US Army Corps
of Engineers
Alaska District

Public Notice of Application for Permit

FAIRBANKS FIELD OFFICE
Regulatory Division (1145)
CEPOA-RD
1046 Marks Road
Fort Wainwright, Alaska 99703

PUBLIC NOTICE DATE:	**March 13, 2024**
EXPIRATION DATE:	**April 12, 2024**
REFERENCE NUMBER:	**POA-2022-00511**
WATERWAY:	**Bonanza Creek**

Public Notice Reissued

This notice was originally sent by the Alaska District Corps of Engineers Regulatory Division directly to all agencies and other interested parties who have requested to be included on our Public Notice distribution list. However, the applicant has increased their scope of work, triggering the issuance of another public notice. Please reference the original public notice issued June 5, 2023 on our website at: POA-2022-00511 Bonanza Creek PN > Alaska District > Public Notices View (army.mil).

Interested parties are hereby notified that a Department of the Army permit application has been received for work in waters of the United States as described below and shown on the enclosed project drawings.

All comments regarding this public notice should be sent to the address noted above. If you desire to submit your comments by email, you should send it to the project manager's email as listed below or to regpagemaster@usace.army.mil. All comments should include the public notice reference number listed above.

All comments should reach this office no later than the expiration date of this public notice to become part of the record and be considered in the decision. Please contact Amanda Locken at (907)347-6148, toll free from within Alaska at (800) 478-2712, or by email at Amanda.N.Locken@usace.army.mil if further information is desired concerning this public notice.

APPLICANT: Alaska Department of Transportation and Public Facilities (ADOT&PF), Division of Design and Engineering Services, Point of Contact William Kulash, 2301 Peger Road, MS-2550-07, Fairbanks, Alaska 99709

AGENT: None

LOCATION: The project extends from mileposts (MP) 120 to MP 135 of the Dalton Highway and includes the Bonanza Creek Material Site at MP 124.5, thermal berm construction between MP 135.5-138.1 and the Coldfoot Quarry at MP 172.6. See the table below for the latitude and longitude for each phase of the project.

Table 1: Project Location

Project Location	Latitude	Longitude	Station	8-digit Hydrologic Unit Code Watershed (USGS 2020)
Beginning of Stage 1 of The Project (MP 120)	66.601134	-150.718413	684+00	South Fork Koyukuk River (19090102)
Middle of Stage 1 of The Project (MP 127.5)	66.698101	-150.664202	1076+00	South Fork Koyukuk River (19090102)
Bonanza Creek Material Site (MP 124.5)	66.659152	-150.670106	924+50	South Fork Koyukuk River (19090102)
End of Stage 1 of The Project (MP 135)	66.780075	-150.687711	1467+99	South Fork Koyukuk River (19090102)
Coldfoot Quarry (MP 172.6)	67.226320	-150.204368	N/A	Upper Koyukuk River (19090101)
Beginning of Thermal Berm Construction MP 135.5	66.791476	-150.688526	N/A	South Fork Koyukuk River (19090102)

End of Thermal Berm Construction MP 138.1	66.824232	-150.658407	N/A	South Fork Koyukuk River (19090102)

Table 2: USGS quadrangles

USGS Quadrangle	Township	Range	Sections	Meridian
Bettles C-2	21N	14W	6, 7, 18, 19, 30	Fairbanks
	22N	14W	7, 18, 19, 30, 31	Fairbanks
	21N	15W	25, 36	Fairbanks
	22N	15W	12, 13	Fairbanks
Bettles D-2	22N	14W	6	Fairbanks
	23N	14W	18, 19, 30, 31	Fairbanks
	22N	15W	1	Fairbanks
	23N	15W	36	Fairbanks
Wiseman A-1	28N	12W	28	Fairbanks

PURPOSE: The applicant's stated purpose of the Dalton Highway MP 120–135 Reconstruction Project (project) is to improve safety of the Dalton Highway between MP 120 through MP 135 and MP 135.5 through 138.1 using current design standards. The project area requires frequent major maintenance operations due to design and safety issues such as narrow roadway, lack of shoulders, substandard embankment material, thawing permafrost, substandard horizontal and vertical geometric features, lack of pullouts for chain-up areas, and major drainage issues. In some portions of the project area where it is not pragmatic to meet current design standards, design exceptions and waivers have been approved by the Federal Highway Administration (FHWA). Between MP 135.5-138.1, the proposed work addresses extensive rotational failures in the embankment of the existing roadway. These failures are due to the degradation in permafrost creating slumping and thermokarsting.

Expansion of the Bonanza Creek Material Site added 4.51 acres of permanent impacts to waters of the U.S., including wetlands, (WOTUS) compared to what was originally proposed. However, expanding this material site may reduce the need to create new material sites and thereby considerably reduces potential impacts to aquatic resources.

PROPOSED WORK: The proposed work consists of the original scope of work, along with the added expansion of the material site and the proposed repairs to the thermal berms consisting of 67.04 acres of permanent impacts to WOTUS from the discharge of approximately 160,707 cubic yards (cy) of fill, including 779,075 cy of excavation in WOTUS. Temporary impacts would be approximately 21.52 acres of WOTUS (see Tables 3 and 4). This project includes structural embankment replacement, realignments, widening, and resurfacing of the 15-mile segment. Additional scope added to this project includes the construction of thermal berms between MP 135.5-138.1, resulting in 7.12 acres of permanent impact and 5.07 acres of

temporary impacts to WOTUS (included in the total impacts above). This work would constitute the first phase of a multi-phase project along the Dalton Highway between MP 109-144.

All work would be performed in accordance with the enclosed plan (sheets 1-40), dated February 20, 2024. A complete plan set, and other project information can be downloaded fromhttps://www.poa.usace.army.mil/Missions/Regulatory/Public-Notices/. If you cannot download the full plan set from the website, please contact Amanda Locken at (907)347-6148, toll free from within Alaska at (800) 478-2712, or by email at Amanda.N.Locken@usace.army.mil.

Table 3 shows the anticipated impacts to WOTUS for each of the project features.

Table 3: Discharges into Wetlands and Other WOTUS

Project Feature	Permanent Impact to WOTUS (acres)	Excavation in WOTUS (cubic yards)	Fill in WOTUS (cubic yards)	Temporary Impact to WOTUS (acres)
Roadway Improvements	22.67	26,000	136,000	14.68
Stream Crossings	0.12	3,075	707	1.77
Bonanza Creek Material Site (Original Impact)	32.62*	700,000	—	—
Expansion of Coldfoot Quarry	—	—	—	—
Thermal Berms	7.12	—	24,000	5.07
Expansion of Bonanza Creek Material Site	4.51	50,000		
Project Totals	**67.04**	**779,075**	**160,707**	**21.52**

*A large portion of the Bonanza Creek Material Site impact area will be converted to a pond with an unconsolidated bottom

Table 4 briefly describes each of the proposed project components.

Table 4: Project Components

Project Component
Widen the road from 11-foot lanes and variable shoulders to 12-foot lanes and 6-foot shoulders.
Replace the structural section of roadway embankment to mitigate issues resulting from the existing frost-susceptible and moisture-sensitive embankment materials.
Raise the road grade where needed to minimize the effects of aufeis and mitigate snow drifting. Grade raise in some areas is also required to keep the roadway operational while the embankment material is being replaced (minimum fill of 2 feet over the original ground has been determined as necessary to allow the highway traffic to pass through the corridor during construction).

Realign sharp curves to bring features to current standards or improve the current design. There are four realignments due to curve flattening with the average length of the realignments approximately 1/3 mile.
Improve drainage by installing new equalization culverts where needed, and by replacing all existing culverts. Temporary diversions and/or half-width construction may be necessary for larger-diameter or deep culverts.
Construct 38 thermal berms in total to separate thaw-induced settling from the structural component of the embankment.
Install fish passage culverts at Pung's Creek Crossing, South Fork Little Nasty Creek, and Little Nasty Creek.
Realign portions of the channels of South Fork Little Nasty Creek and Little Nasty Creek.
Develop a new material site (Bonanza Creek Material Site) on land managed by the Bureau of Land Management (BLM) at MP 124.5 to provide suitable embankment materials.
Expand an existing material site (Coldfoot Quarry) managed by BLM at MP 172.6 to provide armor rock, riprap, and air convection embankment (ACE) for the realignment that crosses undisturbed permafrost.
Construct pullouts for vehicles to chain up along the project corridor.
Require the relocation of buried utilities. The utility companies would secure necessary permits to perform the relocation work independently from DOT&PF and this project.

ADDITIONAL INFORMATION: See Table 5 below:

Table 5: Summary of Permits and Authorizations

Permits and Authorizations	**Agency**
Clean Water Act, Section 404	USACE
Magnuson-Stevens Act EFH Consultation	NMFS
National Historic Preservation Act Section 106 Consultation	SHPO
Clean Water Act 401 Certification	ADEC
Title 16 Fish Habitat Permit	ADF&G
Right-of-Way, Land Use Permits, Highway Easement Deeds,	BLM

and/or Free Use Permits	
National Environmental Policy Act Review	ADOT&PF under the authority of 23 U.S.C. 327 and MOU between FHWA and ADOT&PF, dated November 3, 2017

APPLICANT PROPOSED MITIGATION: The applicant proposes the following mitigation measures to avoid, minimize, and compensate for impacts to waters of the United States from activities involving discharges of dredged or fill material.

a. Avoidance and Minimization: The applicant has stated that complete avoidance of wetlands is not practicable as there is no reasonable, entirely upland alternative (location and/or alignment) along the existing highway route. The impacts to riverine and lacustrine waters of the U.S. have been avoided where possible. See Table 6 for avoidance and minimization measures proposed by the Applicant.

Table 6: Avoidance and Minimization measures

Avoidance and Minimization Measures
The majority of the reconstruction would occur within the existing footprint along the current alignment. Of the 15.03 miles of reconstruction, 92 percent (i.e., 13.82 miles) of the reconstructed road uses the current road embankment. All impacted waters of the U.S. (WOTUS) are in close proximity to existing disturbance. The majority of impacted WOTUS are due to widening of the roadway embankment to provide a consistent lane and shoulder width.
Realignment of the road onto undisturbed and wetland areas occurs only when necessary for safety. Where safety issues can be appropriately mitigated (e.g., signage, addition of chain up areas), design exceptions that minimize impacts to WOTUS have been requested by project engineers and received from ADOT&PF's regional Preconstruction Engineer. Examples include: • Between stations 729+29 and 739+30, a design exception was approved for maintaining a profile grade exceeding design standards. Adhering to design standards would have raised the embankment 80 feet, thereby expanding the required toe of fill outward into WOTUS or would have required realignment that would construct 5 miles of new road over undisturbed ground. • Between stations 936+42 and 940+75, a design exception was approved for a curve with a design speed of 40 miles per hour on this 50-mile per hour roadway. The existing embankment is surrounded by wetlands on both sides. Realignment of the highway to flatten this sharp curve would impact wetlands and a pond on the west side of the road. • At Gobbler's Knob (Station 1154+14-1417+17), multiple design exceptions were approved to maintain or only partially improve the existing profile grades and

horizontal curves. This approval prevented raising the embankment by 30 to 65 feet, which would have expanded the required toe of fill outward into WOTUS over 2 miles or would have required new construction of 30 miles of road on undisturbed land.
In areas of the project's proposed road realignments, the abandoned roadway embankment would be reclaimed based on the *Revegetation and Invasive Species Management Plan.*
Existing drainage patterns would be maintained or enhanced wherever possible, including replacement of damaged or failing culverts with pipes of equal or larger size. To enhance hydraulic connectivity of wetlands, all culverts within the project would be replaced. Existing 24-inch drainage culverts through the Dalton Highway embankment would be replaced with 36-inch-diameter or larger culverts to ensure sufficient hydraulic capacity and improve hydrologic connectivity. Culvert replacement would help improve water quality by reducing scour and erosion, would reduce flooding, and would provide improved habitat connectivity, resulting in some amount of ecological uplift for existing streams and wetlands adjacent to the roadway.
At the three fish-bearing streams traversing the project area (Pung's Crossing, South Fork Little Nasty Creek, and Little Nasty Creek), fish passage would be enhanced beyond the requirements from the ADF&G and ADOT&PF Memorandum of Agreement for Implementing Safe Passage of Anadromous and Resident Fish While Maintaining and Improving State Transportation Infrastructure. The project would construct the following improvements:
• At Pung's Crossing, the existing two 10-foot-diameter circular steel plate culverts would be replaced with a 19.5-foot-wide circular steel plate culvert designed to exceed ADF&G fish passage standards. The new large culvert would allow passage of the creek underneath the roadway as one stream, simulating the existing in-channel conditions upstream and downstream of the roadway crossing. Additionally, two 4-foot-diameter culverts would be constructed within the floodplain to alleviate ice damming.
• At the South Fork Little Nasty Creek, the existing twin 4-foot-diameter circular corrugated steel culverts would be replaced with a 14-foot-wide pipe arch culvert designed to exceed ADF&G fish passage standards.
• At Little Nasty Creek, the existing 10-foot-diameter circular steel plate culvert would be replaced with a 17-foot-wide pipe arch culvert designed to exceed ADF&G fish passage standards. Portions of the stream channel would be realigned to enable a perpendicular stream crossing.
• A small stream realignment would occur at the South Fork of Little Nasty Creek. The stream realignment would remove the stream from the toe of the roadway embankment where fill from the road is actively eroding into the channel. This change would further minimize risk of spills entering and unnaturally altering the stream.
• Thermal berms have been reduced from the originally proposed 40-foot width to 10–15-foot widths (i.e., the minimum needed to be effective) in order to reduce impacts to WOTUS.
The excavated portion of the Bonanza Creek Material Site would be converted into a pond with an irregular rounded shaped shoreline as outlined in the DOT&PF's proposed *Mining and Reclamation Guidelines.* The majority of the WOTUS impact from the new Bonanza

Creek Material Site would be conversion from vegetated wetlands to a pond with an unconsolidated bottom. The Bonanza Creek Material Site would be excavated to a minimum depth of 25 feet to maximize the amount of material produced.
Staging areas would be located in uplands or previously disturbed areas.
The contractor would place riprap and other fill material below the ordinary high water mark of streams during periods of low flow.
Project contract specifications include utilization of certified weed-free seed mixture.
The awarded contractor would be required to have an approved Stormwater Pollution Prevention Plan that would meet ADEC standards. The plan would clearly describe Best Management Practices (BMPs) required during construction to prevent erosion and runoff from entering aquatic habitats.
The awarded contractor is required to have an approved Spill Prevention, Control, and Countermeasure Plan (SPCC) that would meet USEPA standards prepared for this project. Standard spill-prevention measures would be implemented during construction. Spill clean-up equipment (e.g., oil absorbent pads) would be available on-site during construction.
Wetland water quality would be protected during construction through BMPs and appropriate erosion and sediment control measures (e.g., silt fences, 25-foot vegetative buffers) would be implemented on or at the perimeters of disturbed soil surfaces to minimize transport of sediment to WOTUS, and disturbed areas would be seeded with a seed mixture recommended by ADNR to provide vegetation stabilization in accordance with the *Revegetation and Invasive Species Management Plan.*
Construction would minimize impacts to existing natural hydrology of WOTUS, including wetlands. Construction methods would be chosen to prevent the draining of wetlands.
All in-water work within streams would be isolated from flowing water. Work within standing water or emergent wetlands would be isolated using appropriate BMPs (e.g., silt curtains, cofferdams).
A 25-foot-wide vegetative buffer would be the preferred method of perimeter protection for protecting wetlands. Where a 25-foot vegetative buffer is not available, appropriate BMPs would be used. A 100-foot buffer would be in place at the material site.
All sediment control measures (e.g., silt curtains, certified weed-free straw wattles, and other structures) would be installed properly and maintained in a functioning manner where fill material and exposed soils might cause transport of sediment or turbidity beyond the immediate construction site.
In-water work at Little Nasty Creek and South Fork Little Nasty Creek would be limited to what is needed to shift the channel to accommodate the natural drainage patterns of the creek, remove the existing fish passage culverts, reestablish the stream bed, and place riprap armoring.
Roadway construction temporary wetland impacts would be limited within a 10-foot-wide work area. Work areas would be used for driving by construction equipment. Any incidental fill placed in wetlands would be removed, and those wetlands would be restored to original ground surface elevations.
Wetland and stream banks left with exposed soils as a result of construction would be seeded with a native, perennial grass seed mixture to provide vegetation stabilization.

Initiation of final stabilization measures on disturbed areas would occur within 14 calendar days of completing construction within the respective area. Ground disturbances in these areas would be addressed by measures such as raking slopes, seeding, fertilizing, and mulching as well as the BMPs mentioned above. This would minimize erosion and sediment transport and help establish vegetative cover, thereby minimizing short-term and long-term impacts to adjacent downstream waters.
Construction of the primary realignment (Station 1040+00) would occur in winter to minimize disturbance and permafrost degradation.
Installation of the three fish passage culverts would follow the USFWS guidelines for stream simulation.
Maximizing the use of roadway design exceptions would avoid significant realignments and impacts to undisturbed aquatic resource functions.
Restoring approximately 14.1 acres of disturbed area previously covered by existing roadway embankment.
Improving overall hydraulic connectivity of aquatic resources by increasing the size and amount of highway culverts.

b. Compensatory Mitigation: The Applicant is not proposing compensatory mitigation. The Applicants justification is that "The project falls within the South Fork Koyukuk River eight-digit hydrologic unit code (HUC 19090102) watershed and the Koyukuk River six-digit HUC (190901) watershed. The Koyukuk River watershed encompasses an area greater than 20,100,000 acres. Existing disturbance within the watershed is minimal and represented primarily by the Dalton Highway, infrastructure associated with TAPS, and few small towns or villages including Coldfoot, Wiseman, Huslia, Bettles, Anaktuvuk Pass, Hughes, and Allakaket. Disturbed or filled areas represent less than 6,000 acres, or approximately 0.03 percent of the watershed. As indicated by the somewhat limited mapping conducted by the National Wetland Inventory (NWI), roughly 50 percent of the watershed consists of wetlands or waterbodies. Thus, compensatory mitigation is not appropriate due to the abundance of relatively pristine aquatic resources in the watershed relatively insignificant areal extent of the project impacts.

Further, opportunities for conducting compensatory mitigation in the project vicinity are very limited. There are no mitigation banks or in-lieu fee programs with service areas that cover the project's watershed. Opportunities for conducting permittee-responsible mitigation via restoration, enhancement and creation are very limited due to the widespread intact aquatic resources. Opportunities for preservation are also limited due to the predominance of public land and the very low development pressure. Based on BLM Surface Management Agency land ownership records of the area (BLM 2022), BLM is the largest landowner within the larger watershed (32 percent), followed by USFWS (25 percent), the National Park Service (18 percent), and the State of Alaska (14 percent). Private land accounts for less than 0.01 percent of the Koyukuk River watershed.

WATER QUALITY CERTIFICATION: A permit for the described work would not be issued until a certification or waiver of certification, as required under Section 401 of the Clean Water Act (Public Law 95-217), has been received from the Alaska Department of Environmental Conservation.

CULTURAL RESOURCES: The ADOT&PF, the non-federal designee for the Federal Highway Administration, is responsible for compliance with the requirements of Section 106 of the National Historic Preservation Act. The ADOT&PF made a no effect (No Historic Properties Affected) determination with which the State Historic Preservation Office (SHPO) concurred with on February 17, 2023. The Corps has reviewed the Section 106 documentation from DOT P&F and concurs with their findings and/or determinations.

ENDANGERED SPECIES: The project area is within mapped habitat know to be used by Wood Bison (*Bison bison athabascae)*. However, ESA Section 7 informal consultation with USFWS was completed on May 30, 2023, with a finding that Wood Bison are listed as a non-essential experimental population under section 10(j) of the ESA. As the wood bison is managed by different provisions of the ESA, there is no need for consultation for this species under Section 7. No listed threatened or endangered species are known to use the project area.

ESSENTIAL FISH HABITAT: The Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act), as amended by the Sustainable Fisheries Act of 1996, requires all Federal agencies to consult with the NMFS on all actions, or proposed actions, permitted, funded, or undertaken by the agency, that may adversely affect Essential Fish Habitat (EFH).

There is no mapped EFH within or near the project area. Therefore, we have determined the described activity would not adversely affect EFH.

TRIBAL CONSULTATION: The Corps fully supports tribal self-governance and government-to-government relations between Federally recognized Tribes and the Federal government. Tribes with protected rights or resources that could be significantly affected by a proposed Federal action (e.g., a permit decision) have the right to consult with the Corps, Alaska District, on a government-to-government basis. Views of each Tribe regarding protected rights and resources will be accorded due consideration in this process. This public notice serves as notification to the Tribes within the area potentially affected by the proposed work and invites their participation in the Federal decision-making process regarding the protected Tribal rights or resources. Consultation may be initiated by the affected Tribe upon written request to the District Commander during the public comment period.

PUBLIC HEARING: Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider this application. Requests for public hearings shall state, with particularity, reasons for holding a public hearing.

EVALUATION: The decision whether to issue a permit will be based on an evaluation of the probable impacts, including cumulative impacts of the proposed activity and its intended use on the public interest. Evaluation of the probable impacts, which the proposed activity may

have on the public interest, requires a careful weighing of all the factors that become relevant in each particular case. The benefits, which reasonably may be expected to accrue from the proposal, must be balanced against its reasonably foreseeable detriments. The outcome of the general balancing process would determine whether to authorize a proposal, and if so, the conditions under which it will be allowed to occur. The decision should reflect the national concern for both protection and utilization of important resources. All factors, which may be relevant to the proposal, must be considered including the cumulative effects thereof. Among those are conservation, economics, aesthetics, general environmental concerns, wetlands, cultural values, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shore erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership, and, in general, the needs and welfare of the people. For activities involving 404 discharges, a permit will be denied if the discharge that would be authorized by such permit would not comply with the Environmental Protection Agency's 404(b)(1) guidelines. Subject to the preceding sentence and any other applicable guidelines or criteria (see Sections 320.2 and 320.3), a permit will be granted unless the District Commander determines that it would be contrary to the public interest.

The Corps is soliciting comments from the public; Federal, State, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps to determine whether to issue, modify, condition, or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

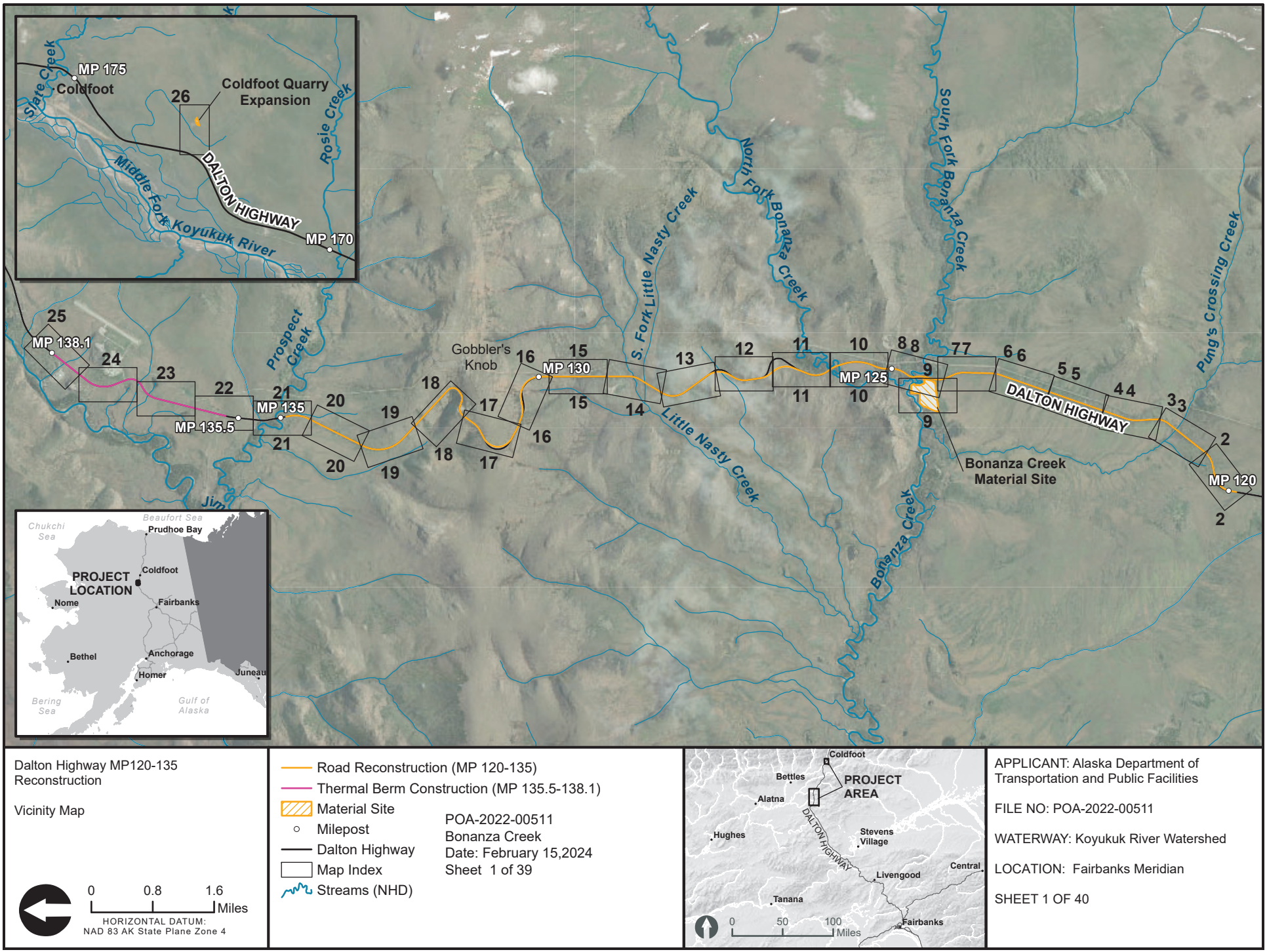
AUTHORITY: This permit will be issued or denied under the following authority:

(X) Discharge dredged or fill material into waters of the United States – Section 404 Clean Water Act (33 U.S.C. 1344). Therefore, our public interest review will consider the guidelines set forth under Section 404(b) of the Clean Water Act (40 CFR 230).

Project drawings are enclosed with this public notice.

District Commander
U.S. Army, Corps

Enclosures



Dalton Highway MP120-135 Reconstruction

Vicinity Map

0 0.8 1.6 Miles

HORIZONTAL DATUM: NAD 83 AK State Plane Zone 4

- Road Reconstruction (MP 120-135)
- Thermal Berm Construction (MP 135.5-138.1)
- Material Site
- Milepost
- Dalton Highway
- Map Index
- Streams (NHD)

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Bonanza Creek
Date: February 15,2024
Sheet 1 of 39

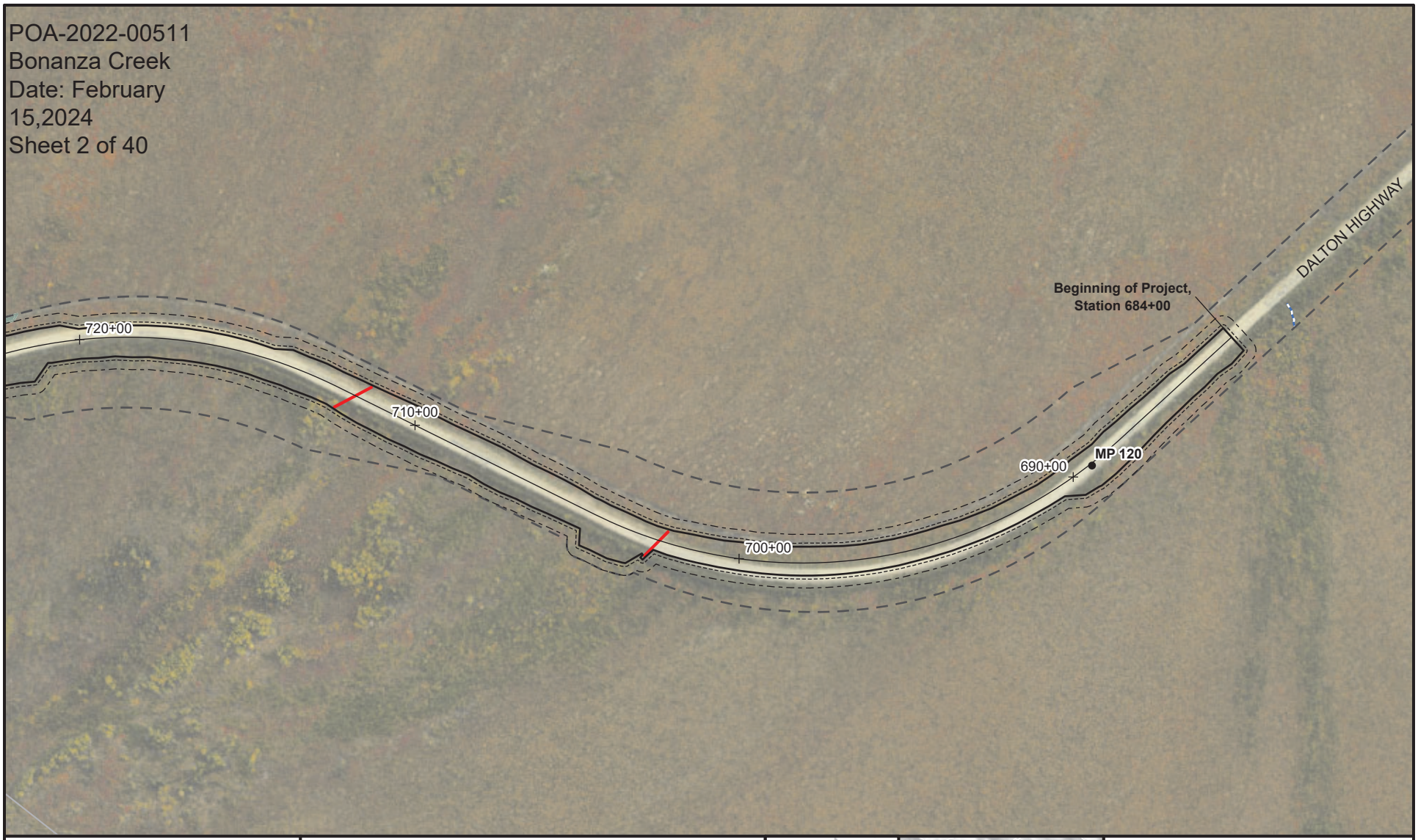
APPLICANT: Alaska Department of Transportation and Public Facilities

FILE NO: POA-2022-00511

WATERWAY: Koyukuk River Watershed

LOCATION: Fairbanks Meridian

SHEET 1 OF 40



Dalton Highway MP120-135
Reconstruction

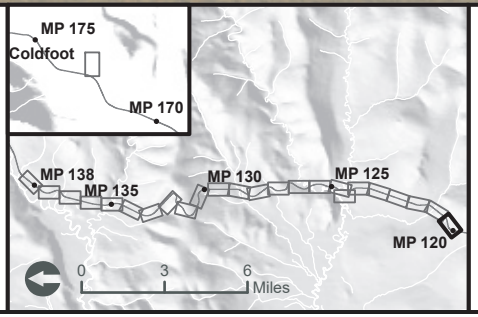
WOUS Impacts Mapbook

Sheet Wetland and Waterbody
Impact = 0 acre

0 210 420 Feet

HORIZONTAL DATUM:
NAD 83 AK State Plane Zone 4

- Stationing
- Milepost
- Project Alignment
- Project Footprint
- Vegetative Buffer
- Work Area
- Wetland Mapping Limits
- Palustrine Emergent Wetland
- R4SBC
- New Culvert



APPLICANT: Alaska Department of Transportation and Public Facilities

FILE NO: POA-2022-00511

WATERWAY: Bonanza Creek Watershed

LOCATION: Fairbanks Meridian SHEET

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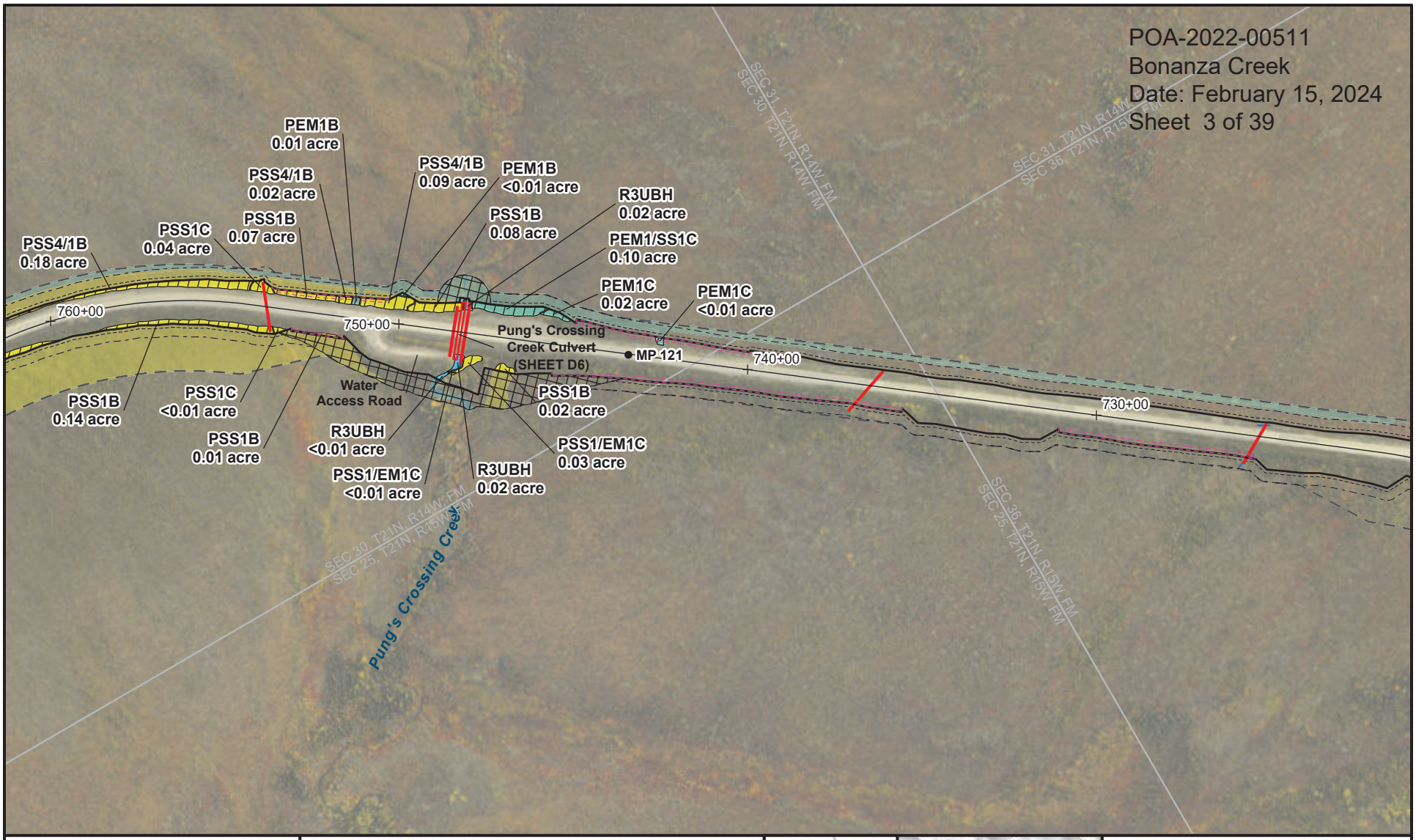


Dalton Highway MP120-135 Reconstruction

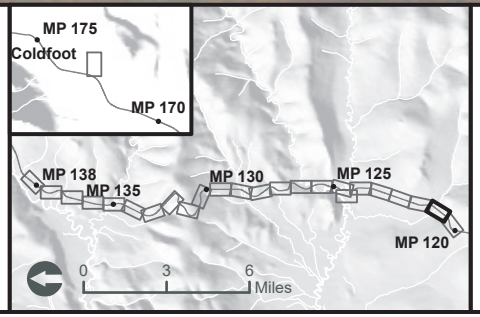
WOUS Impacts Mapbook

Sheet Wetland and Waterbody Impact = 0.94 acre

0 210 420 Feet

HORIZONTAL DATUM: NAD 83 AK State Plane Zone 4

- Stationing
- Milepost
- Project Alignment
- Project Footprint
- Temporary Construction Area
- Vegetative Buffer
- Work Area
- Thermal Berm
- Wetland Mapping Limits
- Wetland and Waterbody Impact
- Palustrine Emergent Wetland
- Palustrine Scrub-Shrub Wetland
- Perennial Rivers and Streams
- R3UBH
- New Culvert



APPLICANT: Alaska Department of Transportation and Public Facilities

FILE NO: POA-2022-00511

WATERWAY: Bonanza Creek Watershed

LOCATION: Fairbanks Meridian SHEET

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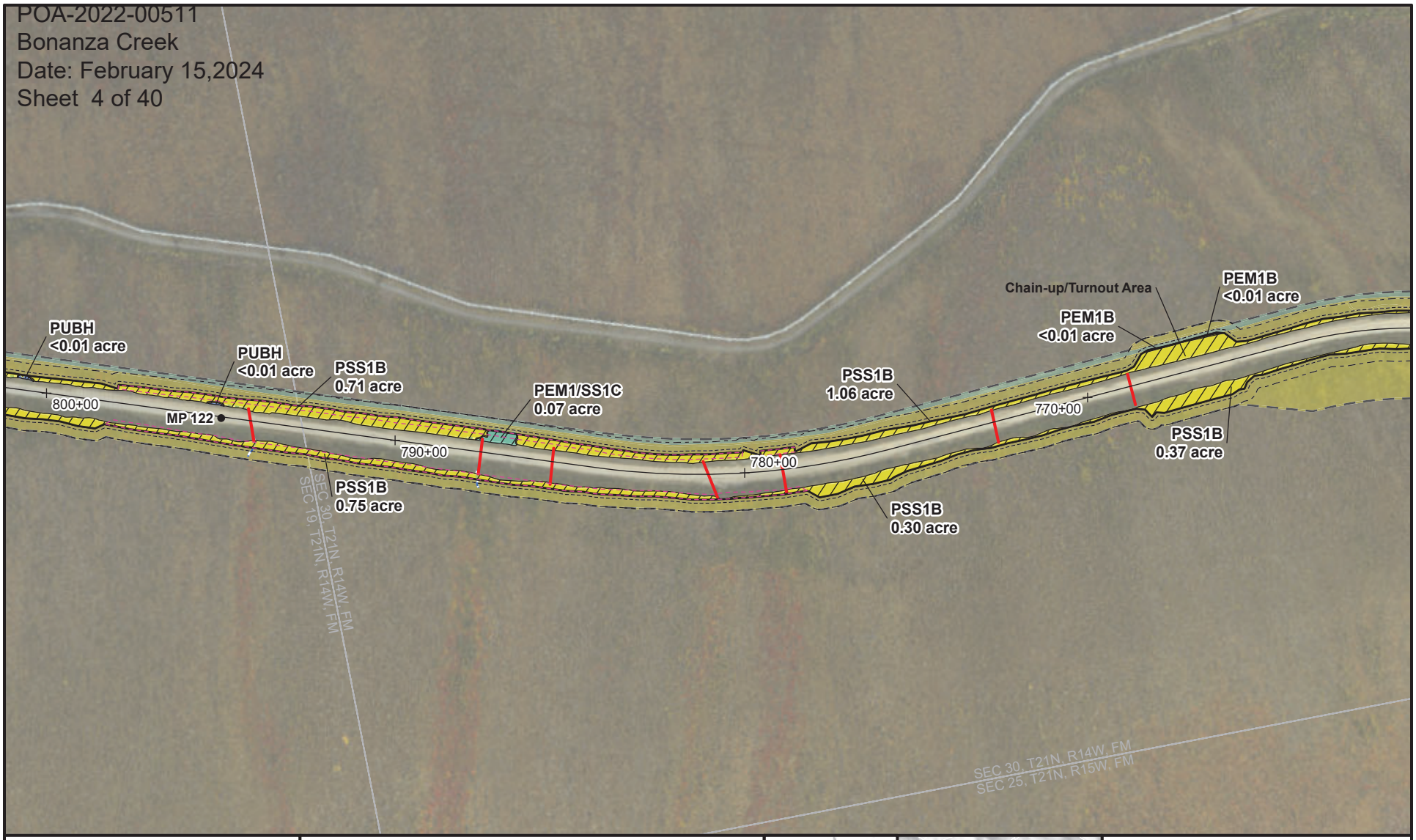


Dalton Highway MP120-135 Reconstruction

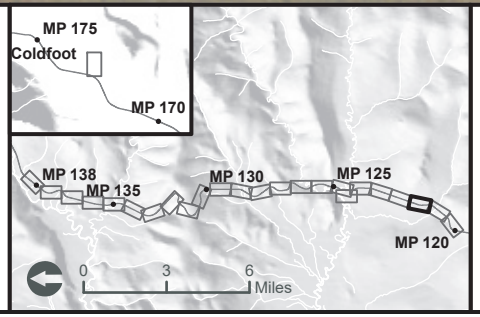
WOUS Impacts Mapbook

Sheet Wetland and Waterbody Impact = 3.21 acre

0 210 420 Feet

HORIZONTAL DATUM: NAD 83 AK State Plane Zone 4

- Stationing
- Milepost
- Project Alignment
- Project Footprint
- Vegetative Buffer
- Work Area
- Thermal Berm
- Wetland Mapping Limits
- Wetland and Waterbody Impact
- Fresh Waterbody
- Palustrine Emergent Wetland
- Palustrine Scrub-Shrub Wetland
- R4SBC
- New Culvert



APPLICANT: Alaska Department of Transportation and Public Facilities

FILE NO: POA-2022-00511

WATERWAY: Bonanza Creek Watershed

LOCATION: Fairbanks Meridian SHEET

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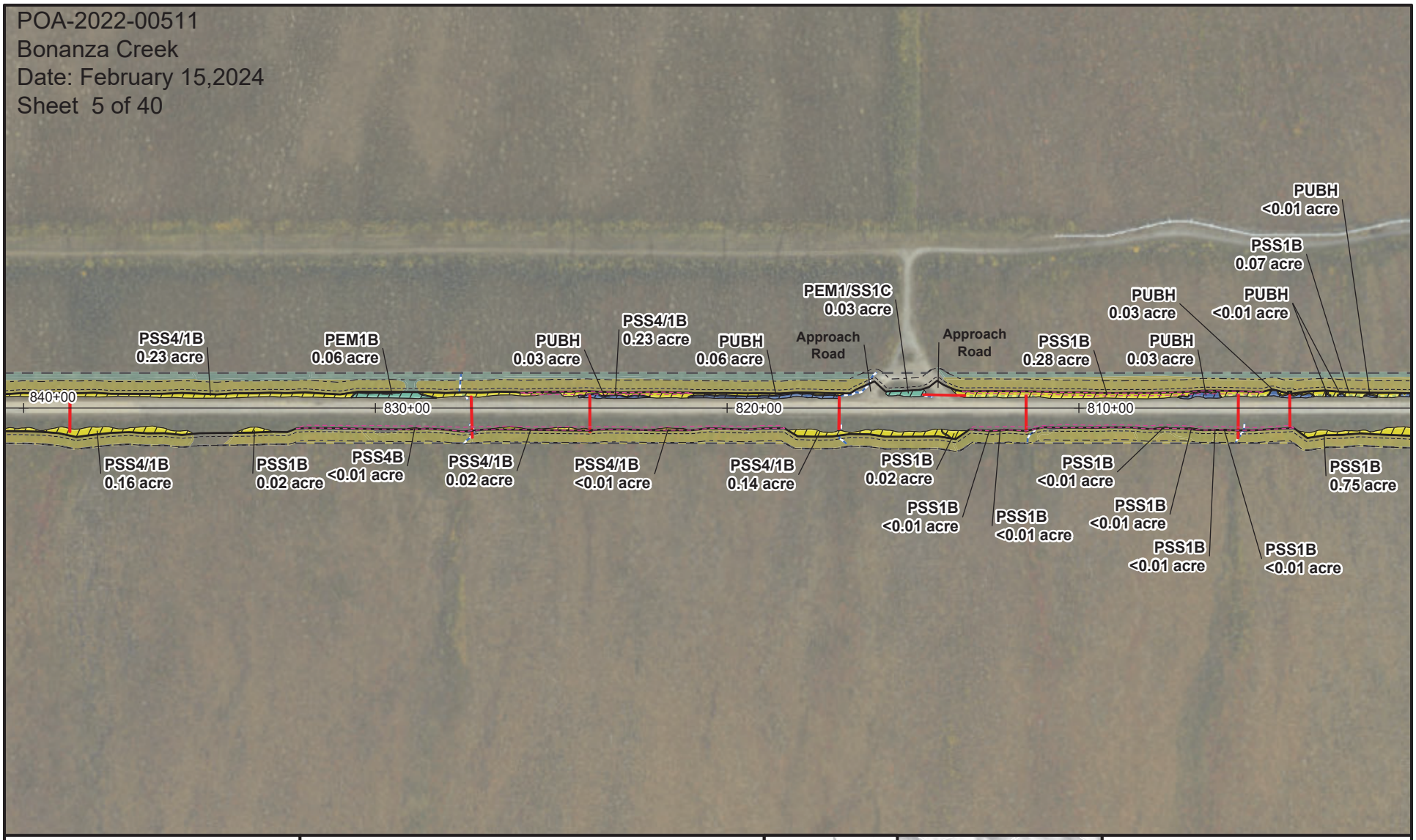
POA-2022-00511
Bonanza Creek
Date: February 15,2024
Sheet 5 of 40



Dalton Highway MP120-135
Reconstruction

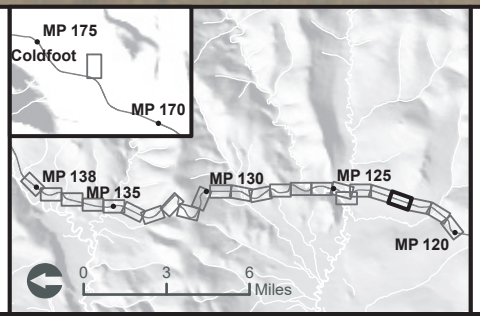
WOUS Impacts Mapbook

Sheet Wetland and Waterbody
Impact = 1.53 acre

0 210 420 Feet

HORIZONTAL DATUM:
NAD 83 AK State Plane Zone 4

- Stationing
- Project Alignment
- Project Footprint
- Vegetative Buffer
- Work Area
- Thermal Berm
- Wetland Mapping Limits
- Wetland and Waterbody Impact
- Fresh Waterbody
- Palustrine Emergent Wetland
- Palustrine Scrub-Shrub Wetland
- R3UBH
- R4SBC
- New Culvert



APPLICANT: Alaska Department of Transportation and Public Facilities

FILE NO: POA-2022-00511

WATERWAY: Bonanza Creek Watershed

LOCATION: Fairbanks Meridian SHEET

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Dalton Highway MP120-135 Reconstruction

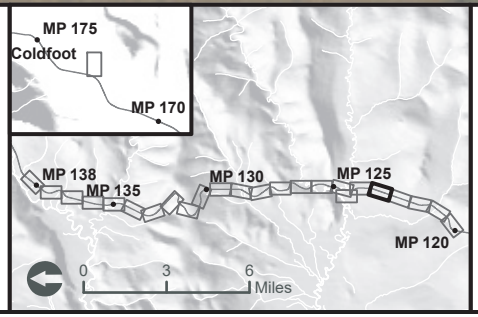
WOUS Impacts Mapbook

Sheet Wetland and Waterbody Impact = 1.32 acre

0 210 420 Feet

HORIZONTAL DATUM: NAD 83 AK State Plane Zone 4

- Stationing
- Milepost
- Project Alignment
- Project Footprint
- Vegetative Buffer
- Work Area
- Thermal Berm
- Wetland Mapping Limits
- Wetland and Waterbody Impact
- Fresh Waterbody
- Palustrine Emergent Wetland
- Palustrine Scrub-Shrub Wetland
- R3UBH
- R4SBC
- New Culvert



APPLICANT: Alaska Department of Transportation and Public Facilities

FILE NO: POA-2022-00511

WATERWAY: Bonanza Creek Watershed

LOCATION: Fairbanks Meridian SHEET

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Dalton Highway MP120-135 Reconstruction

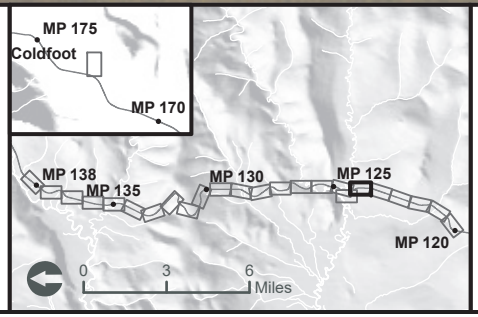
WOUS Impacts Mapbook

Sheet Wetland and Waterbody Impact = 1.42 acre

0 210 420 Feet

HORIZONTAL DATUM: NAD 83 AK State Plane Zone 4

- Stationing
- Milepost
- Project Alignment
- Project Footprint
- Vegetative Buffer
- Work Area
- Wetland Mapping Limits
- Wetland and Waterbody Impact
- Palustrine Emergent Wetland
- Palustrine Scrub-Shrub Wetland

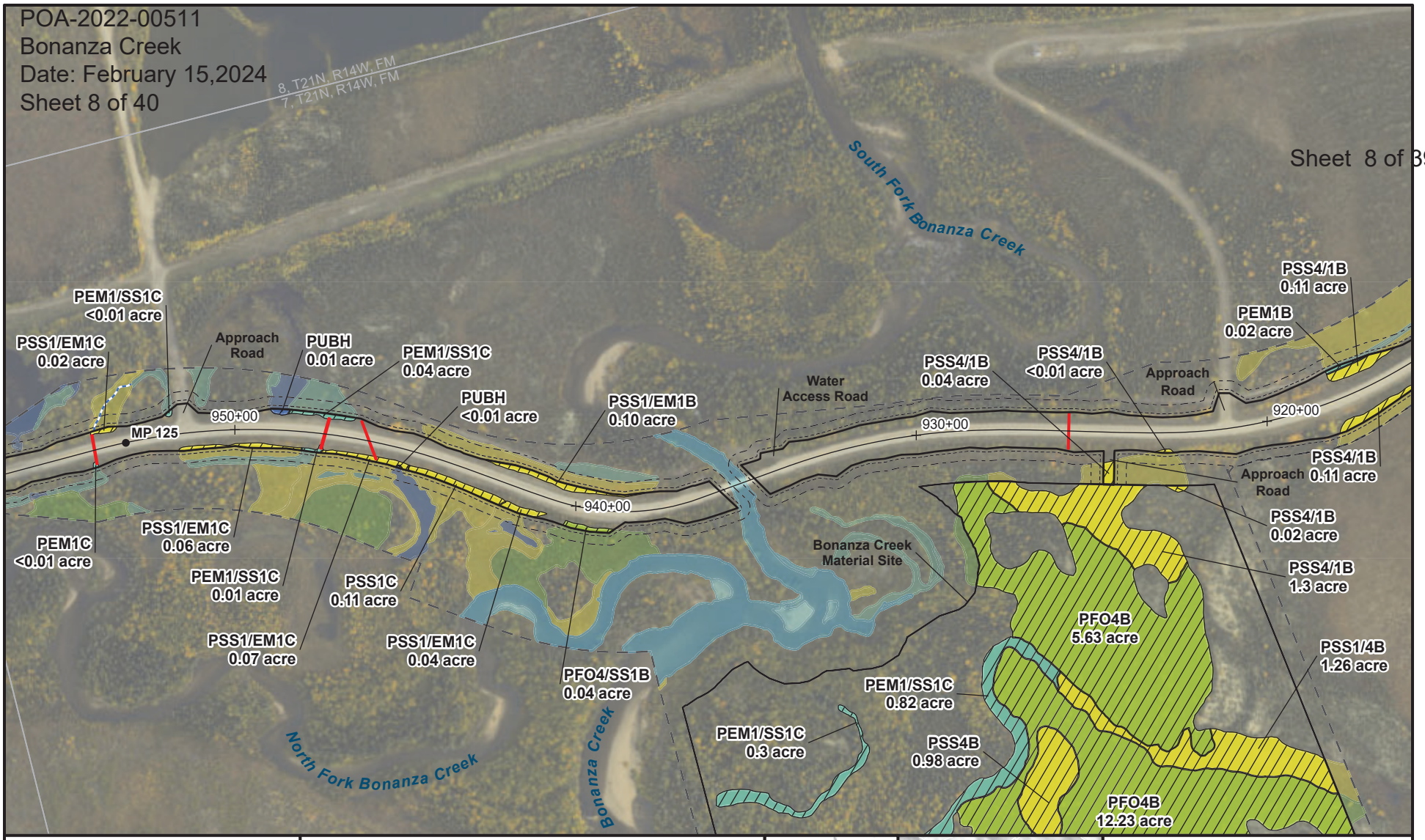


APPLICANT: Alaska Department of Transportation and Public Facilities

FILE NO: POA-2022-00511

WATERWAY: Bonanza Creek Watershed

LOCATION: Fairbanks Meridian SHEET 7 of 40



Dalton Highway MP120-135 Reconstruction

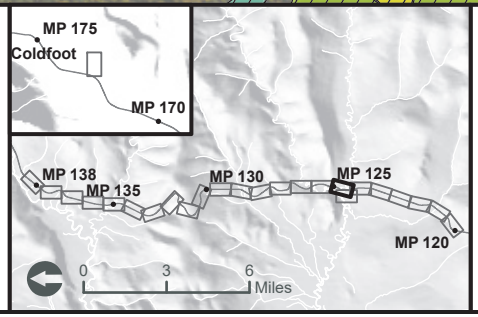
WOUS Impacts Mapbook

Sheet Wetland and Waterbody Impact = 15.8 acre

0 210 420 Feet

HORIZONTAL DATUM: NAD 83 AK State Plane Zone 4

- Stationing
- Milepost
- Project Alignment
- Project Footprint
- Vegetative Buffer
- Work Area
- Wetland Mapping Limits
- Wetland and Waterbody Impact
- Fresh Waterbody
- Palustrine Emergent Wetland
- Palustrine Forested Wetland
- Palustrine Scrub-Shrub Wetland
- Perennial Rivers and Streams
- R4SBC
- New Culvert

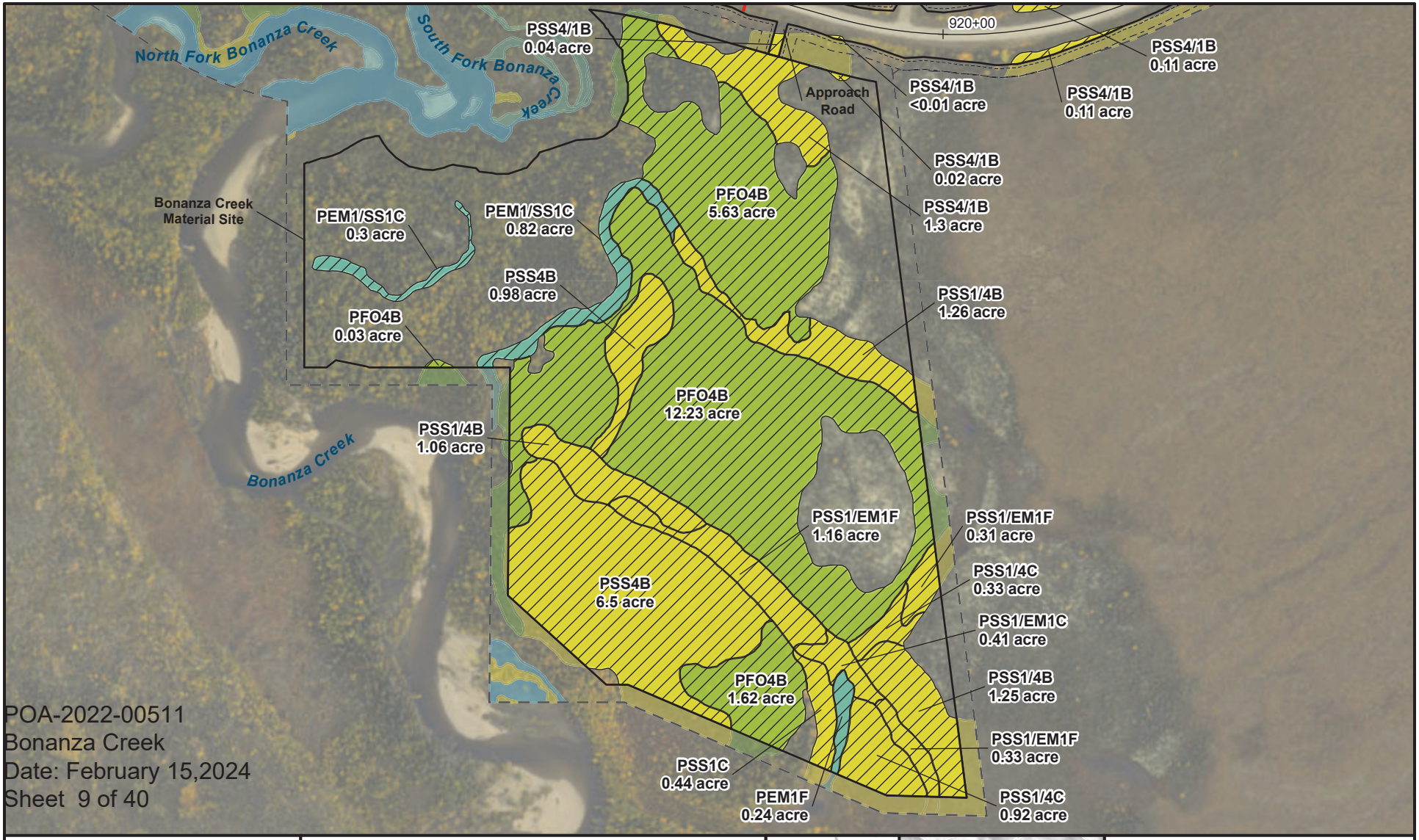


APPLICANT: Alaska Department of Transportation and Public Facilities

FILE NO: POA-2022-00511

WATERWAY: Bonanza Creek Watershed

LOCATION: Fairbanks Meridian SHEET 8 of 40



Dalton Highway MP120-135 Reconstruction

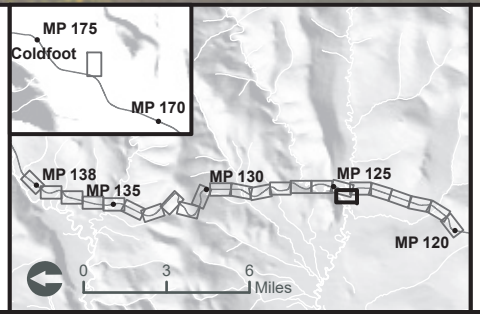
WOUS Impacts Mapbook

Sheet Wetland and Waterbody Impact = 37.35 acre

0 210 420 Feet

HORIZONTAL DATUM: NAD 83 AK State Plane Zone 4

- Stationing
- Project Alignment
- Project Footprint
- Vegetative Buffer
- Work Area
- Wetland Mapping Limits
- Wetland and Waterbody Impact
- Palustrine Emergent Wetland
- Palustrine Forested Wetland
- Palustrine Scrub-Shrub Wetland
- Perennial Rivers and Streams
- New Culvert



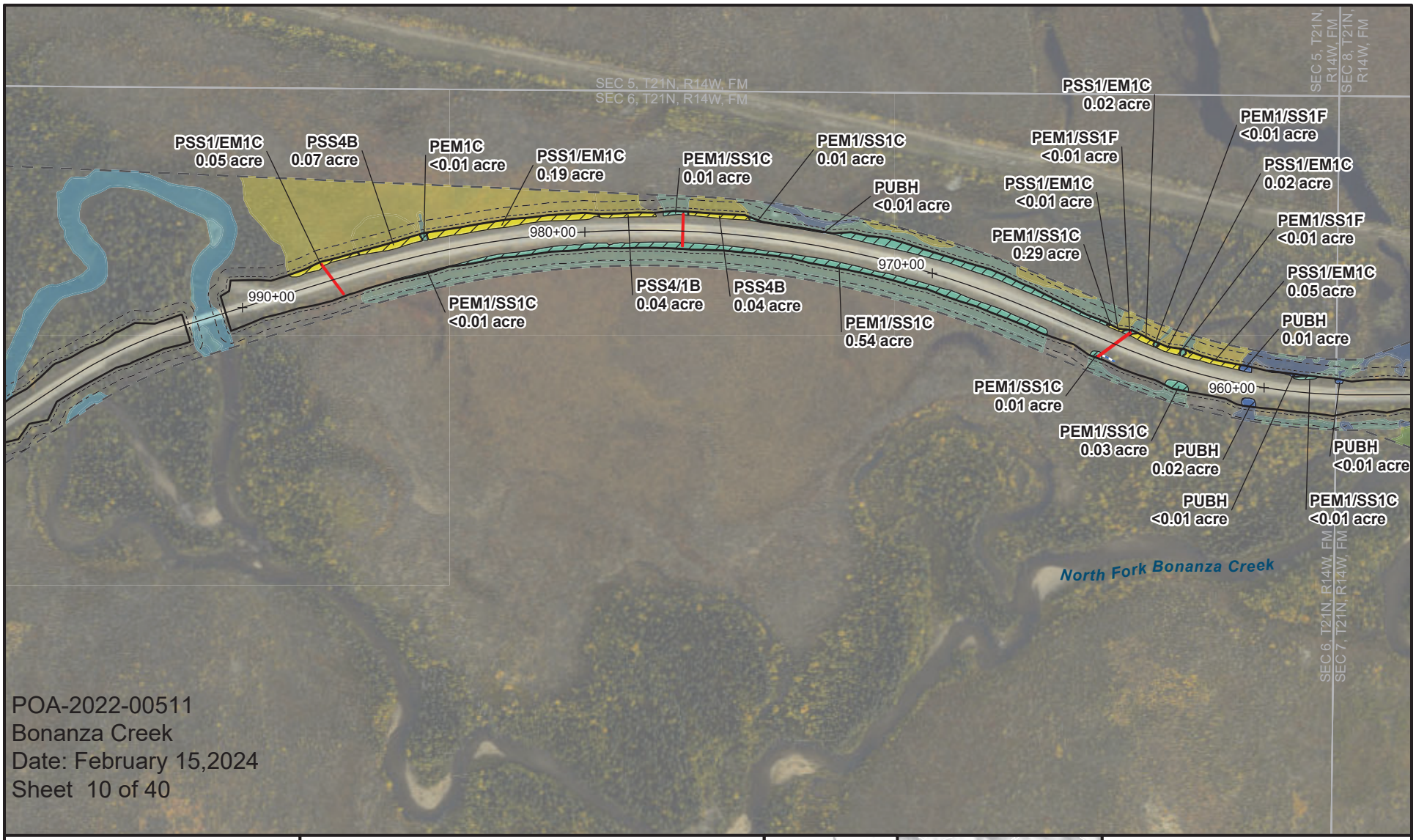
APPLICANT: Alaska Department of Transportation and Public Facilities

FILE NO: POA-2022-00511

WATERWAY: Bonanza Creek Watershed

LOCATION: Fairbanks Meridian SHEET

9 of 40



POA-2022-00511
Bonanza Creek
Date: February 15,2024
Sheet 10 of 40

Dalton Highway MP120-135 Reconstruction

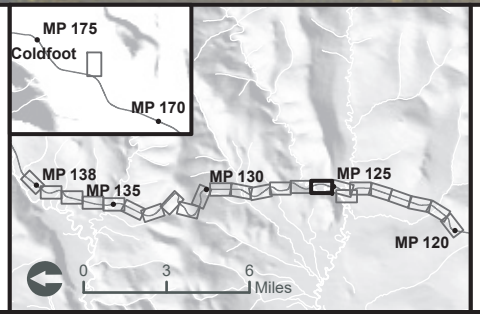
WOUS Impacts Mapbook

Sheet Wetland and Waterbody Impact = 1.47 acre

0 210 420 Feet

HORIZONTAL DATUM: NAD 83 AK State Plane Zone 4

- Stationing
- Project Alignment
- Project Footprint
- Vegetative Buffer
- Work Area
- Wetland Mapping Limits
- Wetland and Waterbody Impact
- Fresh Waterbody
- Palustrine Emergent Wetland
- Palustrine Forested Wetland
- Palustrine Scrub-Shrub Wetland
- Perennial Rivers and Streams
- R4SBC
- New Culvert



APPLICANT: Alaska Department of Transportation and Public Facilities

FILE NO: POA-2022-00511

WATERWAY: Bonanza Creek Watershed

LOCATION: Fairbanks Meridian SHEET

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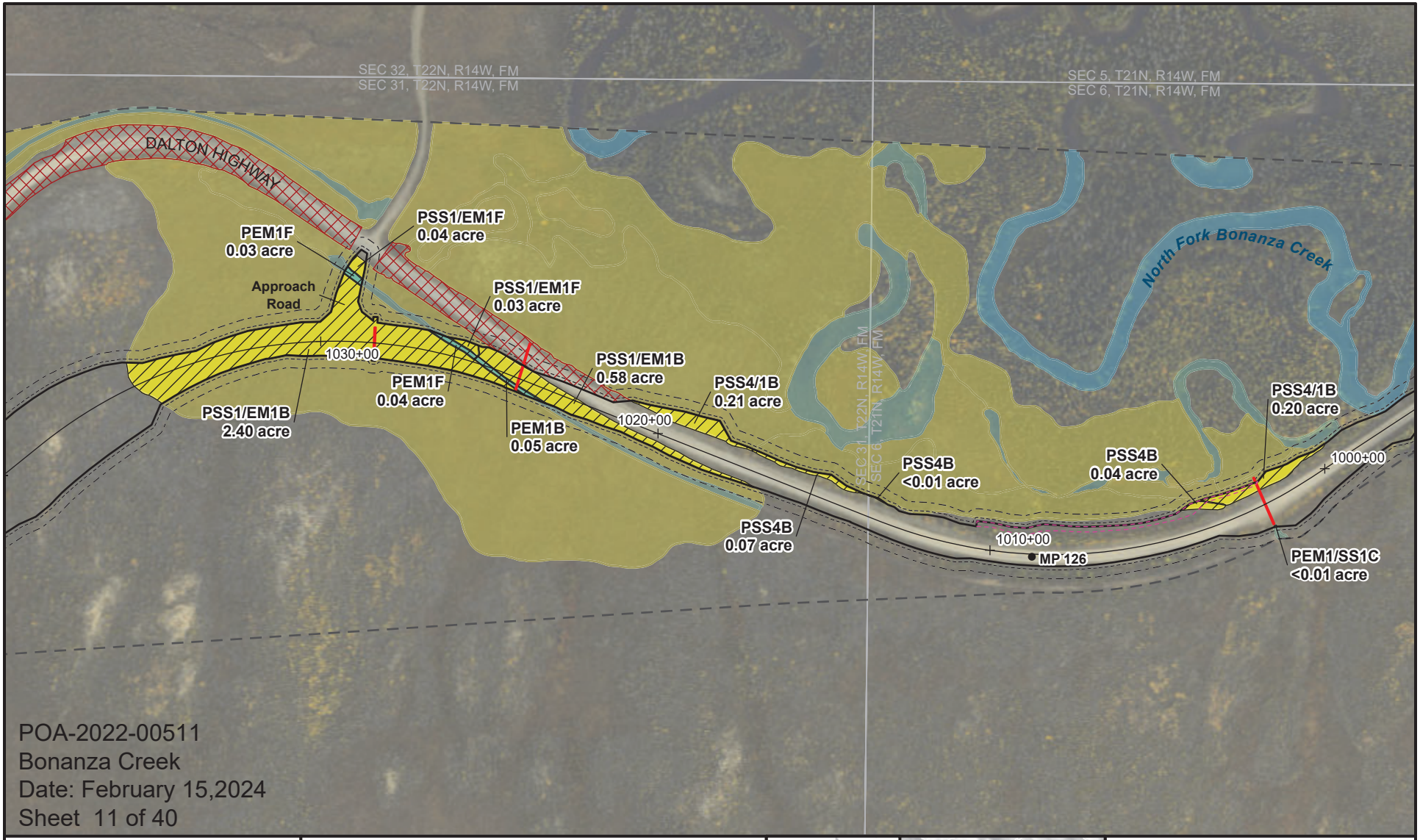


Dalton Highway MP120-135 Reconstruction

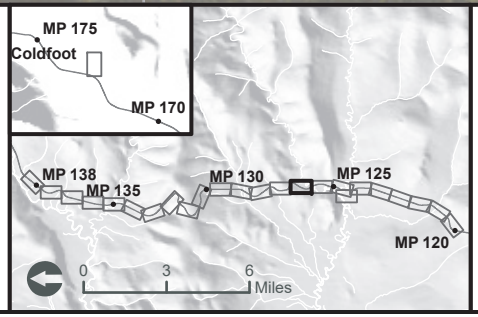
WOUS Impacts Mapbook

Sheet Wetland and Waterbody Impact = 3.71 acre

0 210 420 Feet

HORIZONTAL DATUM: NAD 83 AK State Plane Zone 4

- Stationing
- Milepost
- Project Alignment
- Project Footprint
- Vegetative Buffer
- Work Area
- Thermal Berm
- Material Removal
- Wetland Mapping Limits
- Wetland and Waterbody Impact
- Palustrine Emergent Wetland
- Palustrine Scrub-Shrub Wetland
- Perennial Rivers and Streams
- New Culvert



APPLICANT: Alaska Department of Transportation and Public Facilities

FILE NO: POA-2022-00511

WATERWAY: Bonanza Creek Watershed

LOCATION: Fairbanks Meridian SHEET

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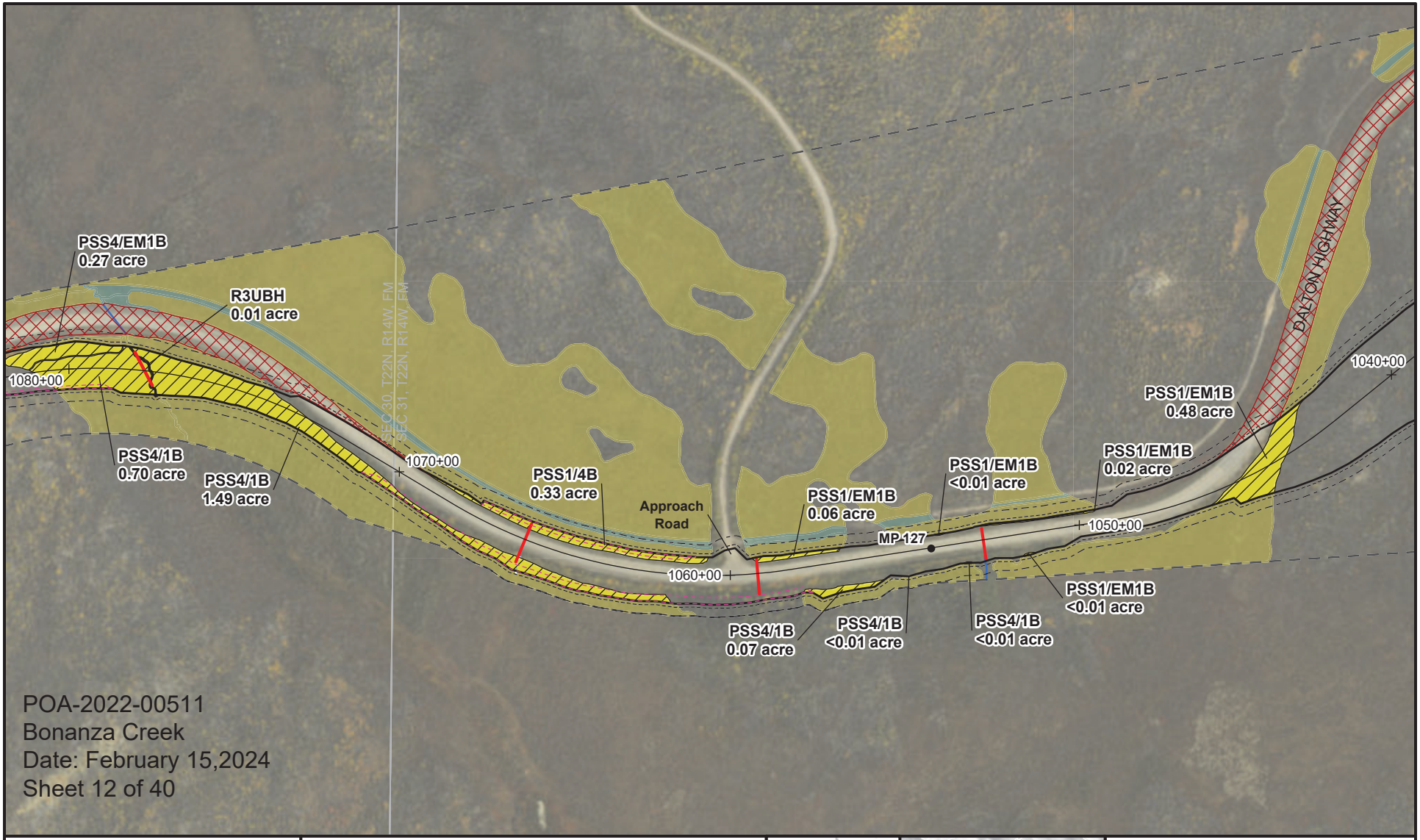


Dalton Highway MP120-135 Reconstruction

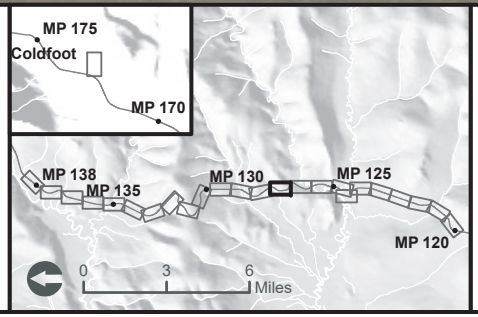
WOUS Impacts Mapbook

Sheet Wetland and Waterbody Impact = 3.43 acre

0 210 420 Feet

HORIZONTAL DATUM: NAD 83 AK State Plane Zone 4

- Stationing
- Milepost
- Project Alignment
- Project Footprint
- Vegetative Buffer
- Work Area
- Thermal Berm
- Material Removal
- Wetland Mapping Limits
- Wetland and Waterbody Impact
- Palustrine Emergent Wetland
- Palustrine Scrub-Shrub Wetland
- Perennial Rivers and Streams
- R3UBH
- R4SBC
- New Culvert

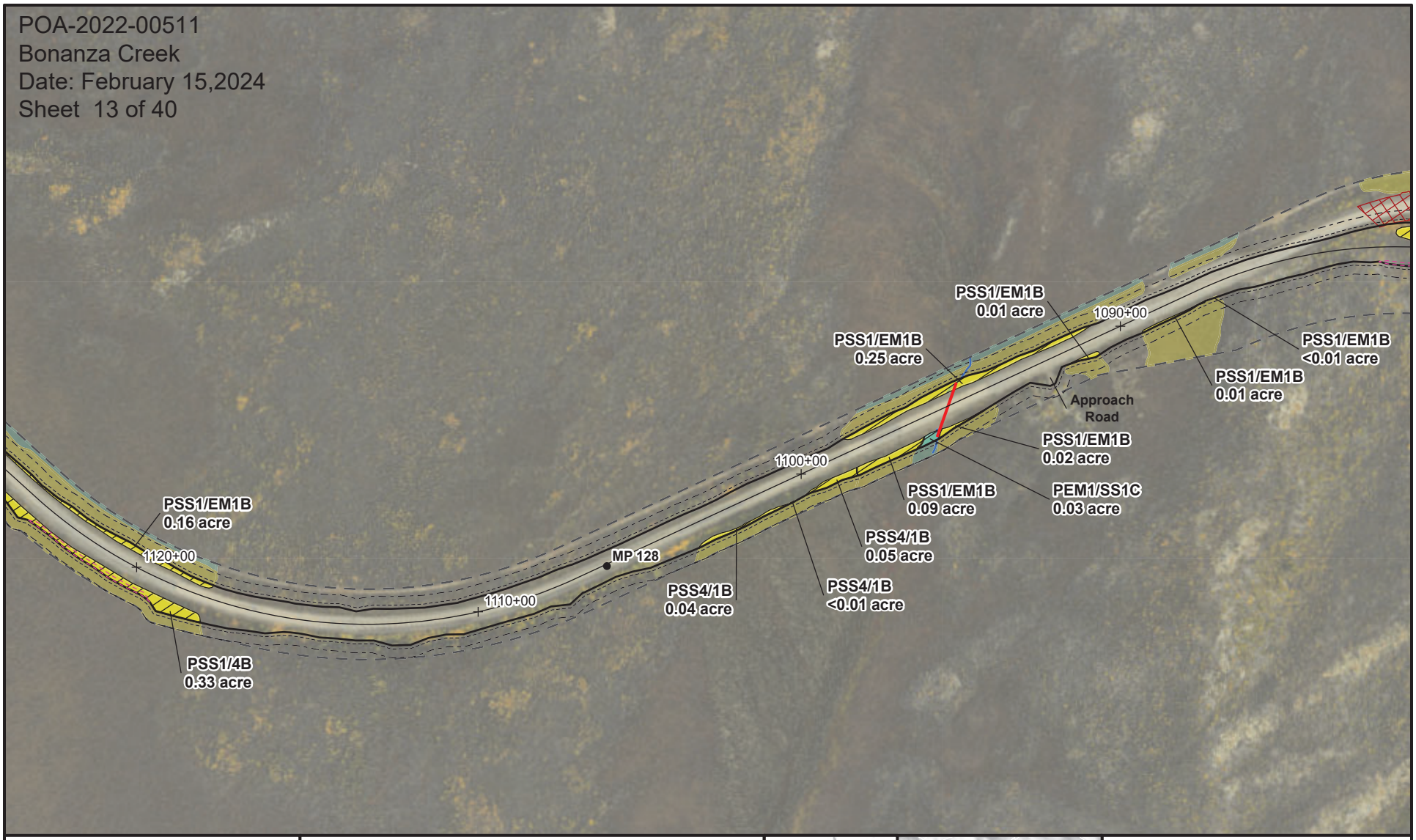


APPLICANT: Alaska Department of Transportation and Public Facilities

FILE NO: POA-2022-00511

WATERWAY: Bonanza Creek Watershed

LOCATION: Fairbanks Meridian SHEET 12 of 40



Dalton Highway MP120-135 Reconstruction

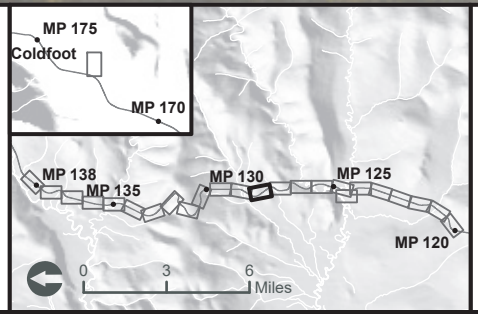
WOUS Impacts Mapbook

Sheet Wetland and Waterbody Impact = 1 acre

0 210 420 Feet

HORIZONTAL DATUM: NAD 83 AK State Plane Zone 4

- Stationing
- Milepost
- Project Alignment
- Project Footprint
- Vegetative Buffer
- Work Area
- Thermal Berm
- Material Removal
- Wetland Mapping Limits
- Wetland and Waterbody Impact
- Palustrine Emergent Wetland
- Palustrine Scrub-Shrub Wetland
- R3UBH
- New Culvert



APPLICANT: Alaska Department of Transportation and Public Facilities

FILE NO: POA-2022-00511

WATERWAY: Bonanza Creek Watershed

LOCATION: Fairbanks Meridian SHEET

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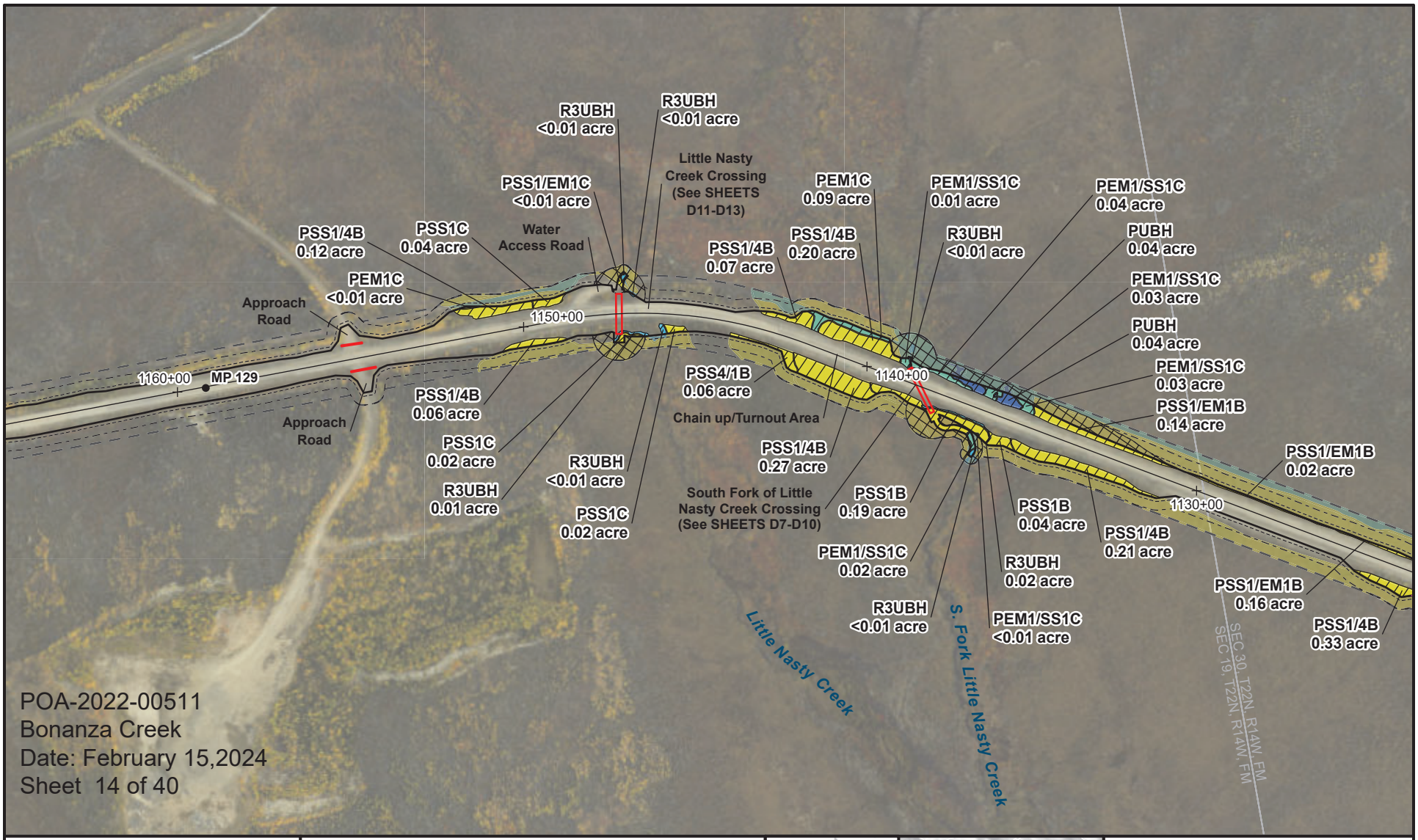


Dalton Highway MP120-135 Reconstruction

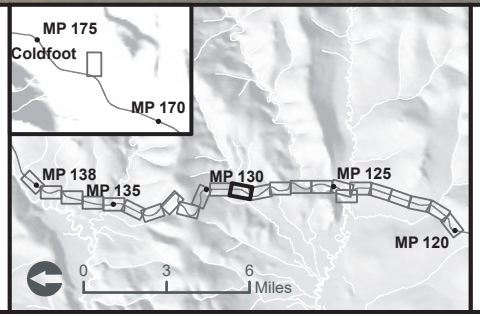
WOUS Impacts Mapbook

Sheet Wetland and Waterbody Impact = 1.9 acre

0 210 420 Feet

HORIZONTAL DATUM: NAD 83 AK State Plane Zone 4

- Stationing
- Milepost
- Project Alignment
- Project Footprint
- Temporary Construction Area
- Vegetative Buffer
- Work Area
- Thermal Berm
- Wetland Mapping Limits
- Wetland and Waterbody Impact
- Fresh Waterbody
- Palustrine Emergent Wetland
- Palustrine Scrub-Shrub Wetland
- Perennial Rivers and Streams
- New Culvert



APPLICANT: Alaska Department of Transportation and Public Facilities

FILE NO: POA-2022-00511

WATERWAY: Bonanza Creek Watershed

LOCATION: Fairbanks Meridian SHEET

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Dalton Highway MP120-135 Reconstruction

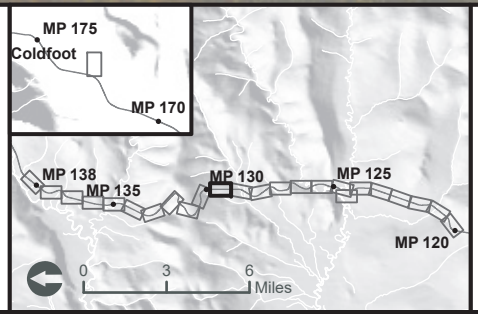
WOUS Impacts Mapbook

Sheet Wetland and Waterbody Impact = 0 acre

0 210 420 Feet

HORIZONTAL DATUM: NAD 83 AK State Plane Zone 4

- Stationing
- Project Alignment
- Project Footprint
- Vegetative Buffer
- Work Area
- Thermal Berm
- Wetland Mapping Limits
- R4SBC
- New Culvert



APPLICANT: Alaska Department of Transportation and Public Facilities

FILE NO: POA-2022-00511

WATERWAY: Bonanza Creek Watershed

LOCATION: Fairbanks Meridian SHEET

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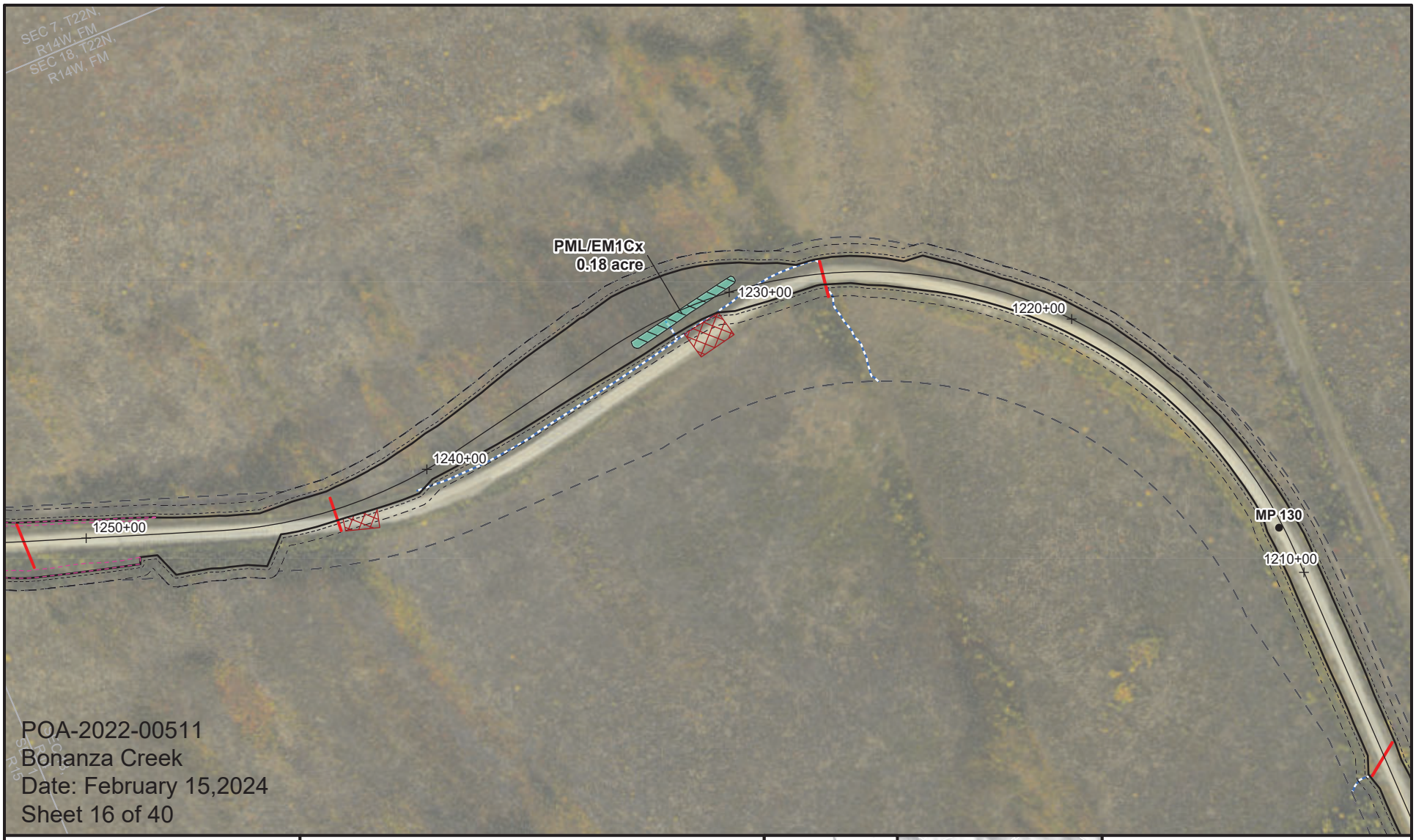


Dalton Highway MP120-135 Reconstruction

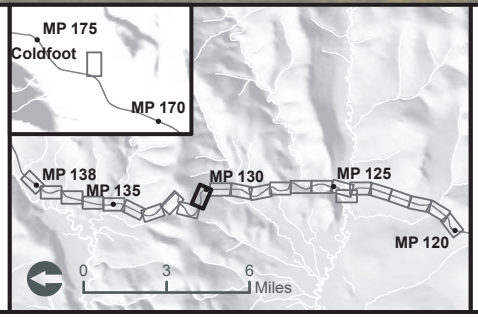
WOUS Impacts Mapbook

Sheet Wetland and Waterbody Impact = 0.18 acre

0 210 420 Feet

HORIZONTAL DATUM: NAD 83 AK State Plane Zone 4

- Stationing
- Milepost
- Project Alignment
- Project Footprint
- Vegetative Buffer
- Work Area
- Thermal Berm
- Material Removal
- Wetland Mapping Limits
- Wetland and Waterbody Impact
- Palustrine Emergent Wetland
- R4SBC
- New Culvert



APPLICANT: Alaska Department of Transportation and Public Facilities

FILE NO: POA-2022-00511

WATERWAY: Bonanza Creek Watershed

LOCATION: Fairbanks Meridian SHEET 16 of 40

Dalton Highway MP120-135 Reconstruction

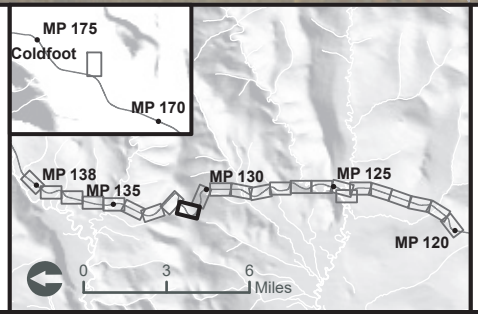
WOUS Impacts Mapbook

Sheet Wetland and Waterbody Impact = 0 acre

0 210 420 Feet

HORIZONTAL DATUM: NAD 83 AK State Plane Zone 4

- Stationing
- Milepost
- Project Alignment
- Project Footprint
- Vegetative Buffer
- Work Area
- Thermal Berm
- Material Removal
- Wetland Mapping Limits
- New Culvert



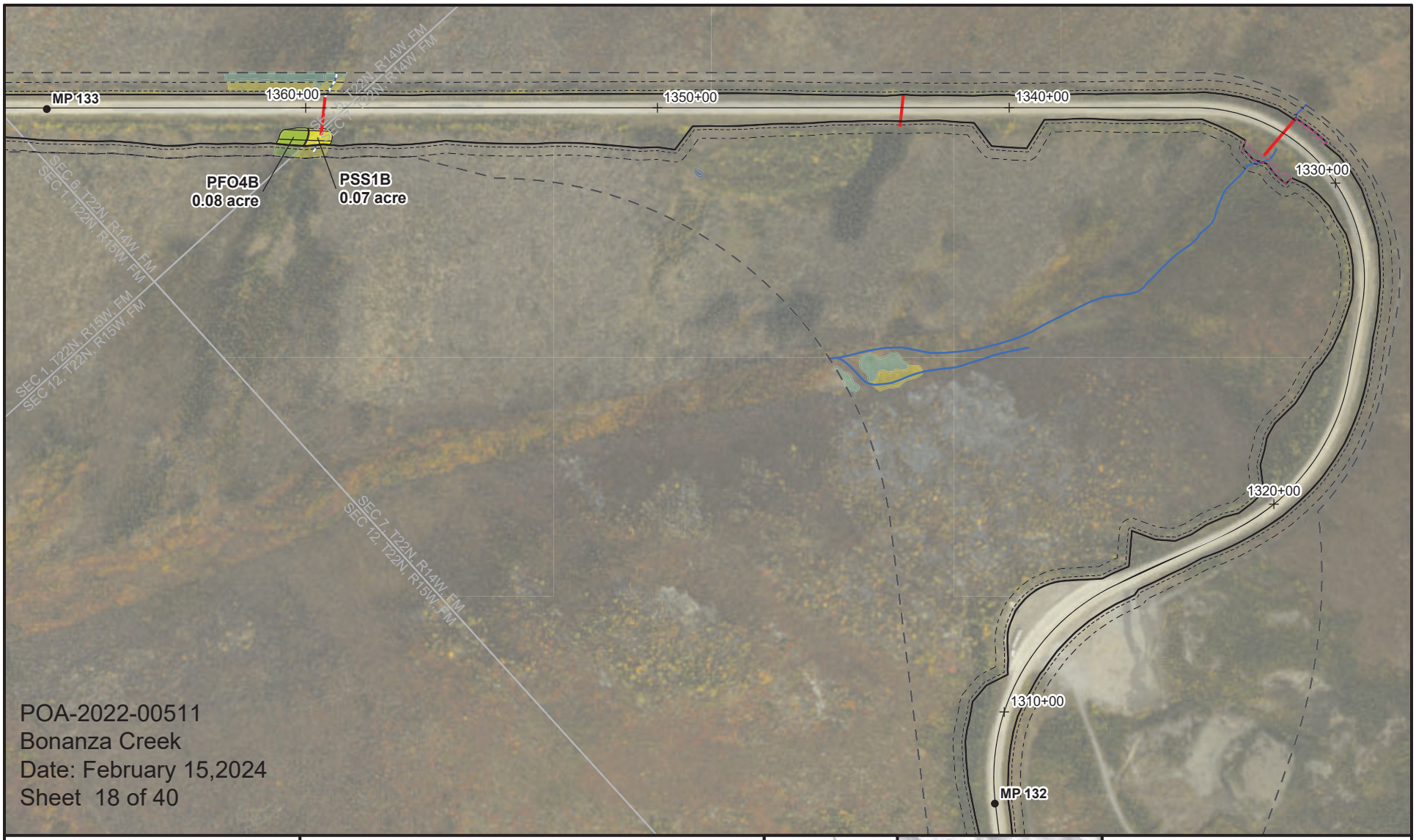
APPLICANT: Alaska Department of Transportation and Public Facilities

FILE NO: POA-2022-00511

WATERWAY: Prospect Creek Watershed

LOCATION: Fairbanks Meridian SHEET

17 of 40



Dalton Highway MP120-135 Reconstruction

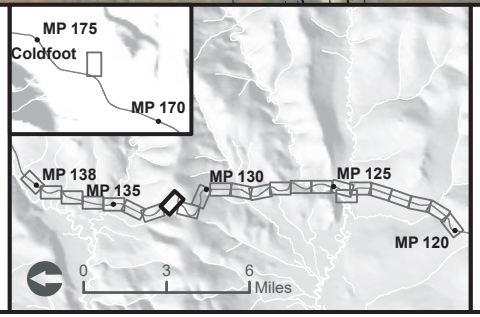
WOUS Impacts Mapbook

Sheet Wetland and Waterbody Impact = 0.15 acre

0 210 420 Feet

HORIZONTAL DATUM: NAD 83 AK State Plane Zone 4

- Stationing
- Milepost
- Project Alignment
- Project Footprint
- Vegetative Buffer
- Work Area
- Thermal Berm
- Wetland Mapping Limits
- Wetland and Waterbody Impact
- Fresh Waterbody
- Palustrine Emergent Wetland
- Palustrine Forested Wetland
- Palustrine Scrub-Shrub Wetland
- R3UBH
- R4SBC
- New Culvert

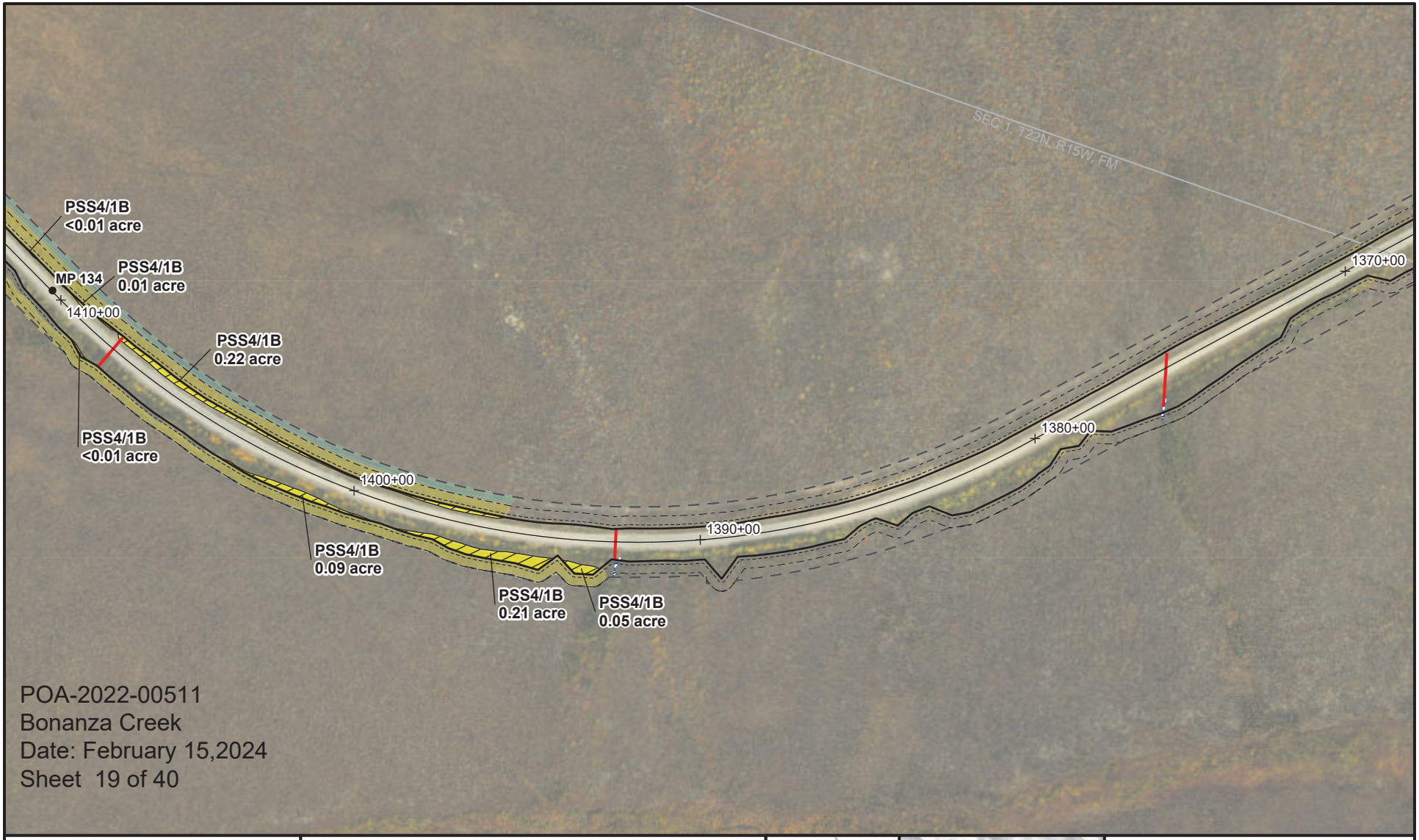


APPLICANT: Alaska Department of Transportation and Public Facilities

FILE NO: POA-2022-00511

WATERWAY: Prospect Creek Watershed

LOCATION: Fairbanks Meridian SHEET 18 of 40



Dalton Highway MP120-135 Reconstruction

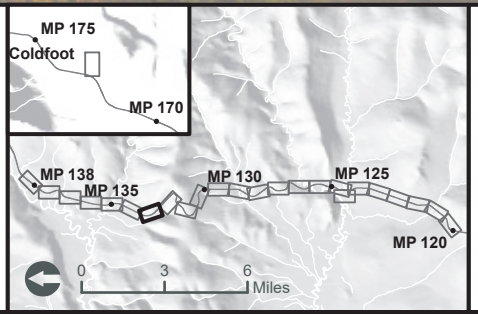
WOUS Impacts Mapbook

Sheet Wetland and Waterbody Impact = 0.59 acre

0 210 420 Feet

HORIZONTAL DATUM: NAD 83 AK State Plane Zone 4

- Stationing
- Milepost
- Project Alignment
- Project Footprint
- Vegetative Buffer
- Work Area
- Wetland Mapping Limits
- Wetland and Waterbody Impact
- Palustrine Emergent Wetland
- Palustrine Scrub-Shrub Wetland
- R4SBC
- New Culvert



APPLICANT: Alaska Department of Transportation and Public Facilities

FILE NO: POA-2022-00511

WATERWAY: Prospect Creek Watershed

LOCATION: Fairbanks Meridian SHEET

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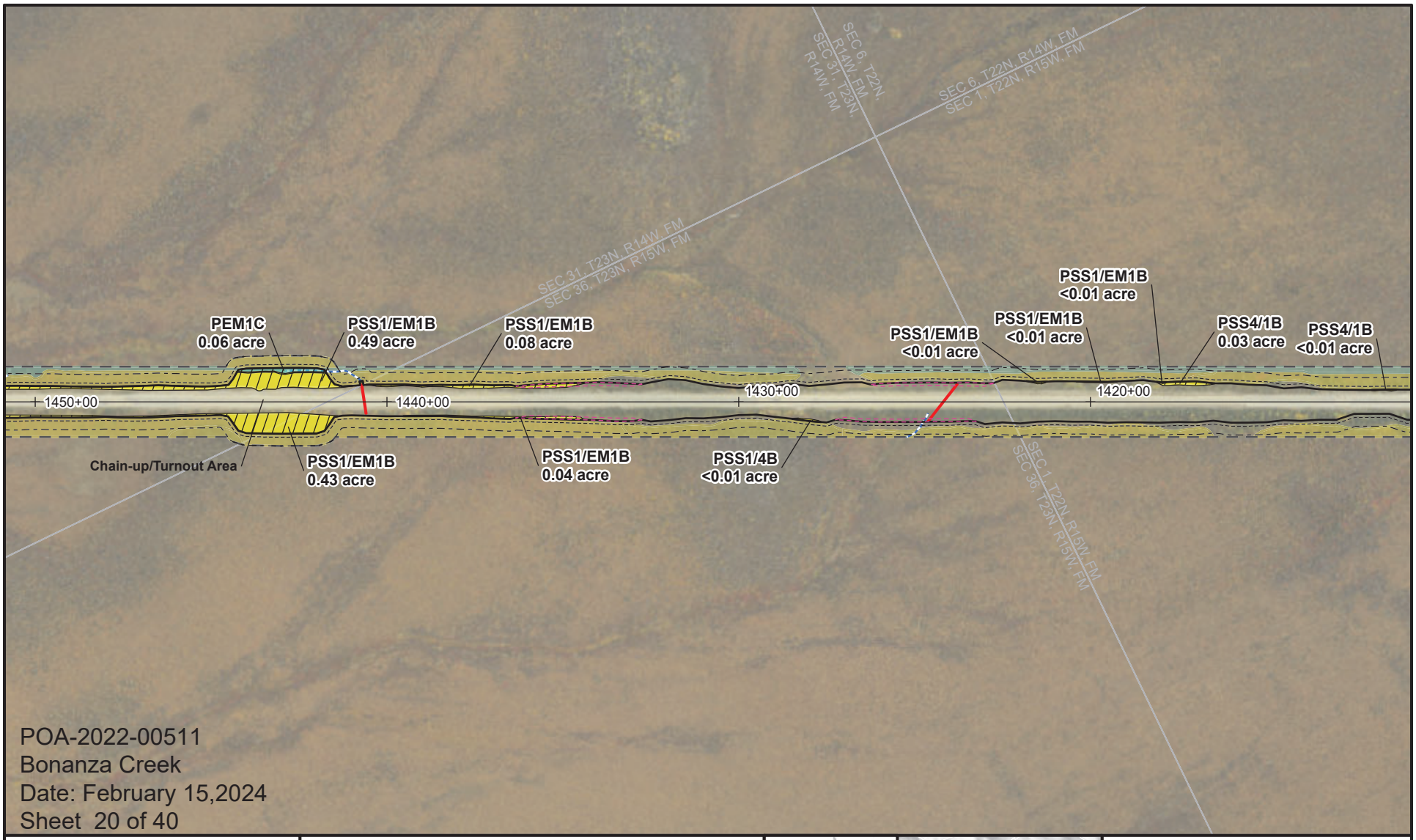


POA-2022-00511
Bonanza Creek
Date: February 15,2024
Sheet 20 of 40

Dalton Highway MP120-135 Reconstruction

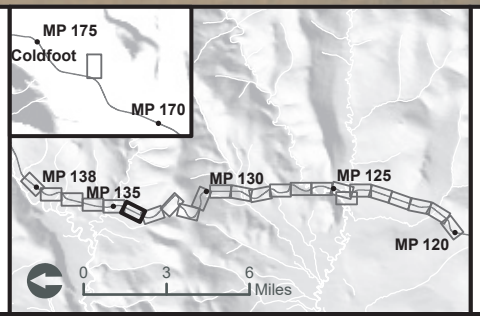
WOUS Impacts Mapbook

Sheet Wetland and Waterbody Impact = 1.03 acre

0 210 420 Feet

HORIZONTAL DATUM:
NAD 83 AK State Plane Zone 4

- Stationing
- Project Alignment
- Project Footprint
- Vegetative Buffer
- Work Area
- Thermal Berm
- Wetland Mapping Limits
- Wetland and Waterbody Impact
- Palustrine Emergent Wetland
- Palustrine Scrub-Shrub Wetland
- R4SBC
- New Culvert

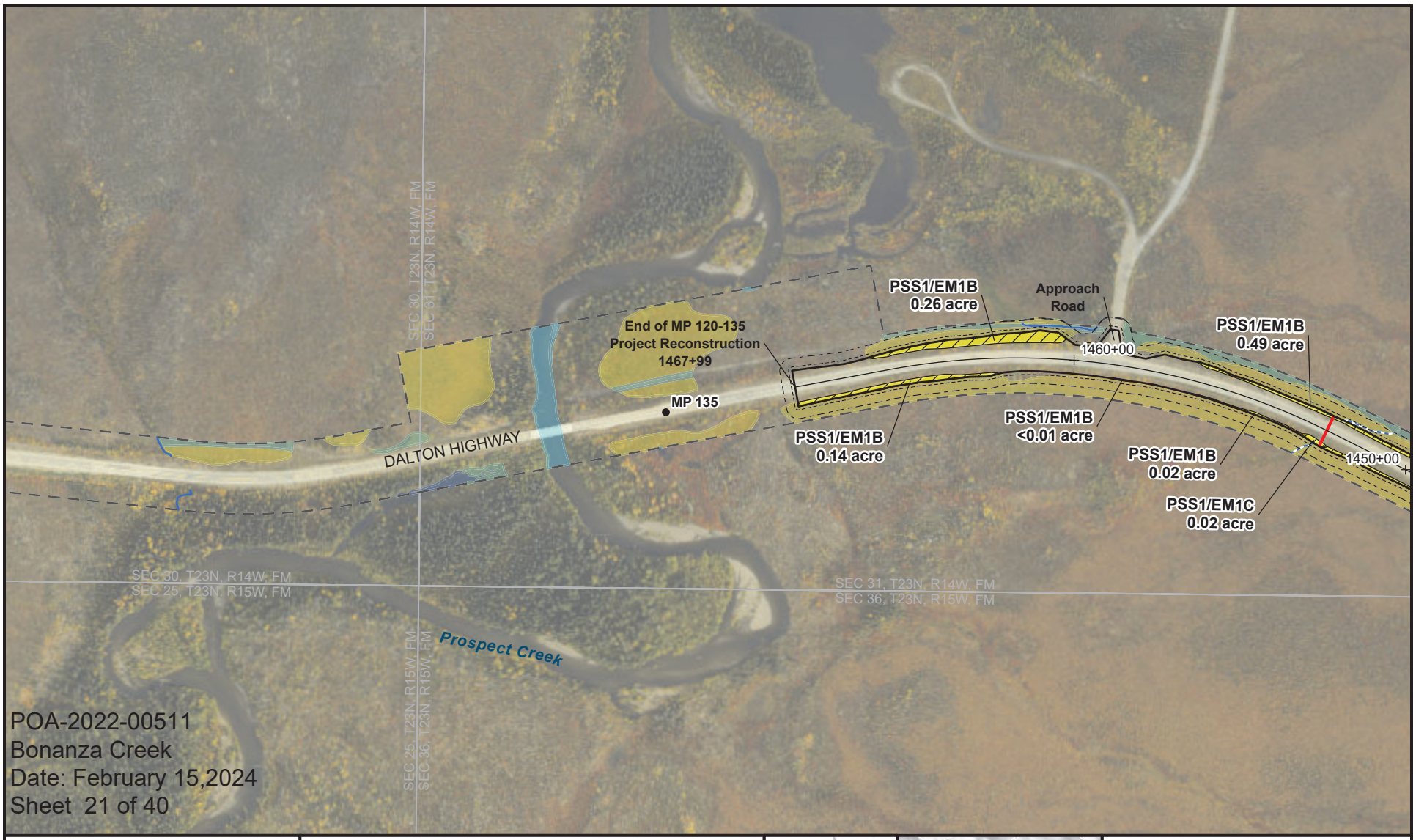


APPLICANT: Alaska Department of Transportation and Public Facilities

FILE NO: POA-2022-00511

WATERWAY: Prospect Creek Watershed

LOCATION: Fairbanks Meridian SHEET 20 of 40



Dalton Highway MP120-135 Reconstruction

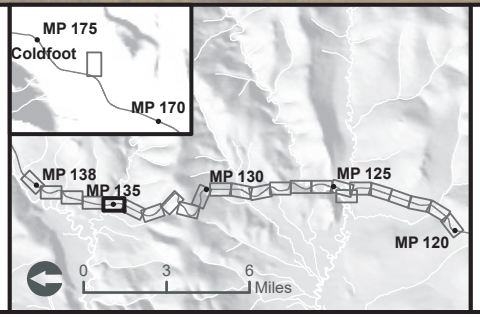
WOUS Impacts Mapbook

Sheet Wetland and Waterbody Impact = 0.58 acre

0 210 420 Feet

HORIZONTAL DATUM: NAD 83 AK State Plane Zone 4

- Stationing
- Milepost
- Project Alignment
- Project Footprint
- Vegetative Buffer
- Work Area
- Wetland Mapping Limits
- Wetland and Waterbody Impact
- Fresh Waterbody
- Palustrine Emergent Wetland
- Palustrine Scrub-Shrub Wetland
- Perennial Rivers and Streams
- R3UBH
- R4SBC
- New Culvert

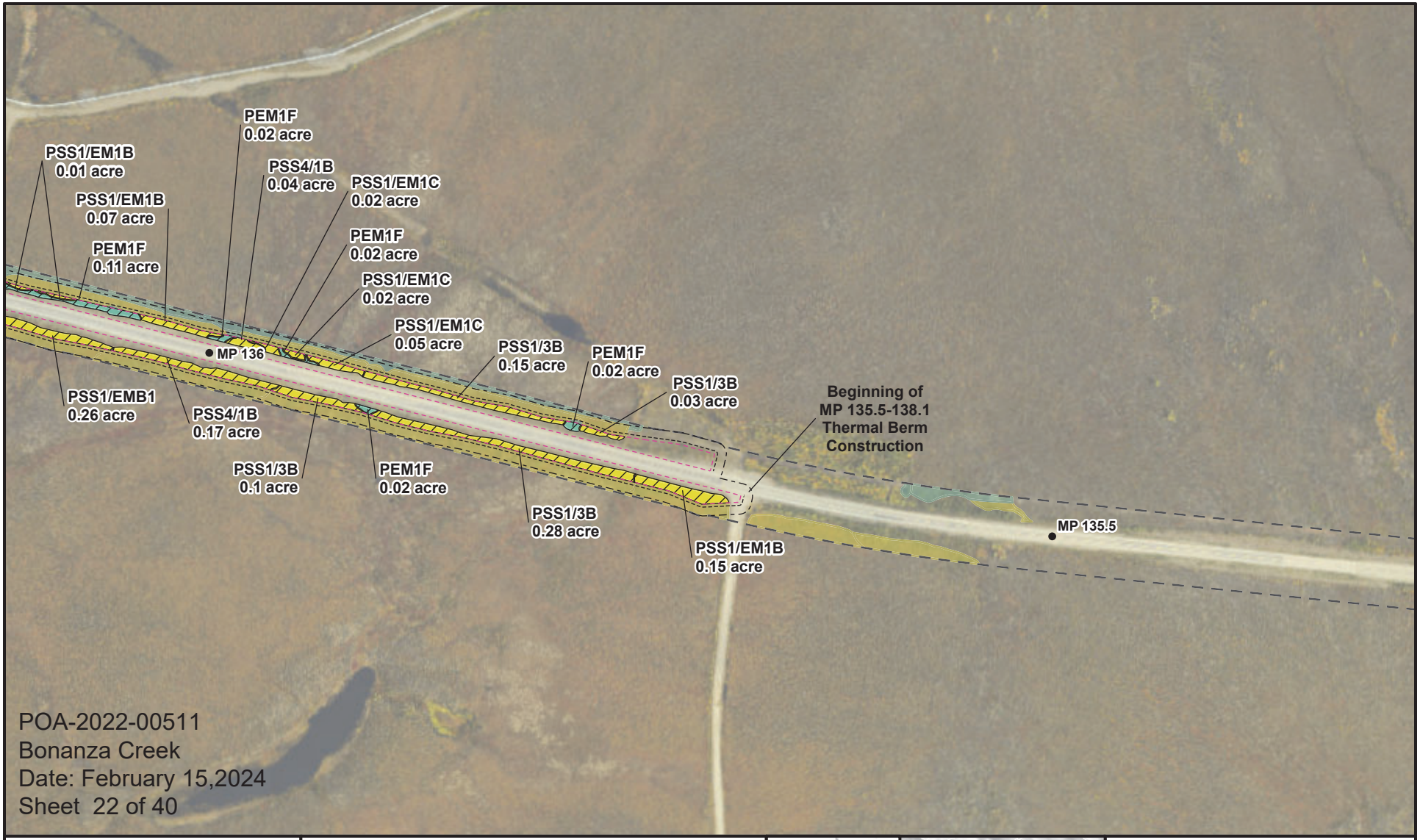


APPLICANT: Alaska Department of Transportation and Public Facilities

FILE NO: POA-2022-00511

WATERWAY: Prospect Creek Watershed

LOCATION: Fairbanks Meridian SHEET 21 of 40



Dalton Highway MP120-135 Reconstruction

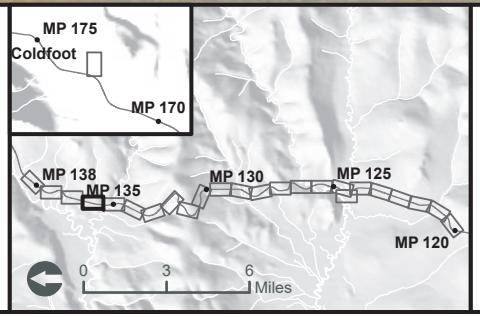
WOUS Impacts Mapbook

Sheet Wetland and Waterbody Impact = 1.42 acre

0 210 420 Feet

HORIZONTAL DATUM: NAD 83 AK State Plane Zone 4

- Milepost
- Thermal Berm
- Vegetative Buffer
- Work Area
- Wetland Mapping Limits
- Wetland and Waterbody Impact
- Palustrine Emergent Wetland
- Palustrine Scrub-Shrub Wetland



APPLICANT: Alaska Department of Transportation and Public Facilities

FILE NO: POA-2022-00511

WATERWAY: Prospect Creek Watershed

LOCATION: Fairbanks Meridian SHEET

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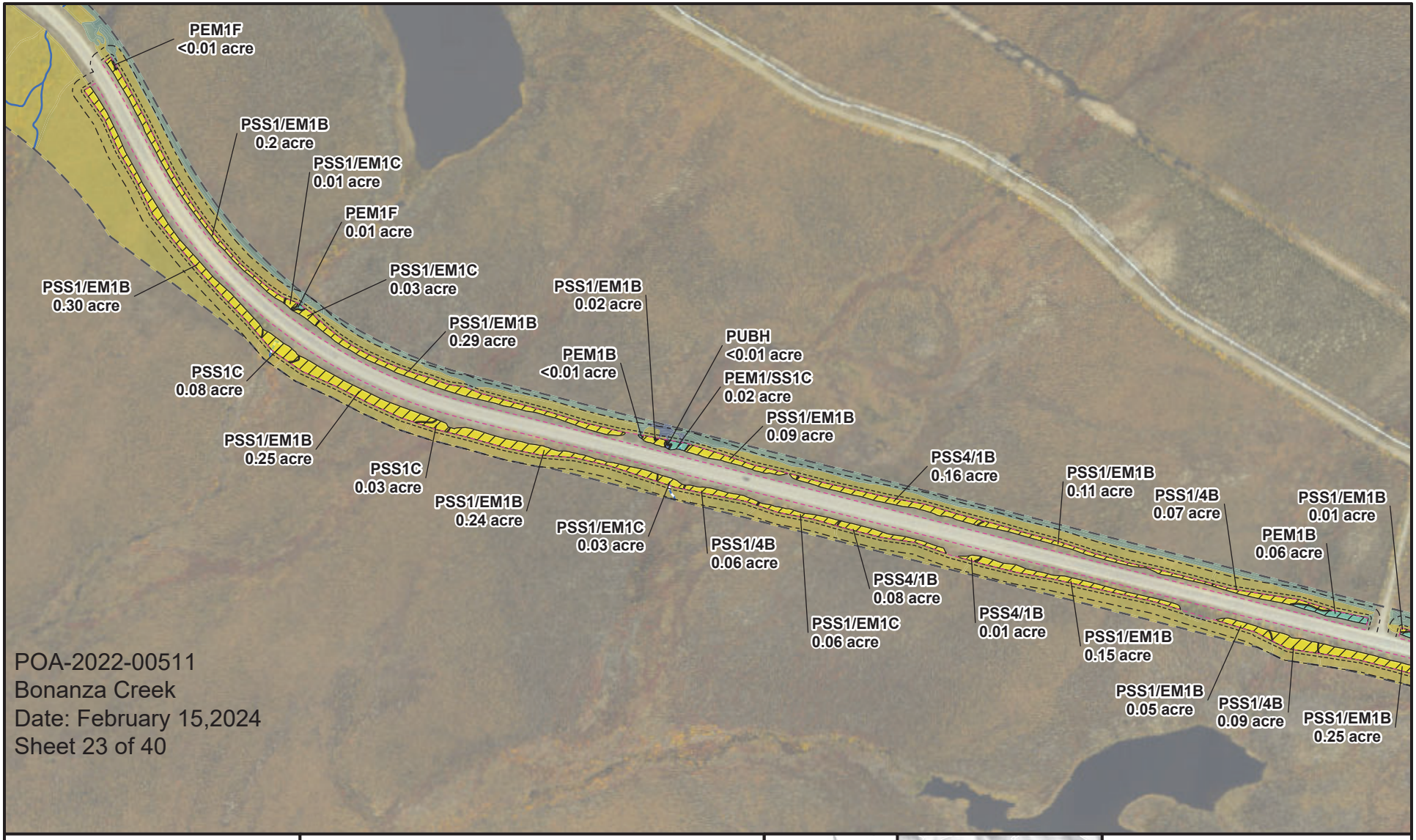


Dalton Highway MP120-135 Reconstruction

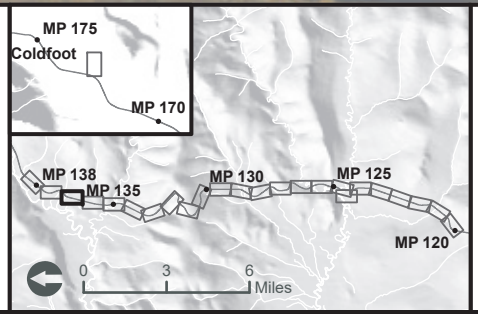
WOUS Impacts Mapbook

Sheet Wetland and Waterbody Impact = 2.68 acre

0 210 420 Feet

HORIZONTAL DATUM: NAD 83 AK State Plane Zone 4

- Thermal Berm
- Vegetative Buffer
- Work Area
- Wetland Mapping Limits
- Wetland and Waterbody Impact
- Fresh Waterbody
- Palustrine Emergent Wetland
- Palustrine Scrub-Shrub Wetland
- R3UBH
- R4SBC

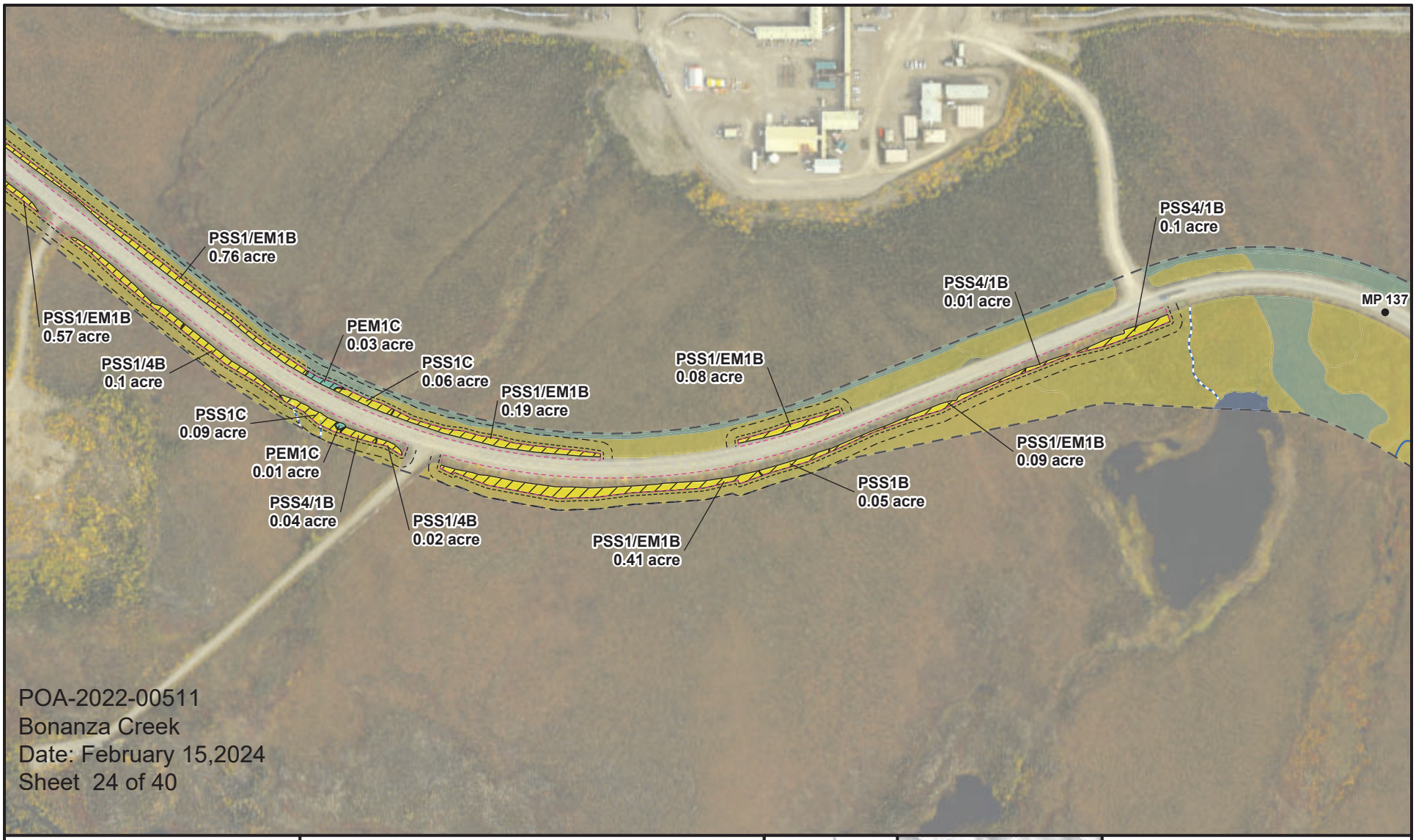


APPLICANT: Alaska Department of Transportation and Public Facilities

FILE NO: POA-2022-00511

WATERWAY: Prospect Creek Watershed

LOCATION: Fairbanks Meridian SHEET 23 of 40



Dalton Highway MP120-135 Reconstruction

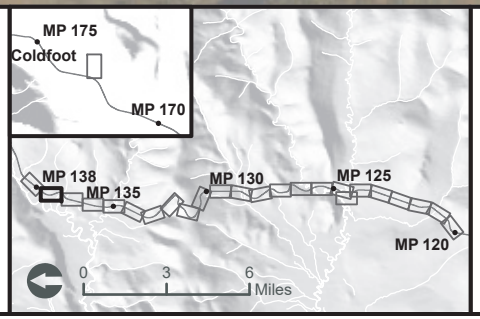
WOUS Impacts Mapbook

Sheet Wetland and Waterbody Impact = 1.65 acre

0 210 420 Feet

HORIZONTAL DATUM: NAD 83 AK State Plane Zone 4

- Milepost
- Thermal Berm
- Vegetative Buffer
- Work Area
- Wetland Mapping Limits
- Wetland and Waterbody Impact
- Fresh Waterbody
- Palustrine Emergent Wetland
- Palustrine Scrub-Shrub Wetland
- R3UBH
- R4SBC

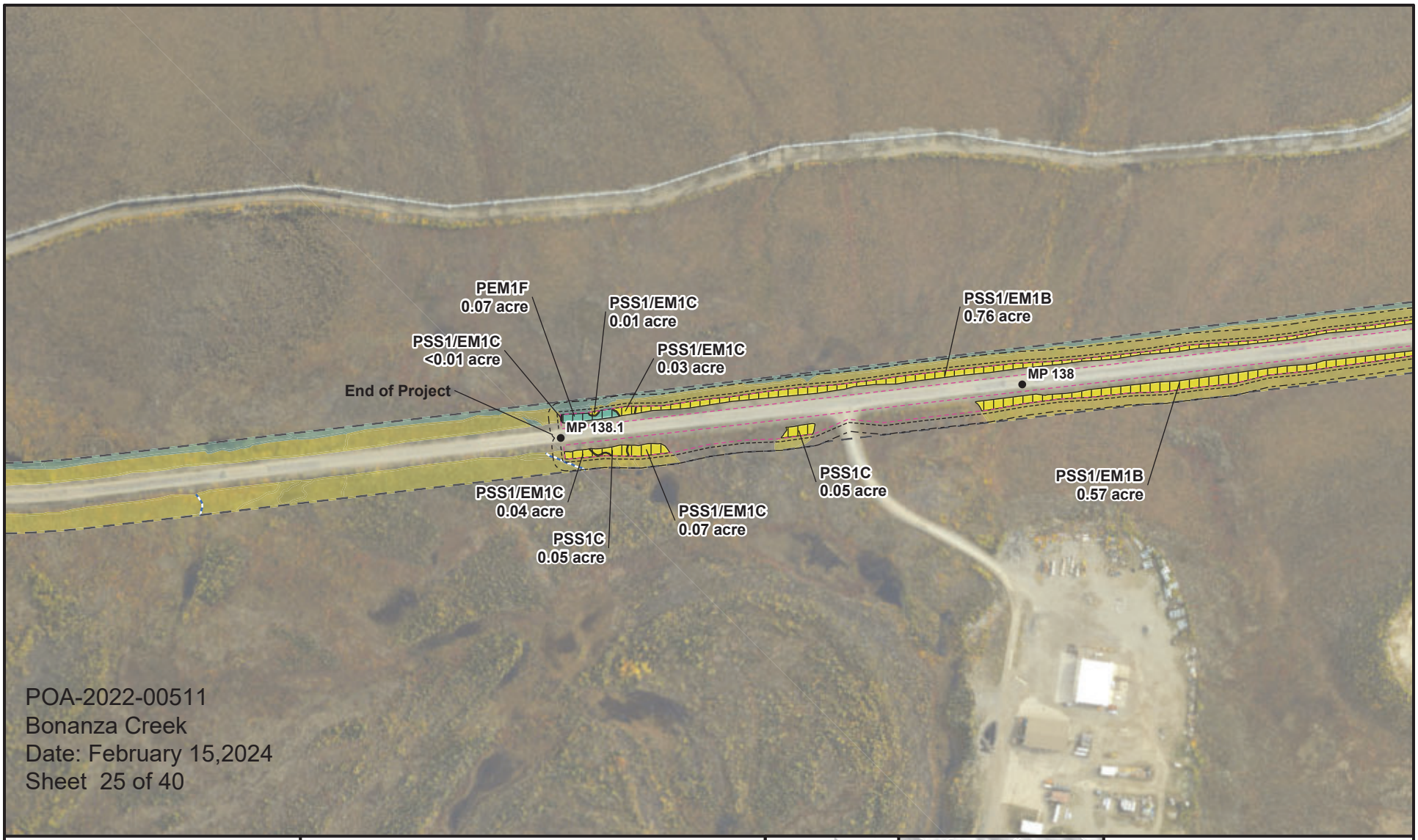


APPLICANT: Alaska Department of Transportation and Public Facilities

FILE NO: POA-2022-00511

WATERWAY: Prospect Creek Watershed

LOCATION: Fairbanks Meridian SHEET 24 of 40



Dalton Highway MP120-135 Reconstruction

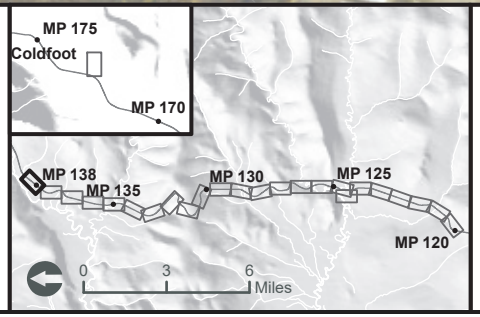
WOUS Impacts Mapbook

Sheet Wetland and Waterbody Impact = 1.38 acre

0 210 420 Feet

HORIZONTAL DATUM: NAD 83 AK State Plane Zone 4

- Milepost
- Thermal Berm
- Vegetative Buffer
- Work Area
- Wetland Mapping Limits
- Wetland and Waterbody Impact
- Palustrine Emergent Wetland
- Palustrine Scrub-Shrub Wetland
- R4SBC



APPLICANT: Alaska Department of Transportation and Public Facilities

FILE NO: POA-2022-00511

WATERWAY: Prospect Creek Watershed

LOCATION: Fairbanks Meridian SHEET 25 of 40

POA-2022-00511
Bonanza Creek
Date: February 15,2024
Sheet 26 of 40

Dalton Highway MP120-135
Reconstruction

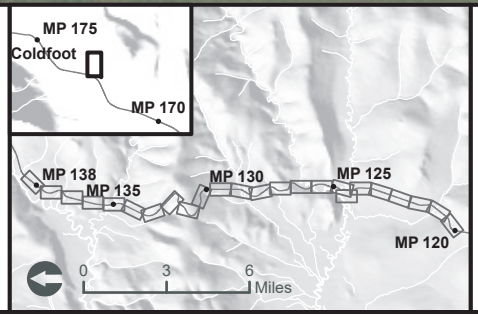
WOUS Impacts Mapbook

Sheet Wetland and Waterbody
Impact = 0 acre

0 210 420 Feet

HORIZONTAL DATUM:
NAD 83 AK State Plane Zone 4

- Project Footprint
- Vegetative Buffer
- Work Area
- Wetland Mapping Limits
- Fresh Waterbody
- Palustrine Forested Wetland
- Palustrine Scrub-Shrub Wetland
- Perennial Rivers and Streams
- Culvert
- R4SBC



APPLICANT: Alaska Department of Transportation and Public Facilities

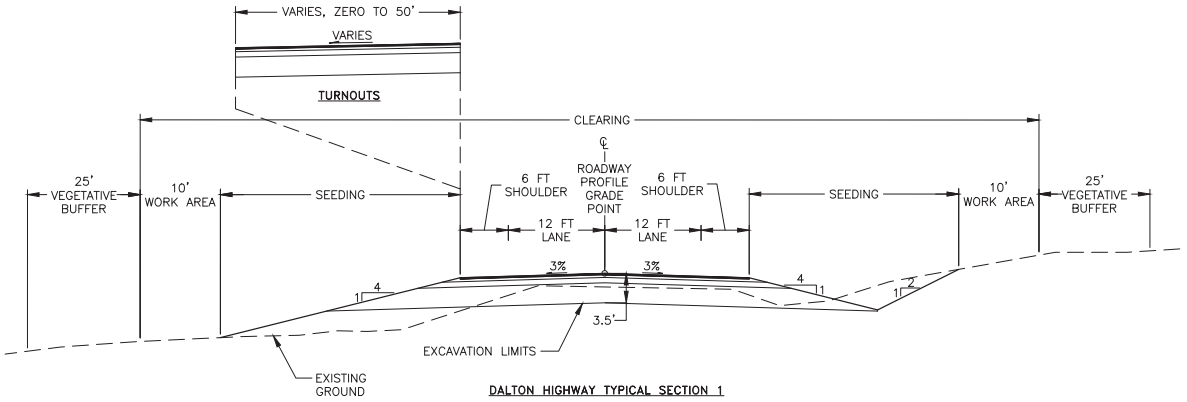
FILE NO: POA-2022-00511

WATERWAY: Marion Creek-Middle Fork Koyukuk River Watershed

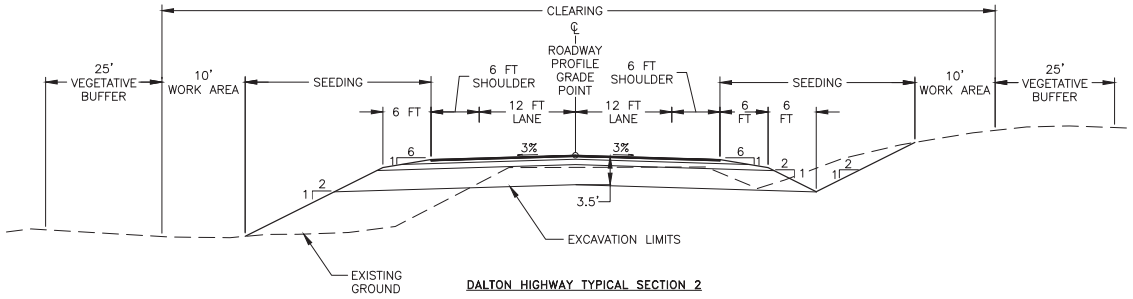
LOCATION: Fairbanks Meridian

SHEET 26 of 40

POA-2022-00511
Bonanza Creek
Date: February 15,2024
Sheet 27 of 40



DALTON HIGHWAY TYPICAL SECTION 1



DALTON HIGHWAY TYPICAL SECTION 2

TYPICAL SECTION TABLE (LEFT)

"O" STATION	TYP 1	TYP 2	"O" STATION	TYP 1	TYP 2
684+00 TO 705+00	X		1059+00 TO 1068+00		X
705+00 TO 722+00		X	1068+00 TO 1247+00	X	
722+00 TO 727+00	X		1247+00 TO 1257+00		X
727+00 TO 729+00		X	1257+00 TO 1285+00	X	
729+00 TO 743+00	X		1285+00 TO 1302+00		X
743+00 TO 750+00		X	1302+00 TO 1315+00	X	
750+00 TO 1001+00	X		1315+00 TO 1340+00		X
1001+00 TO 1003+00		X	1340+00 TO 1385+00	X	
1003+00 TO 1024+00	X		1385+00 TO 1395+00		X
1044+00 TO 1059+00	X		1395+00 TO 1467+00	X	

TYPICAL SECTION TABLE (RIGHT)

"O" STATION	TYP 1	TYP 2
684+00 TO 744+00	X	
744+00 TO 750+00		X
750+00 TO 1003+00	X	
1003+00 TO 1019+00		X
1019+00 TO 1024+00	X	
1048+00 TO 1467+00	X	

Dalton Highway MP120-135 Reconstruction

Typical Road Sections

APPLICANT: Alaska Department of Transportation and Public Facilities

FILE NO: POA-2022-00511

SHEET D1

POA-2022-00511
Bonanza Creek
Date: February 15,2024
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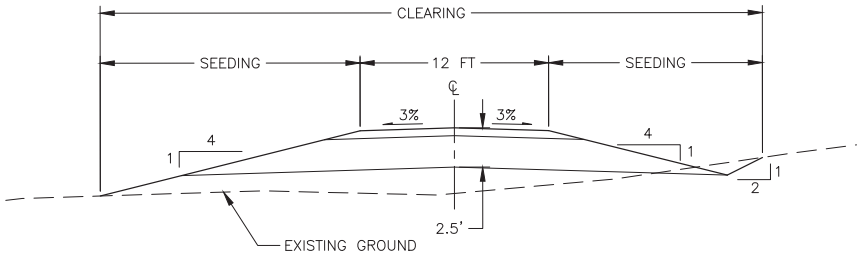
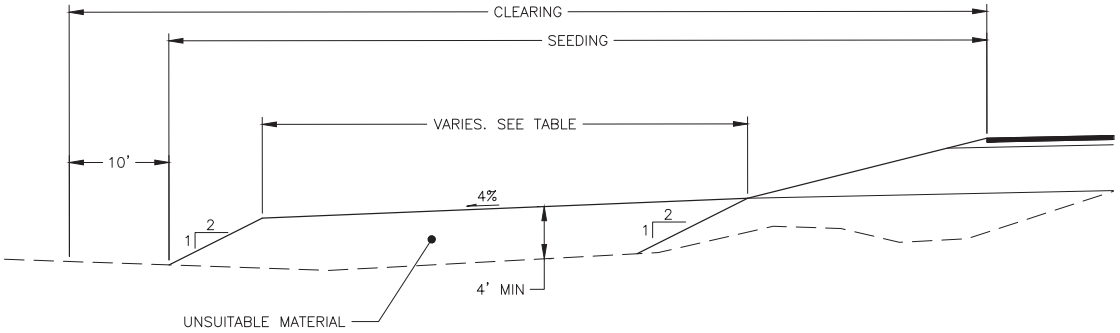


WATER TRUCK ACCESS TYPICAL SECTION



THERMAL BERM

THERMAL BERM WIDTH				
STATION	TO	STATION	OFFSET	WIDTH
725+00		731+00	LT	10'
735+00		746+00	LT	10'
740+00		745+00	RT	10'
750+00		753+50	LT/RT	10'
778+00		798+00	LT/RT	15'
803+50		813+00	LT/RT	10'
818+00		832+00	LT	10'
821+00		825+50	RT	10'
855+50		861+50	RT	10'
1001+50		1010+50	RT	10'
1058+00		1070+50	LT	15'
1061+00		1067+50	RT	15'
1078+50		1082+00	LT	10'
1119+00		1123+00	LT	10'
1183+00		1198+00	LT/RT	15'
1248+00		1256+00	LT/RT	15'
1285+50		1301+50	LT	15'
1288+00		1292+50	RT	15'
1330+50		1333+00	LT/RT	15'
1387+00		1390+50	LT	15'
1422+50		1426+00	RT	10'
1423+00		1427+00	LT	10'
1432+50		1436+00	LT/RT	10'

Dalton Highway MP120-135 Reconstruction

Water Truck Access Road and Thermal Berm (MP 120-135) Section

APPLICANT: Alaska Department of Transportation and Public Facilities

FILE NO: POA-2022-00511

SHEET D2

POA-2022-00511
Bonanza Creek
Date: February 15,2024
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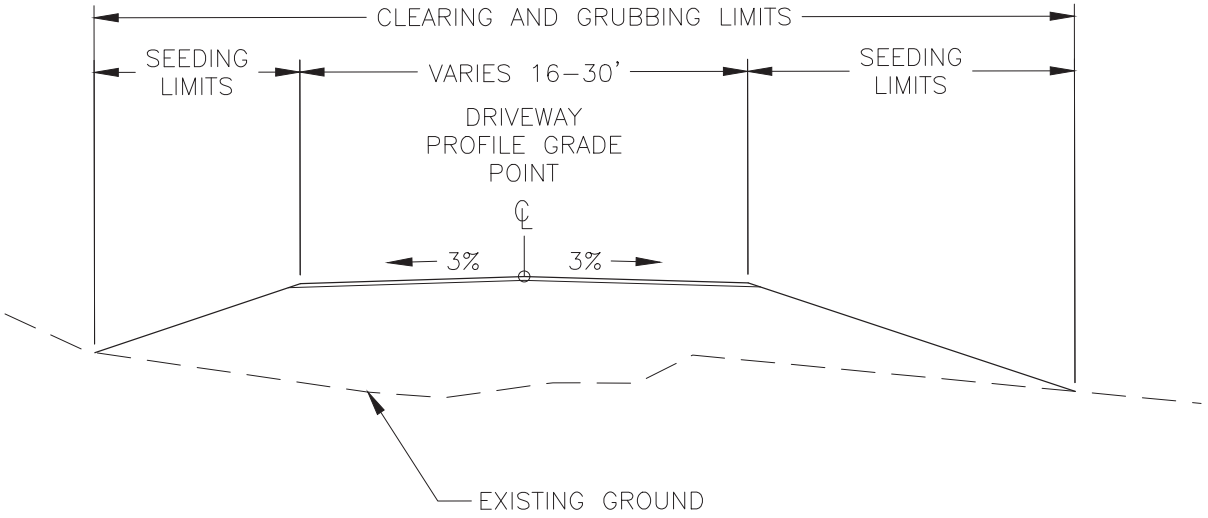
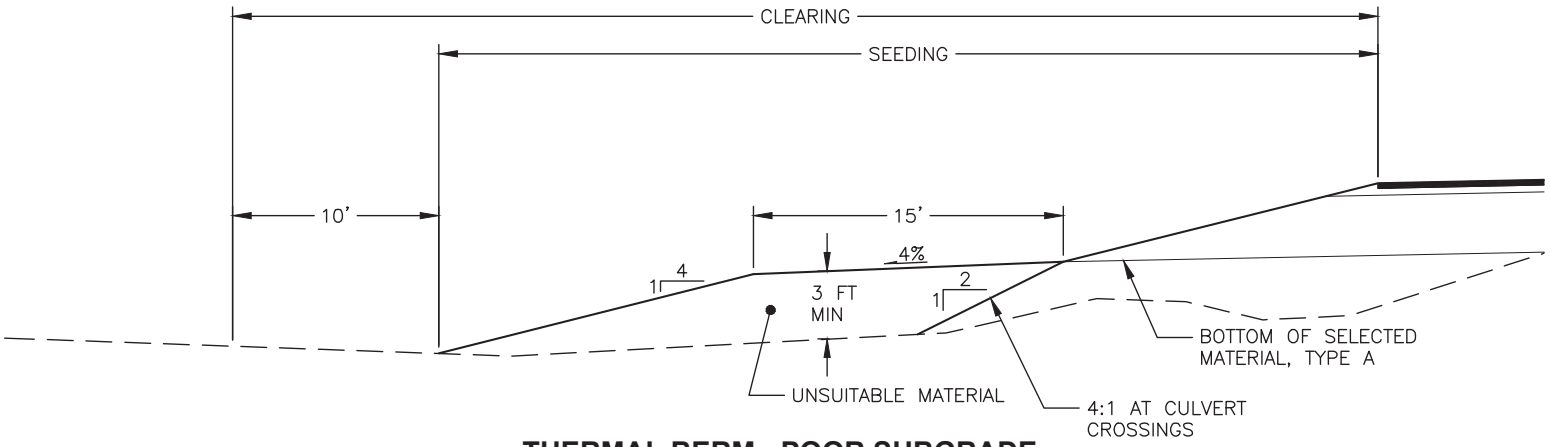


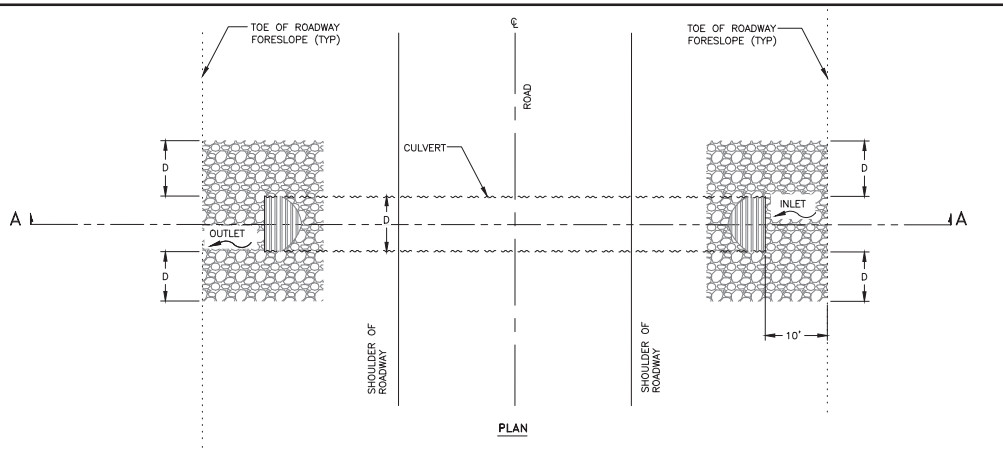
APPROACH TYPICAL SECTION

Dalton Highway MP120-135 Reconstruction Approach Road Details		APPLICANT: Alaska Department of Transportation and Public Facilities FILE NO: POA-2022-00511 SHEET D3

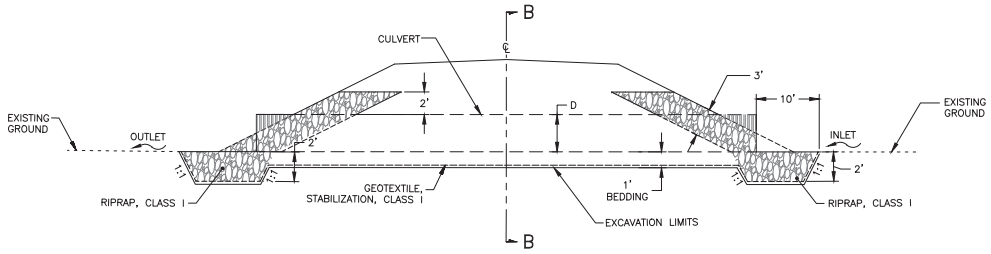


THERMAL BERM - POOR SUBGRADE

THERMAL BERM (POOR SUBGRADE) SUMMARY			
STATION	LEFT	RIGHT	WIDTH
1510+00 TO 1574+00	X	X	15'
1586+00 TO 1595+00	X		15'
1595+00 TO 1598+00	X	X	15'
1598+00 TO 1602+00	X		15'
1602+00 TO 1645+00	X	X	15'

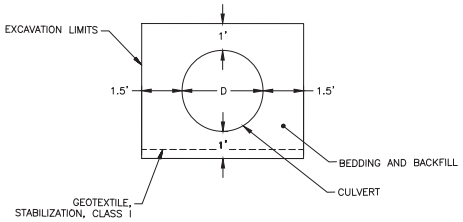


PLAN



SECTION A–A

RIPRAP APRON DETAIL



SECTION B–B

CULVERT BEDDING AND BACKFILL DETAIL

POA-2022-00511
Bonanza Creek
Date: February 15,2024
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CULVERT SUMMARY TABLE

Station	Latitude	Longitude	Existing Diameter (inches)	New Diameter (inches)	New Length (feet)	Culvert Type	Comments
702+37	66.605155	-150.712084	30	36	98	Cross drainage	
711+93	66.605717	-150.705662	30	36	122	Cross drainage	
725+42	66.607863	-150.698543	24	36	128	Stream	
736+59	66.610273	-150.693836	24	36	150	Cross drainage	
748+09	66.612734	-150.688913	120	48	163	Fish passage	Pung's Crossing
748+26	66.612767	-150.688829	120	234	173	Fish passage	Pung's Crossing. Two 10-foot culverts replaced with one 19.5-foot culvert and two 4-foot floodplain culverts.
748+43	66.612811	-150.688778	NA	48	163	Fish passage	Pung's Crossing
753+79	66.61397	-150.686528	30	36	138	Cross drainage	
768+73	66.617854	-150.684722	NA	36	92	Cross drainage	new culvert
772+75	66.618949	-150.684925	24	36	96	Cross drainage	
778+91	66.620633	-150.685061	36	36	112	Cross drainage	
780+98	66.621199	-150.684901	24	36	112	Cross drainage	
785+48	66.622389	-150.684067	NA	36	106	Cross drainage	new culvert
787+54	66.622921	-150.683615	36	36	102	Stream	
794+1	66.624623	-150.68216	36	36	94	Stream	
804+00	66.627183	-150.679978	NA	36	90	Cross drainage	new culvert
805+47	66.627577	-150.679763	36	36	124	Stream	
811+50	66.629132	-150.678386	36	36	102	Stream	
813+83	66.629689	-150.677531	24	24	120	Stream	approach road
816+82	66.630508	-150.67721	36	36	92	Stream	
823+90	66.632345	-150.675672	NA	36	104	Cross drainage	new culvert
827+26	66.633224	-150.674997	30	36	118	Stream	
838+68	66.636177	-150.672447	NA	36	100	Cross drainage	new culvert
845+62	66.637959	-150.6708	36	48	80	Stream	
860+69	66.641863	-150.667504	36	48	82	Stream	
925+66	66.659088	-150.666008	30	36	100	Cross drainage	
946+17	66.664377	-150.662859	24	36	116	Cross drainage	
947+43	66.664693	-150.662523	60	60	90	Stream	
951+39	66.665716	-150.661482	24	24	62	Cross drainage	approach road
954+04	66.666462	-150.661737	48	48	84	Stream	
964+45	66.66926	-150.660649	36	48	118	Stream	
977+21	66.672618	-150.658692	36	36	92	Cross drainage	
987+32	66.675336	-150.659725	24	36	106	Cross drainage	
1001+96	66.678898	-150.664168	30	36	144	Cross drainage	
1024+26	66.684651	-150.661702	24	36	138	Cross drainage	
1028+48	66.685801	-150.661251	48	48	84	Cross drainage	
1052+76	66.691815	-150.667331	36	36	90	Stream	
1059+22	66.693562	-150.668023	24	36	100	Cross drainage	
1065+94	66.695379	-150.667408	24	36	120	Cross drainage	
1077+88	66.698339	-150.66408	48	48	108	Stream	
1095+47	66.702555	-150.669182	36	36	160	Stream	
1138+32	66.712849	-150.669335	48	144	140	Fish passage	South Fork Little Nasty Creek
1138+42	66.712849	-150.669335	48	NA	NA		South Fork Little Nasty. Two existing 4-foot culverts replaced with one 12-foot culvert
1147+26	66.715056	-150.666836	120	168	114	Fish passage	Little Nasty Creek
1154+69	66.717083	-150.667049	24	24	72	Cross drainage	approach road
1154+88	66.71714	-150.666524	24	24	60	Cross drainage	approach road
1204+24	66.730626	-150.667316	36	36	114	Stream	
1227+26	66.735746	-150.673771	36	36	108	Stream	
1242+88	66.73553	-150.684411	30	36	100	Cross drainage	
1251+73	66.736236	-150.690271	24	36	136	Cross drainage	
1265+87	66.738082	-150.698887	30	36	132	Cross drainage	
1289+14	66.743233	-150.694997	24	36	96	Cross drainage	
1298+04	66.744655	-150.690126	NA	36	100	Cross drainage	new culvert
1332+10	66.74907	-150.673393	NA	36	140	Stream	new culvert
1343+05	66.751197	-150.678556	36	36	90	Cross drainage	
1359+50	66.754186	-150.687058	36	36	106	Stream	
1375+96	66.757198	-150.695511	24	36	150	Cross drainage	
1392+41	66.760792	-150.702145	24	36	82	Cross drainage	
1407+97	66.764979	-150.701878	24	36	100	Cross drainage	
1424+20	66.769379	-150.696985	36	36	124	Stream	
1440+65	66.773012	-150.691969	NA	36	84	Cross drainage	new culvert
1452+50	66.775939	-150.688466	30	36	90	Stream	

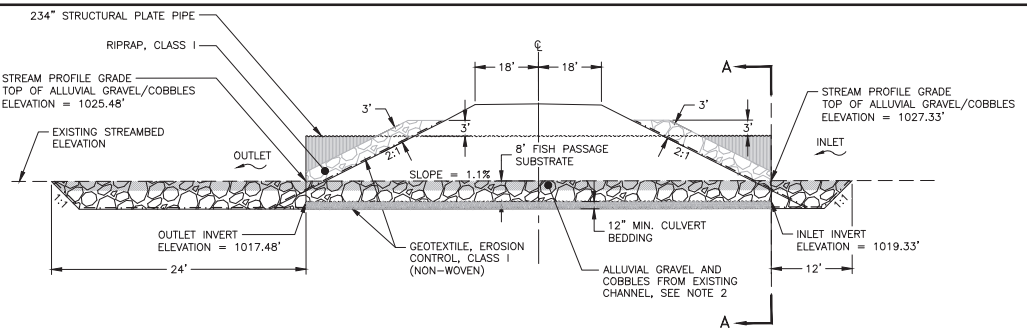
Dalton Highway MP120-135 Reconstruction

Cross Drainage Culvert Details

APPLICANT: Alaska Department of Transportation and Public Facilities

FILE NO: POA-2022-00511

SHEET D5



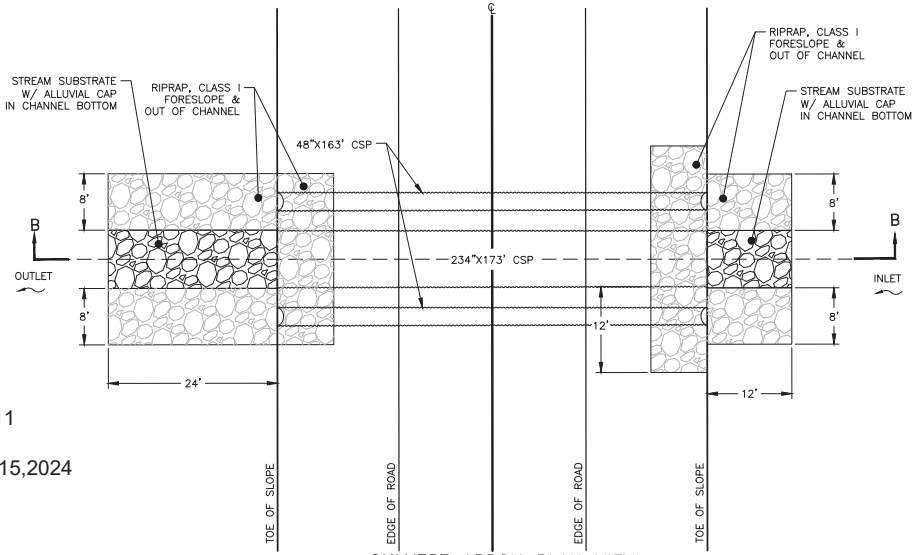
SECTION B–B

NOTES:

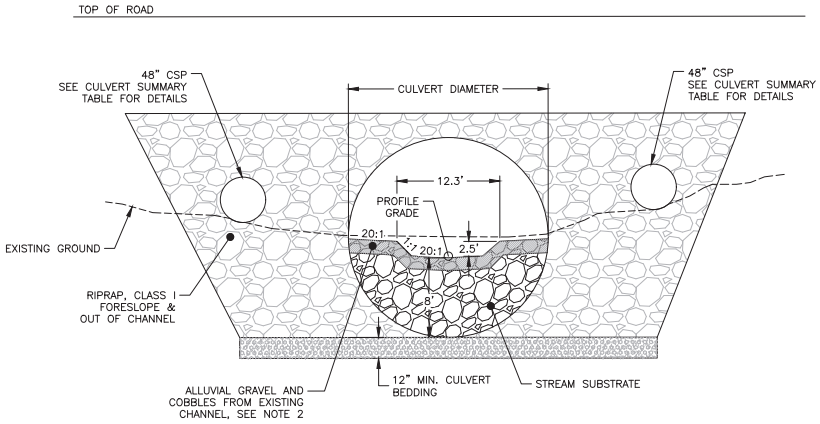
1. THIS CULVERT IS DESIGNED TO PROVIDE FISH PASSAGE.
2. INSTALL ALLUVIAL GRAVEL AND COBBLES FROM EXISTING CHANNEL TO FILL VOIDS WITHIN THE FISH PASS SUBSTRATE.
3. INSTALL A 234" CPP EMBEDDED 8 FEET INTO THE CHANNEL BOTTOM.

HYDROLOGIC & HYDRAULIC SUMMARY				
DALTON HWY MILE 121.1 – STATION 748+26–PUNG'S CROSSING				
BASIN AREA (SQ. MI)	QFISH (CFS)	Q2 (CFS)	Q50 (CFS)	Q100 (CFS)
11.3	76.4	191	667	782
HEADWATER ELEVATION @Q50 IS 1033.7 FT, @Q100 IS 1034.4 FT				
HW/D @ 1= 1670 CFS, ROAD OVERTOPS AT APPROXIMATELY 4310.1 CFS				
CULVERT PURPOSE: CROSS DRAINAGE/ FISH PASSAGE				
ANTICIPATED ADDITIONAL BACKWATER: 0.0 FT				

FISH PASSAGE CULVERT SUMMARY DALTON HWY MILE 121.1							
DESCRIPTION	MATERIAL	LOCATION	DIAMETER (IN)	LENGTH (FT)	SKEW	ELEVATIONS (FT)	
						INLET INVERT	OUTLET INVERT
MAIN PIPE	STRUCTURAL PLATE PIPE	748+26	234"	173	0 DEG.	1019.33	1017.48



CULVERT APRON PLAN VIEW



SECTION A–A

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Bonanza Creek
Date: February 15,2024
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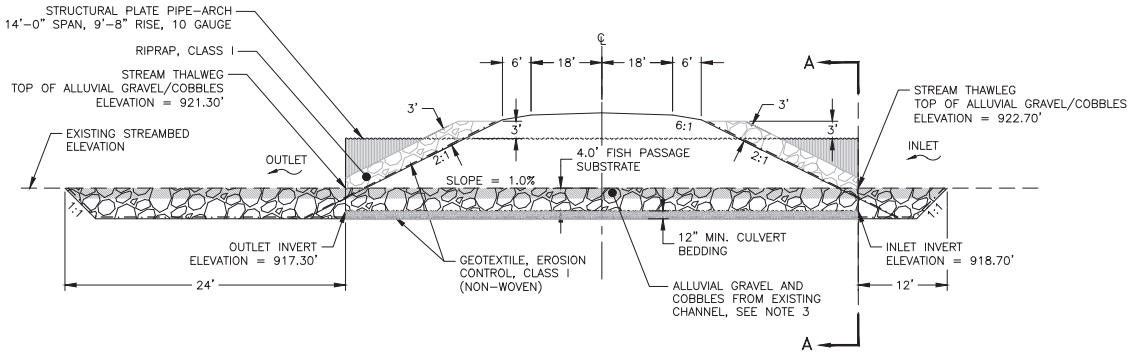
Dalton Highway MP120-135 Reconstruction

Pung's Crossing Creek Details

APPLICANT: Alaska Department of Transportation and Public Facilities

FILE NO: POA-2022-00511

SHEET D6



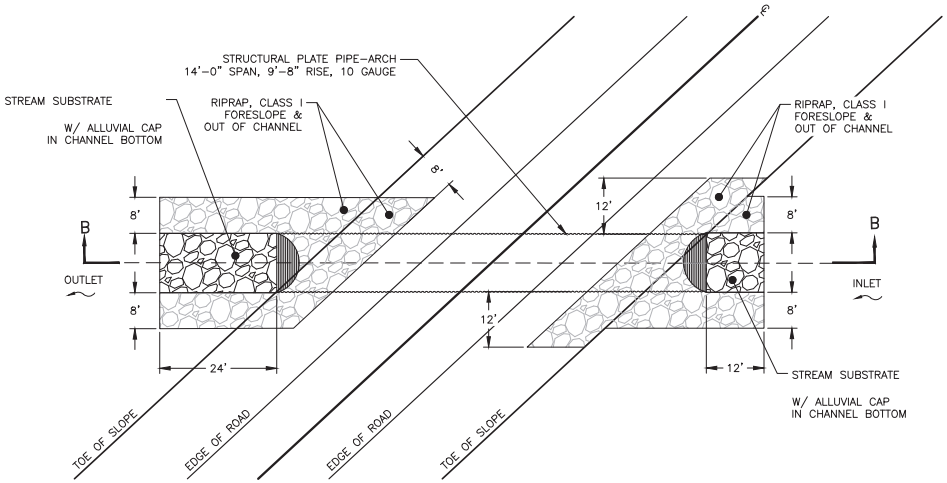
SECTION B–B

NOTES:

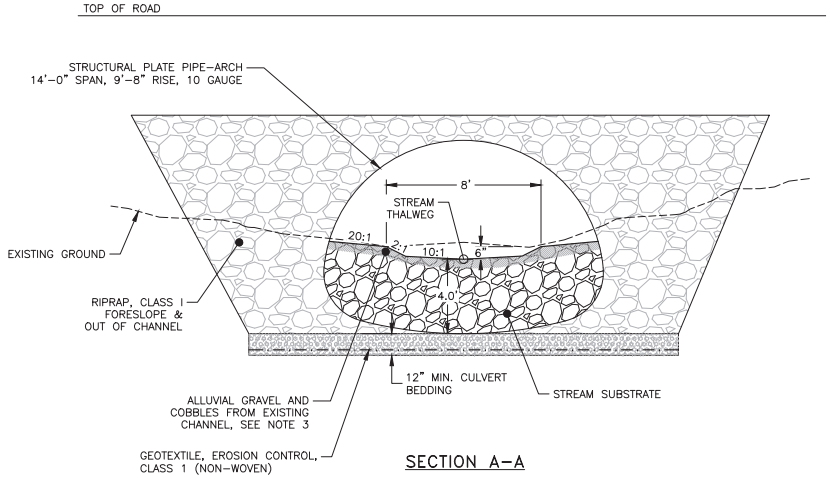
1. THIS CULVERT IS DESIGNED TO PROVIDE FISH PASSAGE.
2. SEE GENERAL AND FISH PASSAGE CULVERT NOTES ON SHEET E2.
3. INSTALL ALLUVIAL GRAVEL AND COBBLES FROM EXISTING CHANNEL TO FILL VOIDS WITHIN THE FISH PASS SUBSTRATE. SEE SECTION 628. THIS WORK IS SUBSIDIARY TO SECTION 628.
4. INSTALL A STRUCTURAL PLATE PIPE–ARCH 14'–0" SPAN, 9'–8" RISE, 10 GAUGE EMBEDDED 4 FEET INTO THE CHANNEL BOTTOM.

HYDROLOGIC & HYDRAULIC SUMMARY				
DALTON HWY MILE 128.6 – STATION 1138+30 – SOUTH FORK LITTLE NASTY CREEK				
BASIN AREA (SQ. MI)	QFISH (CFS)	Q2 (CFS)	Q50 (CFS)	Q100 (CFS)
2.5	18	47	195	233
HEADWATER ELEVATION @Q50 IS 926.4 FT, @Q100 IS 926.9 FT				
HW/D @ 1= 322 CFS, ROAD OVERTOPS AT APPROXIMATELY 644 CFS				
CULVERT PURPOSE: CROSS DRAINAGE/ FISH PASSAGE				
ANTICIPATED ADDITIONAL BACKWATER: 0.0 FT				

FISH PASSAGE CULVERT SUMMARY DALTON HWY MILE 128.6							
DESCRIPTION	MATERIAL	LOCATION	DIMENSIONS (IN)	LENGTH (FT)	SKEW	ELEVATIONS (FT)	
						INLET INVERT	OUTLET INVERT
MAIN PIPE	STRUCTURAL PLATE STEEL	1138+30	14'–0"(S) X 9'–8"(R) SP PIPE ARCH	140'	47 DEG.	918.70'	917.30'



CULVERT APRON PLAN VIEW



SECTION A–A

Dalton Highway MP120-135 Reconstruction

South Fork Little Nasty Creek Details

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Bonanza Creek
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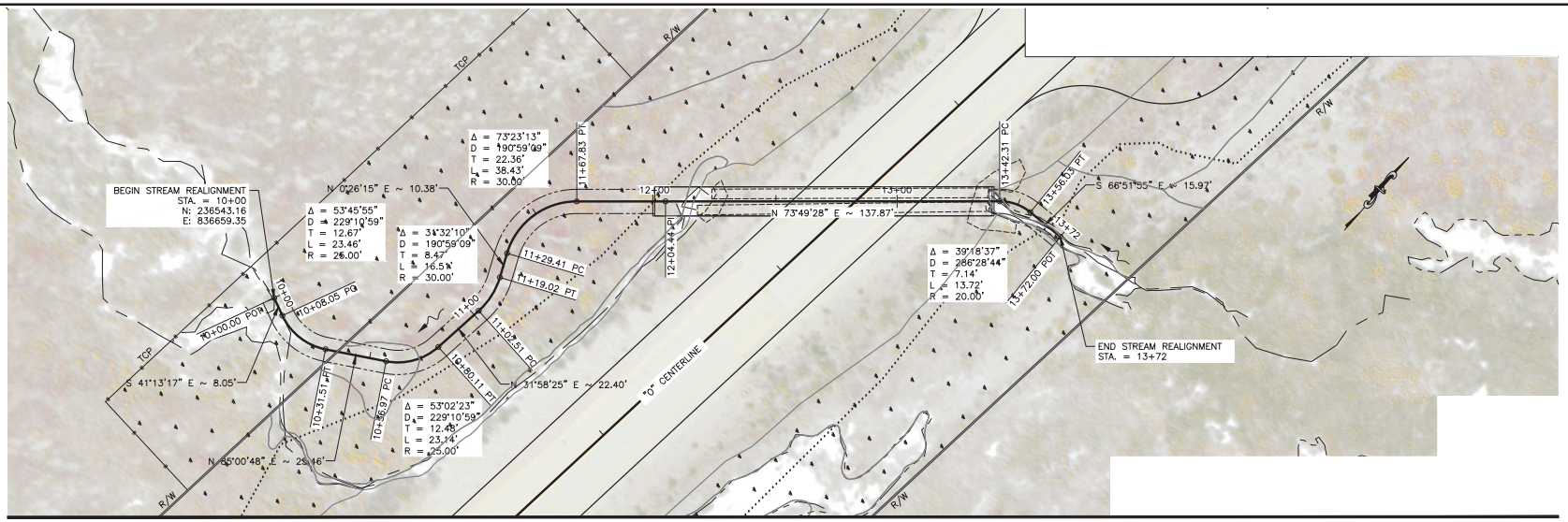
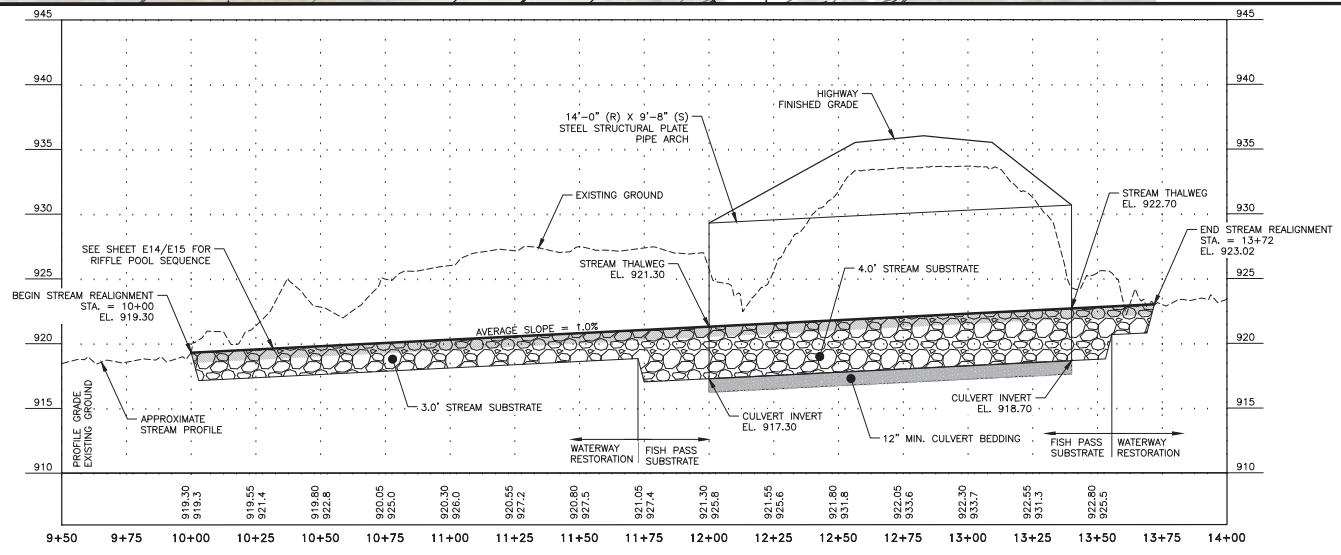
APPLICANT: Alaska Department of Transportation and Public Facilities

FILE NO: POA-2022-00511

SHEET D7





Dalton Highway MP120-135 Reconstruction

South Fork Little Nasty Creek Realignment

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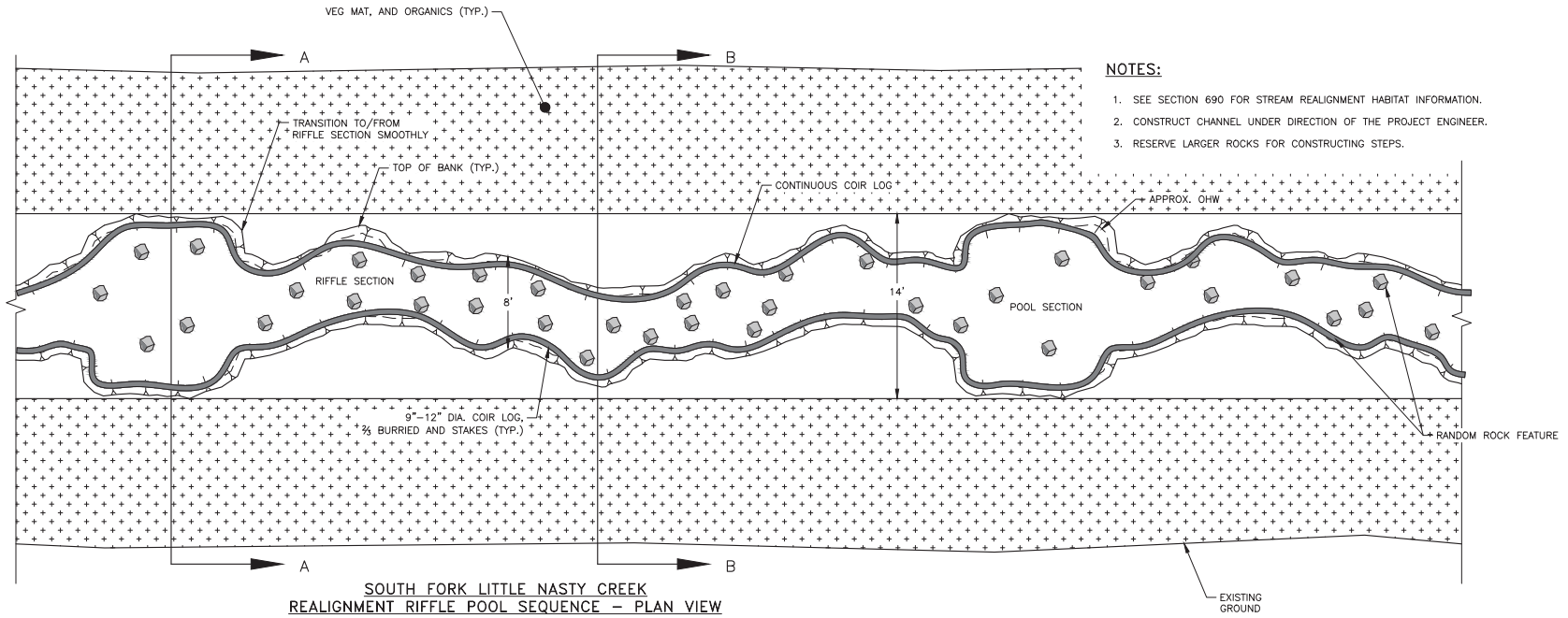
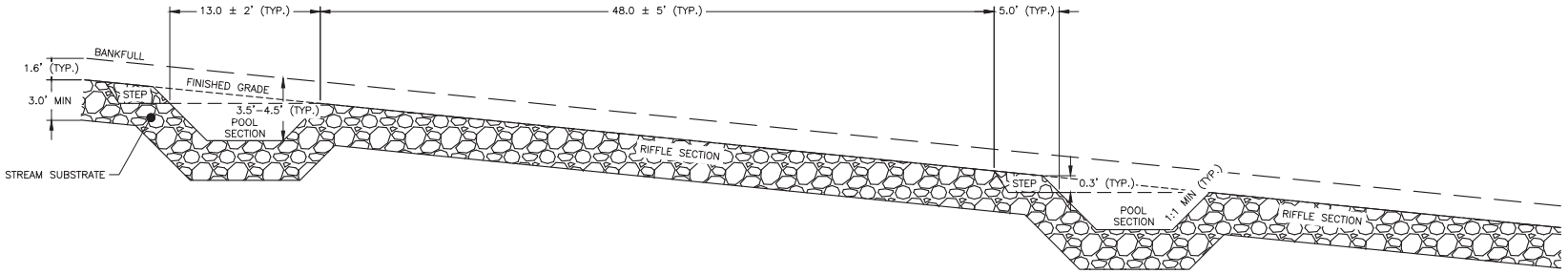
FILE NO: POA-2022-00511

SHEET D8

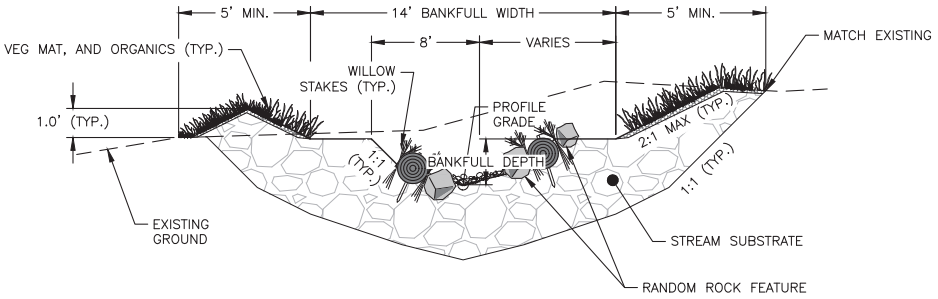


SOUTH FORK LITTLE NASTY CREEK
REALIGNMENT RIFFLE POOL SEQUENCE – PLAN VIEW

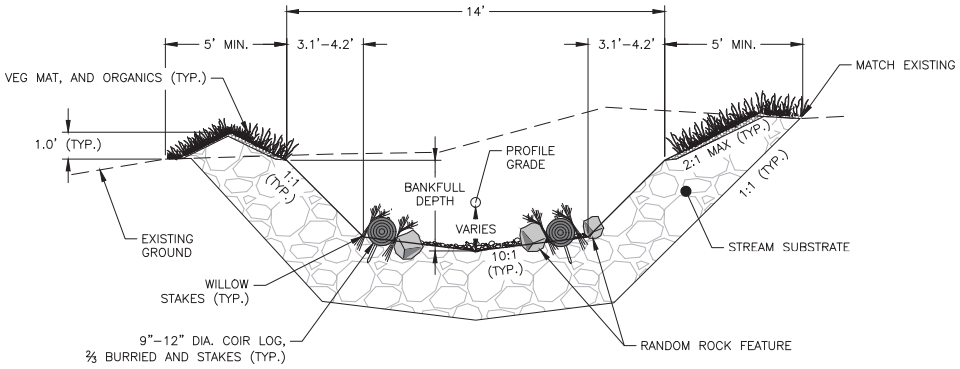


SOUTH FORK LITTLE NASTY CREEK
REALIGNMENT RIFFLE POOL SEQUENCE – PROFILE

Dalton Highway MP120-135 Reconstruction Pool-Weir Plan for South Fork Little Nasty Creek	POA-2022-00511 Bonanza Creek Date: February 15,2024 Sheet 35 of 40	APPLICANT: Alaska Department of Transportation and Public Facilities FILE NO: POA-2022-00511 SHEET D9

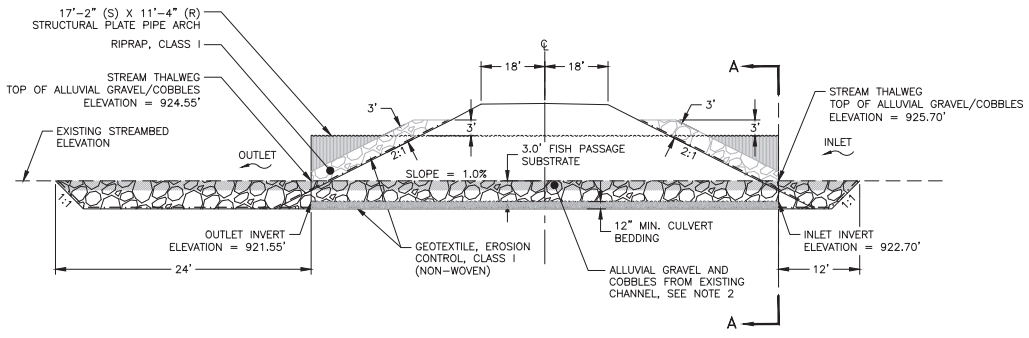


SOUTH FORK LITTLE NASTY CREEK
REALIGNMENT SECTION RIFFLE DETAIL



SOUTH FORK LITTLE NASTY CREEK
REALIGNMENT SECTION POOL DETAIL

Dalton Highway MP120-135 Reconstruction South Fork Little Nasty Creek Realignment Sections	POA-2022-00511 Bonanza Creek Date: February 15,2024 Sheet 36 of 40	APPLICANT: Alaska Department of Transportation and Public Facilities FILE NO: POA-2022-00511 SHEET D10



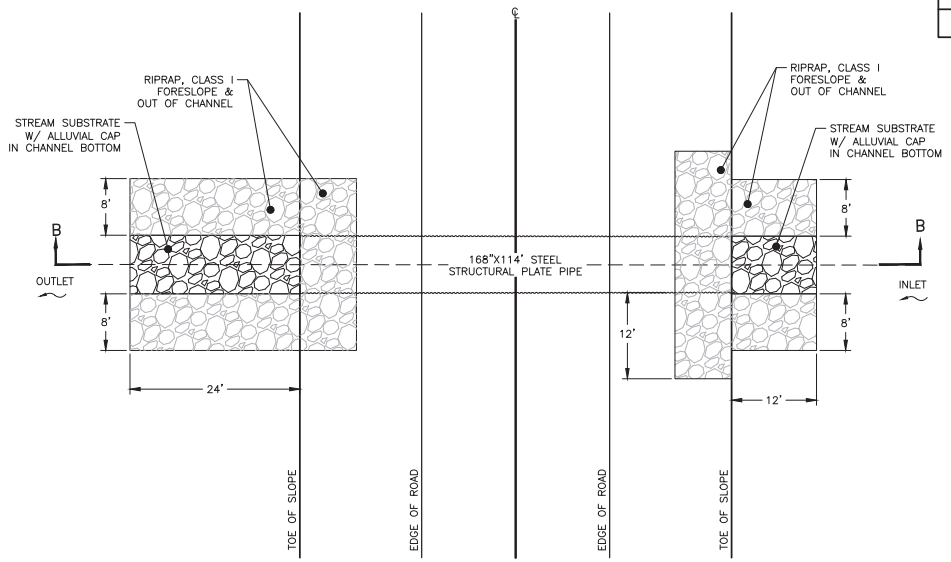
SECTION B-B

NOTES:

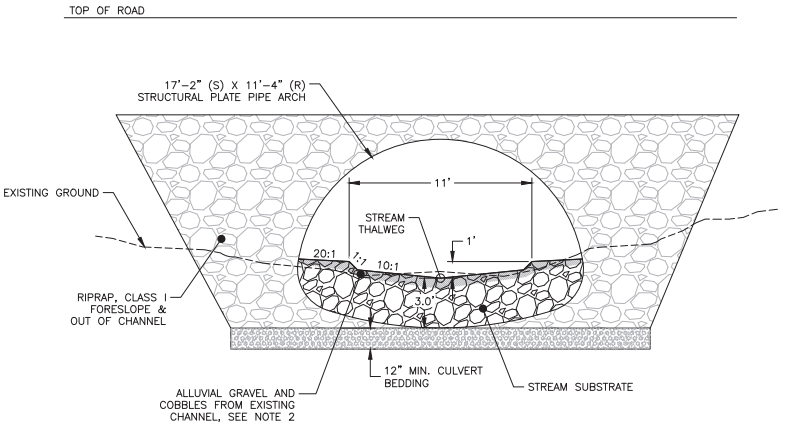
1. THIS CULVERT IS DESIGNED TO PROVIDE FISH PASSAGE.
2. INSTALL ALLUVIAL GRAVEL AND COBBLES FROM EXISTING CHANNEL TO FILL VOIDS WITHIN THE FISH PASS SUBSTRATE.
3. INSTALL A 17'-2" (R) X 11'-4" (S) STRUCTURAL PLATE STEEL PIPE ARCH EMBEDDED 3.0' FEET INTO THE CHANNEL BOTTOM.

HYDROLOGIC & HYDRAULIC SUMMARY				
DALTON HWY MILE 128.8 – STATION 1147+26 – LITTLE NASTY CREEK				
BASIN AREA (SQ. MI)	QFISH (CFS)	Q2 (CFS)	Q50 (CFS)	Q100 (CFS)
8.2	60	149	532	626
HEADWATER ELEVATION @Q50 IS 931.6 FT, @Q100 IS 932.4 FT				
HW/D @ 1= 852 CFS, ROAD OVERTOPS AT APPROXIMATELY 1,587 CFS				
CULVERT PURPOSE: CROSS DRAINAGE/ FISH PASSAGE				
ANTICIPATED ADDITIONAL BACKWATER: 0.0 FT				

FISH PASSAGE CULVERT SUMMARY DALTON HWY MILE 128.8							
DESCRIPTION	MATERIAL	LOCATION	DIMENSIONS (IN)	LENGTH (FT)	SKEW	ELEVATIONS (FT)	
						INLET INVERT	OUTLET INVERT
MAIN PIPE	STRUCTURAL PLATE STEEL	1147+26	17'-2"(S) X 11'4"(R) PIPE ARCH	114'	87 DEG.	922.70'	921.55'



CULVERT APRON PLAN VIEW



SECTION A-A

Dalton Highway MP120-135 Reconstruction

Little Nasty Creek Details

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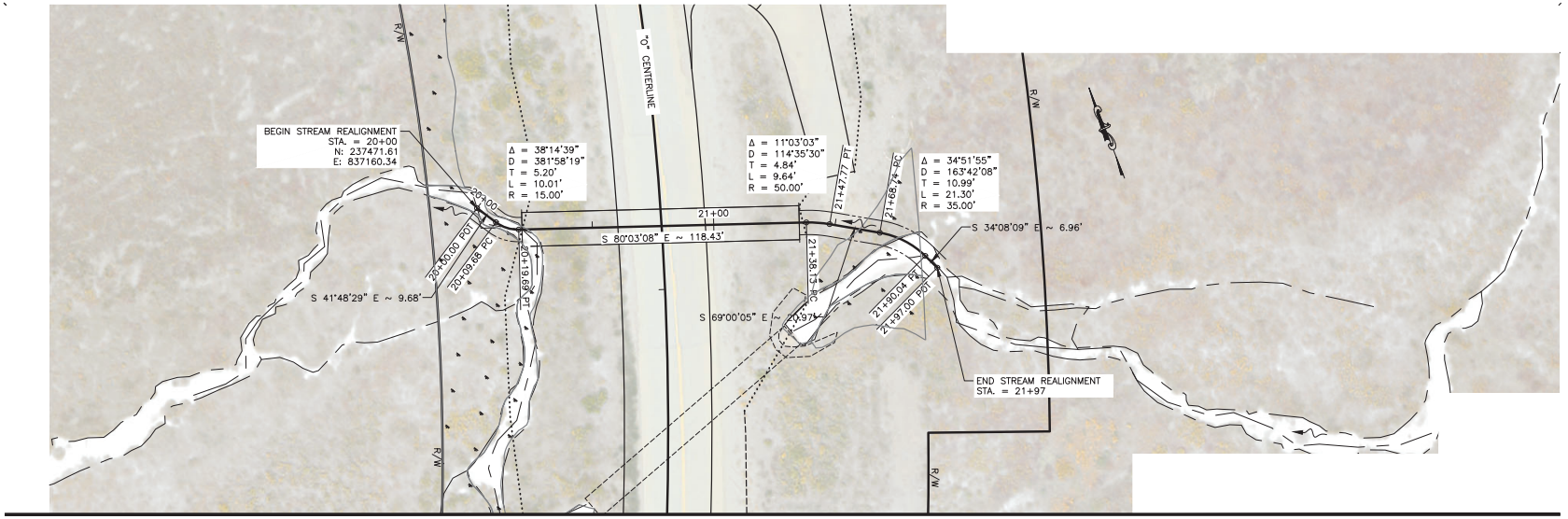

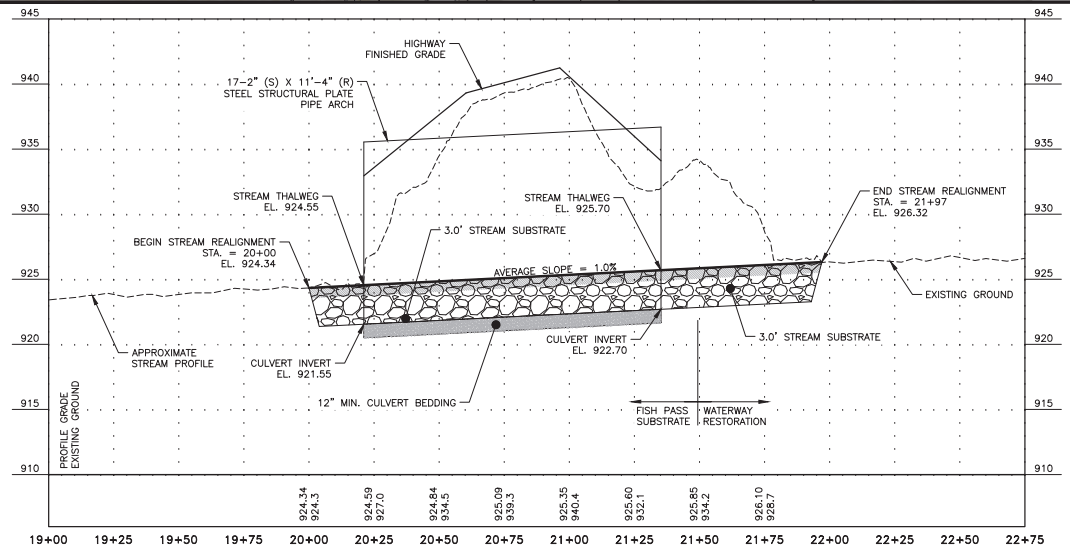

Dalton Highway MP120-135 Reconstruction

Little Nasty Creek Realignment

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Dalton Highway MP120-135 Reconstruction

Little Nasty Creek Realignment Section

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Bonanza Creek
Date: February 15,2024
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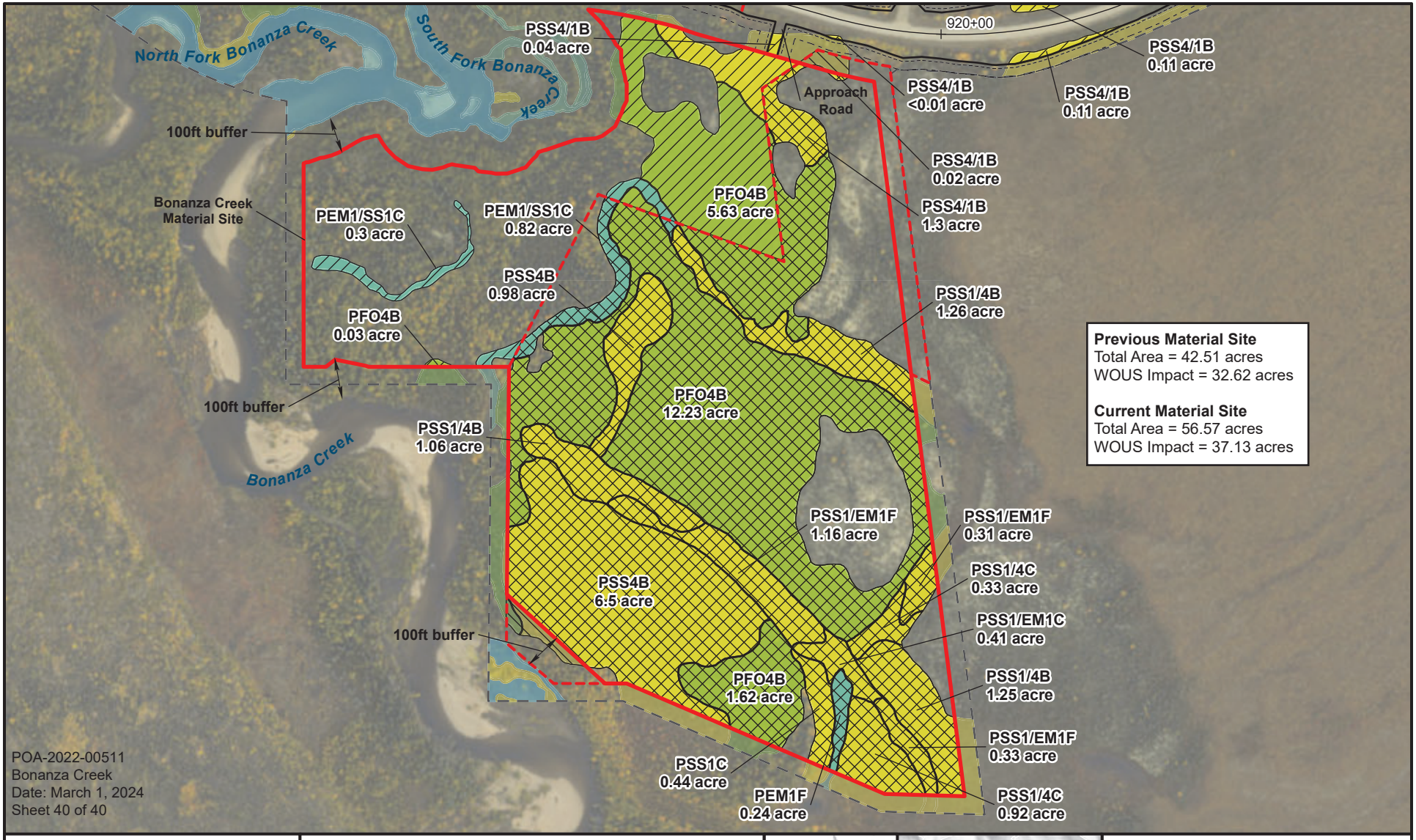


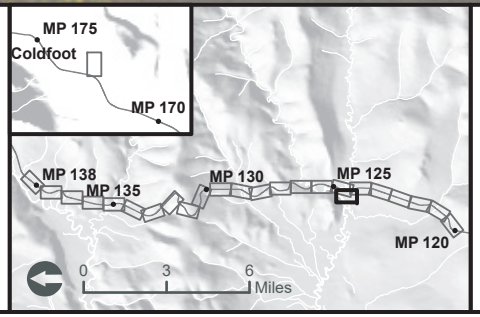
Dalton Highway MP120-135 Reconstruction

WOUS Impact Comparison - Bonanza Creek Material Site: Original Permit Application vs. February 2024 Submittal

0 210 420 Feet

HORIZONTAL DATUM: NAD 83 AK State Plane Zone 4

- Current Material Site Boundary
- Previous Material Site Boundary
- Stationing
- Project Alignment
- Project Footprint
- Vegetative Buffer
- Work Area
- Wetland Mapping Limits
- Current Wetland and Waterbody Impact
- Previous Wetland and Waterbody Impact
- Palustrine Emergent Wetland
- Palustrine Forested Wetland
- Palustrine Scrub-Shrub Wetland
- Perennial Rivers and Streams
- New Culvert



APPLICANT: Alaska Department of Transportation and Public Facilities

FILE NO: POA-2022-00511

WATERWAY: Bonanza Creek

LOCATION: Fairbanks Meridian

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DATE: March 01, 2024