobuk, City of Kobuk, Native Village of Kotzebue, City of Kotzebue, Native Village of Noatak, Noorvik Native Community, City of Noorvik, Native Village of Selawik, City of Selawik, Native Village of Shungnak, City of Shungnak, Northwest Arctic Borough, NANA Regional Corporation, Maniilaq Association and the Kikiktagruk Inupiat Corporation.

Please direct your concurrence or comments to me at the address above, by telephone at (907) 586-7464, or by email at [john.huestis@dot.gov](mailto:john.huestis@dot.gov).

Sincerely,



John W. Huestis  
Northern Region Area Engineer

Enclosures:

- Figure 1: Location and Vicinity Map
- Figure 2: Road Typical Section
- Figure 3: Turnout Typical Section
- Figure 4: Trail Access Typical Section
- Figure 5: Staging Pad Typical Section
- Figure 6: Beach Access Ramp Typical Section
- Figure 7: Project APE
- Office of History and Archaeology Coversheet
- Kotzebue to Cape Blossom Road Environmental Document Cultural Resources Survey (ADOT&PF PROJECT NO. 76884)*

Electronically cc w/o enclosures:

- Ryan Anderson, P.E., DOT&PF, Northern Region, Project Manager
- Brett Nelson, DOT&PF, Northern Region, Environmental Manager
- Jacob Woodcock, DOT&PF, Northern Region, Cultural Resource Specialist
- Laurie Mulcahy, DOT&PF, Statewide Cultural Resources Specialist



THE STATE  
of **ALASKA**  
GOVERNOR SEAN PARNELL

Attachment 2

Department of Natural Resources

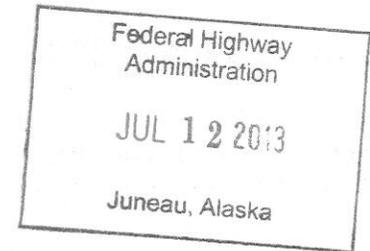
DIVISION OF PARKS AND OUTDOOR RECREATION  
Office of History and Archaeology

550 West 7<sup>th</sup> Avenue, Suite 1310  
Anchorage, Alaska 99501-3565  
Web: <http://dnr.alaska.gov/parks/oha>  
Phone: 907.269.8721  
Fax: 907.269.8908

July 10, 2013

File No.: 3130-1R FHWA  
3330-6N KTZ-00037, 3330-6 KTZ-00190,  
3330-6N KTZ-00231, 3330-6N KTZ-00232

John W. Huestis, P.E.  
Northern Region Area Engineer  
Department of Transportation & Public Facilities  
P.O. Box 21648  
Juneau, AK 99802-1648



Subject: Kotzebue to Cape Blossom Road Project

Dear Mr. Huestis:

The Alaska State Historic Preservation Office (AK SHPO) received your correspondence (dated June 17, 2013) on June 20, 2013.

Following our review of the documentation, we concur with your determination that because the Kotzebue White Alice Communication System Historic District (KTZ-00037) has been adequately mitigated and subsequently demolished, it has been rendered **not eligible** for the National Register of Historic Places (NRHP). Further, we concur with your determination that KTZ-00190 no longer contributes to the historic district, but remains individually **eligible** for the NRHP under Criterion A. Finally, we concur that KTZ-00231 and KTZ-00232 are **not eligible** for the NRHP.

As there are no historic properties present within the project's area of potential effects (APE), we concur that a finding of **no historic properties affected** is appropriate for the proposed undertaking.

Your letter indicates that a great deal of consultation on potential effects to historic properties has been ongoing since at least late 2007. We are accustomed to receiving initiation letters that include preliminary information about the scope and scale of these types of projects as well as a preliminary definition of the APE, especially when there are potential effects to historic properties or when a cultural resource inventory is conducted. Our records do not indicate receipt of an initiation letter on the subject undertaking. Despite our concurrence with the determinations and finding of effect provided, in the future, we would greatly appreciate the opportunity to be involved in consultation early in an undertaking's planning (per 36 CFR 800.1[c]).

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. Please note that 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) in consultation with our office.

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

Sincerely,

A handwritten signature in black ink, appearing to read "Judith E. Bittner". The signature is fluid and cursive, with the first name "Judith" being the most prominent.

Judith E. Bittner  
State Historic Preservation Officer

JEB:sad

## Department of Transportation and Public Facilities



THE STATE  
of **ALASKA**  
GOVERNOR BILL WALKER

Northern Region  
Design and Engineering Services  
Preliminary Design and Environmental Section

2301 Peger Road  
Fairbanks, Alaska 99709-5316  
Main: 907-451-2237  
Toll free: 800-451-2363  
Fax: 907-451-5126

In Reply Refer To:  
Kotzebue to Cape Blossom Road-Update  
Project Number: Z768840000  
No Historic Properties Affected

April 5, 2017

Nicole Stoops, Executive Director  
Native Village of Kotzebue  
PO Box 296  
Kotzebue, AK 99752-0296

Dear Ms. Stoops:

The Alaska Department of Transportation and Public Facilities (DOT&PF) has assumed the responsibilities of the Federal Highway Administration under 23 U.S.C. §326, and is proposing to construct the Kotzebue to Cape Blossom Road from the City of Kotzebue, Alaska, south across the Baldwin Peninsula to a beach access area above the ordinary high water level near Cape Blossom. The City of Kotzebue is located on the Baldwin Peninsula adjacent to Kotzebue Sound, approximately 26 miles north of the Arctic Circle (Figure 1). The project will originate at the intersection of Air Force Road and New Hillside Road at 66.858° N, 162.617° W. The project is located within:

Section 06; T15N, R17W, Kateel Meridian;  
Sections 18, 19, 30, 31; T16N, R17W, Kateel Meridian;  
Sections 02, 03, 11, 12, 13; T16N, R18W, Kateel Meridian;  
Sections 21, 26, 27, 28, 35, 36; T17N, R18W, Kateel Meridian;  
USGS Quadrangles Kotzebue D-1 & D-2 1:63,360 (Figure 1).

Consultation for this project is being conducted in accordance with the 2014 *Programmatic Agreement... for the Federal-Aid Highway Program in Alaska*. The DOT&PF, acting as a Federal agency, finds that **no historic properties would be affected** by the proposed project pursuant to 36 CFR Part 800.4(d)(1), implementing regulations of Section 106 of the National Historic Preservation Act. This submission provides documentation in support of this finding, as required at 36 CFR § 800.11(d).

## **Background**

This project was previously coordinated by the Federal Highway Administration (FHWA) with the State Historic Preservation Officer (SHPO) and additional identified potentially interested parties in 2013 under the same project name: Kotzebue to Cape Blossom Road (HPRM-NCPD-0002(204)/76884). The project findings letters were submitted by the FHWA on June 13, 2013 (Attachment 1) and received a concurrence from the SHPO on a determination of **No Historic Properties Affected** on July 10, 2013 (Attachment 2). Since that time there has been a design change to the project which includes a realignment of the proposed road segment which was not previously included in the project Area of Potential Effect (APE).

Subsequent to completion of the Environmental Assessment (EA) and during the final design process, new information was provided by Kotzebue Electric Association (KEA) that has raised concerns over the safety of a short segment of the preferred alternative passing through the existing KEA wind farm. Specifically, updated technical guidance on wind turbine operation provided by KEA, has indicated by modeling data that the potential ice throw radius of six existing wind turbines adjacent to the approved route may pose a serious risk to the traveling public under certain climatic conditions.

Due to a revision to the alignment segment causing a respective change to the project APE proximate to the affected segment, and also to the amount of time which has passed since the original SHPO response, this letter is to confirm SHPO's concurrence with the **No Historic Properties Affected** determination for this project.

## **Project Description**

The proposed project activities have not changed and will include:

- 1) Reconstruction of approximately 2.7 miles of Air Force Road south from the Hillside Road intersection to the KEA Wind Farm;
- 2) Construction of a new, two-lane, gravel road with a 24' surface width and side slopes 3:1 or steeper southward for another 8.9 miles with turnout and trail access (Figures 2-4), crossing Sadie Creek and terminating at a beach access ramp above ordinary high water (OHW). No construction would occur below the high tide line; and
- 3) Construction of a staging pad on the east side of the proposed road approximately 0.25 miles north of the Cape Blossom shoreline. Anticipated uses of the pad include container storage, vehicle and boat trailer parking, and materials stockpiling.

Turnouts with ramps down to existing grade tundra would be constructed along the road near traditional trail crossings and potentially in other areas identified by scoping as being important for establishing access to the surrounding undeveloped area. Geotechnical materials for the project will be contractor furnished.

As the Baldwin Peninsula is underlain by continuous permafrost and thermal degradation could lead to thaw, settlement, and loss of embankment stability, the road would be constructed on an

embankment up to eight feet thick. Embankment height would be engineered to minimize potential road surface snow drifting and to provide thermal protection for the permafrost. Sadie Creek would be crossed by a bridge, and smaller drainage crossings would use appropriately sized culverts, with additional cross culverts placed at minor drainages and as necessary along the road.

### **Area of Potential Effect (APE)**

DOT&PF is proposing to revise the approved alignment design and sufficiently avoid the KEA wind farm to eliminate potential wind turbine ice throw. The revised route would deviate from the existing KEA access road at a point approximately 2500-ft northwest of the windfarm, and from that point extend eastward paralleling the northern boundary of the wind farm property for 4000 feet before bearing southeasterly to tie back into the approved preferred route alternative approximately 2300 feet southeast of the wind farm (Figure 2). The remainder of the project APE is unchanged.

### **Identification Efforts**

A cultural resource report of the project Study Area conducted in 2012 was included with the June 17, 2013 Findings entitled: *Kotzebue to Cape Blossom Road Environmental Document Cultural Resource Survey (ADOT&PF Project No. 76884)*, and is currently on file at the Office of History and Archaeology (OHA). The results of the investigation were that **no historic properties** were identified within the portion of the Study Area that became the APE or the portion being proposed to be included in the adjusted APE in this Update. An April 3, 2017 review of the AHRS database did not result in the identification of any new cultural resources either within the previously identified APE, or the newly added portion of the APE (Figures 2 & 3).

### **Finding of Effect**

The DOT&PF finds that the proposed project will have no effect on historic properties. The adjustment to the road alignment occurs within the cultural resource Study Area for the project. No cultural resources were encountered by the survey crew within the portion of the Study Area where this route adjustment is occurring. Furthermore, this area was considered low probability to yield cultural resources due to the high instances of standing water and tussocks bog conditions.

The DOT&PF finds that **no historic properties will be affected** by adjustment of the road alignment and seeks the SHPO's concurrence with this finding.

Under the Alaska Historic Roads Programmatic Agreement Interim Guidance, a group of Alaska roads has been identified which are being treated as eligible for the National Register of Historic Places (NRHP). None of these roads are included within this project APE.

### **Consultation Efforts**

The FHWA sent findings letters to 26 parties on June 17, 2013 (Attachment 1) and did not receive any responses, save the SHPO concurrence on July 10, 2013. Due to the size and nature of the change the DOT&PF is sending letters to: the Alaska state Historic Preservation Officer, the Native Village of Kotzebue, the City of Kotzebue, the Kotzebue Electric Association, the

Northwest Arctic Borough, Maniilaq Association, NANA Regional Corporation, Kikiktagruk Inupiat Corporation, and the 611<sup>th</sup> Air Support Group.

Since so much time has passed and there has been an adjustment to the APE within the originally surveyed area in 2012, the DOT&PF has determined that it would be prudent to once again contact the SHPO to re-confirm the **no historic properties affected** determination regarding the Kotzebue to Cape Blossom Road Project. Likewise, it seemed appropriate to contact the above listed consulting parties regarding the change in APE.

If you wish to comment on this finding, or to inform us that places of traditional religious and cultural importance may be impacted by the proposed project, I can be reached at the address above, by telephone at 907451-5293, or by e-mail at [thomas.gamza@alaska.gov](mailto:thomas.gamza@alaska.gov). Should you prefer to conduct government-to-government consultation with the Federal Highway Administration (FHWA) on this project, please advise me of your request.

Your timely response will greatly assist us in incorporating your concerns into project development. For that purpose, we respectfully request that you respond within thirty days of your receipt of this correspondence.

Sincerely,



Thomas A. Gamza  
Cultural Resource Specialist-Archaeologist (PQI)  
State of Alaska DOT&PF, Northern Region

Enclosures:

- Figure 1: Location and Vicinity Map
- Figure 2: Original Area of Potential Effect
- Figure 3: Original alignment of road segment and proposed change location

Attachment 1: DOT&PF Findings Letter June 17, 2013

Attachment 2: SHPO Concurrence June 17, 2013

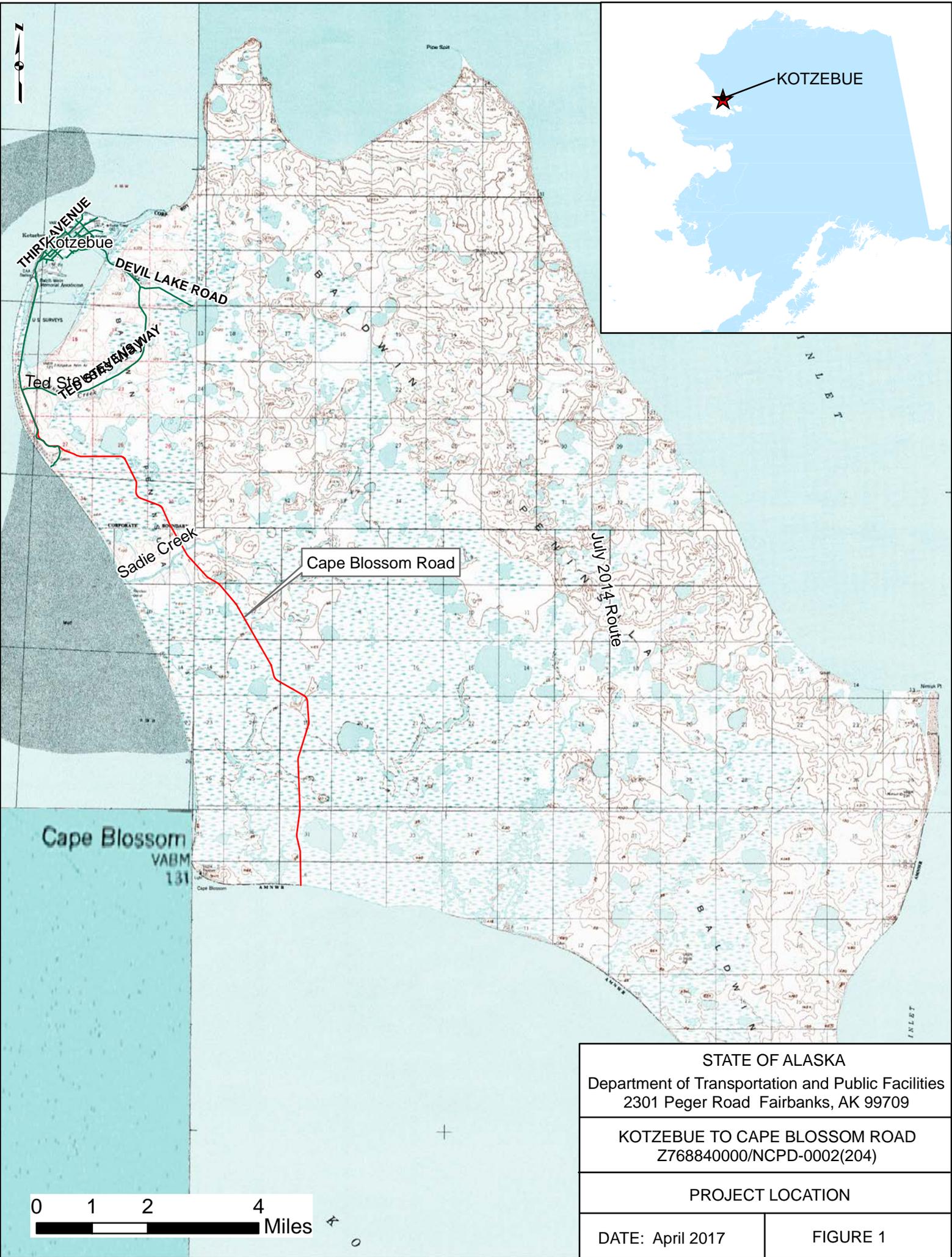
Electronic cc w/ enclosures:

- Jonathan Hutchinson, P.E., Northern Region Design Engineer
- Paul Karczmarczyk, DOT Northern Region, Environmental Impact Analyst
- Brett Nelson, DOT&PF Northern Region, Regional Environmental Manager
- Kathy Price, DOT&PF Statewide Cultural Resources Specialist
- Amy Sumner, DOT&PF Statewide Cultural Resources Specialist

Reference:

Blanchard, Morgan

- 2013 *Kotzebue to Cape Blossom Road Environmental Document Cultural Resource Survey (ADOT&PF Project No. 76884)* Report prepared for: Michael Baker, Jr. Incorporated by Northern Land Use Research Inc., Fairbanks, Alaska. On File at the Alaska Office of History and Archaeology, Anchorage, AK.



STATE OF ALASKA  
 Department of Transportation and Public Facilities  
 2301 Peger Road Fairbanks, AK 99709

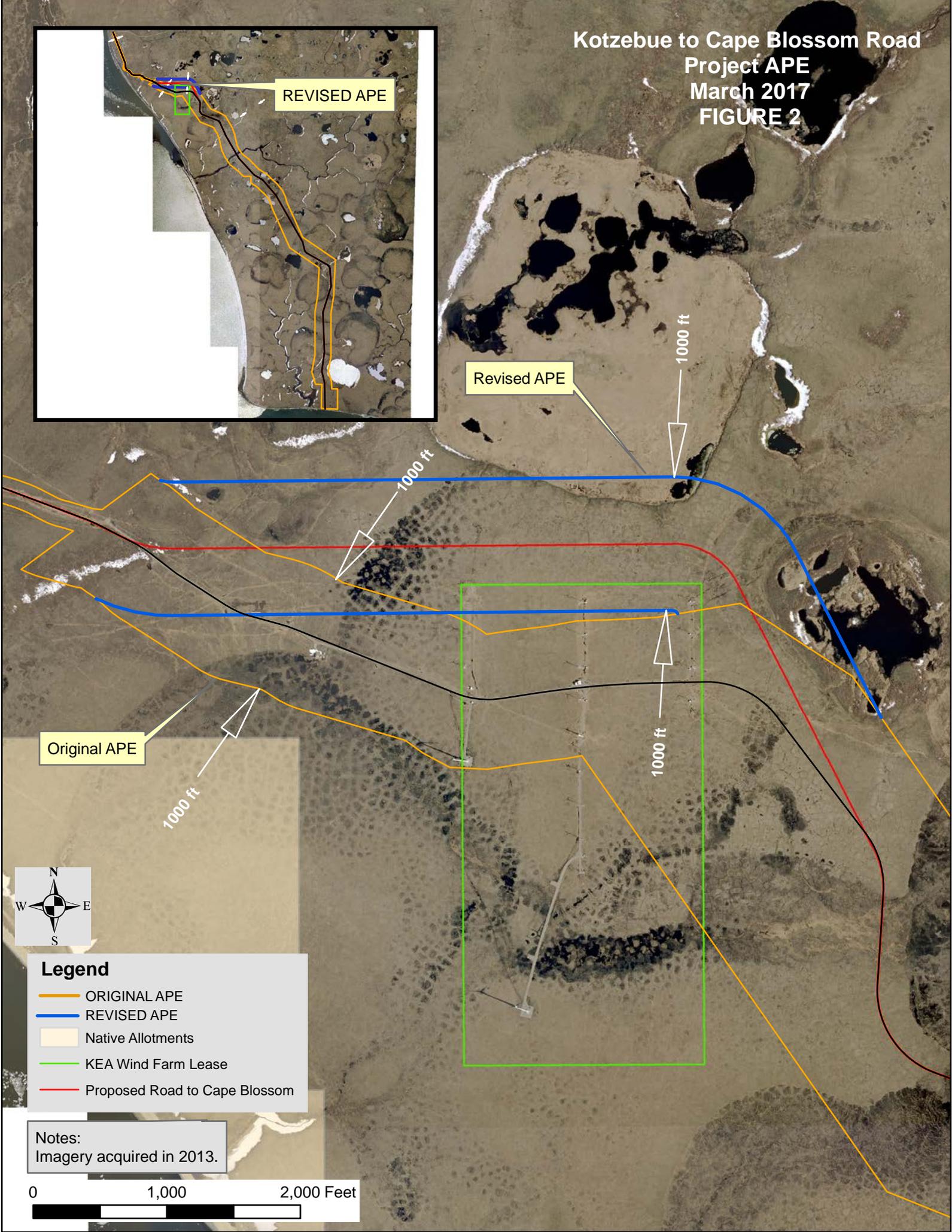
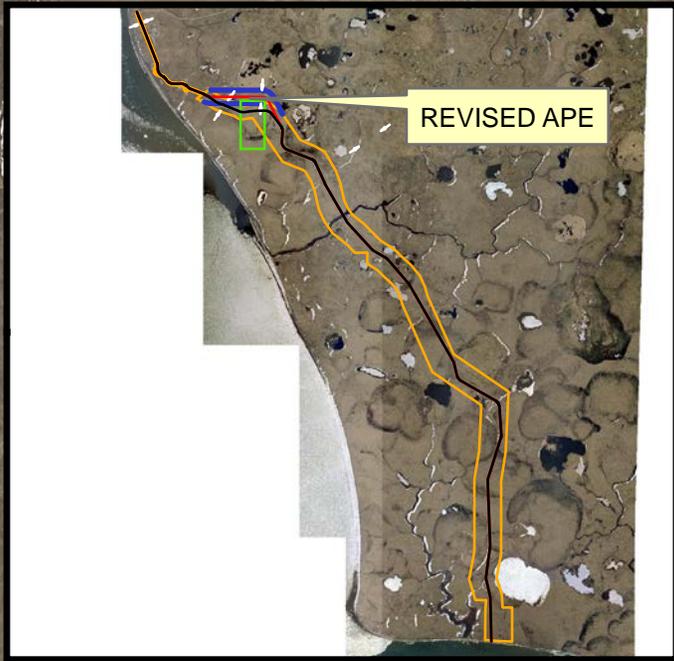
KOTZEBUE TO CAPE BLOSSOM ROAD  
 Z768840000/NCPD-0002(204)

PROJECT LOCATION

DATE: April 2017

FIGURE 1

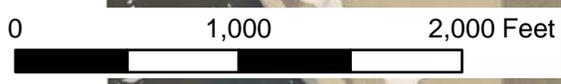
Kotzebue to Cape Blossom Road  
Project APE  
March 2017  
FIGURE 2



**Legend**

- ORIGINAL APE
- REVISED APE
- Native Allotments
- KEA Wind Farm Lease
- Proposed Road to Cape Blossom

Notes:  
Imagery acquired in 2013.



Kotzebue to Cape Blossom Road  
Project APE  
May 2013  
FIGURE 7



Long Range Radar Site

Sadie Creek

- Legend**
- Potential New Road
  - Upgrade Route
  - APE
  - KEA Wind Farm Lease
  - Native Allotments

Notes:  
Imagery acquired August 4, 2010.



# Attachment 1



U.S. Department  
of Transportation  
**Federal Highway  
Administration**

**Alaska Division**

June 17, 2013

P.O. Box 21648  
Juneau, AK 99802-1648  
(907) 586-7418  
(907) 586-7420  
[www.fhwa.dot.gov/akdiv](http://www.fhwa.dot.gov/akdiv)

In Reply Refer To:  
HPRM-NCPD-0002(204)/76884

Ms. Judith Bittner  
State Historic Preservation Officer  
Alaska Office of History and Archaeology  
550W. 7<sup>th</sup> Avenue, Suite 1310  
Anchorage, AK 99501

Dear Ms. Bittner:

The Department of Transportation and Public Facilities (DOT&PF), in cooperation with the Federal Highway Administration (FHWA), is proposing to construct the Kotzebue to Cape Blossom Road from the City of Kotzebue, Alaska, south across the Baldwin Peninsula to a beach access area above the ordinary high water level near Cape Blossom. The City of Kotzebue is located on the Baldwin Peninsula adjacent to Kotzebue Sound, approximately 26 miles north of the Arctic Circle (Figure 1). The project will originate at the intersection of Air Force Road and New Hillside Road at 66.858° N, 162.617° W. The project is located within:

- Sections 21, 26, 27, 28, 35, 36; T17N, R18W, Kateel Meridian
- Sections 2, 3, 11, 12, 13; T16N, R18W, Kateel Meridian
- Sections 18, 19, 30, 31; T16N, R17W, Kateel Meridian
- Section 6; T15N, R17W, Kateel Meridian

Pursuant to 36 CFR 800.4(d)(1), implementing regulations of Section 106 of the National Historic Preservation Act, the FHWA finds that no historic properties would be affected by the proposed project. This submission provides documentation in support of this finding, as required at 36 CFR 800.11(d).

## **Project Description**

The proposed project will include:

- a) Reconstruction of approximately 2.7 miles of Air Force Road south from the Hillside Road intersection to the Kotzebue Electric Association Wind Farm;
- b) Construction of a new, two-lane, gravel road with a 24' surface width and side slopes 3:1 or steeper southward for another 8.9 miles with turnout and trail access (Figures 2-4), crossing

Sadie Creek and terminating at a beach access ramp above Ordinary High Water (OHW). No construction would occur below the high tide line; and

- c) Construction of a staging pad on the east side of the proposed road approximately 0.25 miles north of the Cape Blossom shoreline (Figures 5 and 6). Anticipated uses of the pad include container storage, vehicle and boat trailer parking, and materials stockpiling.

Turnouts with ramps down to existing grade tundra would be constructed along the road near traditional trail crossings and potentially in other areas identified by scoping as being important for establishing access to the surrounding undeveloped area. Geotechnical materials for the project will be contractor furnished.

As the Baldwin Peninsula is underlain by continuous permafrost and thermal degradation could lead to thaw, settlement, and loss of embankment stability, the road would be constructed on an embankment up to eight feet thick. Embankment height would be engineered to minimize potential road surface snow drifting and to provide thermal protection for the permafrost. Sadie Creek would be crossed by a bridge, and smaller drainage crossings would use appropriately sized culverts, with additional cross culverts placed at minor drainages and as necessary along the road.

#### **Area of Potential Effect (APE)**

The APE (Figure 7) encompasses the proposed project right of way to be acquired. Potential direct effects include the construction footprints of the following proposed project actions:

- a) the improvements to existing Air Force Road;
- b) the new road and its associated turnouts;
- c) the staging pad near the south end of the new road; and
- d) the beach access ramp to its terminus above OHW at Cape Blossom.

No indirect effects are anticipated from project activities.

#### **Identification Efforts**

The DOT&PF contracted with Michael Baker Jr., Inc. (Baker) to provide environmental and engineering services for the project. Baker contracted with Northern Land Use Research, Inc. (NLUR) to conduct a cultural resources survey of the proposed Kotzebue to Cape Blossom Road. NLUR was tasked with surveying initial alternatives for connecting the proposed Kotzebue to Cape Blossom Road to the existing Kotzebue road system, of which the proposed project alternative (Alternative A-Upgrade Route and its corresponding South Route) were included. The cultural resources survey area for the project was defined as 1,000 ft. on each side of proposed alternative segment centerlines as provided by Baker. The survey area crossed lands owned by the Kikiktagruk Iñupiat Corporation, Inc., the NANA Regional Corporation, Inc. (NANA) and the U.S. Air Force. The cultural resources survey was conducted with written permission of the landowners.

Prior to the cultural resources survey, NLUR completed a data gap and archaeological sensitivity analysis for the upper Baldwin Peninsula in the vicinity of the survey area. These analyses resulted in a predictive model, which classified land within the survey area as having either a low (Type A) or high (Type B) potential to contain archaeological sites, features or artifacts. During the August 12, 2012, cultural resources survey of the proposed Kotzebue to Cape Blossom Road project, low probability areas were subjected to helicopter survey and high probability areas were subjected to helicopter survey, ground survey, and selective subsurface testing. The survey area consists of a roughly 11.2 mile-long (18 km) 2,000 ft. wide (0.61 km) road corridor extending south from Kotzebue to Cape Blossom. No new cultural resources were identified.

A search of the on-line Alaska Heritage Resources Survey (AHRIS) database by NLUR identified 29 sites located within a mile of the APE (Table 1). A majority of the known sites are clustered together and are associated with the Kotzebue White Alice Communication System Station Historic District (HD) (KTZ-037). There are 22 sites associated with the HD that have been determined eligible for listing on the National Register of Historic Places (NRHP), with only one remaining (KTZ-190), following documentation prior to destruction. Two other sites (KTZ-231 and KTZ-232) have a broad association with the HD and have been determined eligible for the NRHP, though the official status on eligibility is questionable (see page 26 of attached NLUR report).

The results of the NLUR efforts to characterize cultural resources within the APE of the proposed project alternative and other initially considered routes are summarized in the report entitled *Kotzebue to Cape Blossom Road Environmental Document Cultural Resources Survey (ADOT&PF PROJECT NO. 76884)* which is included as an attachment to this letter for your review.

**Table 1: AHRIS Sites in the Vicinity of the APE**

AHRIS #	Name	Resource	NRHP Eligible	In APE
KTZ-037	Kotzebue White Alice Communication System Station Historic District	Historic District	Yes	Yes
KTZ-172	Building 100	Building (Mitigated and Demolished)	Yes	No
KTZ-173	Building 101	Building (Mitigated and Demolished)	Yes	No
KTZ-174	Building 102	Building (Mitigated and Demolished)	Yes	No
KTZ-175	Building 103	Building (Mitigated and Demolished)	Yes	No
KTZ-176	Building 104	Building (Mitigated and Demolished)	Yes	No
KTZ-177	Building 105	Building (Mitigated and Demolished)	Yes	No
KTZ-178	Building 106	Building (Demolished)	No	No
KTZ-179	Building 107	Building (Mitigated and Demolished)	Yes	No
KTZ-180	Building 108	Building (Mitigated and Demolished)	Yes	No
KTZ-181	Building 109	Building (Mitigated and Demolished)	Yes	No

AHRS	Name	Resource	NRHP Eligible	In APE
KTZ-182	Building 110	Building (Mitigated and Demolished)	Yes	No
KTZ-183	Building 111	Building (Mitigated and Demolished)	Yes	No
KTZ-184	Building 112	Building (Mitigated and Demolished)	Yes	No
KTZ-185	Building 114	Building (Mitigated and Demolished)	Yes	No
KTZ-186	Building 115	Building (Mitigated and Demolished)	Yes	No
KTZ-187	Building 200/404	Building (Mitigated and Demolished)	Yes	No
KTZ-188	Building 201	Building (Mitigated and Demolished)	Yes	No
KTZ-189	Building 202	Building (Mitigated and Demolished)	Yes	No
KTZ-190	Building 203 (Radome Tower Building)	Building	Yes	No <sup>1</sup>
KTZ-191	Building 204	Building (Mitigated and Demolished)	Yes	No
KTZ-192	Building 205	Building (Mitigated and Demolished)	Yes	No
KTZ-193	Building 206	Building (Demolished)	No	No
KTZ-194	Building 1001	Building (Mitigated and Demolished)	Yes	No
KTZ-195	Building 1015	Building (Mitigated and Demolished)	Yes	No
KTZ-230	Historic Site (no details)	N/A	No Determination	No
KTZ-231	Kotzebue LRRS Road System	Road	Yes	Yes
KTZ-232	Kotzebue LRRS Gravel Pad System	Foundation	Yes	Yes
KTZ-234	Meat Cache	Structure	No Determination	No

### *Staging Pad Area*

The August 12, 2012, NLUR survey terminated just under half a mile from the shoreline and did not include the beach access ramp or staging pad. Although the beach access ramp and staging pad would be located within half a mile of the shoreline and are therefore classified as high probability, observations made during the helicopter survey at the southern end of the South Route indicate that the vegetation on the plateau above the shoreline in the vicinity of the beach access ramp and staging area is predominantly waterlogged tussock tundra, which is considered to have a low potential to contain archaeological resources.

<sup>1</sup> KTZ-190 was included as inside the study area in the NLUR report, but is not located in the established APE.

### **Determination of Eligibility**

Due to changes in historical integrity, the FHWA has reevaluated properties previously determined eligible for the NRHP pursuant to 36 CFR 800.4 (c) (1) and herein explains the findings and determinations as listed by site number below.

#### *KTZ-037*

All but one of the contributing elements of the Kotzebue White Alice Communication System Station Historic District (KTZ-037) were mitigated and demolished under a Memorandum of Agreement during the 1990s. As such, the DOT&PF believes the Kotzebue White Alice Communication System Station Historic District (KTZ-037) and 22 of its contributing elements (KTZ-172, KTZ-173, KTZ-174, KTZ-175, KTZ-176, KTZ-177, KTZ-179, KTZ-180, KTZ-181, KTZ-182, KTZ-183, KTZ-184, KTZ-185, KTZ-186, KTZ-187, KTZ-188, KTZ-189, KTZ-190, KTZ-191, KTZ-192, KTZ-194 and KTZ-195) no longer retain the integrity required for listing on the NRHP. The FHWA agrees with DOT&PF's recommendation, and has determined that KTZ-037 and its 22 contributing elements are not eligible for the NRHP.

#### *KTZ-190*

The DOT&PF recommends that the Kotzebue Radome Tower (KTZ-190) is no longer a contributing element to the Kotzebue White Alice Communication System Station Historic District (KTZ-037) but is individually eligible for listing on the NRHP under Criterion A. The FHWA agrees with DOT&PF's recommendation and has determined that KTZ-190 is eligible for the NRHP.

#### *KTZ-231 and KTZ-232*

The demolition of the structures associated with the Kotzebue White Alice Communication System Station Historic District (KTZ-037) has also adversely affected the integrity of setting, feeling and association for the Kotzebue LRRS Road System (KTZ-231) and Kotzebue LRRS Gravel Pad System (KTZ-232). In addition, maintenance and modification have decreased these sites' integrity of design and materials, particularly for the LRRS road system. As a result of these changes, the DOT&PF recommends that Kotzebue LRRS Road System (KTZ-231) and Kotzebue LRRS Gravel Pad System (KTZ-232) no longer retain the integrity required to be eligible for listing on the NRHP. The FHWA agrees with DOT&PF's recommendation and has determined that KTZ-231 and KTZ-232 are not eligible for the NRHP.

### **Finding of Effect**

The DOT&PF finds that no historic properties are present within the project's APE, and consequently recommends no historic properties would be affected by the proposed project. This recommendation is based on evidence that the proposed project has low potential to impact subsurface archaeological resources and the lone NRHP eligible site (KTZ-190) is outside of the APE. The FHWA agrees with DOT&PF's recommendation, and finds that no historic properties will be affected by the proposed project.

Under the Alaska Historic Roads Programmatic Agreement Interim Guidance, a core group of Alaska roads has been identified which would be treated as eligible for the NRHP. This project does not affect any of these roads.

## **Consultation Efforts**

The DOT&PF has provided an opportunity for consultation on cultural resource impacts, and presented information on the project as follows:

- November 14, 2007, NWAB
- November 14, 2007, City of Kotzebue
- January 16, 2008 NWAB Joint Planning Commissions
- February 02, 2010 NWAB Joint Planning Commissions
- November 10, 2010 NWAB Joint Planning Commissions
- May 24, 2011, Trilateral Organization Meeting
- September 30, 2011 NWAB Joint Planning Commissions
- January 31, 2012, NWAB Joint Planning Commissions
- March 15, 2012, Trilateral Organization Meeting
- March 22, 2012, NWAB Joint Planning Commissions
- May 10, 2012, Project Scoping Meeting; Kotzebue
- May 10, 2012, Project Scoping Meeting; Buckland
- September 27, 2012, NWAB Joint Planning Commissions
- January 30, 2013, Trilateral Organization Meeting
- January 31, 2013, NWAB Joint Planning Commissions

DOT&PF has solicited public input on potential cultural resources impacts through project scoping, and requested information and comments directly from governments, agencies and Tribal organizations including:

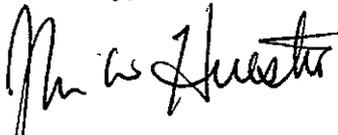
- Native Village of Ambler
- City of Ambler
- Native Village of Buckland
- City of Buckland
- Native Village of Deering
- City of Deering
- Native Village of Kiana
- City of Kiana
- Native Village of Kivalina
- City of Kivalina
- Native Village of Kobuk
- City of Kobuk
- Native Village of Kotzebue
- City of Kotzebue
- Native Village of Noatak
- Noorvik Native Community
- City of Noorvik
- Native Village of Selawik
- City of Selawik
- Native Village of Shungnak
- City of Shungnak
- Northwest Arctic Borough

- NANA Regional Corporation
- Maniilaq Association
- Kikiktagruk Inupiat Corporation
- 611<sup>th</sup> Air Support Group
- State of Alaska, Department of Natural Resources, Office of History and Archaeology

To date there has been no comments received and no indication that there are concerns with the project having impacts to cultural resources. No Historic Properties Affected findings letters are being sent to the following parties: the Native Village of Ambler, City of Ambler, Native Village of Buckland, City of Buckland, Native Village of Deering, City of Deering, Native Village of Kiana, City of Kiana, Native Village of Kivalina, City of Kivalina, Native Village of Kobuk, City of Kobuk, Native Village of Kotzebue, City of Kotzebue, Native Village of Noatak, Noorvik Native Community, City of Noorvik, Native Village of Selawik, City of Selawik, Native Village of Shungnak, City of Shungnak, Northwest Arctic Borough, NANA Regional Corporation, Maniilaq Association and the Kikiktagruk Inupiat Corporation.

Please direct your concurrence or comments to me at the address above, by telephone at (907) 586-7464, or by email at [john.huestis@dot.gov](mailto:john.huestis@dot.gov).

Sincerely,



John W. Huestis  
Northern Region Area Engineer

Enclosures:

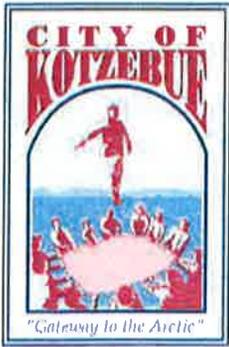
- Figure 1: Location and Vicinity Map
- Figure 2: Road Typical Section
- Figure 3: Turnout Typical Section
- Figure 4: Trail Access Typical Section
- Figure 5: Staging Pad Typical Section
- Figure 6: Beach Access Ramp Typical Section
- Figure 7: Project APE
- Office of History and Archaeology Coversheet
- Kotzebue to Cape Blossom Road Environmental Document Cultural Resources Survey (ADOT&PF PROJECT NO. 76884)*

Electronically cc w/o enclosures:

- Ryan Anderson, P.E., DOT&PF, Northern Region, Project Manager
- Brett Nelson, DOT&PF, Northern Region, Environmental Manager
- Jacob Woodcock, DOT&PF, Northern Region, Cultural Resource Specialist
- Laurie Mulcahy, DOT&PF, Statewide Cultural Resources Specialist

Attachment 4.

City of Kotzebue Supporting Resolution for Proposed Route Segment Revision



P.O. Box 46  
Kotzebue, Alaska 99752

City Hall  
(907) 442-3401

Police Dept.  
(907) 442-3351

Fire Dept.  
(907) 442-3404

Public Works  
(907) 442-3401

## CITY OF KOTZEBUE RESOLUTION NO. 17-28

### **A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF KOTZEBUE SUPPORTING THE STATE OF ALASKA, DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES, NORTHERN REGION OFFICES TO REVISE THE APPROVED ROAD ALIGNMENT DESIGN AROUND THE KOTZEBUE ELECTRIC ASSOCIATION (KEA) WIND TURBINE FARM FOR HEALTH AND SAFETY RISKS ASSOCIATED WITH POSSIBLE ICE THROW FROM THE WIND TURBINES**

**WHEREAS**, the proposed Cape Blossom Road has been a high priority infrastructure development project for the City of Kotzebue, the Northwest Arctic Borough/NANA regional organizations, communities, and residents to facilitate an economic method of transporting of goods, fuel, equipment, and materials to and from the region; and

**WHEREAS**, the project will provide significant economic, social, and cultural benefits, will support increased opportunity for community growth, and is consistent with the Comprehensive Plans of both the City of Kotzebue and the Northwest Arctic Borough; and

**WHEREAS**, in the years 2005-2013, the Cape Blossom Road Project received Federal Highway Administration (FHWA) and State of Alaska funding totaling \$21,322,459 which includes local matching funds from the Northwest Arctic Borough and City of Kotzebue to plan, design, and construct a 11.64 mile road to Cape Blossom with the State of Alaska, Alaska Department of Transportation, Northern Region (SOA, ADOT-NR) being the lead agency [ADOT-NR project #Z768840000; Federal Project #NCPD-0002(204)/76884]; and

**WHEREAS**, since the beginning of the planning process in 2005, the Kotzebue Tri-Lateral Committee consisting of the City of Kotzebue, the Native Village of Kotzebue – Kotzebue IRA, and the Kikiktagruk Inupiat Corporation have coordinated their efforts to assist SOA, ADOT-NR to complete all planning and design aspects of the road to Cape Blossom; and

**WHEREAS**, several regional and local organizations such as the Northwest Arctic Borough (NWAB), NANA Regional Corporation (NANA), Maniilaq Association, Northwest Arctic Borough School District (NWABSD) and the Kotzebue Electric Association (KEA) have participated at the Tri-Lateral Committee meetings to provide specific information, comments and/or issues related to the planning, design, and development of the Cape Blossom Road; and

**WHEREAS**, the State of Alaska, ADOR-NR, subsequent to approval of project environmental documentation and during the final engineering design process issued design documents to project stakeholders for review; and

**WHEREAS**, one of the project stakeholders raised a newly emergent public safety concern over potential wind turbine ice throw that may pose serious life, health and safety risks to the travelling public under certain weather conditions; and

**WHEREAS**, to avoid wind turbine ice throw risk to users of the proposed Cape Blossom Road, the ADOT-NR has consulted KEA and proposed a minor adjustment to the FHWA-approved Cape Blossom Road alignment that shifts a 1.30 mile segment of the proposed road approximately 1200 feet to the north; and

**WHEREAS**, that routing shift will simultaneously alleviate public safety risk; save an estimated \$5.24M of construction costs by eliminating a need to relocate six (6) wind turbines and associated pads, access roads, and infrastructure; avoid impacts to community electrical supply during such a relocation; eliminate a need to relocate the KOTZ Radio grounding array and temporarily disrupt regional programming and public service announcements; and, collectively reduce project wetland impacts by 5.21 acres; and,

**WHEREAS**, the City Council of the City of Kotzebue have reviewed the ADOT-NR preliminary design for the route adjustment around the Kotzebue Electric Association Wind Turbine Farm that would promote public health and safety by avoiding potential ice throw from the wind turbines [see Attachment "A" State of Alaska ADOT-NR February 2017 Proposed Alignment Segment Revision Map and written explanation – 2-pages]; allow substantial project funding to be used more effectively; eliminate potential impacts to community electric and radio services; and reduce overall project environmental impacts.

**NOW, THEREFORE, BE IT RESOLVED**, that the City Council of the City of Kotzebue supports the route adjustment of the Cape Blossom Road around the Kotzebue Electric Association Wind Turbine Farm for its significant reduction of health and safety risks to the travelling public regarding the possible ice throw from the wind turbines at the existing wind turbine farm.

**PASSED AND APPROVED** by a duly constituted quorum of the City Council of the City of Kotzebue, Alaska, this 16<sup>nd</sup> day of March, 2017.

**CITY OF KOTZEBUE**



Gayle Ralston, Mayor

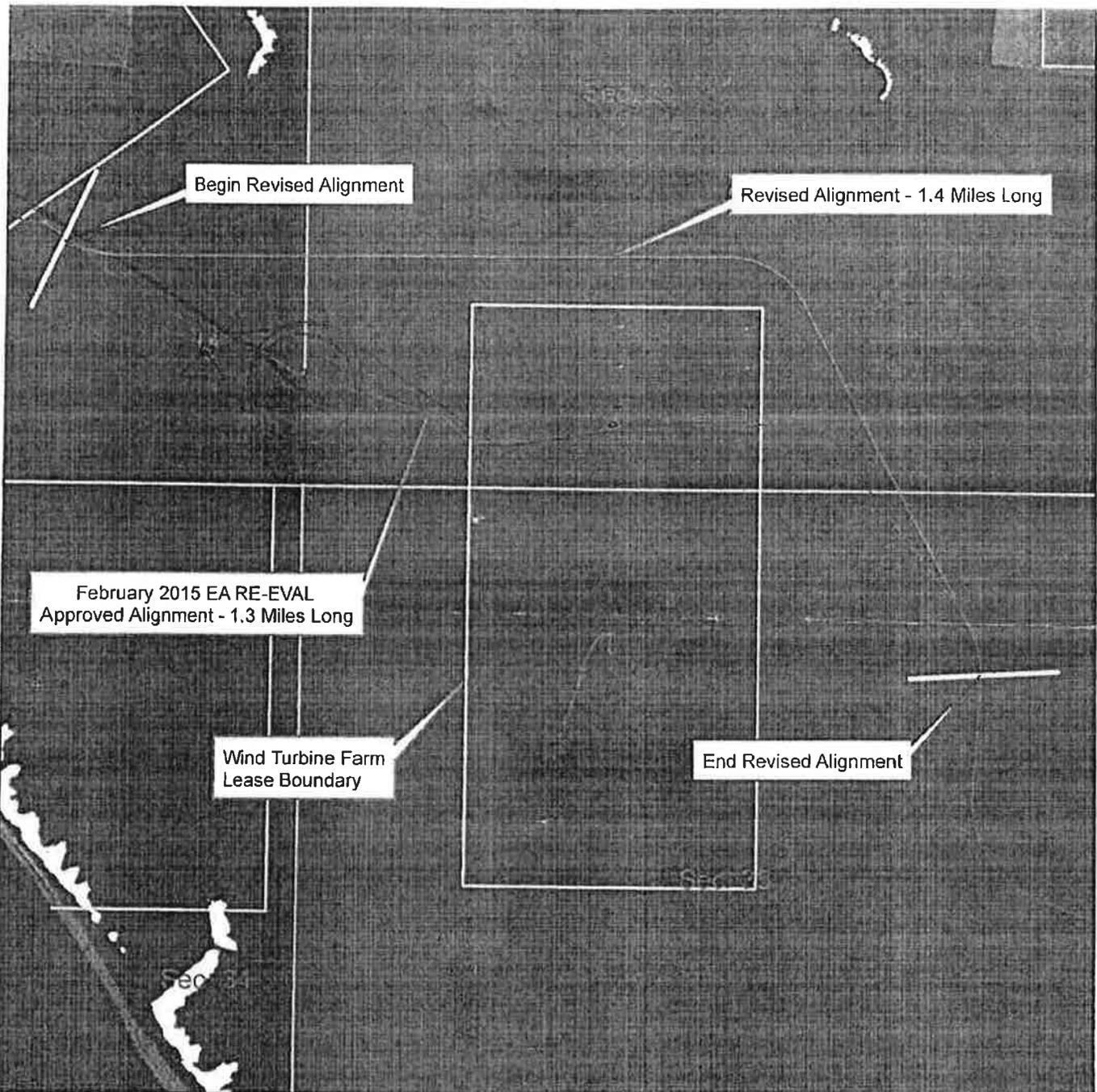
ATTEST:

[SEAL]



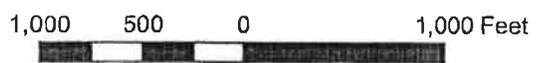
Linda B. Greene, City Clerk

Attachment "A": [State of Alaska ADOT-NR February 2017 Proposed Alignment Segment Revision Map and written explanation – 2-pages]



Document Path: H:\Projects\Community\Kotzebue\2015\Kotzebue\_Cape\_Blossom\_Road\13 Photos and Maps\Map\Kotzebue\_ab\_091617\_1.mxd

 <p>* Kotzebue to Cape Blossom Road Finding of No Significant Impact FHWA Approved Dec. 10, 2013 Re-Evaluation Approved February 19, 2015 Fed. Proj.: NCPD-0002(204) State Proj.: Z768840000</p>	STATE OF ALASKA Department of Transportation and Public Facilities 2301 Peger Road Fairbanks, AK 99709	
	<b>Kotzebue to Cape Blossom Road Project No. NCPD-0002(204)/76884</b>	
PROPOSED ALIGNMENT SEGMENT REVISION		
DATE: February 2017		FIGURE 1



Kotzebue to Cape Blossom Road, Z768840000

On December 20, 2013, a Finding of No Significant Impacts (FONSI) was approved by the Federal Highway Administration (FHWA), granting the Alaska Department of Transportation (ADOT&PF) the authority to begin designing the preferred alternative route.

That approved, preferred alternative proposed construction of an 11.6 mile-long, two-lane, all season road beginning at the intersection of New Hillside Road and Air Force Road, and traveling along Air Force Road south past the existing landfill through U.S. Air Force property at the Kotzebue Long-Range Radar Site (LRRS) to the KEA wind farm. From there, the route would proceed southeasterly approximately 8.9 miles to the Cape Blossom beach access ramp. The route would upgrade approximately 2.7 miles of Air Force Road and KEA wind farm access road. The community supported this route during the development of the Environmental Document.

Subsequent to completion of the Environmental Assessment (EA) and during the final design process, new information was provided by a project stakeholder that has raised concerns over the safety of a short segment of the preferred alternative passing through the existing Kotzebue Electric Association (KEA) wind farm. Specifically, updated technical guidance on wind turbine operation provided by KEA, has indicated by modeling data that the potential ice throw radius of six existing wind turbines adjacent to the approved route may pose a serious risk to the traveling public under certain climatic conditions. To address this threat to public safety, the six wind turbines would need to be relocated away from the proposed route by a distance greater than their modeled ice throw potential. KEA has provided DOT&PF an estimated cost of \$5.24 million in materials, equipment, engineering and labor to re-locate the six wind turbines. Additionally, wind turbine relocation would increase both temporary and permanent impacts to wetlands though associated construction of required new access roads and foundation gravel pads.

As an alternative to relocating the six wind turbines, ADOT&PF is proposing to revise the approved alignment design and sufficiently avoid the KEA wind farm to eliminate potential wind turbine ice throw. The revised route would deviate from the existing KEA access road at a point approximately 2500-ft northwest of the windfarm, and from that point extend eastward paralleling the northern boundary of the wind farm property for 4000' before bearing southeasterly to tie back into the approved preferred route alternative approximately 2300-ft southeast of the wind farm. The proposed revised route would add an additional 0.1 miles to the preferred alternative route, resulting in a revised total length of 11.64 miles.

Although the re-aligned route would utilize less of the existing KEA wind farm access road and, consequently, marginally increase required new road construction; Based on the KEA wind turbine relocation cost estimate, construction of the proposed realignment would yield an overall savings to the project of \$5.24 million. Additionally, the proposed re-aligned route would also provide a net, additional wetland impact avoidance by negating the need to construct new access roads and foundation gravel pads for re-located wind turbines (1.42 acres avoidance); and also eliminating the need to excavate and relocate the KOTZ radio tower ground array currently bisected by the preferred alternative route (2.68 acres avoidance). In total, the current wetland impact of the approved preferred alternative plus the impacts required to re-locate the wind turbines and KOTZ radio tower ground array (109.1 acres) would fall to 108.8 acres.

	Preferred Alternative Route	Re-Aligned Route
Total Length	11.6 Miles	11.64 Miles
Total Wetlands Impacts	109.1 Acres (including turbine and KOTZ radio tower array re-location)	108.8 Acres
Total Cost	\$49.24 M	\$44. M

Attachment 5.

NANA Regional Corporation Letter of Support Proposed for Route Segment Revision



P.O. Box 49  
Kotzebue, AK 99752

[www.nana.com](http://www.nana.com)

907 442 3301 MAIN  
800 478 3301 TOLL-FREE IN ALASKA  
907 442 4161 FAX

April 10, 2017

Johnathan Hutchinson, P.E. Northern Region Design Engineer  
Department of Transportation and Public Facilities  
Northern Region Design and Engineering Services  
Preliminary Design and Environmental Section  
2301 Peger Road  
Fairbanks, Alaska 99709-5316

Re: Letter of Support for Cape Blossom Road Realignment

Dear Mr. Hutchinson:

This letter concerns the plans to realign the proposed road to Cape Blossom (Project Number Z76884.0000) to avoid potential ice throw risks from the Kotzebue Wind Farm, wind turbines. The plans to carry out the realignment were presented at a recent NANA Land and Natural Resources Committee meeting and the members of the committee fully supported the purpose and plans to realign the road around the Kotzebue Electric Wind Farm to avoid risks from the ice throw.

NANA Regional Corporation Inc. supports the revised Area of Potential Effect identified on Figure 2 of the letter from Thomas A. Gamza dated April 5, 2017 and offers this letter of support.

Sincerely,

A handwritten signature in black ink, appearing to read "John Lincoln".

John Lincoln

Vice President of Lands – NANA Regional Corporation, Inc.