National Park Service
U.S. Department of the Interior

Alaska Region

Least Adverse Environmental Effects Report

Potential Gas Line Route, per Denali National Park Improvement Act

2018

ON THE COVER
Vernal ponds adjacent to the Parks Highway
Photo by Joan Kluwe, National Park Service

Contents

Introduction

Two major natural gas projects are proposed with potential to impact Denali National Park and Preserve (DENA): the Alaska Liquefied Natural Gas (AK LNG) project and the Alaska Stand Alone Pipeline project (ASAP). Both projects propose a mostly buried gas pipeline covering more than 700 miles from the North Slope of Alaska to southcentral Alaska. The environmental impact statement (EIS) alternatives for these projects include an alignment that passes through DENA frontcountry for approximately 7 miles, as allowed for by the 2013 Denali National Park Improvement Act. If the procedural requirements of Title XI of the Alaska National Interest Lands Conservation Act are removed, as considered in recent legislative proposals, both projects are likely to change their proposed alignments to the route that passes through the Denali frontcountry.

The Denali National Park Improvement Act authorizes the Secretary of the Interior to issue a right of way permit for:

> *…a high-pressure natural gas transmission pipeline…in nonwilderness areas within the boundary of Denali National Park within, along, or near the approximately 7-mile segment of the George Parks Highway…if, following an appropriate analysis prepared in compliance with the National Environmental Policy Act…the route of the right-of-way is the route through the Park with the least adverse environmental effects for the Park...*

The AK LNG project, sponsored by the State of Alaska, would transport natural gas from the North Slope to tidewater in southcentral Alaska for export to foreign markets as LNG. The project includes a 42-inch pipeline that would carry 3 to 3.5 billion cubic feet of natural gas per day at 2,075 psi. North of the Brooks Range, gas would be chilled to protect permafrost. Construction of the pipeline would take 7 years, from 2019 to 2025. The Federal Energy Regulatory Commission (FERC) is the lead agency for the permitting process and associated EIS, and the National Park Service is a cooperating agency. An application and revised resource reports were submitted to FERC in April 2017, initiating the National Environmental Policy Act process for the project.

ASAP is also sponsored by the State of Alaska and would also transport natural gas from the North Slope to tidewater in southcentral Alaska, but the primary purpose is to provide gas for use within Alaska. The project includes a 36-inch buried pipeline at 1,480 psi max operating pressure. Construction of the pipeline would take 3 years, from 2018 to 2020. A Final EIS was released in 2012 by the US Army Corps of Engineers as the lead agency for the permitting process. Due to changes in the proposed project, a Draft Supplemental EIS was released in June 2017. The National Park Service is a cooperating agency for this project.

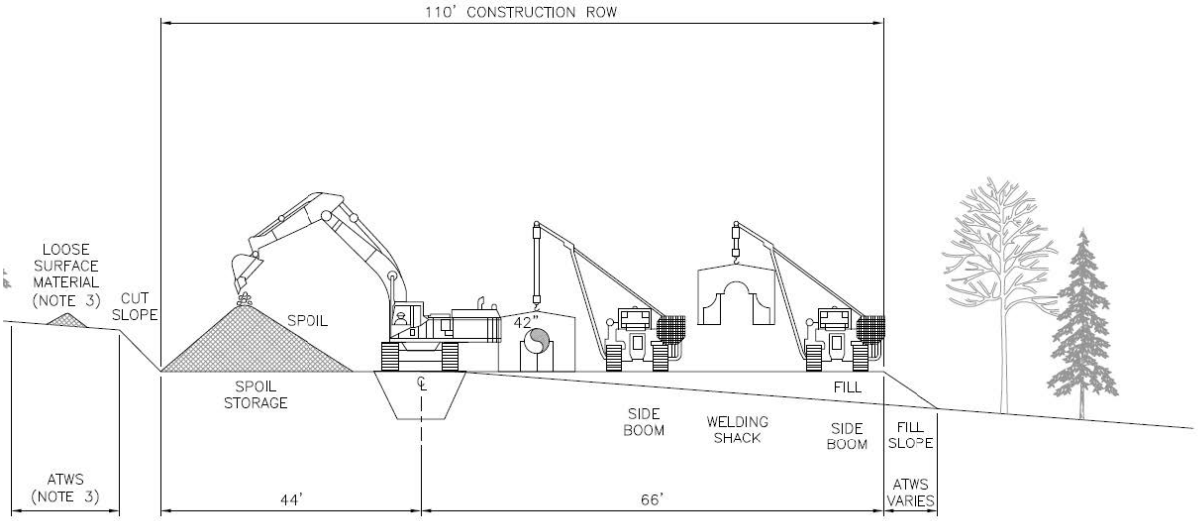
Purpose

In consideration of the direction of the Denali National Park Improvement Act, the purpose of this report is to identify routes with the least adverse environmental effects within the boundaries of DENA. This report takes into account conditions, available information, and professional judgement

as of July 2017. If conditions or available information substantially change, recommendations may need to be revised accordingly.

Route Width

A typical construction right of way width is estimated at 150 feet (Figure 1), and an operational right of way is estimated at 52 feet.



NOTES:

1. WHERE REQUIRED, 20 FEET MORE FOR TRAVEL LANE ON WORKING SIDE.
2. WHERE REQUIRED, 15 FEET MORE FOR BYPASS LANE ON SPOIL SIDE.
3. AREAS WHERE CROSS SLOPES EXIST AND GRADING IS REQUIRED, THE SPOIL SIDE AND DITCH LINE WILL HAVE STUMPS REMOVED (GRUBBED) AND DISPOSED OF, AND LOOSE SURFACE MATERIAL CAUSED BY GRUBBING WILL BE SEGREGATED AND STORED SEPARATELY FROM MATERIAL TO BE GRADED.
4. WHERE THE ROW IS NATURALLY FLAT, STUMPS WILL BE REMOVED PRIOR TO DITCHING FROM THE DITCH LINE ONLY AND DISPOSED OF.
5. LOOSE SURFACE MATERIAL WILL BE STORED ON ATWS UPHILL, IF CROSS SLOPED, OR ON BOTH SIDES OF THE ROW, IF FLAT. FINALLY, LOOSE SURFACE MATERIAL WILL BE PLACED BACK ACROSS THE ROW AS PART OF THE RESTORATION AND RE-VEGETATION EFFORT.
6. ON WETLANDS DURING SUMMER, THE ENTIRE ROW WILL BE STRIPPED IF FLAT, OR ONLY THE DITCH AND SPOIL SIDE IF SLOPED, AND THE ORGANICS STORED ON ATWS (NOT SHOWN).
7. ON WETLANDS AND DURING WINTER, NO STRIPPING WILL BE DONE.

RUCTION

Figure 1. Typical configuration for graded construction right of way. Note: this schematic is for a smaller diameter pipeline. The construction right of way for AKLNG is 150'. Source: Alaska LNG 2016.

Routes Considered

Numerous routes have been proposed by project proponents in recent years. This document provides a gross summary of the route versions to illustrate the sequence of events that influenced the Least Adverse Environmental Effects route recommendation (Map 1).

ASAP 2012 EIS

The 2012 analysis for ASAP analyzed a route east of the Nenana River, as well as an alternate route through DENA. The alternate pipeline route was located to the east of the Parks Highway but within the Alaska Department of Transportation and Public Facilities' (ADOT&PF) right of way. After the

Record of Decision was released, ASAP changed its proposal to remove the alternate pipeline route from the right of way in response to a request from the ADOT&PF.

December 2015 Route

In December of 2015, the applicants jointly proposed an alignment through DENA that located the pipeline immediately to the east of the ADOT&PF right of way. This alignment departs the Parks Highway approximately two miles to the north of the highway crossing of the Nenana River in order to avoid the community of McKinley Village. After meeting with park staff, the applicants made minor changes to this alignment in response to park concerns.

May 2016 Routes

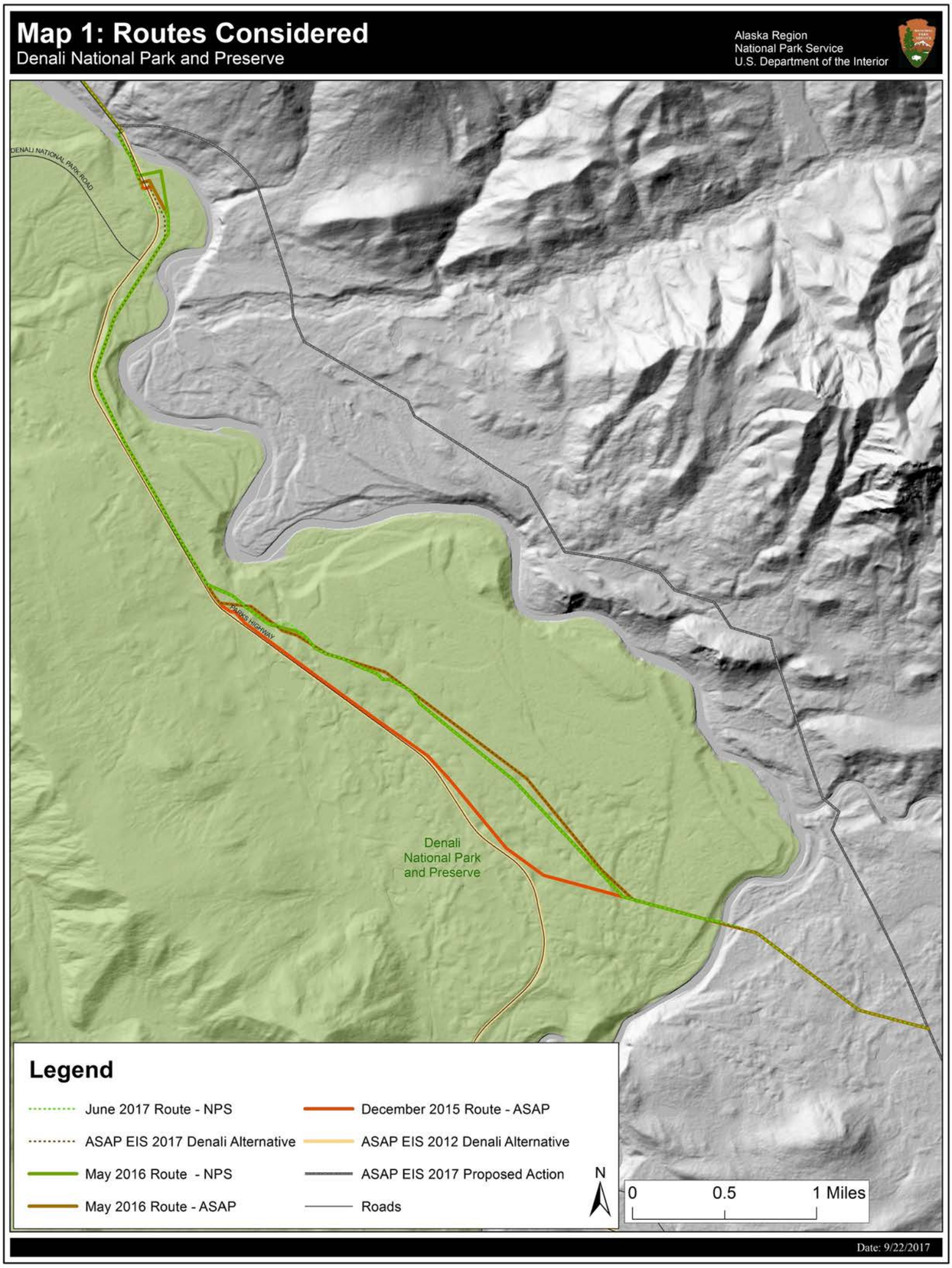
In May of 2016, DENA staff walked portions of the proposed route with applicant pipeline engineers and the US Army Corps of Engineers project manager. Based on ground observations and feasibility considerations, additional changes to the route were suggested and incorporated. Several additional variations to this route were discussed, including variations of the northern segment, additional departure points from the Parks Highway, two route variations to avoid the vernal pond complex near milepost 234, and variations for the Nenana River Crossing.

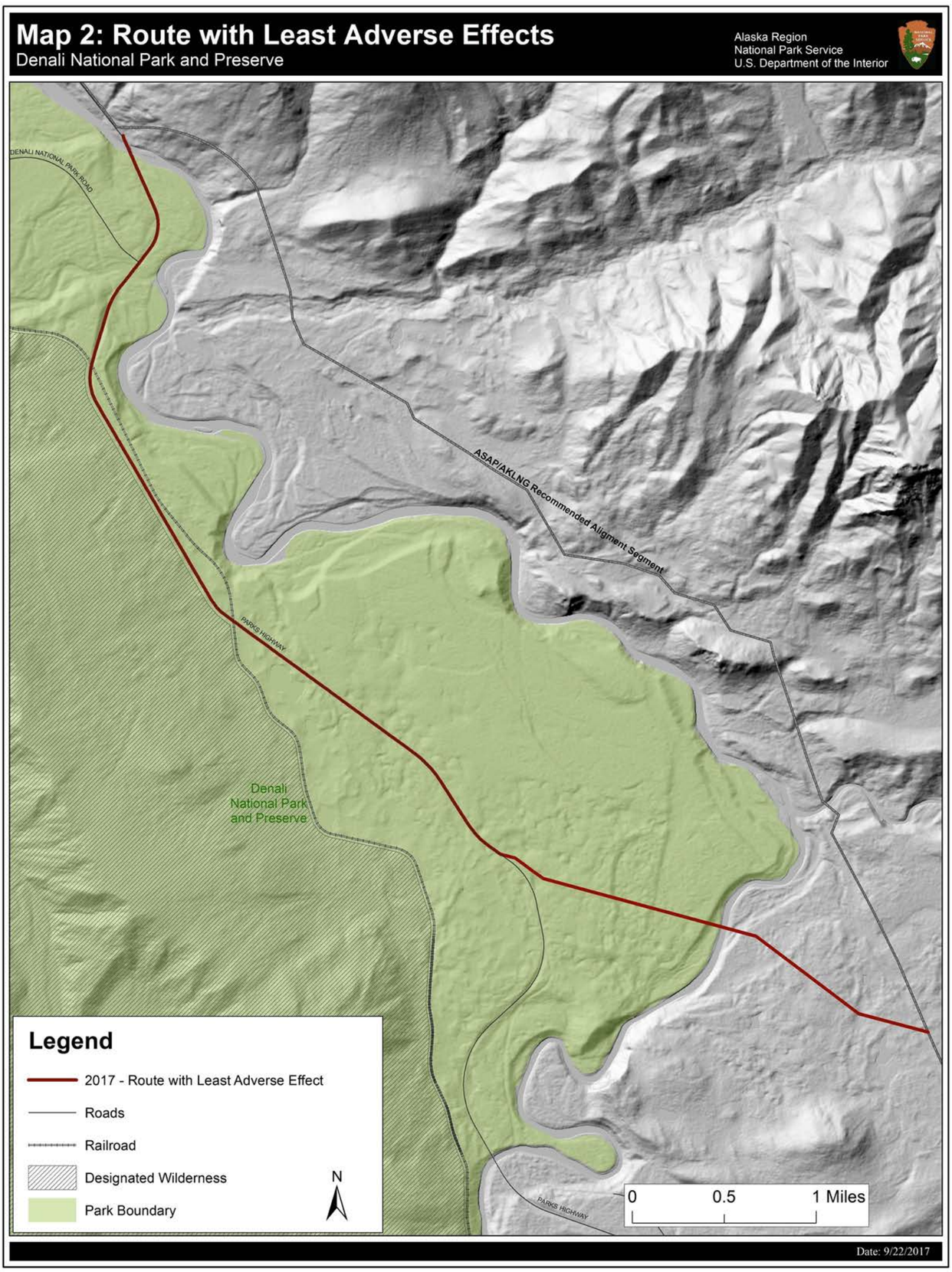
ASAP 2017 EIS

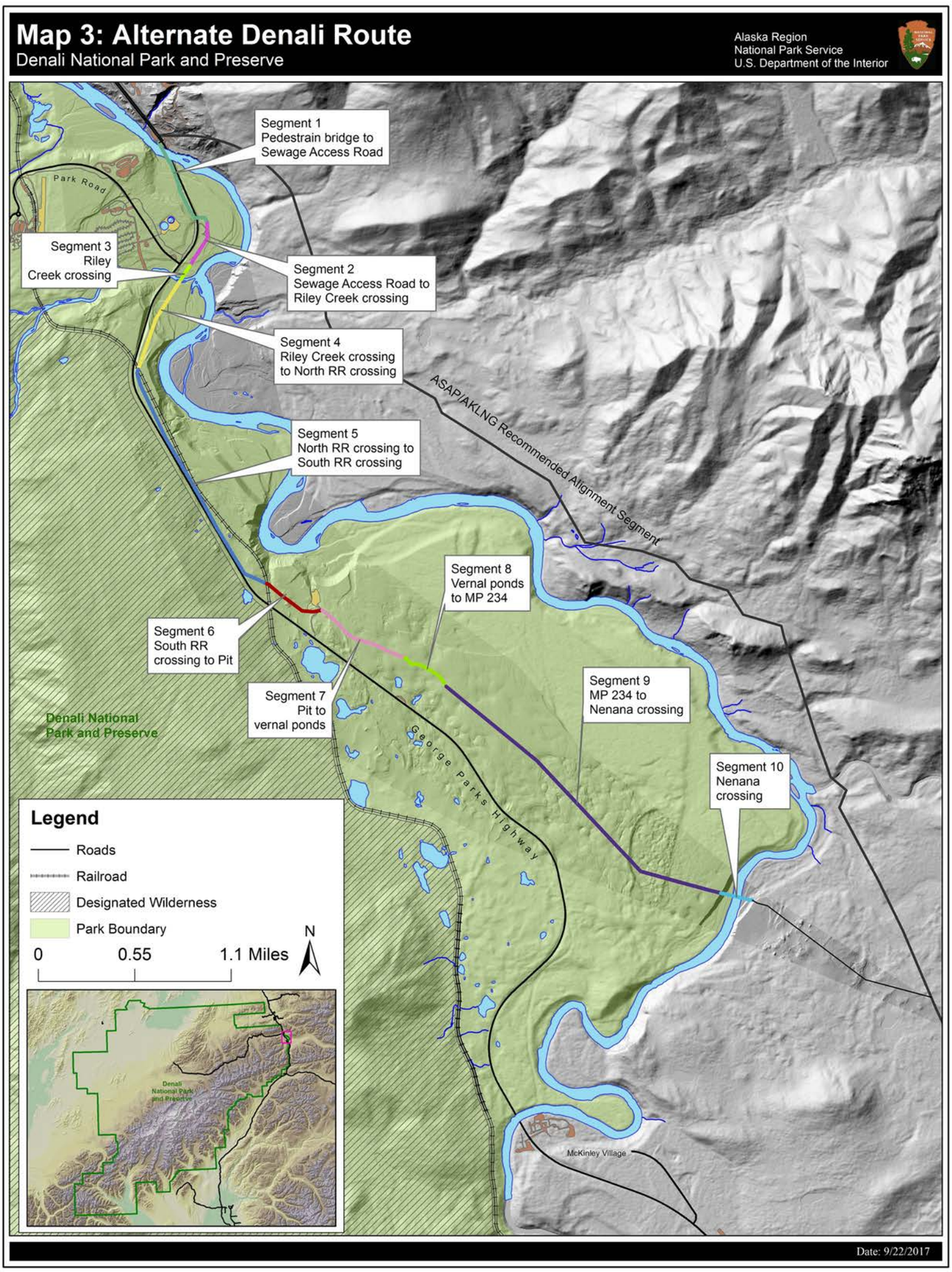
The Draft Supplemental EIS analysis for ASAP analyzed a route that located the pipeline generally to the east of the Parks Highway, with the exception of the segment along the pedestrian bridge to the east of the highway at the northern end of the alignment within DENA. This route incorporated comments from the May 2016 discussions, including avoidance of the vernal pond complex.

June 2017 Route

DENA staff reviewed the proposed in-park alignment and provided additional changes at the north end of the route within DENA. The first segment of the alignment would parallel the pedestrian path and cross the highway in the vicinity of the access road for the effluent line from the Riley Creek sewage treatment plant. This alignment would have greater impacts to visitor experience, but would minimize impacts to wildlife habitat and riparian vegetation.




Map 2: Route with Least Adverse Effects
Denali National Park and Preserve
Alaska Region
National Park Service
U.S. Department of the Interior
DENALI NATIONAL PARK ROAD
ASAP/AKLNG Recommended Alignment Segment
PARKS HIGHWAY
Denali
National Park
and Preserve
Legend
2017 - Route with Least Adverse Effect
Roads
Railroad
Designated Wilderness
Park Boundary
N
0
0.5
1 Miles
PARKS HIGHWAY
Date: 9/22/2017


Map 3: Alternate Denali Route
Denali National Park and Preserve
Alaska Region
National Park Service
U.S. Department of the Interior
Segment 1
Pedestrain bridge to
Sewage Access Road
Park Road
Segment 3
Riley
Creek crossing
Segment 2
Sewage Access Road to
Riley Creek crossing
Segment 4
Riley Creek crossing
to North RR crossing
ASAP/AKLNG Recommended Alignment Segment
Segment 5
North RR crossing to
South RR crossing
Segment 8
Vernal ponds
to MP 234
Segment 6
South RR
crossing to Pit
Segment 7
Pit to
vernal ponds
Segment 9
MP 234 to
Nenana crossing
Segment 10
Nenana
crossing
Denali National
Park and Preserve
George Parks Highway
McKinley Village
Legend
Roads
Railroad
Designated Wilderness
Park Boundary
0
0.55
1.1 Miles
N
Date: 9/22/2017

Resources Affecting Route Location

Construction and operation of a pipeline within DENA would affect the physical, biological, and social environment in the vicinity of the proposed route. Detailed evaluation of all potentially affected resources will occur in on-going EIS(s) associated with the entire gas line project(s).

Some resources would be affected regardless of the pipeline location. Other resources would be differentially affected based on route location. Knowledge of these differential effects can be used to define the alignment with least adverse effects. The following park resources were identified as having the most bearing on route:

- Wetlands – route was influenced by wetland locations; wetlands were avoided where possible
- Vegetation – route location was influenced by ability to retain intact vegetation (including considerations for ability to revegetate with native species, minimize opportunities for introduction of invasive species, and ability to revegetate steep slopes and highly erosive areas)
- Habitat – areas of higher value habitat and consideration of edge effects influenced route location
- Public Safety/Geotechnical – fault locations and other areas of geologic instability influenced route location and corridor width
- Visitor experience (Scenic Resources) – consideration for park entrance area, use of previously disturbed areas, and establishment of vegetative buffers influenced route location and width
- Visitor access – considerations for connections to existing and proposed trail systems influenced route location

Route with Least Adverse Environmental Effects

A route under the Parks Highway would have the least adverse environmental effects to DENA resources (Map 2). Such a route is very similar to the Denali Alternative evaluated in the 2012 Draft EIS for the ASAP project (USACE 2012a).

This route would largely affect previously disturbed areas within the highway right of way. The southern portion of the alignment, connecting from the highway right of way to the remainder of the alignment proposed for the gas lines, is intended to minimize impacts to resources including wetlands, vegetation, habitat, public safety/geotechnical, and visitor experience/scenic resources, and visitor access.

This alignment would require the least amount of vegetative clearing in previously undisturbed areas, and therefore minimize potential for introduction of invasive species. Requirements for revegetation would still be substantial, but less than for other routes considered. With the proposed alignment predominantly under or immediately adjacent to the highway, this route would minimize creation of new construction access routes, and minimize potential long-term impacts to visitor experience/scenic resources. Impacts to wetlands would be minimized, as the proposed alignment would largely be located within previously disturbed areas; the southern portion of the alignment is intended to avoid impacts to wetlands to the greatest extent practicable.

Alternate Denali Route

As previously stated, the route identified on Map 2 is very similar to a route identified in the Draft EIS (USACE 2012a) for ASAP. However, in subsequent analyses for ASAP (USACE 2012b, USACE 2017), a route variation away from the highway was analyzed. NPS believes the route identified on Map 2 would have the least adverse environmental effects on the resources of DENA and is constructible, although it appears that the route is not currently supported by the pipeline proponents. Understanding that decisions outside the control of the NPS may influence route locations, an alternate route was also identified through the eastern portion of DENA (Map 3). This alternate route would have greater adverse environmental effects than the route identified on Map 2, but could be a feasible routing option.

This section describes the alternate route by segment, outlining options considered and resource discussions for each segment. This section is more detailed than the prior section, as NPS carefully considered the resource trade-offs that would be made from implementing this route. Quantitative analyses were not conducted; qualitative comparisons are summarized.

Segment 1, Pedestrian bridge to sewage output access road

Recommended Route: West side of highway, using existing corridor for pedestrian bridge and pedestrian path. Open cut highway crossing at or near (north of) sewage output access road.

Options Considered: Alignment on west side of highway, several alternative horizontal directional drilling (HDD) highway crossings to east side (which is a boring method to install underground pipe), as well as an open cut crossing to the east side of the highway

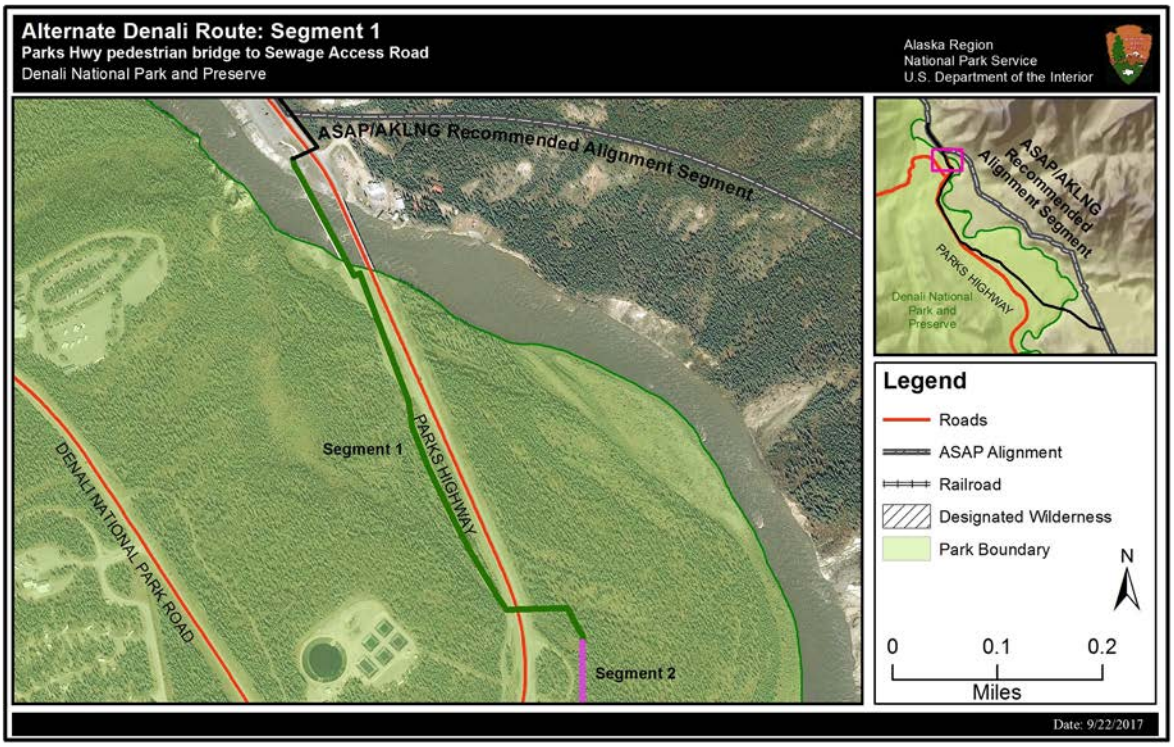
- HDD crossing approximately 1200 feet south of pedestrian bridge (Dec 2015)
- HDD crossing at Denali Park sign, approximately 800 feet south of pedestrian bridge (May 2016)
- Open cut crossing at Denali Park sign, approximately 800 feet south of pedestrian bridge (May 2016)
- Open cut crossing at or near (north of) sewage output access road (June 2017)

Resource Discussions: This northern segment has many complex and competing resource considerations. The pedestrian path on the west side of the highway is the entrance corridor to the park. Noise from highway traffic and helicopters typically affects the visitor experience in this active transit zone. Existing vegetation in the pedestrian corridor is generally early-successional, as the area has had previous disturbance from highway maintenance activities and development of the pedestrian path. However, vegetation removal for construction of a pipeline corridor would alter the entrance area setting for many years. Clearing limits may be able to be reduced on the west side of the pedestrian path and intensive native revegetation efforts could be implemented between the pedestrian pathway and the highway. A revegetation plan would be critical for all segments of the proposed pipeline corridor.

From a biological perspective, vegetation and habitat to the east (between the highway and the river) is considered more valuable than the already heavily fragmented vegetation and habitat near the pedestrian trail. The functions and values of the wildlife habitat and riparian vegetation adjacent to the river corridor influenced the route recommendation. An HDD crossing would require substantial vegetation clearing in the area between the highway and the river.

The geologic instability of the area was discussed, including the known fault line to the north and south of this segment. Shifting the highway crossing location to the vicinity of the sewage output access road would keep the crossing to the north of the known fault line and minimize clearing in the highway corridor viewshed by taking advantage of the existing access road clearing. This location would also have fewer impacts to riparian vegetation and habitat.

The pedestrian corridor on the west side of the highway would remain in its current condition from south of the highway crossing to Riley Creek. Using the sewage output access road for construction equipment access would reduce potential impacts to scenic resources in the highway corridor.



Segment 2, South of sewage output access road to Riley Creek crossing:

Recommended Route: Alignment approximately mid-way between highway and river, generally parallel to the highway.

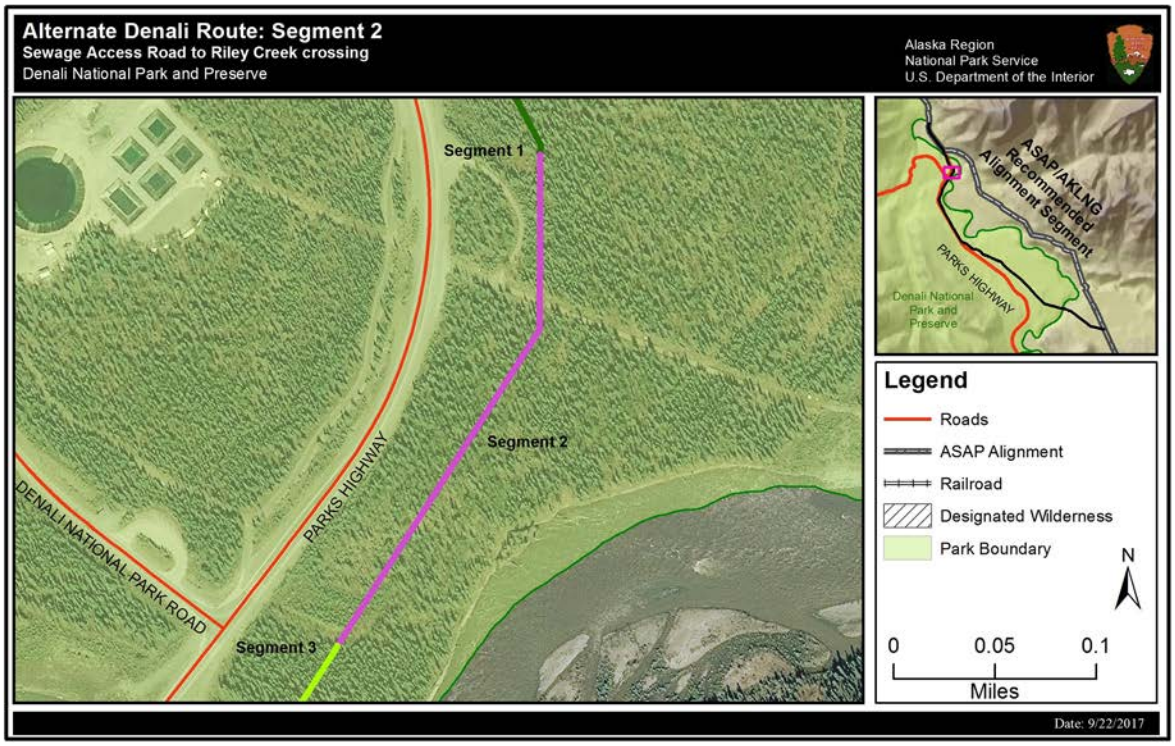
Options Considered: Alignments on east side of highway

- Parallel highway as closely as possible (Dec 2015)
- Alignment approximately mid-way between highway and river, generally parallel to the highway (May 2016, June 2017)

Resource Discussions: There is not much room between the highway and the river. The river is cutting toward the highway and there is a known fault line running from the southwest to the northeast. During the June 2017 site visit, new geologic features were observed due to movement within the past year. In addition to instability with the fault, soils in the area are prone to failure/landslides. The angle of the fault crossing is important; the pipeline alignment cannot be altered much in the space available.

The pipeline would have an above-ground segment in the vicinity of the fault crossing. The existing vegetation buffer may not be sufficient to screen the above-ground segment from view, including views from existing trails at a higher elevation. There are many motivations for screening the pipeline from general public view, including visitor experience/scenic resources, and public safety. Additional mitigation could include painting or a vegetative cover for the above-ground segment of the pipeline.

The pedestrian corridor would not intersect with this segment of the pipeline.



Segment 3, Riley Creek crossing

Recommended Route: Open cut, approximately mid-way between highway and river.

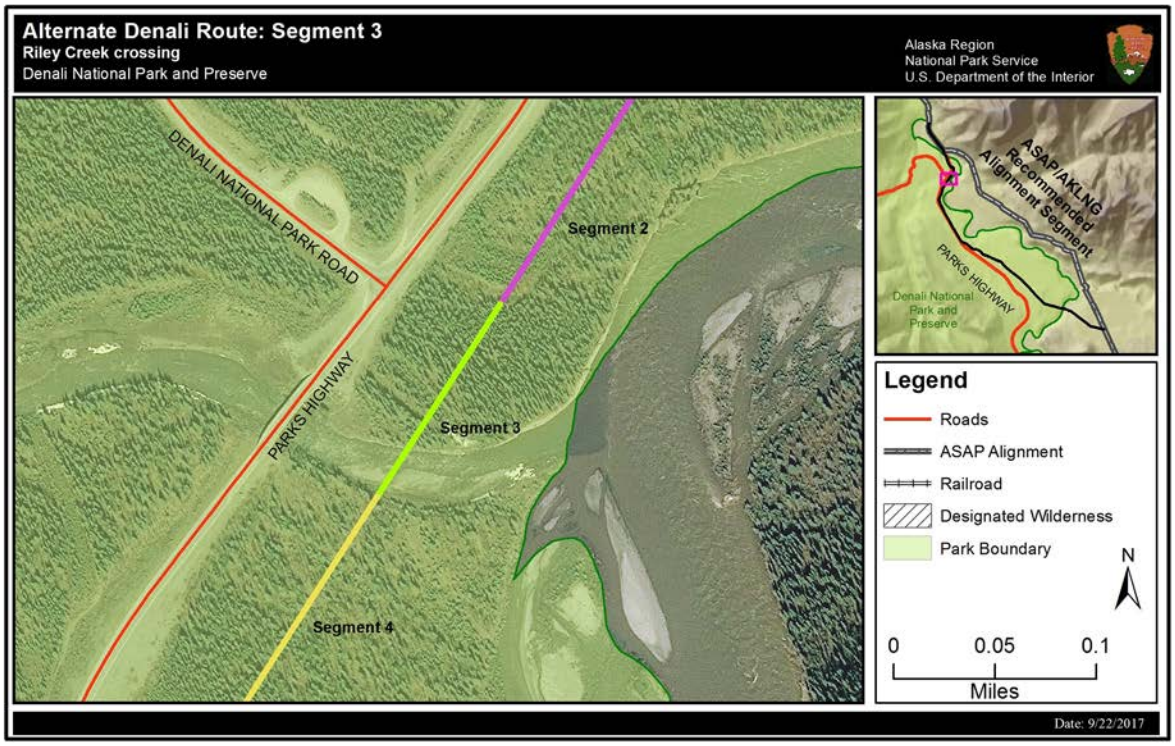
Options Considered: Above and below ground creek crossings

- Above ground segment for 1500 to 2000 feet for combined crossing of fault and creek (May 2016)
- Open cut, approximately mid-way between highway and river (May 2016 and June 2017)

Resource Discussions: Visitor experience and public safety largely influenced the design and route recommendations for this segment. A buried pipeline would reduce visual impacts and the potential for vandalism or inadvertent damage, such as gunshots. The cleared right of way for operations should be reduced to 15 feet in this area, which would be the same treatment as at the Nenana River crossing.

Other than during the construction phase, impacts to river recreation are not anticipated. If a pedestrian corridor is developed along the pipeline path, a pedestrian connector would be required in the vicinity of Riley Creek. The pedestrian path on the west side of the highway would connect with the pipeline corridor on the east side of the highway, continuing to the south.

Other resource discussions included unstable soils in the Riley Creek area and the recommendation to evaluate Riley Creek for salmon habitat (anadromous stream survey). Recommend to create narrow clearings to minimize potential for landslides and impacts to permafrost. If anadromous habitat is detected in the stream surveys, construction timing would be required to accommodate salmon spawning and rearing seasons.



Segment 4, South side of Riley Creek to northern railroad crossing (overpass):

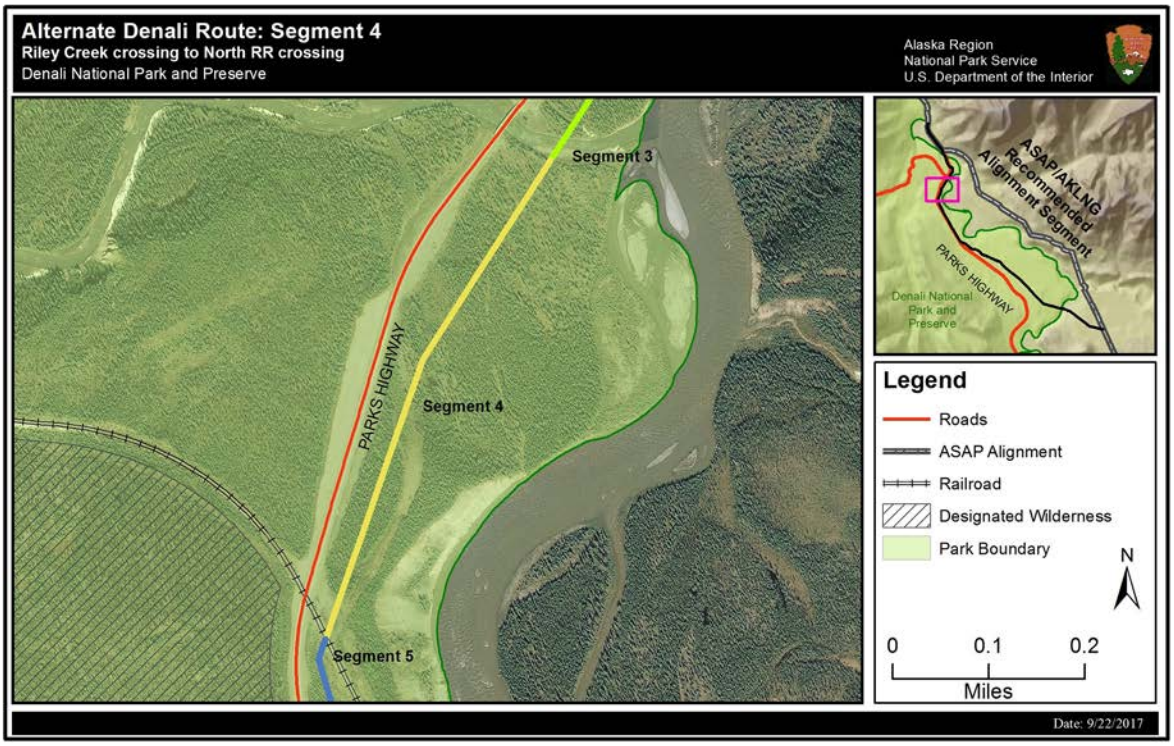
Recommended Route: Alignment offset from but generally parallel to the highway with vegetation buffer for visual screening.

Options Considered: Alignments on east side of highway

- Parallel highway as closely as possible (May 2016)
- Alignment offset but generally parallel to the highway with vegetation buffer for visual screening (May 2016, June 2017)

Resource Discussions: Geologic instability and associated concerns for visitor safety were the primary points of discussion for this segment. Recommend site-specific geotechnical investigation due to unstable soils, steep slopes, and evidence of old landslide.

Separating the pipeline route from the highway corridor also provides for visual screening with existing vegetation, mitigating concerns for visitor experience/scenic resources. The pipeline alignment could be used as a trail/pedestrian corridor; the only portion considered not suitable for pedestrian access would be the prior above-ground segment north of Riley Creek.



Segment 5, Northern railroad crossing to southern railroad crossing:

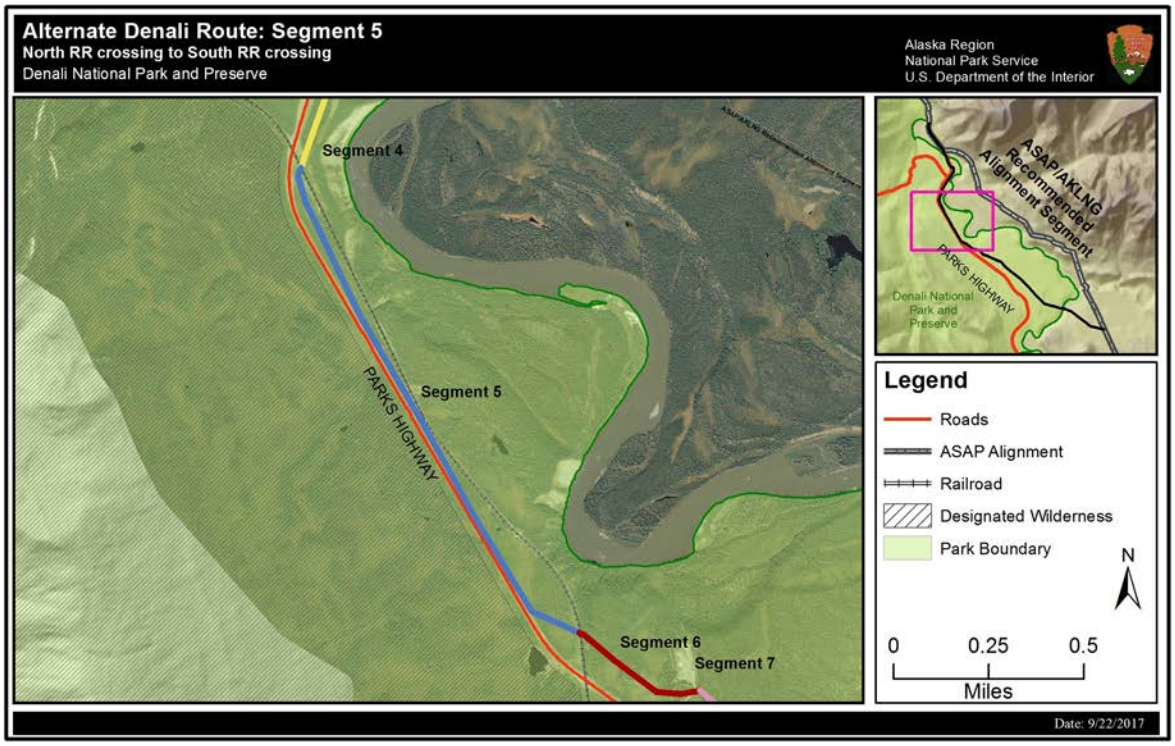
Recommended Route: Alignment adjacent to highway until just north of the southern (at-grade) railroad crossing; divert to ridge.

Options Considered: Alignments between east side of highway and railroad corridor

- Alignment approximately mid-way between highway and railroad corridor (December 2016, May 2016)
- Alignment adjacent to highway until just north of the southern (at-grade) railroad crossing; divert to ridge (June 2017)

Resource Discussions: The highway and railroad alignments are in close proximity for the majority of this segment; the alignments are more separated in the southern portion of the segment. The cleared area in the vicinity of the highway would likely be similar to existing highway clearing, but would encompass a larger area. However, locating the pipeline adjacent to the highway would retain the greatest amount of vegetation and wildlife habitat by minimizing fragmentation or edge effect. Just north of the southern (at-grade) railroad crossing, divert to the ridge to minimize impacts to wetlands. The pipeline would pass under the railroad.

From a scenic resources perspective, impacts may be minimized by retaining the pipeline route immediately adjacent to the highway and then locating the pipeline at the ridge, away from the highway, with sufficient screening. This segment minimizes the number of pipeline entry/exit points in the highway corridor.



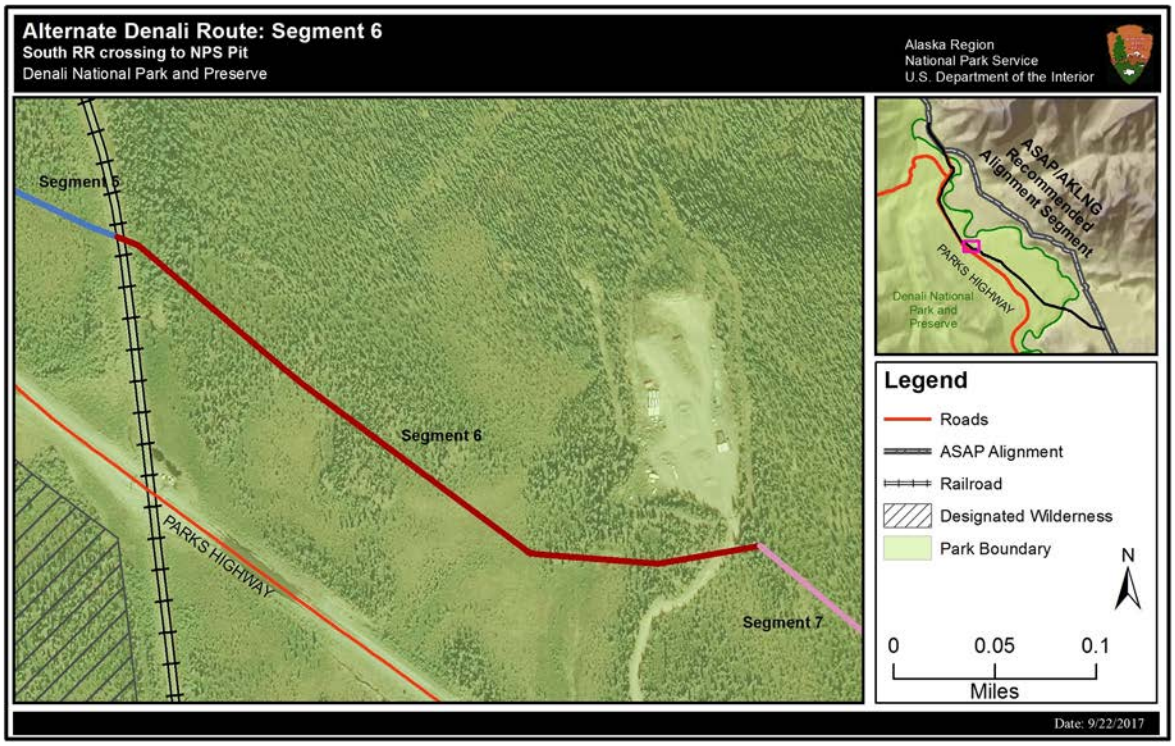
Segment 6, Southern railroad crossing to pit:

Recommended Route: Depart highway corridor north of southern railroad crossing and parallel tree line to the south of the mile 234 pit.

Options Considered: Alignments on east side of highway

- Depart highway corridor near southern railroad crossing and veers closer to pit (May 2016, June 2017)
- Depart highway corridor north of southern railroad crossing and parallel tree line to the south of the pit (May 2016, June 2017)

Resource Discussions: The primary points of discussion related to potential impacts to wetlands and scenic resources. The ridge alignment minimized impacts to both resources. With either route, wetlands would be impacted. This route appears to impact fewer wetland resources and could similarly have less impact to scenic resources if the edges of the cleared corridor are irregular, mimicking the natural edge of the adjacent wetlands.



Segment 7, Pit to north vernal ponds:

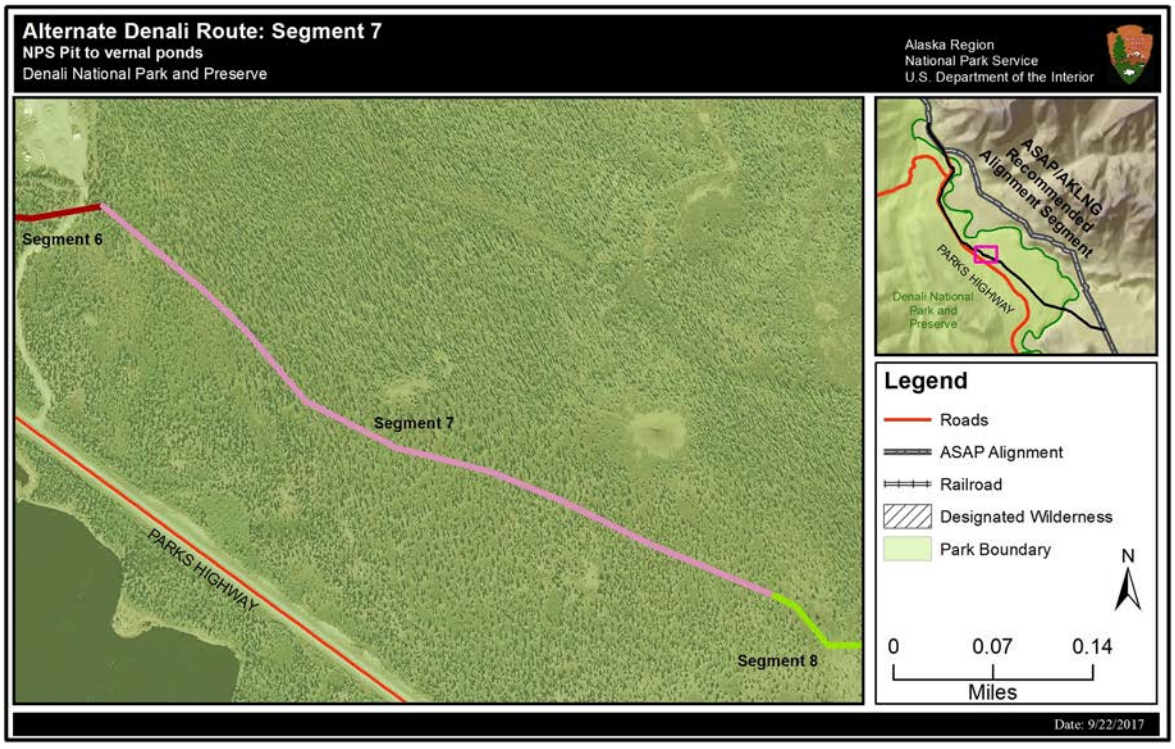
Recommended Route: Follow ridge approximately 800 feet to the east of highway, with adjustments to avoid wetland resources.

Options Considered: Routes east of highway

- Parallel highway as closely as possible (December 2015)
- Follow ridge approximately 800 feet to the east of highway with adjustments to avoid wetland resources (May 2016, June 2017)

Resource Discussions: This section is located away from the disturbed highway corridor in undisturbed vegetation to avoid the vernal ponds (high value wetland resources) to the south of this segment. While wetland resources would have fewer impacts with this route, impacts to vegetation and requirements for revegetation would increase substantially.

There was some concern that tundra mats removed for future revegetation efforts could shatter if removed during the proposed winter construction timing. Thus, vegetation removal may be required in the fall. Wood and boulder management would also need to be considered throughout the proposed alignment, as many boulders would likely be encountered during construction and a large number of trees would be cleared. Using the pipeline corridor for construction access instead of building several additional access roads will reduce vegetation and habitat disturbance, as well as impacts to visitor experience/scenic resources.



Segment 8, North vernal ponds to highway pullout at MP 234:
Recommended Route: Continue on ridge east of the highway.

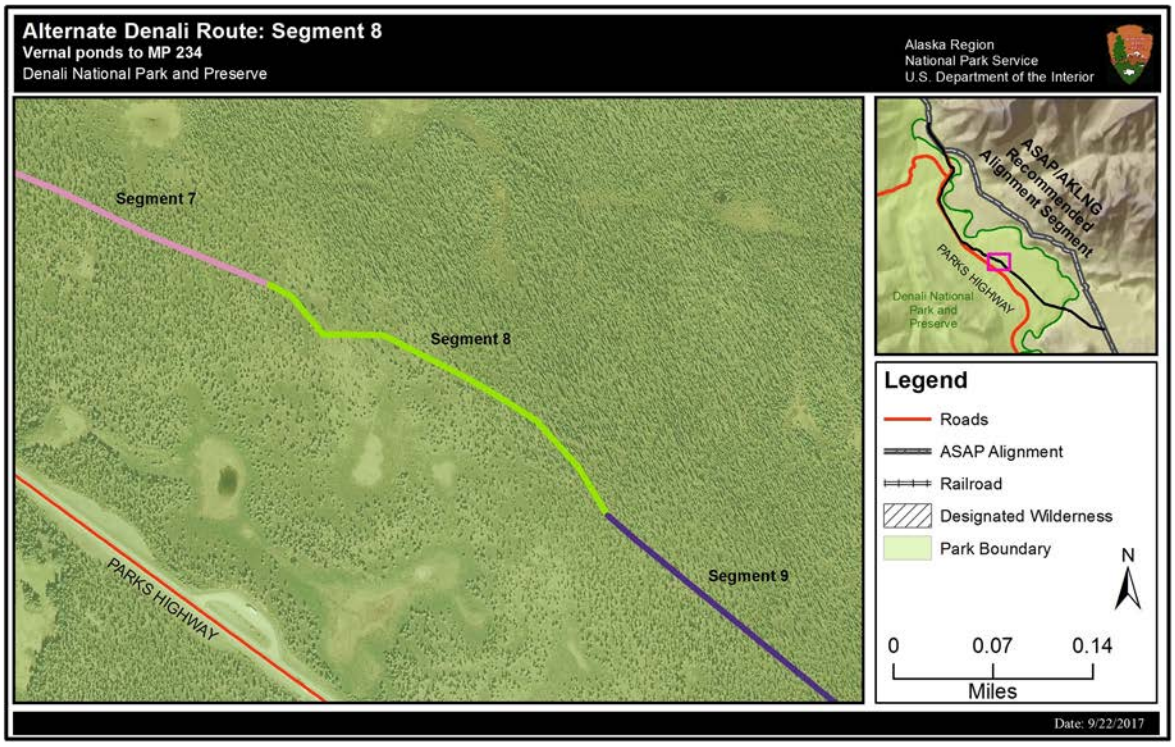
Options Considered: Routes east of highway

- Parallel highway as closely as possible (December 2015)
- Depart from the highway to the east of the vernal pond complex (May 2016)
- Bore under highway approximately 1000 feet north of the vernal pond complex to place alignment on west side of highway (May 2016)
- Continue on ridge east of the highway (May 2016, June 2017)

Resource Discussions: The vernal ponds directly east of the highway influenced the recommended route placement to avoid wetlands to the greatest extent possible. As in the prior segment, impacts to wetland resources would be reduced but impacts to vegetation and requirements for revegetation would increase substantially.

While the construction corridor would be re-contoured, there were concerns regarding adequate salvage of topsoil for successful native revegetation. The scale of the revegetation effort is substantially larger than other projects DENA has undertaken.

Buried glacial ice deposits are well documented in the vicinity (example: frost heaves common on highway near milepost 232). Slumping and subsidence are common in the vicinity of these deposits.



Segment 9, Highway pullout at MP 234 to Nenana crossing:

Recommended Route: Continue on ridge east of the highway to Nenana crossing

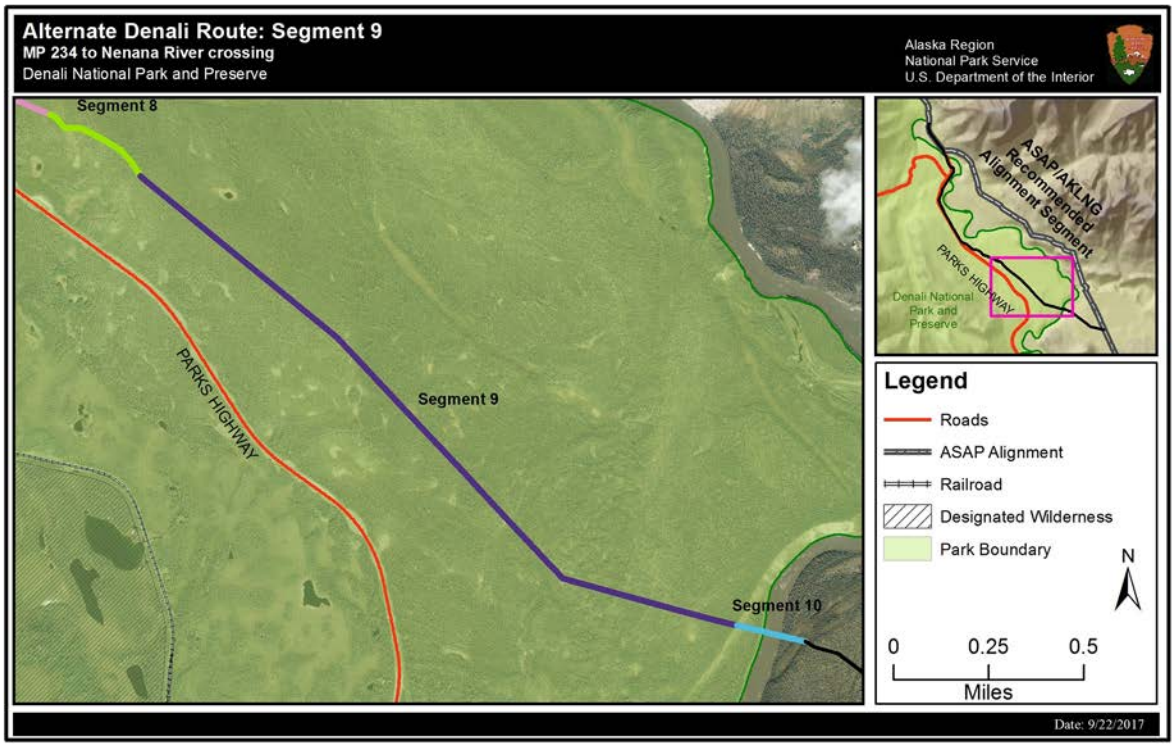
Options Considered: Routes east of highway to Nenana crossing.

- Parallel highway as closely as possible (December 2015)
- Return to paralleling highway at the south end of vernal pond complex (May 2016)
- Depart from highway immediately north of wetlands to the south of MP 233 (May 2016)
- Depart from highway behind small ridge north of MP 233 (December 2015)
- Parallel highway and then depart to follow old Parks Highway scar (May 2016)
- Continue on ridge east of the highway to Nenana crossing (May 2016, June 2017)

Resource Discussions: The location of wetlands in the previous section influenced the route placement. The ridge route would minimize impacts to wetlands but would increase impacts to previously undisturbed vegetation. Requirements for revegetation would be substantial.

As in prior segments, using the pipeline corridor for construction access instead of building several additional access roads will reduce disturbance to vegetation and potential for introduction of invasive species. Impacts to habitat and visitor experience/scenic resources would also be reduced with a single access corridor.

Glacial moraines are present throughout this segment, with large boulders, buried glacial ice, fine-grained material, and organic matter. Slumping and subsidence are common in the vicinity of these deposits.



Segment 10, Nenana crossing:

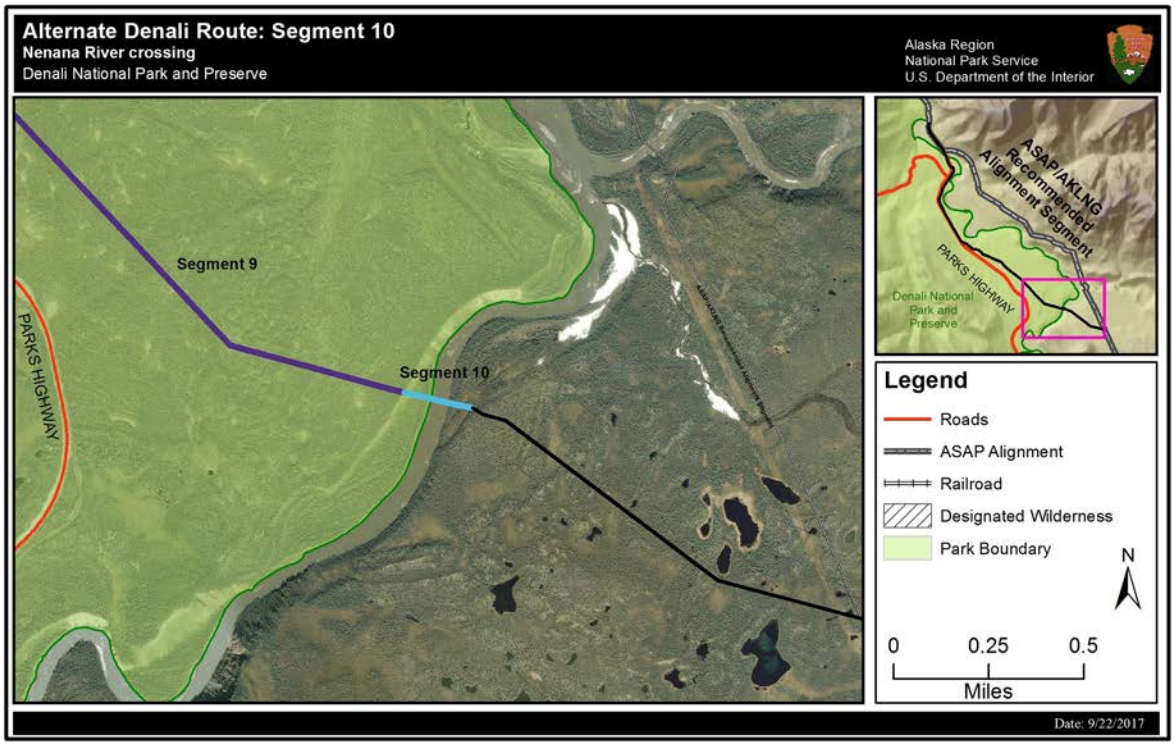
Recommended Route: Angled approach down bank to river with a reduced clearing width (15 feet) from the top of the bluff down to the river. Open-cut river crossing.

Options Considered: Crossing Nenana River with a perpendicular approach

- Open cut crossing following an approach to the river that cuts into the bank perpendicular to river. (May 2016)
- Suspend pipeline from Nenana Bridge, or place on vertical supports near bridge (May 2016)
- Angled approach down bank to river with a reduced clearing width (15 feet) from the top of the bluff down to the river. Open-cut river crossing. (May 2016, June 2017)

Resource Discussions: The steep, somewhat unstable bank of the river is highly erosive. Disturbance to the soils and vegetation could accelerate erosion which would affect the vegetation and riparian area adjacent to the river. It is uncertain whether revegetation with native species would be viable to stabilize the slope. A constructed feature may be necessary, fitting with park design themes to incorporate local cultural or natural features.

Discussions also focused on impacts to scenic resources and visitor experience. The proposed crossing site would affect river recreation. It was also noted that the crossing would be visible from viewpoints in the community of McKinley Village.



Summary

In summary, a route under the Parks Highway (Map 2) would have the least impact to DENA resources. Each of the proposed in-park routes is very similar to the Denali Alternative evaluated in the 2012 (USACE 2012a), with a departure from the highway alignment to connect with the remainder of the proposed alignment for the pipeline. This route would largely affect previously disturbed areas within the highway right of way and therefore would have the least impacts adverse environmental impacts of all routes considered.

While NPS believes the route identified on Map 2 would have the least adverse environmental effects and is constructible, NPS also understands that decisions outside the control of the NPS may influence route locations. Thus, an alternate route was also identified through the eastern portion of DENA (Map 3) that could be a feasible routing option, but with greater adverse environmental effects than the route identified on Map 2. The northern half of the alternate route generally follows the highway corridor. The initial sections would be located with the pedestrian pathway on the west side of the highway, up to an open cut highway crossing north of the sewage output access road. The pipeline would then be offset from the highway with a vegetation buffer up to the northern railroad crossing. The route would then be located as close to the highway as possible until just north of the southern railroad crossing. The alignment would divert east from the highway corridor following a ridge to the Nenana River crossing to avoid impacts to the vernal ponds and other wetland resources. To minimize impacts to resources, NPS recommends minimizing the width of cleared corridors in the vicinity of the existing pedestrian trail, at Riley Creek crossing, and Nenana River crossing.

This report takes into account conditions, available information, and professional judgement as of July 2017. If any of these elements change significantly, recommendations may need to be revised accordingly. For the majority of the alignment, a typical construction right of way width is estimated at 150 feet (Figure 1), and an operational right of way is estimated at 52 feet.

References

Alaska LNG. 2016. Docket No. PF14-21-000. Draft Resource Report No. 1. General Project Description. Document Number: USAI-PE-SRREG-00-000001-000.

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