US Army Corps of Engineers
Alaska District

Public Notice of Application for Permit

FAIRBANKS FIELD OFFICE
Regulatory Division (1145)
CEPOA-RD
2175 University Avenue, Suite 201E
Fairbanks, Alaska 99709-4927

PUBLIC NOTICE DATE:	**March 19, 2019**
EXPIRATION DATE:	**April 17, 2019**
REFERENCE NUMBER:	**POA-2019-00082**
WATERWAY:	**Haggard Creek**

Interested parties are hereby notified that a Department of the Army permit application has been received for work in waters of the United States (U.S.) 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 Amy Tippery at (907) 458-1602, by fax at (907) 474-2164, or by email at amy.c.tippery@usace.army.mil if further information is desired concerning this notice.

APPLICANT: Alaska Department of Transportation and Public Facilities (ADOT&PF), Attention: Jill Baxter-McIntosh

LOCATION: The project site is on the Richardson Highway between Mile Posts (MP) 159 and 167, located within: USGS Quad Gulkana C–3, T 10 N., R 01 W., Sections 5 & 6, T 11 N., R 01 W., Sections 6, 8, 16, 17, 21, 28, 29, and 32 and USGS Quad Gulkana D–3, T 12 N., R 01 W., Section 32. Project begins at: 62.67423 N., -145.4699 W. near Glennallen, Alaska, and ends at 62.77906 N., -145.4683 W., near Paxson, Alaska (Figure 1).

PURPOSE: The applicant's stated purpose is to improve safety on this stretch of highway. Proposed work intends to make it compliant with current standards.

PROPOSED WORK: Proposal consists of reconstructing a 2-lane roadway, widening lanes to 12-foot with 6-foot shoulders, and re-contouring and decreasing slopes to bring sharp horizontal and vertical curves and steep grades into current specifications (Figure 2). Proposed impacts include the permanent fill of 57.27 acres of waters of the U.S. located within the Haggard Creek channel and the project corridor. Approximately 400,000 cubic yards of permanent fill in waters of the U.S. will be placed as a result of the construction of stabilization berms, slope flattening, and channel work within Haggard Creek including construction of a new bridge and riprap for bridge abutments and culvert replacement. Approximately 14.12 acres of temporary fill may occur in a 10-foot wide active work area due to sidecast / mechanized clearing and vehicle maneuvering. All work would be performed in accordance with the enclosed plan (Sheets 1–8), dated March 6, 2019.

ADDITIONAL INFORMATION: The applicant has gained the following approvals for the proposed project.

State Historic Preservation Office 106 Concurrence, file number 3130-1R FHWA applied for on February 6, 2016, approved June 14, 2016.

Alaska Department of Fish and Game Fish Habitat Permit, file number FH19-III-00027 & 28, applied for on January 23, 2019, approved January 25, 2019.

Bureau of Land Management Right of Way Acquisition is being applied for concurrently with this U.S. Army Corps of Engineers Regulatory Program Standard Permit.

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

a. Avoidance:
    i. The majority of reconstruction work will maintain the highway along its current alignment. There will be one realignment, at approximately MP 160, where the highway will shift to the east (within the existing right of way), to eliminate a series of sharp horizontal and vertical curves.
    ii. The contractor will place fill material and riprap below Ordinary High Water (OHW) during periods of low flow.
    iii. Unsuitable material will be stored in uplands wherever possible. Approximately 330,000 cubic yards of unsuitable material will be stored in uplands at Hogan's Hill. This reduces the wetland impacts by roughly 26.82 acres.
    iv. Material stockpiles and staging areas will be located in upland or previously disturbed areas.

b. Minimization
    i. Appropriate erosion and sediment control Best Management Practices (BMPs) would be implemented on or at all the perimeters of disturbed soil surfaces to minimize the transport of sediment to waters of the U.S. and disturbed areas will be seeded with native perennial grasses. Twenty-five foot vegetative buffers will be used in wetlands along the entire project as a BMP for sediment control.
    ii. Temporary fill in areas designated as wetlands will be completely removed and those wetlands restored.
    iii. BMPs will be implemented for in-water work at Haggard Creek. Work will be limited to that which is needed to shift the channel to accommodate the natural drainage pattern of the creek, remove the existing fish passage culvert, reestablish the stream bed, and place riprap armoring. Vegetated mat will be salvaged from the new alignment and used for streambank restoration.
    iv. Existing drainage patterns will be maintained or enhanced wherever possible, including replacement of damaged or failing cross culverts (Figure 3). This will result in some amount of ecological uplift for existing streams and wetlands adjacent to the roadway.

c. Compensatory Mitigation:
    i. Riparian habitat will be enhanced and stream hydraulics will be improved at Haggard Creek with the removal of the existing 8-foot fish passage culvert following the construction of a new bridge (Figures 4–6). After the removal of the culvert along the old Richardson Highway alignment, the stream bed will be fully restored and the natural channel will be reestablished (Figures 7 and 8).
    ii. Out-of-kind mitigation is also being proposed. Creation of 200-foot by 28-foot pullout and parking area for Haggard Creek Recreational Trail access (MP 160.6) will replace the current parking area and trailhead located in wetlands which have become degraded from incompatible recreational use. The wetlands will then be left to naturally reclaim. Another proposal for out-of-kind compensatory mitigation includes stage two cleanup of a fuel spill within the project area (MP 164.4) to improve water quality.

WATER QUALITY CERTIFICATION: A permit for the described work will 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 has assumed responsibilities of the Federal Highway Administration under 23 U.S.C Section 326, and has acted as lead agency in consultation with the State Historic Preservation Office (SHPO). In June of 2016, SHPO concurred with ADOT&PF's determination of 'no historic properties affected' assessment within the Project Area (which includes the Corp of Engineer's regulatory permit area). See reference above in 'Additional Information' section.

ENDANGERED SPECIES: No threatened or endangered species are known to use the project area.

We have determined the described activity would have no effect on any listed or proposed threatened or endangered species, and would have no effect on any designated or proposed critical habitat, under the Endangered Species Act of 1973, (87 Stat. 844). Therefore, no consultation with the U.S. Fish and Wildlife Service or the National Marine Fisheries Service (NMFS) is required. However, any comments they may have concerning endangered or threatened wildlife or plants or their critical habitat will be considered in our final assessment of the described work.

ESSENTIAL FISH HABITAT: The Magnuson-Stevens Fishery Conservation and Management 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).

We have determined the described activity would not adversely affect EFH in the project area because no EFH species are known to use the project area.

TRIBAL CONSULTATION: The Alaska District 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 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 right or resource. 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)(l) 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 of Engineers 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 of Engineers 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 and a Notice of Application for State Water Quality Certification are enclosed with this Public Notice.

District Commander
U.S. Army, Corps of Engineers

Enclosures

MICHAEL J. DUNLEAVY, GOVERNOR

STATE OF ALASKA

DEPT. OF ENVIRONMENTAL CONSERVATION
DIVISION OF WATER
Wastewater Discharge Authorization Program (WDAP) / 401 Certification
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
WDAP/401 CERTIFICATION
555 CORDOVA STREET
ANCHORAGE, ALASKA 99501-2617
PHONE: (907) 269-6285 | EMAIL: dec-401cert@alaska.gov

NOTICE OF APPLICATION FOR STATE WATER QUALITY CERTIFICATION

Any applicant for a federal license or permit to conduct an activity that might result in a discharge into navigable waters, in accordance with Section 401 of the Clean Water Act of 1977 (PL95-217), also must apply for and obtain certification from the Alaska Department of Environmental Conservation that the discharge will comply with the Clean Water Act, the Alaska Water Quality Standards, and other applicable State laws. By agreement between the U.S. Army Corps of Engineers and the Department of Environmental Conservation, application for a Department of the Army permit to discharge dredged or fill material into navigable waters under Section 404 of the Clean Water Act also may serve as application for State Water Quality Certification.

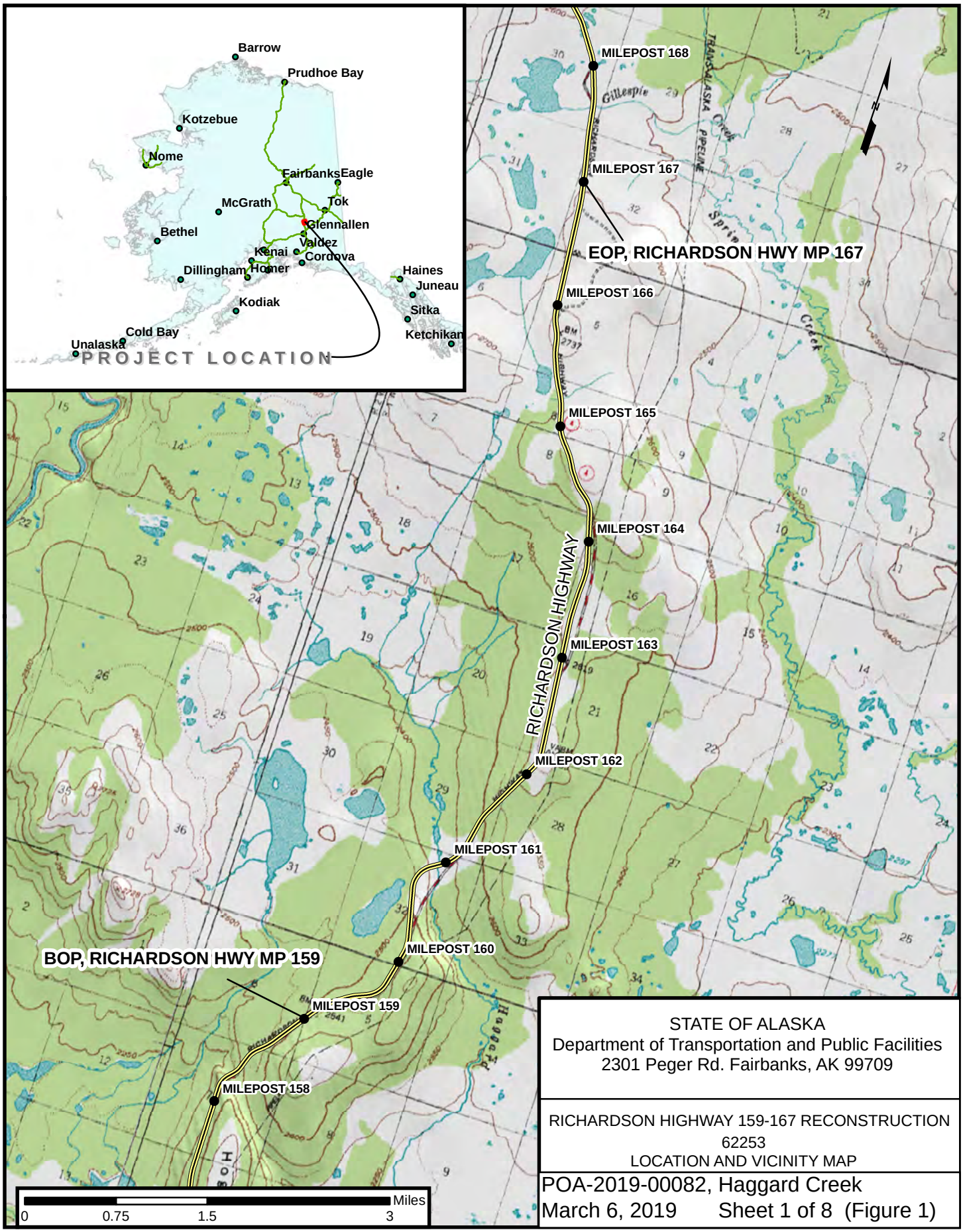
Notice is hereby given that the application for a Department of the Army Permit described in the Corps of Engineers' Public Notice (PN) Reference Number **POA-2019-00082, Haggard Creek**, serves as application for State Water Quality Certification from the Department of Environmental Conservation.

After reviewing the application, the Department may certify there is reasonable assurance the activity, and any discharge that might result, will comply with the Clean Water Act, the Alaska Water Quality Standards, and other applicable State laws. The Department also may deny or waive certification.

Any person desiring to comment on the project with respect to Water Quality Certification, may submit written comments to the address above or via email to dec-401cert@alaska.gov by the expiration date of the Corps of Engineer's Public Notice. All comments should include the PN reference number listed above. Mailed comments must be postmarked on or before the expiration date of the public notice.

Disability Reasonable Accommodation Notice

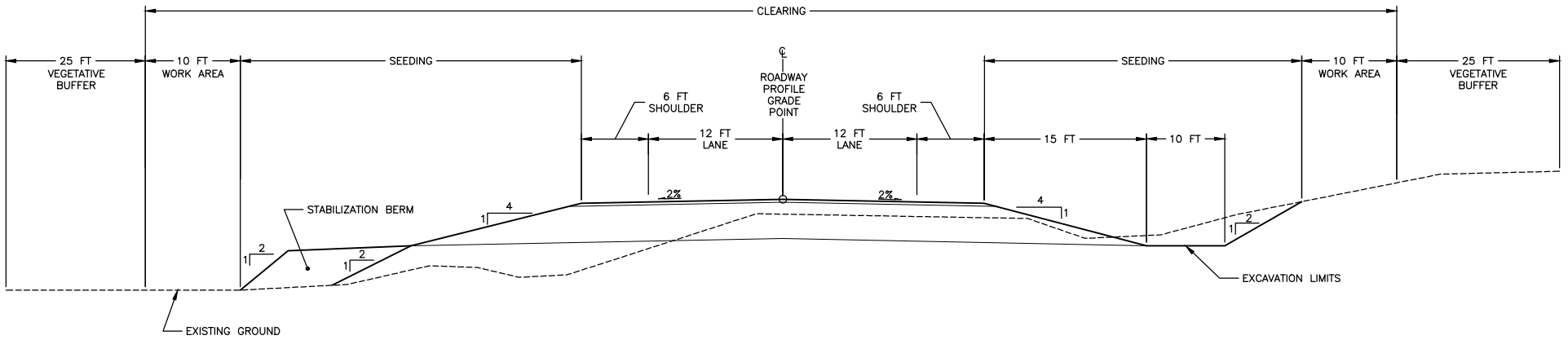
The State of Alaska, Department of Environmental Conservation complies with Title II of the Americans with Disabilities Act of 1990. If you are a person with a disability who may need special accommodation in order to participate in this public process, please contact Theresa Zimmerman at 907-465-6171 or TDD Relay Service 1-800-770-8973/TTY or dial 711 within 5 days of the expiration date of this public notice to ensure that any necessary accommodations can be provided.



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

RICHARDSON HIGHWAY 159-167 RECONSTRUCTION
62253
LOCATION AND VICINITY MAP

POA-2019-00082, Haggard Creek
March 6, 2019 Sheet 1 of 8 (Figure 1)



RICHARDSON HIGHWAY TYPICAL SECTION

NOT TO SCALE

STATE OF ALASKA

Department of Transportation and Public Facilities

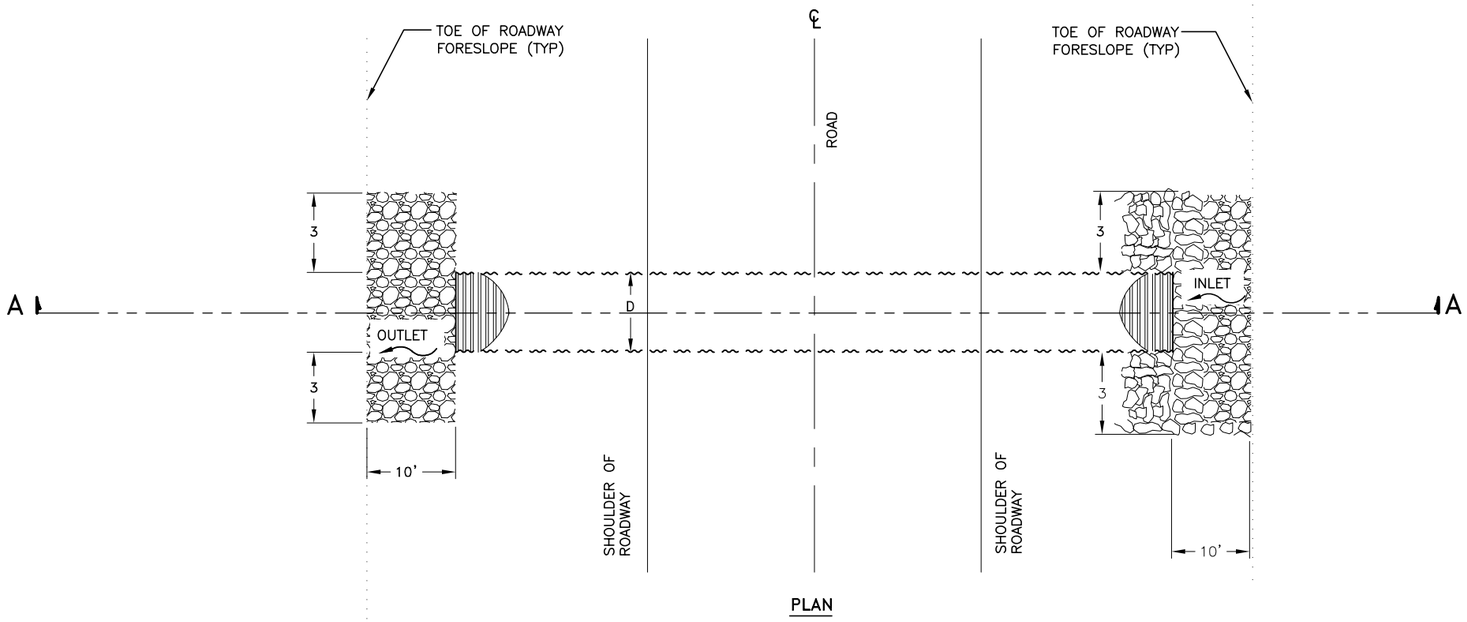
2301 PEGER Rd. Fairbanks, AK 99709

RICHARDSON HIGHWAY MP 159–167 RECONSTRUCTION

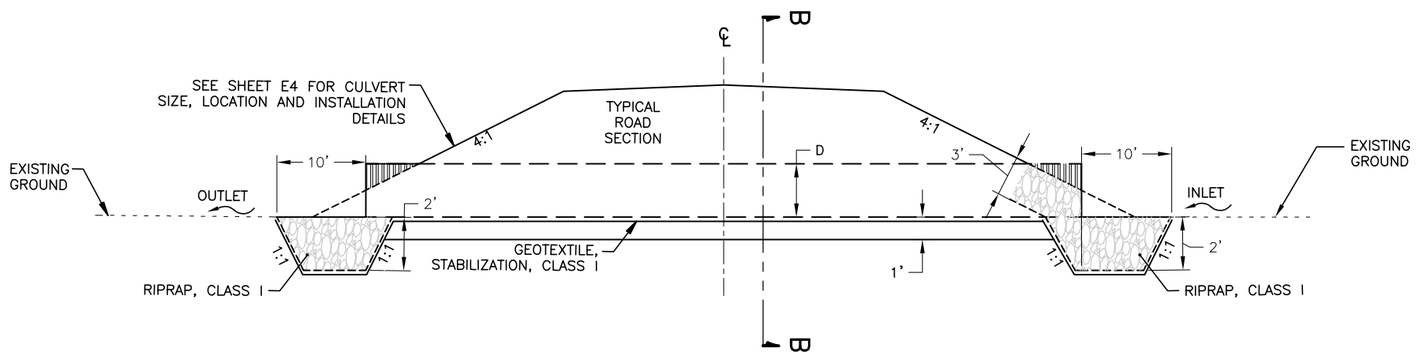
POA-2019-00082, Haggard Creek

March 6, 2019 Sheet 2 of 8 (Figure 2)

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0713013/Z622530000	2018	E5	E9

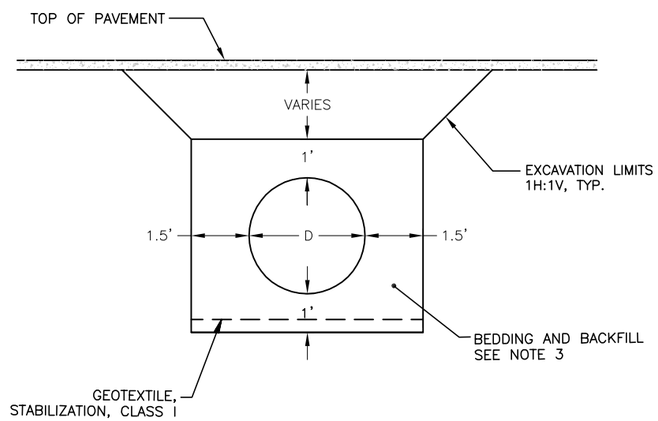


PLAN



SECTION A–A

RIPRAP APRON DETAIL



CULVERT BEDDING AND BACKFILL DETAIL

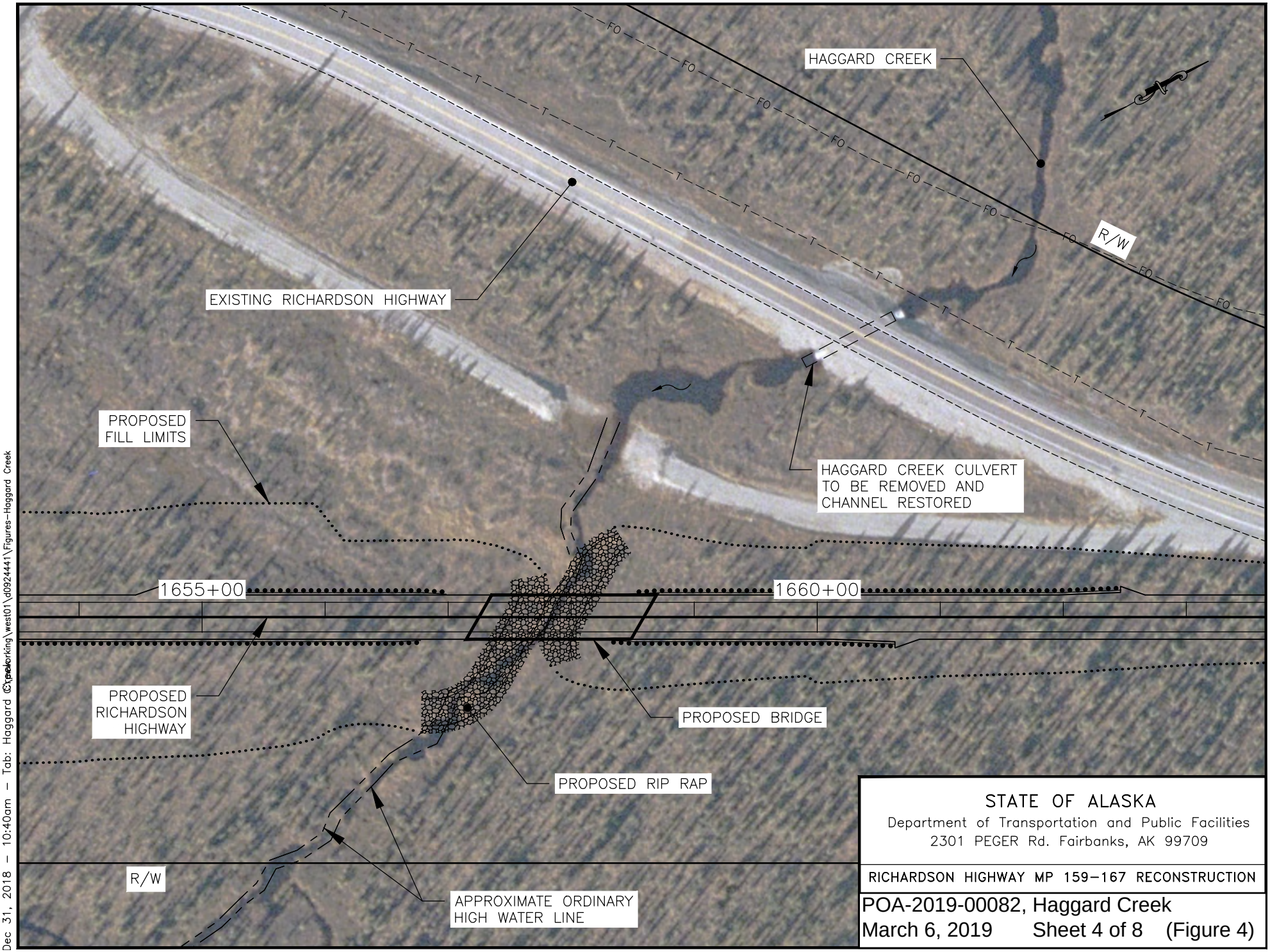
CULVERT NOTES:

1. CONSTRUCT RIPRAP APRONS AS NOTED IN THE CULVERT SUMMARY TABLE.
2. EXCAVATE BELOW ORIGINAL GROUND WHERE RIPRAP IS REQUIRED AND BACKFILL WITH RIPRAP, CLASS I. THIS WORK IS SUBSIDIARY TO THE PAY ITEM 611(1) SHOWN ON THE CULVERT SUMMARY TABLE.
3. CONSTRUCT BEDDING AND BACKFILL WITH SELECTED MATERIAL, TYPE A.

POA-2019-00082
Haggard Creek
March 6, 2019
Sheet 3 of 8
(Figure 3)

CULVERT DETAILS

PLANS DEVELOPED BY: HDR INC. 2525 C STREET, SUITE 500, ANCHORAGE ALASKA, 99503 (907)-644-2000
C:\pwworking\west01\d0483514\62253_E_DETAILS-Culvert Details (4 of 5) Wed, Jan/30/19 01:28pm



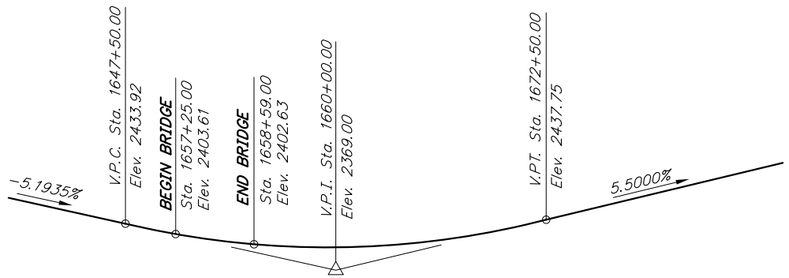
STATE OF ALASKA
Department of Transportation and Public Facilities
2301 PEGER Rd. Fairbanks, AK 99709

RICHARDSON HIGHWAY MP 159–167 RECONSTRUCTION

POA-2019-00082, Haggard Creek
March 6, 2019 Sheet 4 of 8 (Figure 4)

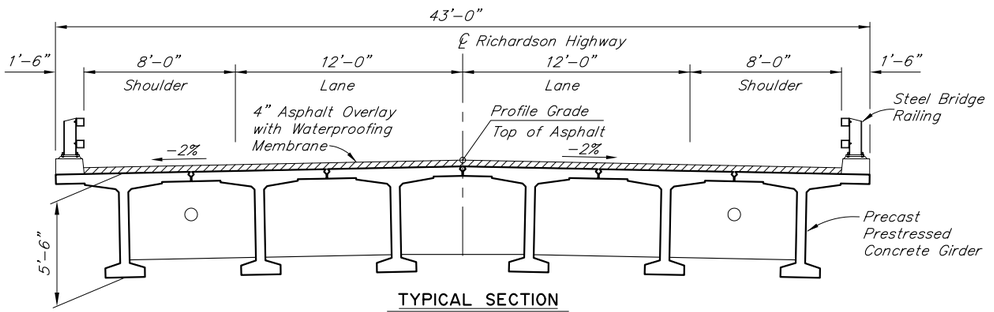
Dec 31, 2018 – 10:40am – Tab: Haggard Creek – C:\workingw\west01\d0924441\Figures–Haggard Creek

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	Z622530000	2018		TtlShts



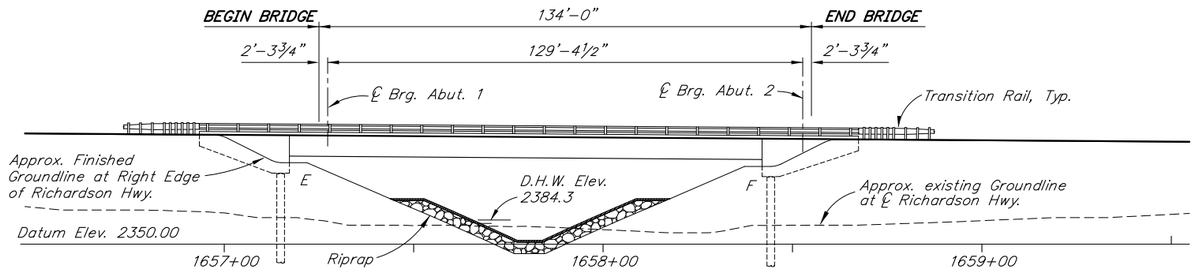
PROFILE GRADE DATA

No Scale



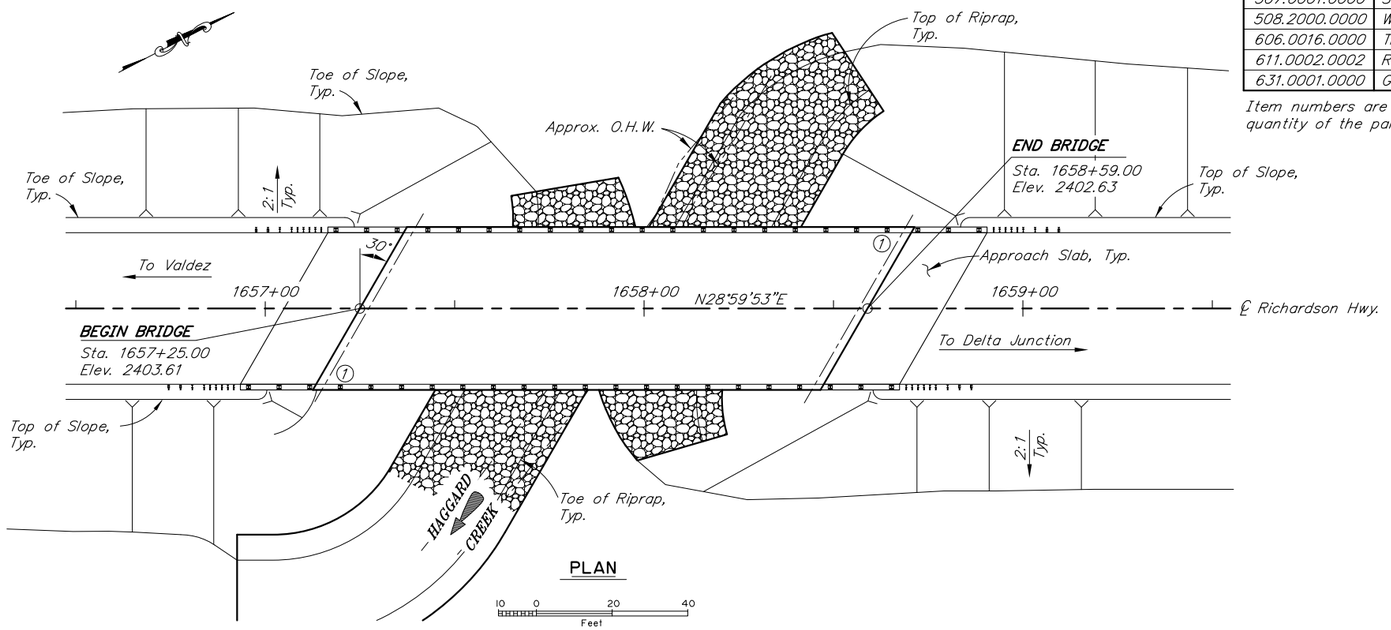
TYPICAL SECTION

12 0 4 8
In. Feet



ELEVATION

10 0 20 40
Feet



PLAN

10 0 20 40
Feet

ESTIMATE OF QUANTITIES

ITEM NO.	ITEM	PAY UNIT	ESTIMATING UNIT	SUBST.	SUPERST.	TOTAL QUANTITY
205.0006.0000	Structural Fill	CY	CY	1,360	---	1,360
501.0001.0000	Class A Concrete	LS	CY	139.9	139.1	279.0
501.0007.0000	Precast Concrete Member (131'-0" Decked Bulb-Tee)	EA	EA	---	6	6
503.0001.0000	Reinforcing Steel	LS	LBS	29,580	---	29,580
503.0002.0000	Epoxy-Coated Reinforcing Steel	LS	LBS	185	21,175	21,360
505.0005.0000	Furnish Structural Steel Piles (2'-0" dia. Pipe Piles)	LF	LF	1,323.0	---	1,323.0
505.0006.0000	Drive Structural Steel Piles (2'-0" dia. Pipe Piles)	EA	EA	12	---	12
507.0001.0000	Steel Bridge Railing	LF	LF	---	348.0	348.0
508.2000.0000	Waterproofing Membrane (Spray-on)	LS	SF	---	6,960	6,960
606.0016.0000	Transition Rail	EA	EA	---	4	4
611.0002.0002	Riprap, Class II	CY	CY	2000	---	2000
631.0001.0000	Geotextile, Erosion Control	SY	SY	2000	---	2000

Item numbers are for reference only. Quantities shown are not necessarily the pay quantities nor the total quantity of the particular item.

BRIDGE DRAWING INDEX

① *Approximate location of Bridge Number Plate.*

DESIGNED BY: Elmer E Marx	CHECKED: Andrew Wells	LAYOUT BY: Elmer E Marx	CHECKED BY: Andrew Wells
DRAWN BY: Sam Sollie	CHECKED: Elmer E Marx	SPECIFICATIONS BY: Elmer E Marx	P S & E COMPARED: Andrew Wells
QUANTITIES BY: Elmer E Marx	CHECKED: Andrew Wells	APPROVAL RECOMMENDED BY: Rich Pratt	

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
BRIDGE SECTION
3132 Channel Drive
Juneau, Alaska 99801
907-465-2975

HAGGARD CREEK BRIDGE

RICHARDSON HIGHWAY

GENERAL LAYOUT

POA-2019-00082
Haggard Creek
March 6, 2019
Sheet 5 of 8

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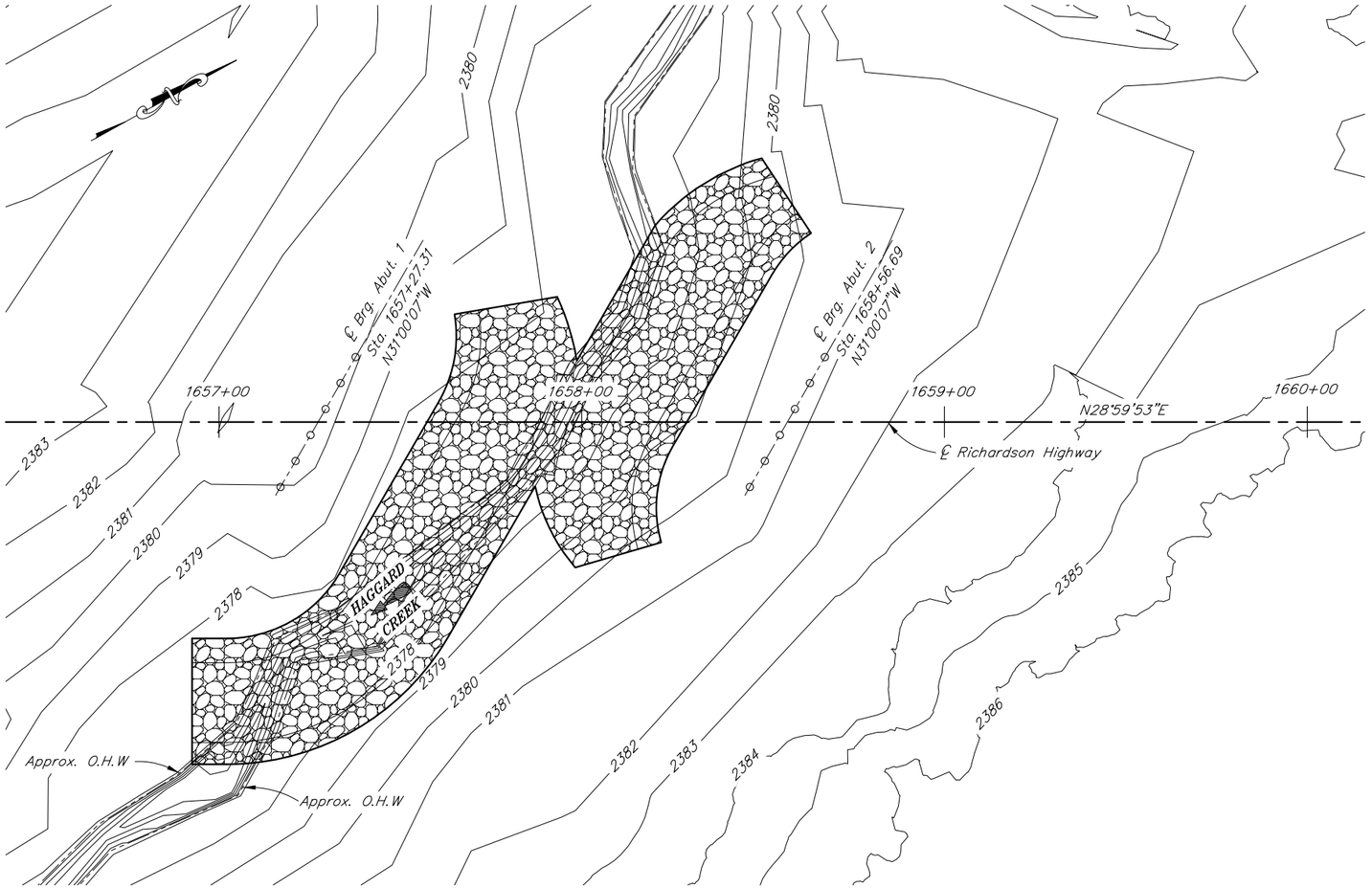
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	Z622530000	2018		TtlShts



SITE PLAN

10 0 20 40
Feet

GENERAL NOTES

DESIGN: AASHTO LRFD Bridge Design Specifications, 2017 Edition, with latest interim specifications.

Seismic design per AASHTO Guide Specifications for LRFD Seismic Bridge Design, 2011 with latest interim revisions.

LIVE LOAD: HL-93

DEAD LOAD: Includes 50 psf for all wearing surfaces.

SEISMIC PARAMETERS: PGA = 0.20
Ss = 0.45
S1 = 0.22
Site Class = D
Liquefaction Potential = High
AASHTO 7% probability of exceedance in 75 years.

REINFORCEMENT: ASTM A706, Grade 60, Fy = 60,000 psi
ASTM A970 Headed bars, Class HA.
Space reinforcement evenly unless otherwise noted.

PRESTRESSED CONCRETE: See "GIRDERS" Dwg.

CONCRETE: Class A Concrete unless otherwise noted, f'c = 4000 psi

STRUCTURAL STEEL: ASTM A709, Grade 36T3, Fy = 36,000 psi
Galvanize structural steel in accordance with AASHTO M111 unless noted otherwise.

STRUCTURAL STEEL PILING: API 5L X52 PSL2, Fy = 52,000 psi, or
ASTM A709 GR50T3, Fy = 50,000 psi.
Open Ended Pile Tip reinforcing is required.

PILE DATA TABLE

		DRIVING CRITERIA			DESIGN DATA		
LOCATION	PILE TYPE	MINIMUM PENETRATION (ft)	ESTIMATED PILE TIP ELEVATION (ft)	DRIVING RESISTANCE (K)	STRENGTH I FACTORED LOAD (K)	NOMINAL RESISTANCE (K)	RESISTANCE FACTOR, ϕ
Abutment 1	2'-0"x½ Pipe	75	2294	1495	890	1370	0.65
Abutment 2	2'-0"x½ Pipe	100	2270	1495	890	1370	0.65

Prebore to within 5 feet of minimum penetration.

ABBREVIATIONS:

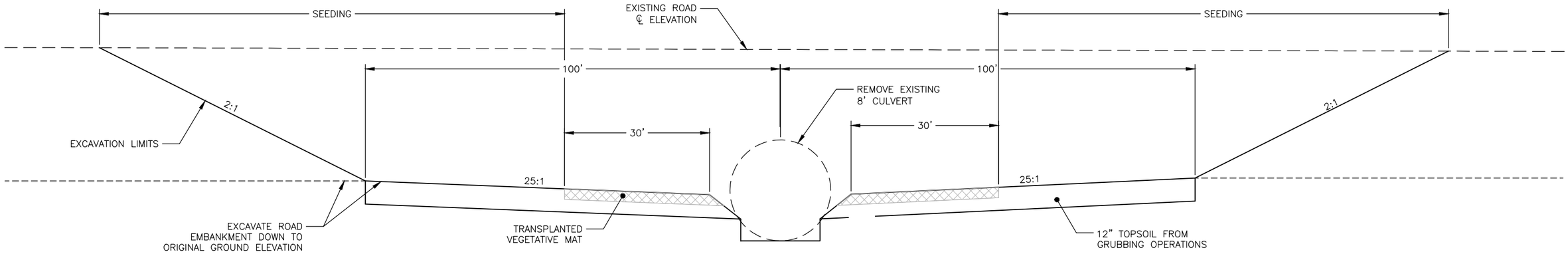
℄	= centerline	f'c	= specified concrete compressive strength
℗	= plate	Fy	= yield stress
&	= and	Glav.	= galvanize
@	= at	Hwy.	= highway
ø	= diameter	ksf	= 1000 pounds per square foot
±	= approximate	LB	= pound
AASHTO	= American Association of State Highway and Transportation Officials	LF	= linear foot
		LS	= lump sum
ASTM	= American Society for Testing and Materials	Lt.	= left
		max.	= maximum
Abut.	= abutment	min.	= minimum
Approx.	= approximate	n.f.	= near face
b.f.	= back/dirt face	No.	= number
bot.	= bottom	o.c.	= on center
Br.	= bridge	O.H.W.	= ordinary high water
btwn.	= between	pcf	= pounds per cubic foot
Brg.	= bearings	psf	= pounds per square foot
C.I.P.	= cast in place	psi	= pounds per square inch
CJP	= complete joint penetration	V.P.C.	= point of vertical curve
Clr.	= clear, clearance	V.P.I.	= point of vertical intersection
CY	= cubic yard	V.P.T.	= point of vertical tangent
dia.	= diameter	R.O.W.	= right of way
Dwg.	= drawing	Rt.	= right
E	= expansion	Rd.	= road
(E)	= existing	spc.	= space, spaces
EA	= each	Sta.	= station
Elev.	= elevation	SF	= square feet
e.f.	= each face	Symm.	= symmetric
e.w.	= each way	Typ.	= typical
F	= fixed	UT	= ultrasonic testing
f.f.	= front/air face	w/	= with

DESIGNED BY: Elmer E Marx	CHECKED: Andrew Wells	FOUNDATIONS REVIEWED BY: Dave Hemstreet	STATE OF ALASKA **DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES** BRIDGE SECTION 3132 Channel Drive Juneau, Alaska 99801 907-465-2975		**HAGGARD CREEK BRIDGE** RICHARDSON HIGHWAY **SITE PLAN**	POA-2019-00082 Haggard Creek March 6, 2019 Sheet 6 of 8
DRAWN BY: Sam Sollie	CHECKED: Elmer E Marx					
QUANTITIES BY: Elmer E Marx	CHECKED: Andrew Wells					

R:\cad\576\576-SITE PLAN Fri, Oct/19/18 09:18am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0713013/Z622530000	2018		

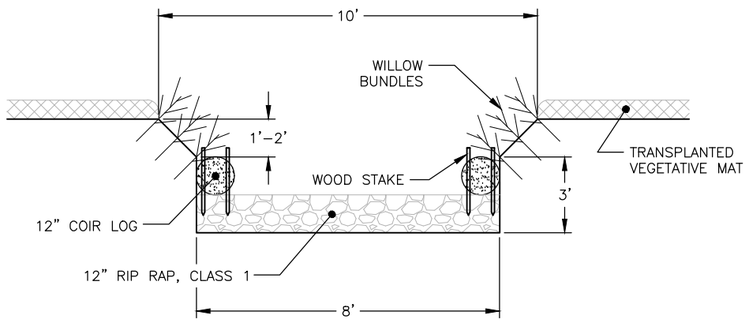


HAGGARD CREEK STREAM BED RESTORATION – SECTION A–A

NOT TO SCALE

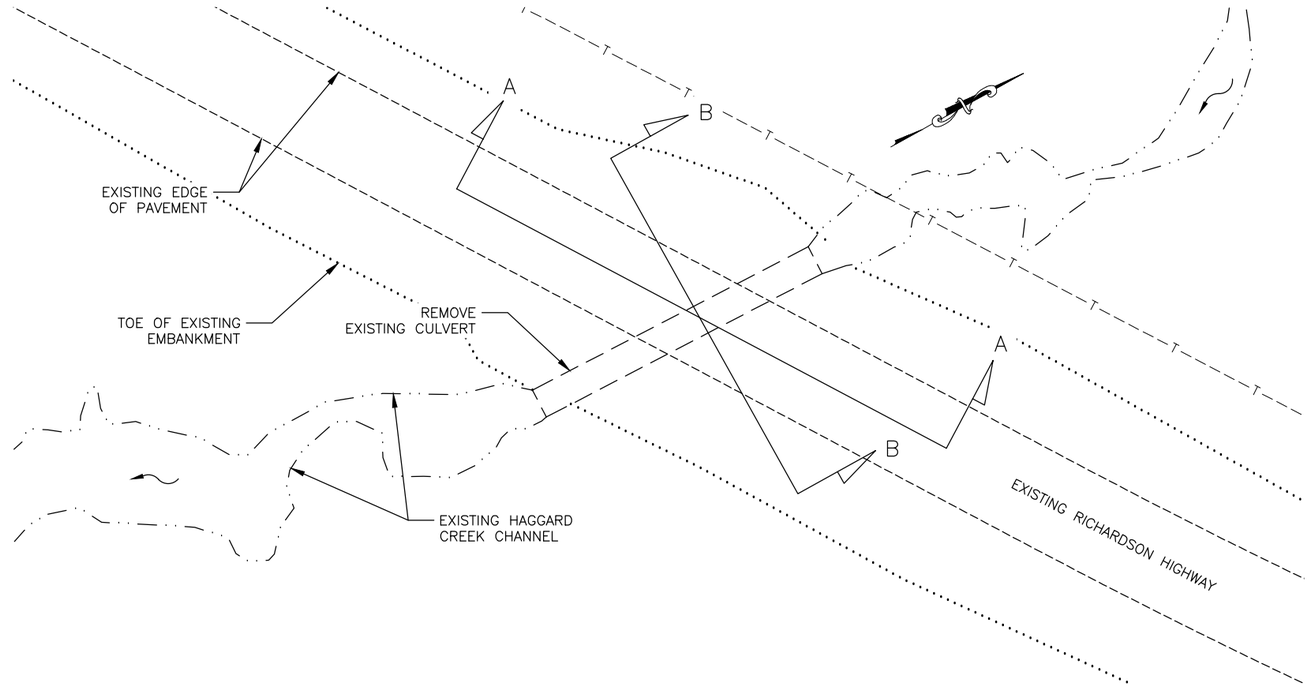
STREAM BED RESTORATION NOTES:

1. FILL VOIDS IN RIP RAP WITH GRAVEL, WHICH SHALL CONSIST OF MINUS 3 INCH WELL GRADED MATERIAL. ALL GRAVEL WORK AND MATERIAL IS SUBSIDIARY TO PAY ITEM 611(1A).
2. AT BEGINNING AND ENDING OF STREAM BED RESTORATION, KEY COIR LOGS FIRMLY INTO BANK BY TRENCHING AND STAKING.
3. SALVAGE AND TRANSPLANT THE RIPARIAN ZONE VEGETATIVE MAT THAT WILL BE COVERED BY THE NEW ROAD ALIGNMENT AT HAGGARD CREEK BEFORE CONSTRUCTION OF THE NEW ROADWAY. THIS WORK WILL BE PAID FOR UNDER 621 PAY ITEMS.
4. TRANSPLANT VEGETATIVE MAT AND ALLOW TO OVERHANG TOP OF WILLOW BUNDLES.
5. ANCHOR COIR LOGS WITH WOOD STAKES 1.5" X 1.5" X 2' SPACED EVERY 3 FEET.



HAGGARD CREEK STREAM BED RESTORATION – SECTION B–B

NOT TO SCALE



HAGGARD CREEK STREAM BED RESTORATION – PLAN VIEW

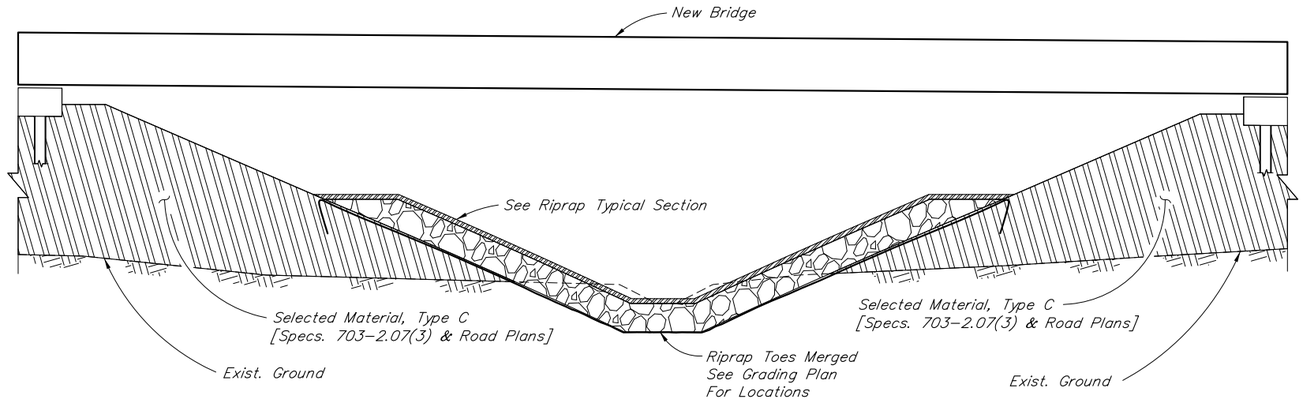
NOT TO SCALE

POA-2019-00082
Haggard Creek
March 6, 2019
Sheet 7 of 8
(Figure 7)

HAGGARD CREEK RESTORATION

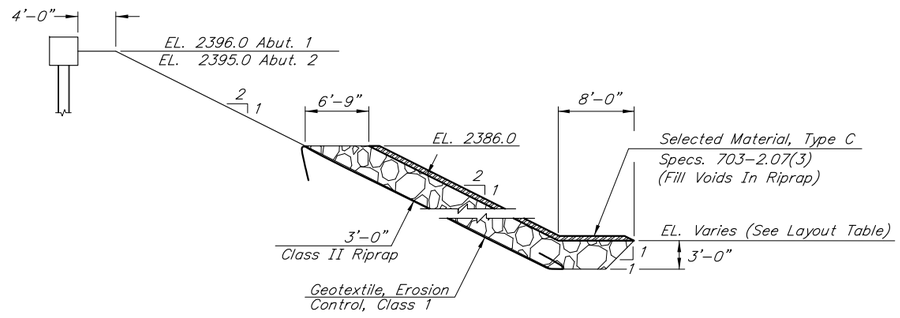
PLANS DEVELOPED BY: HDR INC. 2525 C STREET, SUITE 500, ANCHORAGE ALASKA, 99503 (907)-644-2000
C:\pwworking\west01\d0483514\62253_E_Creek_Restoration-Creek Restoration Mon, Dec/31/18 10:39am

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	Z622530000	2018		



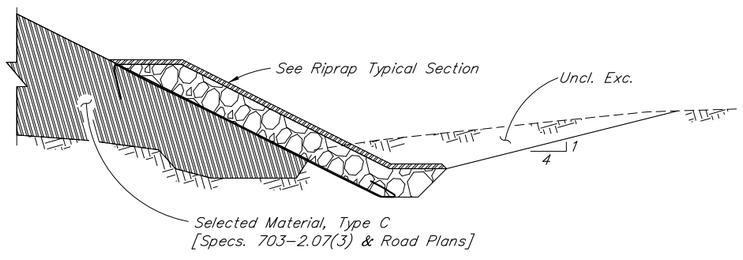
RIPRAP SECTION A-A

No Scale



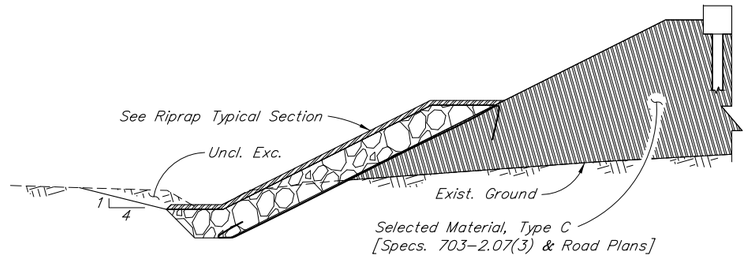
RIPRAP TYPICAL SECTION

No Scale



RIPRAP SECTION B-B

No Scale



RIPRAP SECTION C-C

No Scale

DESIGNED BY: Michael Knapp	CHECKED:		STATE OF ALASKA **DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES** BRIDGE SECTION 3132 Channel Drive Juneau, Alaska 99801 907-465-2975		**HAGGARD CREEK BRIDGE** RICHARDSON HIGHWAY **RIPRAP DETAILS**	POA-2019-00082 Haggard Creek March 6, 2019 Sheet 8 of 8 (Figure 8)
DRAWN BY: Sam Sollie	CHECKED: Michael Knapp					
QUANTITIES BY: Michael Knapp	CHECKED:					

R:\cad\576\576-RIPRAP (2) Fri, Oct/19/18 09:18am