E. NEW BUSINESS

3. Conditional Use Permit; PC RES 2024-05
Applicant: US Forrest Service
Request: Construct a foot bridge along the Ptarmigan Trail within the 50-foot Habitat Protection District of Ptarmigan Creek
Parcel ID: 12532105

Multi-Agency Permit Application

RIVER CENTER

514 Funny River Road, Soldotna, AK 99669 ● (907) 714-2460 ● KenaiRivCenter@kpb.us

Applicant Information: (must be a landowner)

Name: Forest Service
Mailing: 161 E 1st ave
Anchorage AK 99501
Phone: 7402630251
Email: hampton.coogle@usda.gov

Agent Information: (if applicable)

Name: Hampton Coogle
Mailing: 161 E 1st ave
Anchorage AK 99501
Phone: 7402630251
Email: hampton.coogle@usda.gov

Project Location:

KPB Parcel ID: 12532105
Physical Address: T4N R1E

Subdivision:
Lot: _____ Block: _____ Addition/No.: _____

Waterbody Information:

Waterbody: Ptarmigan Creek
Riverbank: *(looking downstream)* ■ Left ■ Right
River Mile: 2 MILES

KPB Permit Fees: (select one)

■ $50 - KPB Habitat/Floodplain Permit
■ $300 - KPB Conditional Use/Floodway Permit

Project Information: ■ New **OR** ☐ Extension/Amendment to **RC#** _____

Please select all activities that apply to your project:

- ☐ Bank Stabilization
- ☐ Boat Launch
- ■ Bridge
- ☐ Coir Logs
- ☐ Culvert
- ☐ ELP Structures
- ☐ Equipment Stream Crossing
- ☐ Excavation, Dredging, and/or Fill
- ☐ Fence Installation
- ☐ Fish & Wildlife Management
- ☐ Floating Dock
- ☐ Fuel Storage Green Infrastructure
- ☐ In-Stream Structures (Weir)
- ☐ Oil & Gas
- ☐ On-Site Utilities
- ☐ Prior-Existing Structure
- ☐ Revegetation
- ☐ Root Wads
- ☐ Road Construction
- ☐ Structure (Accessory)
- ☐ Structure (Residential)
- ☐ Spruce Tree Revetment
- ■ Stream Crossing
- ☐ Utility Line/Easement
- ☐ Veg Mat
- ☐ Vegetation Removal
- ☐ Water Withdrawal
- ☐ Other: _____

Project Description: *Provide a detailed description of your project; attach additional pages if necessary.*

Stream crossing is required across Ptarmigan Creek to Construct a 80' hiking trail at Ptarmigan Creek and an unnamed crossing. Creek crossing will only be at Ptarmigan Creek and work within 50' of the MHW and OHW is only located at Ptarmigan Creek. The other unamed drainage sits outside of the 50' offset.

Cost-Share: Is this project funded by the Cost-Share Program? ☐ Yes ■ No

KPB Tax Credit Program: The Borough provides a tax credit as partial reimbursement for new habitat protection and restoration projects within 150 feet of anadromous streams. If you would like to pre-qualify for this credit, please provide your estimated project cost(s) below. Do not include grants or other funding assistance:

Elevated Light Penetrating Structures	$ na
Habitat Restoration & Protection	$ na
Green Infrastructure	$ na
Other Activities	$ na

Project Questions:

1. Start date: 6/1/2024 End date: 8/30/2025 Estimated Days of Construction: 90
2. Is any portion of the work already complete? If yes, please describe: ☐ Yes ☒ No

_____

Ordinary High Water (OHW) and Mean High Water (MHW):

3. Is the project located within 50 feet of OHW or MHW a waterbody? ☒ Yes ☐ No
4. Does any portion of the project extend below the OHW or MHW of the waterbody? ☐ Yes ☒ No
5. Does any portion of the project cantilever or extend over the MHW of the waterbody? ☒ Yes ☐ No
6. Will anything be placed below OHW or MHW of the waterbody? ☐ Yes ☒ No

Regulatory Floodplains:

7. Is the property where the project is taking place near or within a regulatory floodplain? ☒ Yes ☐ No
   a. Is this project within or adjacent to a regulatory floodway? ☒ Yes ☐ No
   b. Is this project within or adjacent to a coastal high hazard zone? ☐ Yes ☒ No
   c. For new buildings and/or additions, list all project costs (labor, materials, etc.): $ _____

Excavation, Dredging, and Fill:

8. Will material be excavated or dredged from the site? ☐ Yes ☒ No
   a. Type of material(s): _____
   b. Area to be dredged below OHW or MHW:
      Length: _____ (ft) Width: _____ (ft) Depth: _____ (ft) Total Cubic Yards: _____
   c. Area to be excavated above OHW or MHW:
      Length: _____ (ft) Width: _____ (ft) Depth: _____ (ft) Total Cubic Yards: _____
   d. Location materials will be deposited: _____
9. Will any material (including soils, debris, and/or overburden) be used as fill? ☒ Yes ☐ No
   a. Type of material(s): clean structural fill and pit run for bridge abutments. Above MHW
   b. Is this fill permanent or temporary? ☒ Perm ☐ Temp
   c. Area to be filled above OHW or MHW:
      Length: 75 (ft), Width: 5 (ft), Depth: 6-8 (ft), Total Cubic Yards: 300
   d. Area to be filled below OHW or MHW:
      Length: _____ (ft), Width: _____ (ft), Depth: _____ (ft), Total Cubic Yards: _____

Motorized Equipment:

10. Will you be using motorized equipment for this project? If yes, please list all equipment: ☒ Yes ☐ No
    atv, mini excavator, trail boss (stand up back-hoe) ~18 crossings expected
    a. Will you be crossing a stream or waterbody? ☒ Yes ☐ No
    b. How long will equipment be used below OHW or MHW? only crossings are required

Signature & Certification:

This application is hereby made requesting permit(s) to authorize the work described in this application form. I certify the information in this application is complete and accurate to the best of my knowledge and that my site plans or drawings are attached. If applying for a tax credit, I certify that I have not begun construction of the project and that the project will be constructed to the standards in KPB 5.12 Real Property and Personal Property Taxes, KPB 5.14 Habitat Protection Tax Credit, and other applicable federal, state, and local regulations.

_____ _____
Applicant Signature (required) **Date**

_____ _____
Agent Signature (if applicable) **Date**

PTARMIGAN CREEK DESCRIPTION

A. Introduction

The Chugach National Forest is seeking construction services for the supply and installation of a pre-engineered steel trail bridges spanning approximately 80 feet x 5 feet, and for the construction of approximately 2.8 miles of new trail. Within the flood zone ~ 300 cy of material will be brought in and will be a combination of AKDOT D-1 and 3" minus pit run. All materials and abutments are above the 100 year flow horizon. The abutments to stream banks will be armored with Class I FP-14 rip rap, the armoring will be ~15 cy per abutment (footprint ~200 sq ft/abutment). The approaches and abutments will raise the existing ground ~ 10' for 50' length on either side of this trail bridge. ~ 8-10 trees will require to be cut around the proposed bridge abutments. As well as light clearing and grubbing immediately around the bridge abutments. The trees and vegetated debris will be used along the cut slopes and toes of fill to act as a slash filter to trap sediment and prevent excess sediment from flowing into Ptarmigan Creek. The trail bridge and trail bridge approaches within 50 feet of the O.H.W. mark is only expected to last 14 days. Once the trail bridge is completed contractors will use the bridge to cross with their equipment.

It is requested that a total of 18 stream crossings will be required during construction using a combination of ATVs, mini excavators, track barrows, mini crawler track skidders. Crossings will follow AKDFG fish window. Any exceptions outside of the windows will be routed to AKDFG for approval prior to crossing. Crossings will be needed during construction, construction is excepted for 2024 and 2025.

The new trail will go along the flood zone area around Ptarmigan creek. The new trail that will be passing through Ptarmigan creek flood zone is less than 0.25 miles. The trail will be ~36" wide and be constructed from native material and partial AKDOT D-1 aggregate. The trail will keep the landscape as hydrologically inert as possible by using dips, ditches, and out sloped sections. In 2020-2021 the trail corridor was cleared of large trees and woody debris. The contractor will only have to clear light brush and construct new trail tread. The vegetation that is generated will be used along the cut and fill slopes and act as a slash filter for sediment.

The materials being brought in will be certified weed free and equipment will be inspected for cleanliness.

B. Description of the Work

1. This project involves engineering design, fabrication, delivery, and construction of a steel trail bridges. One of the bridges is planned to span Ptarmigan Creek.

   The bridge will be a prefabricated weathering steel trusses. Estimated lengths are 80 feet x 5 feet for Ptarmigan Creek. The travel-way clear width for both bridges is to be 5 feet.

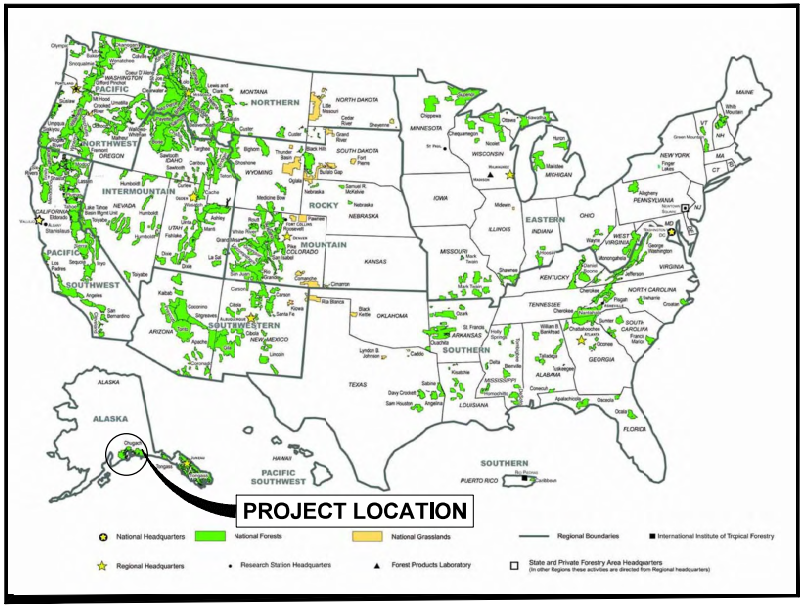
   Work includes superstructure and substructure designs. Once overburden has been removed, anticipated subsurface material is sedimentary and foliated rock with allowable

foundation bearing pressure of 4,000 psf. The Contractor is responsible for substructure designs and connection of the superstructures to the substructures. Spread-footing mudsills, if used, shall be reinforced concrete. Design considerations include the bridges' remote locations, (e.g., no road access).

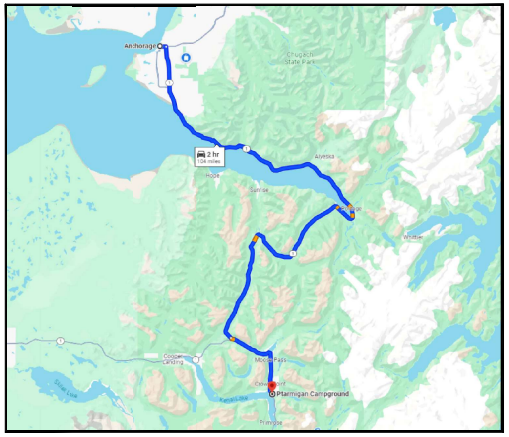
U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
ALASKA REGION

INHT: WATERFALL TO PTARMIGAN BRIDGES AND TRAIL

CHUGACH NATIONAL FOREST
SEWARD RANGER DISTRICT
KENAI PENINSULA



FOREST LOCATION



VICINITY MAP

TRAVEL DIRECTIONS

FROM ANCHORAGE GO SOUTH ON AK 1 FOR 89 MILES, KEEP LEFT AT THE COOPER LANDING JUNCTION AND CONTINUE FOR 14 MILES, PTARMIGAN LAKE CAMPGROUND AND PTARMIGAN CREEK TRAIL WILL BE ON THE LEFT

PROJECT DESCRIPTION

PROJECT INCLUDES TRAIL BRIDGES AT DRAINAGES NAMED "WATERFALL" AND PTARMIGAN CREEK AS WELL AS CONSTRUCTION OF THEIR APPROACH TRAILS AND A NEW TRAIL BETWEEN THEM

Sheet List Table

Sheet Number	Sheet Title
1	Waterfall to Ptarmigan Title
2	Waterfall to Ptarmigan Notes
3	Waterfall to Ptarmigan Map
4	Ptarmigan Survey
5	Waterfall Survey
6	Ptarmigan Plan
7	Ptarmigan Profile
8	Waterfall Plan
9	Waterfall Profile
10	Prefab Planning & Criteria
11	Prefab Notes & Sections
12	Prefab Bearing and Substructure
13	Waterfall S Abut Conc Lvl on Bedrock
14	Waterfall N Abut Geocell Pad
15	TRAIL WORKLOG
16	910-01 TRAIL TYPICAL
17	911-01 TRAIL SECTIONS
18	912-01 CLEARING
19	912-02 BRUSHING
20	914-01 CLIMBING TURN
21	917-20-01 FORD
22	917-20-02 FORD
23	927-10-01 DRAIN DIP
24	927-10-02 DRAIN DIP
25	934-10-01 PUNCHEON
26	934-10-02 PUNCHEON
27	APPENDIX A
28	932-10 TURNPIKE
29	925-01 DITCHES
30	912-20 TRAIL CULVERT
31	918-10-01 ROCK TRAIL FOUNDATION
32	913-01 SURFACING
33	911-03 RETAINER

RECOMMENDED BY:

DISTRICT RANGER
SEWARD RANGER DISTRICT — DATE

FOREST ENGINEER
CHUGACH NATIONAL FOREST — DATE

APPROVED:

FOREST SUPERVISOR
CHUGACH NATIONAL FOREST — DATE

GENERAL NOTES

SPECIFICATIONS : THE WORK SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATION FOR CONSTRUCTION OF ROADS AND BRIDGES ON FEDERAL HIGHWAY PROJECTS (FP-03) AND STANDARD SPECIFICATIONS FOR CONSTRUCTION OF TRAILS AND TRAIL BRIDGES ON FEDERAL PROJECTS, AND CURRENT VERSION OF THE AASHTO LRFD GUIDE SPECIFICATION FOR THE DESIGN OF PEDESTRIAN BRIDGES.

GEOTECHNICAL REPORT : A GEOTECHNICAL REPORT WILL BE PROVIDED BY THE CO BY EARLY SUMMER 2024.

CONCRETE WASTE : CONCRETE WASTE SHALL BE REMOVED AND DISPOSED OF AS APPROVED BY THE CO. CONCRETE SHALL NOT BE DISCHARGED INTO ANY STREAM OR BODY OF WATER.

TOPSOIL : ALL ORGANIC TOPSOIL MATERIAL SHALL BE STRIPPED AND REMOVED FROM THE GROUND SURFACE PRIOR TO CONSTRUCTING TRAIL OR BRIDGE FEATURES. FINISHED SLOPES ADJACENT TO THE BRIDGE SHALL RECEIVE 2-3" OF TOPSOIL TO THE EXTENT ALLOWED BY EVEN DISTRIBUTION OF THE STOCKPILE MATERIAL FROM STRIPPING THE SITE.

REINFORCING STEEL : REINFORCING STEEL SHALL CONFORM TO AASHTO M 31, 60 ksi (ASTM A615, GRADE 60). CLEARANCE TO REINFORCING IS 2" MINIMUM UNLESS NOTED OTHERWISE.

CONCRETE : CAST-IN-PLACE CONCRETE SHALL BE CLASS A(AE) AND SHALL HAVE A 28 DAY COMPRESSIVE STRENGTH OF 4500 PSI UNLESS NOTED OTHERWISE. CONTRACTOR SHALL SUBMIT CONCRETE MIX DESIGNS FOR APPROVAL AT LEAST 7 DAYS BEFORE USE FOR APPROVAL BY CO. ALL EXPOSED EDGES SHALL HAVE A 3/4" CHAMFER, UNLESS NOTED OTHERWISE. EXPOSED SURFACES SHALL BE GIVEN A RUBBED FINISH, UNLESS NOTED OTHERWISE. CONCRETE SHALL BE AIR ENTRAINED OF 7% +/- 1%. TESTING SHALL BE CONDUCTED IN THE FILE DURING INITIAL BATCHING ACTIVITIES TO DETERMINE THE CORRECT AMOUNT OF ADMIXTURE GIVEN THE CONCRETE MIX AND ON SITE WATER USED. ANY CHANGES IN CONCRETE MIX OR WATER SOURCE SHALL REQUIRE ADDITIONAL FIELD TESTING TO DETERMINE THE CORRECT AMOUNT OF ADMIXTURE.

ABUTMENT: THE CONTRACTOR SHALL PROVIDE A ABUTMENT DESIGN IN ACCORDANCE WITH THE DESIGN CRITERIA AND THE PROVIDED GEOTECHNICAL REPORT

SITE SECURITY: THE CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTION SITE SECURITY DURING THE PERFORMANCE OF THE CONTRACT

BRIDGE DESIGN REQUIREMENTS

BRIDGE DESIGN :
STRUCTURE SHALL BE DESIGNED IN ACCORDANCE WITH AASHTO LRFD GUIDE SPECIFICATIONS FOR DESIGN OF PEDESTRIAN BRIDGES, INCLUDES 2015 INTERIM REVISIONS. THE PEDESTRIAN TRAIL STRUCTURE SHALL BE DESIGNED FOR A LIVE LOAD VEHICLE CONSISTING OF A 3500 POUND TWO AXLE RUBBER TIRED ATV TRAILERING A SINGLE AXLE ONE HALF CUBIC YARD UTILITY CART WEIGHING 1200 POUNDS. THE ATV AXLES ARE 6 FEET APART AND THE TRAILER AXLE IS 2.5 FEET BEHIND THE ATV REAR AXLE. WHEEL GAGE IS 50 INCHES.

PEDESTRIAN LOADING: 90 PSF
WIND LOADING: 3 SECOND-GUST WIND SPEED V=145 MPH
WIND EXPOSURE CATEGORY C
SNOW LOADING: 88 PSF
DEFLECTION SHALL NOT EXCEED L/360

AGGREGATE
GOVERNMENT SOURCE AGGREGATE WILL BE PROVIDE CONSULT WITH C.O. TO DETERMINE PIT LOCATION. PIT LOCATIONS WILL BE LOCATED WITHIN THE SEWARD OR GLACIER RANGER DISTRICT. ASSUMED LINEAR DISTANCE ~10-40 MILES FROM PROJECT LOCATION.

USDA FOREST SERVICE

United States Department of Agriculture
Forest Service

R10
ALASKA REGION

STAMPS, LOGOS, AND SEALS

NO.	REVISION / ISSUE	DATE
4		
3		
2		
1		

PROJECT NAME
INHT: WATERFALL TO PTARMIGAN BRIDGES AND TRAIL

CHUGACH NATIONAL FOREST

SEWARD RANGER DISTRICT

DRAWING TITLE
Waterfall to Ptarmigan Notes

DATE 2/23/2024	ARCHIVE NO.
DESIGNER TBD	DRAWING SHEET NO. 2
DRAWN E.A., H.C.	
CHECKED I. ANDERSON	
PROJECT NO. 23-ENG-1004-101	SHEET 2 OF 33

United States Department of Agriculture
Forest Service
R10
ALASKA REGION

STAMPS, LOGOS, AND SEALS

NO.	REVISION / ISSUE	DATE
4		
3		
2		
1		

PROJECT NAME
INHT: WATERFALL TO PTARMIGAN BRIDGES AND TRAIL

CHUGACH NATIONAL FOREST

SEWARD RANGER DISTRICT

DRAWING TITLE
Waterfall to Ptarmigan Map

DATE 2/23/2024	ARCHIVE NO.
DESIGNER TBD	DRAWING SHEET NO. 3
DRAWN E.A., H.C.	
CHECKED I. ANDERSON	
PROJECT NO. 23-ENG-1004-101	SHEET 3 OF 33

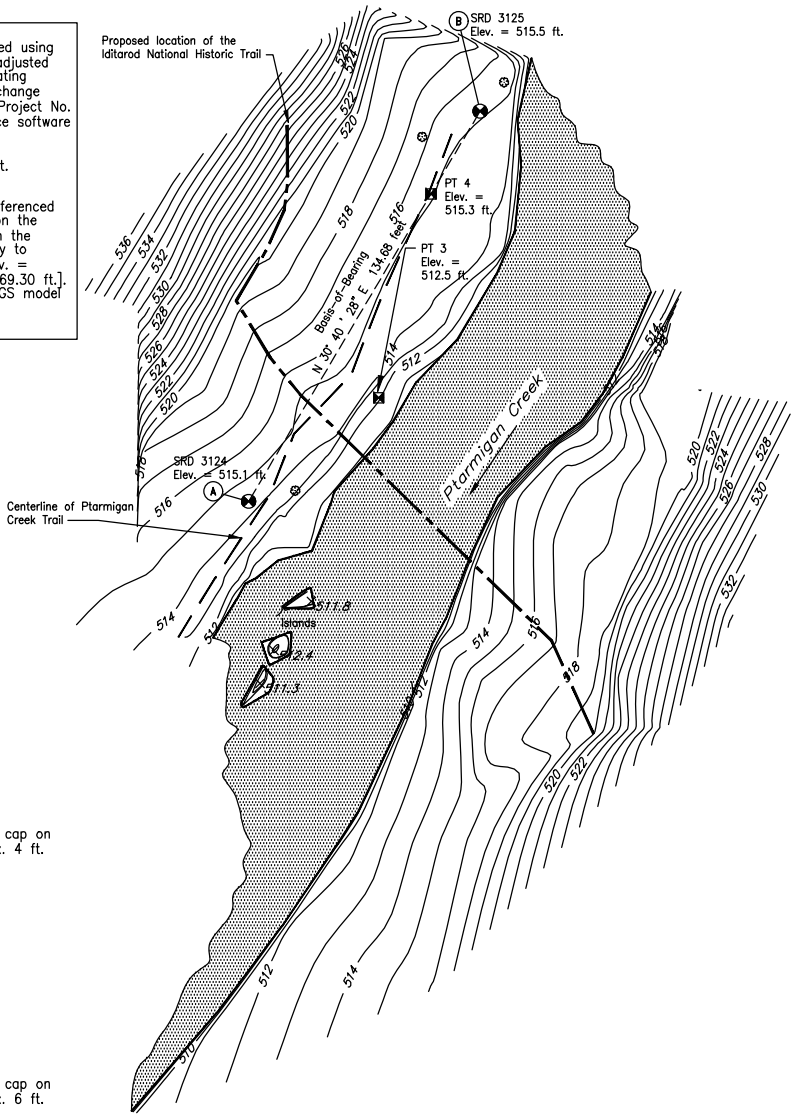
The geographic positions for stations 'SRD 3124' and 'SRD 3125' were computed using Global Positioning System (GPS) methods. The Stations were post processed, adjusted and fully constrained horizontally to National Geodetic Survey Continuously Operating Reference Stations (CORS) 'Cape Hinchinbrook 3' (CHI3) and 'The Surveyors Exchange Anchorage' (TSEA) as part of the 'FY2004 INHT GPS Project Control Network' (Project No. 818-04). GPS network baselines were processed using Trimble Geomatics Office software (Ver 1.61).

The inverse between 'SRD 3124' and 'SRD 3125' is N 30° 40' 28" E, 134.68 ft. distance.

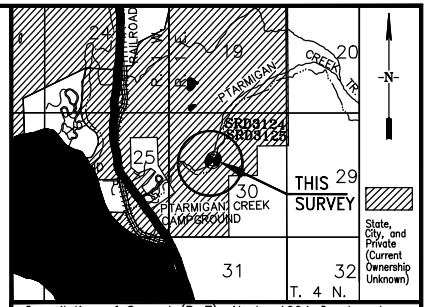
All elevations are expressed as Orthometric Heights in U.S. Survey Feet, and referenced to NAVD 88, unless otherwise noted. Site contours and elevations are based on the computed orthometric height (elevation) of 515.1 ft at station 'SRD 3124' from the adjusted network noted above. This GPS network was fully constrained vertically to National Geodetic Survey Stations 'ENDING' [Elev. = 28.42 ft.] and 'PF118' [Elev. = 665.86 ft.] and Chugach National Forest Control Station 'SRD 3103' [Elev. = 469.30 ft.]. Orthometric heights were determined by applying the geoidal height from the NGS model 'Geoid99-Alaska'.

NOTES:

1. The purpose of this survey was to collect topographic and site information for the design of a bridge across Ptarmigan Creek as part of the planned construction on the Iditarod National Historic Trail.
2. The Forest Service field crew consisted of Zach Mildon (Survey Technician), Dan Funk (Trails Technician), and Steve Dresen (Engineer).
3. The monuments depicted hereon actually exist as shown.
4. All distances on this plat are calculated and shown in U.S. Survey Feet.
5. The contour interval used in this project is 1.0 foot.
6. The bearings shown on this plat are Geodetic unless otherwise noted.
7. Survey adjustment and contouring completed using Tripod Data Systems (TDS) Foresight Software (Ver 2.2.1).
8. Centerline of the proposed trail was identified by Steve Dresen, Engineer at the time of the field survey.



Magnetic Declination from 1994 Quadrangle Seward (B-7), Alaska



Compilation of Seward (B-7), Alaska 1994 Quadrangle and Chugach National Forest GIS Database.
Land ownership shown is current as of April 1, 2004

VICINITY MAP
Scale: 1" = 1 Mile

LEGEND:

- Standard USDA Forest Service 3-1/4" diam. alum. cap on 3/4" diam. alum. drive rod, set this survey
- 2" x 2" wooden hub with tack, set this survey
- Bearing Tree, established this survey
- Centerline of Ptarmigan Creek Trail (±2 ft. wide)
- Proposed centerline of Iditarod Trail
- Ptarmigan Creek

Ptarmigan Creek Bridge Crossing is located approx. 3000 ft. up Ptarmigan Creek Trail from the trailhead in Ptarmigan Creek Campground. Ptarmigan Creek Campground is located east of the Seward Highway at approx. Milepost 23.2.

(A)
U.S. DEPT OF AGRICULTURE UNLAWFUL TO DISTURB GPS Control SRD 3124 2004 CADASTRAL SURVEY FOREST SERVICE
PT 1

Set a standard USDA Forest Service 3-1/4" diam. alum. cap on 3/4" diam. alum. drive rod, 1" above the ground, approx. 4 ft. west of Ptarmigan Lake Trail.

A 5" diam. Spruce bears N 77° E, 14.3 ft. distance.

A Carsonite Post with 'survey marker' decal set near by.

Lat: 60° 24' 34.507" N } NAD83
Long: 149° 20' 56.820" W } (EPOCH 2003.0)
Elevation = 515.1 feet (NAVD88)
N = 5,000.00 }
E = 10,000.00 } (Assumed)

(B)
U.S. DEPT OF AGRICULTURE UNLAWFUL TO DISTURB GPS Control SRD 3125 2004 CADASTRAL SURVEY FOREST SERVICE
PT 2

Set a standard USDA Forest Service 3-1/4" diam. alum. cap on 3/4" diam. alum. drive rod, 1" above the ground, approx. 6 ft. east of Ptarmigan Lake Trail and approx. 11 ft. west of Ptarmigan Creek.

A 10" diam. Spruce bears N 40° E, 11.2 ft. distance.

An 18" diam. Spruce bears S 66° W, 18.7 ft. distance.

A Carsonite Post with 'survey marker' decal set near by.

Lat: 60° 24' 35.647" N } NAD83
Long: 149° 20' 55.453" W } (EPOCH 2003.0)
Elevation = 515.5 feet (NAVD88)

No survey shots were taken in Ptarmigan Creek at the time of the field survey. As a result, contours were not generated and streambed topography is not shown on this plat.

GRAPHIC SCALE
30 20 10 0 30 feet
1 inch = 30 ft
1 METER = 3.2808333 U.S. SURVEY FEET

DATE OF SURVEY:	SEWARD RANGER DISTRICT
BEGINNING: June 22, 2004	EQUIPMENT: Trimble 5600 Total Station
ENDING: June 23, 2004	Trimble TSCE Survey Controller

SITE SURVEY

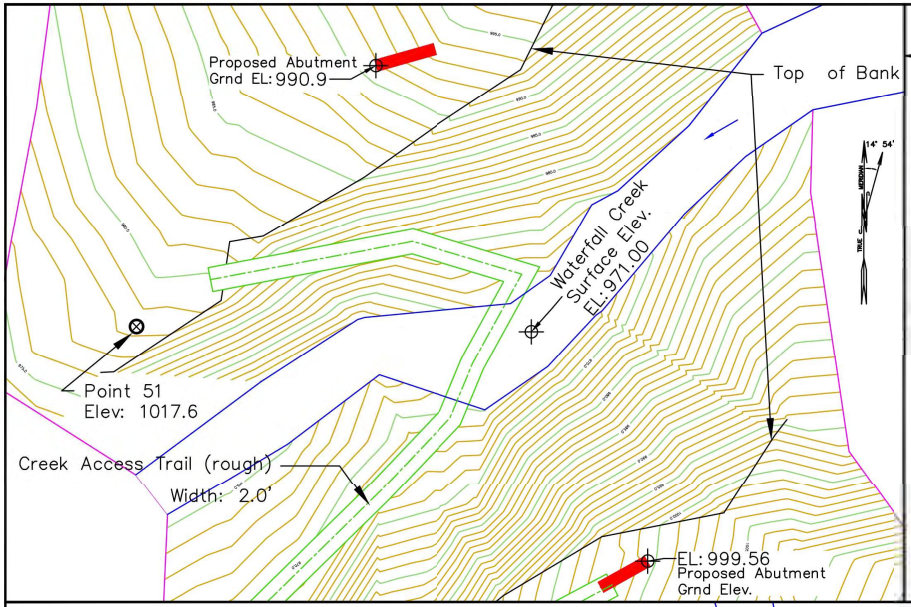
Ptarmigan Creek Bridge Crossing (Part of the Iditarod National Historic Trail)

LOCATED IN SURVEYED SECTION 30
T. 4 N., R. 1 E., SEWARD MERIDIAN

CHUGACH NATIONAL FOREST
3301 C STREET, SUITE 300
ANCHORAGE, ALASKA 99503

DRAWN BY/DATE:	CHECKED BY/DATE:	PROJECT NO:	SHEET NO.
T.Slotter/ 4-8-2005	R. Schrank/ 4-14-2005	760-04	4 of 33

FILE NAME: Sh 4 Ptarmigan Survey.DWG



0 20 40 Feet

1:120

Control Points

Point Number	WGS 1984 Geoid 12B (Alaska) Latitude	Longitude	NAD 83 SPCS AK Zone 4, Survey Ft Elevation	Northing	Easting
1	N 60°22'37.865"	W 149°21'07.302"	579.85'	2330328.89'	1757675.23'
51	N 60°22'54.990"	W 149°20'48.399"	978.44'	2332076.97'	1758608.22'
52	N 60°22'55.412"	W 149°20'48.131"	992.90'	2332119.98'	1758621.23'

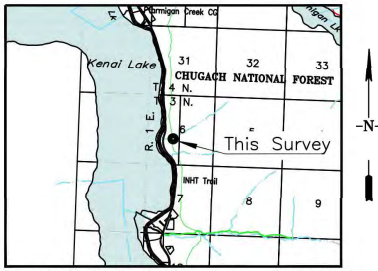
Notes:

1. The purpose of this survey was to collect topographic and site feature information for future planning and design of new bridge for the INHT trail over Waterfall Creek.
2. All distances and elevations on this plat are shown in US Survey Feet. All bearings are true unless otherwise noted.
3. The contour interval shown is 1.0 US Survey Foot.
4. The Geographic Position for PT #1 was determined using high precision GNSS RTK survey methods based on a solution computed by the NGS OPUS utility for PT #1 and are referenced to NAD83 (2011) (EPOCH: 2010.0000)

   Geographic Position for PT#1
   Lat 60° 22' 37.864" N
   Long 149° 21' 07.302" W (NAD83) (2011)
5. All elevations shown hereon are expressed as orthometric heights in US Survey Feet and are referenced to NAVD88. Site contours, road, stream and feature elevations are relative to the computed Ellipsoid height of 568.84' ft. at PT #1 based on the NGS OPUS utility soution as noted above. Orthometric heights were determined by applying the geoidal height from NGS model GEOID12B (Alaska).
6. Grid Coordinate values shown hereon are US State Plane, Zone 4, NAD83 (2011), US Survey Feet. The ground scale factor computed at Point #1 is 0.99991565.

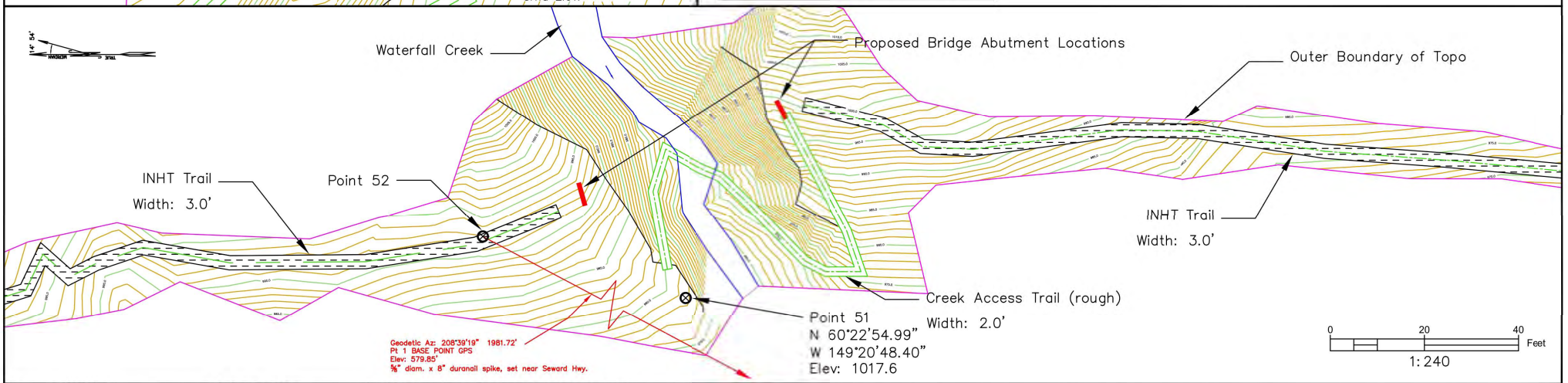
LEGEND:

- 5/8" diam. x 8" duranail spike, set this survey.
- Spot elev. based off surface
- Proposed Abutment locations (elev. shots on original grnd.)
- INHT Trail (not fully built out)
- Centerline of Trail
- 5' ft Contour lines
- 1' ft Contour lines
- Edge of Water line (Waterfall Creek) on 8-24-2023



Compilation of Seward (D-6), Alaska – 1994 Primary Base Series Quadrangle and Chugach National Forest GIS Database.

VICINITY MAP
SCALE: 1" = 0.5 Mile



0 20 40 Feet

1:240

PREPARED BY:
USDA FOREST SERVICE – R10
CHUGACH NATIONAL FOREST
161 EAST 1st AVE., DOOR 8
ANCHORAGE, ALASKA 99501

DATE OF SURVEY:
BEGINNING DATE: August 23,2023
ENDING DATE: August 28,2023
DRAWN BY: G. Stafford DATE: 12-20-2023
CHECKED BY: DATE:

PROJECT NO.: 7079-23

EQUIPMENT: Trimble R12, R10 GNSS Receivers
Nikon 2.C. Total Station
Trimble TSC7, TSC5 Data Collectors

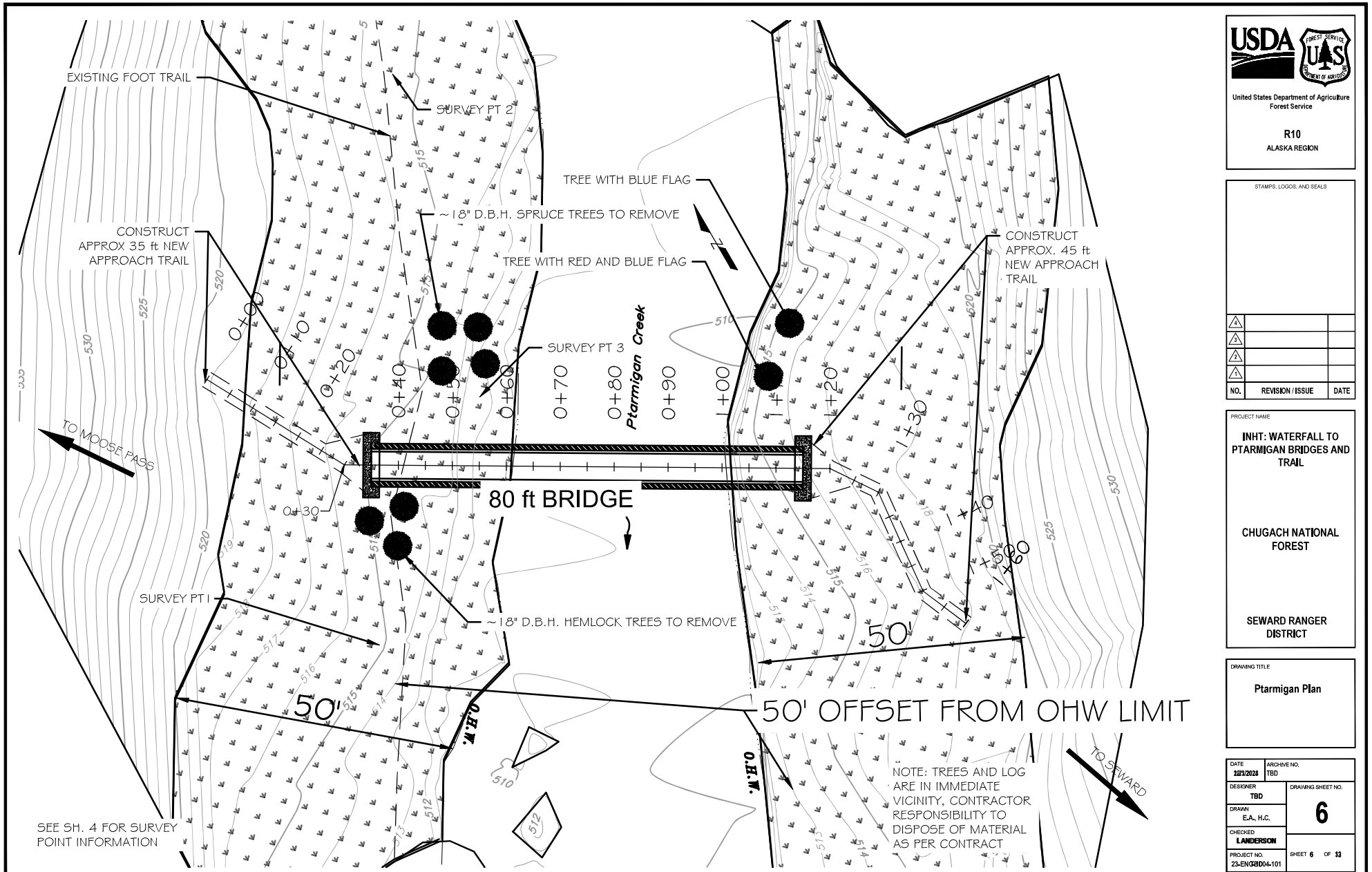
LOCATED: Chugach National Forest, Seward Ranger District
Section 6, T. 3 N., R. 1 E., SM

INHT Watefall Creek Bridge Site Survey

DRAWING NAME: Waterfall Creek 2-2-2024

SURVEY NOTE: This Survey is current as of July 12, 2022.

Sheet 5 of 33



United States Department of Agriculture
Forest Service

R10
ALASKA REGION

STAMPS, LOGOS, AND SEALS

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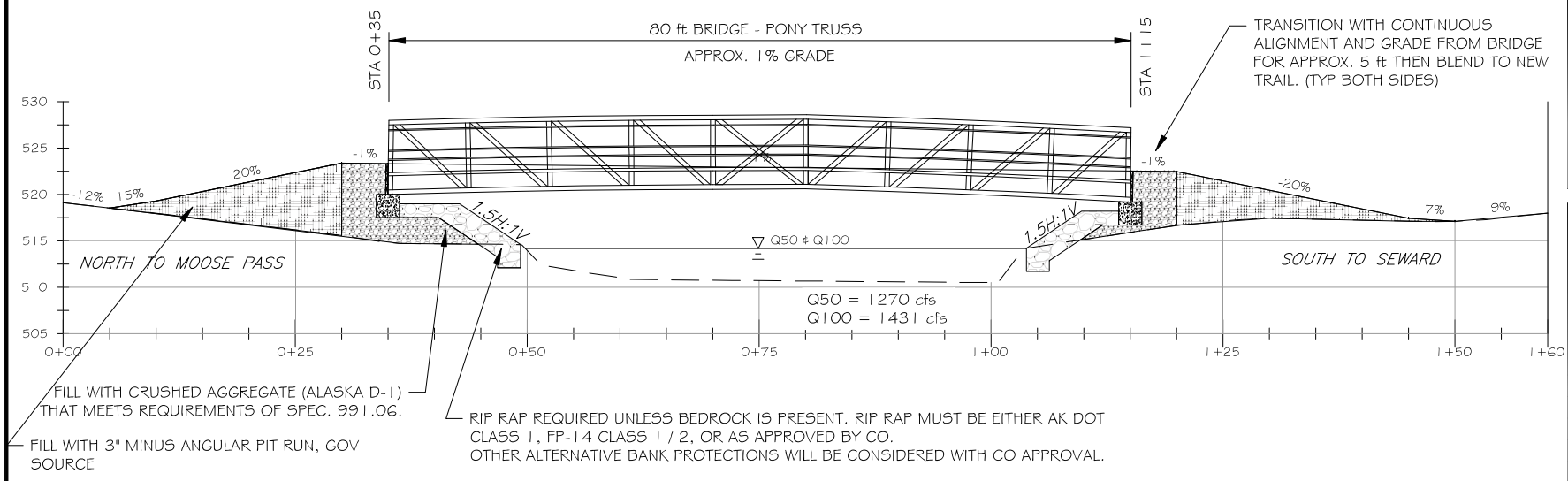
PROJECT NAME
INHT: WATERFALL TO PTARMIGAN BRIDGES AND TRAIL

CHUGACH NATIONAL FOREST

SEWARD RANGER DISTRICT

DRAWING TITLE
Ptarmigan Plan

DATE: 2/23/2024	ARCHIVE NO.: TBD
DESIGNER: TBD	DRAWING SHEET NO.: 6
DRAWN: E.A., H.C.	
CHECKED: L.ANDERSON	
PROJECT NO.: 23-ENGSBD04-101	SHEET 6 OF 13



FINAL BRIDGE DIMENSIONS FOR WIDTH & HEIGHT, AND FINISH ELEVATIONS, WILL BE DETERMINED BY MANUFACTURER'S STRUCTURE DESIGN. DEPTH TO COMPETENT ROCK IS UNKNOWN AND BOTTOM ELEVATIONS OF THE ABUTMENTS ARE ESTIMATED.

FINAL BRIDGE POSITION AND ELEVATIONS TO BE APPROVED BY THE CO IN THE FIELD PRIOR TO BRIDGE PLACEMENT. BRIDGE IS SHOWN ON 1% GRADE; THIS CAN BE ADJUSTED AS NEEDED ONCE DEPTH TO BEDROCK IS KNOWN.

Pt	Station	Northing (ft)	Easting (ft)	Elevation (ft)	Grade Out	H Dist (ft)	Direction
1	0+00.00	5,059.09	9,996.70	519.11			
					-12.00%	5.00	S28° 8' 9"E
2	0+05.00	5,054.68	9,999.05	518.53			
					15.00%	5.00	S28° 8' 9"E
3	0+10.00	5,050.28	10,001.41	519.28			
					20.00%	20.00	S28° 8' 9"E
4	0+30.00	5,032.64	10,010.84	523.37			
					-1.00%	5.00	S59° 31' 6"E
5	0+35.00	5,030.10	10,015.15	523.32			
					-1.00%	80.00	S59° 31' 6"E
6	1+15.00	4,989.52	10,084.09	522.52			
					-1.00%	5.00	S59° 31' 6"E
7	1+20.00	4,986.98	10,088.41	522.47			
					-20.00%	10.00	S33° 52' 11"E
8	1+30.00	4,978.68	10,093.98	520.46			
					-20.00%	15.00	S5° 44' 30"W
9	1+45.00	4,963.76	10,092.47	517.45			
					-7.00%	5.00	S5° 44' 30"W
10	1+50.00	4,958.78	10,091.98	517.10			
					9.00%	10.00	S22° 53' 52"E
11	1+60.00	4,949.56	10,095.82	517.98			

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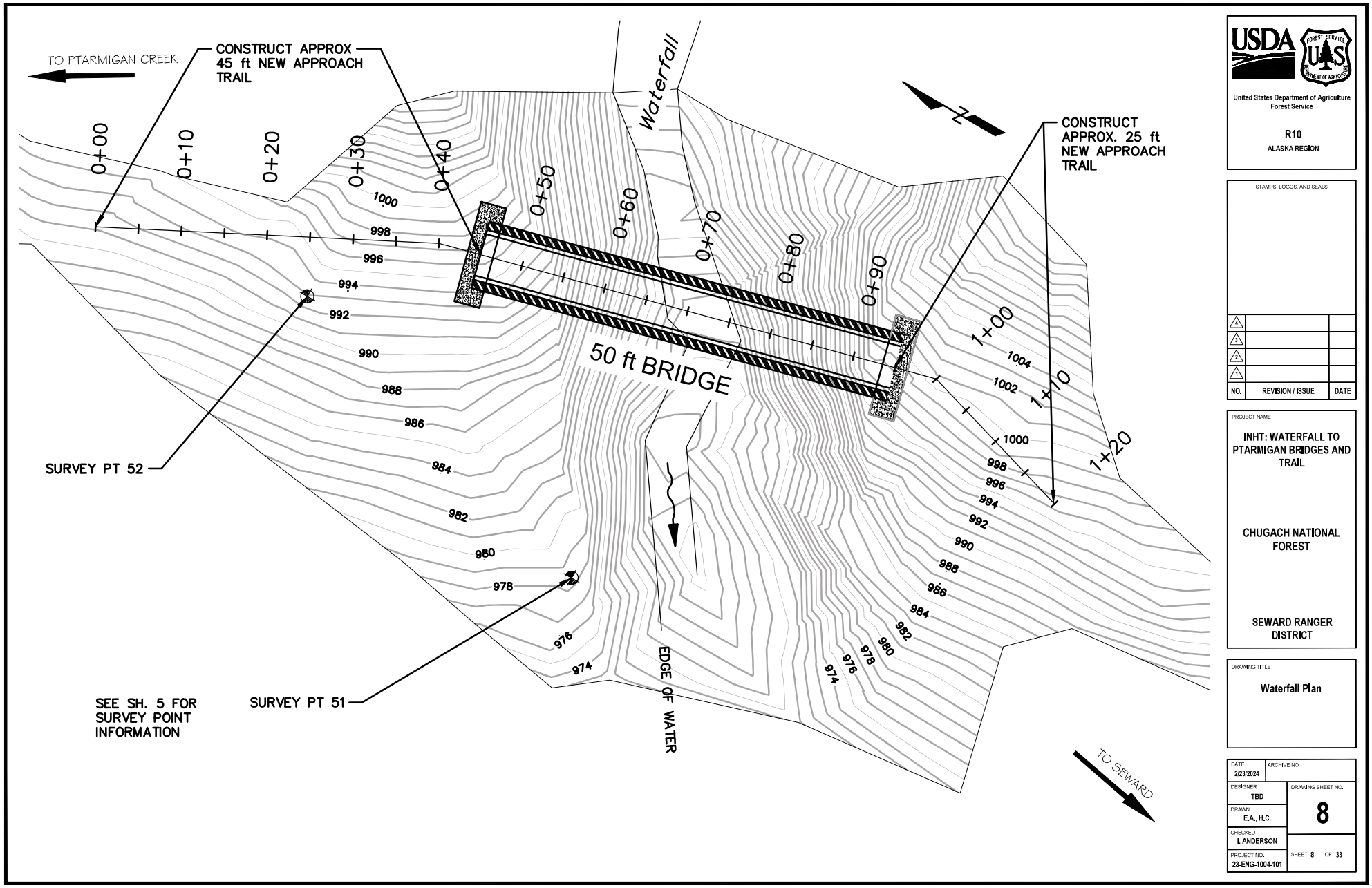
PROJECT NAME
INHT: WATERFALL TO PTARMIGAN BRIDGES AND TRAIL

CHUGACH NATIONAL FOREST

SEWARD RANGER DISTRICT

DRAWING TITLE
Ptarmigan Profile

DATE 2/23/2024	ARCHIVE NO.
DESIGNER TBD	DRAWING SHEET NO. 7
DRAWN E.A., H.C.	
CHECKED I. ANDERSON	
PROJECT NO. 23-ENG-1004-101	SHEET 7 OF 33



United States Department of Agriculture
Forest Service

R10
ALASKA REGION

STAMPS, LOGOS, AND SEALS

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PROJECT NAME

INHT: WATERFALL TO PTARMIGAN BRIDGES AND TRAIL

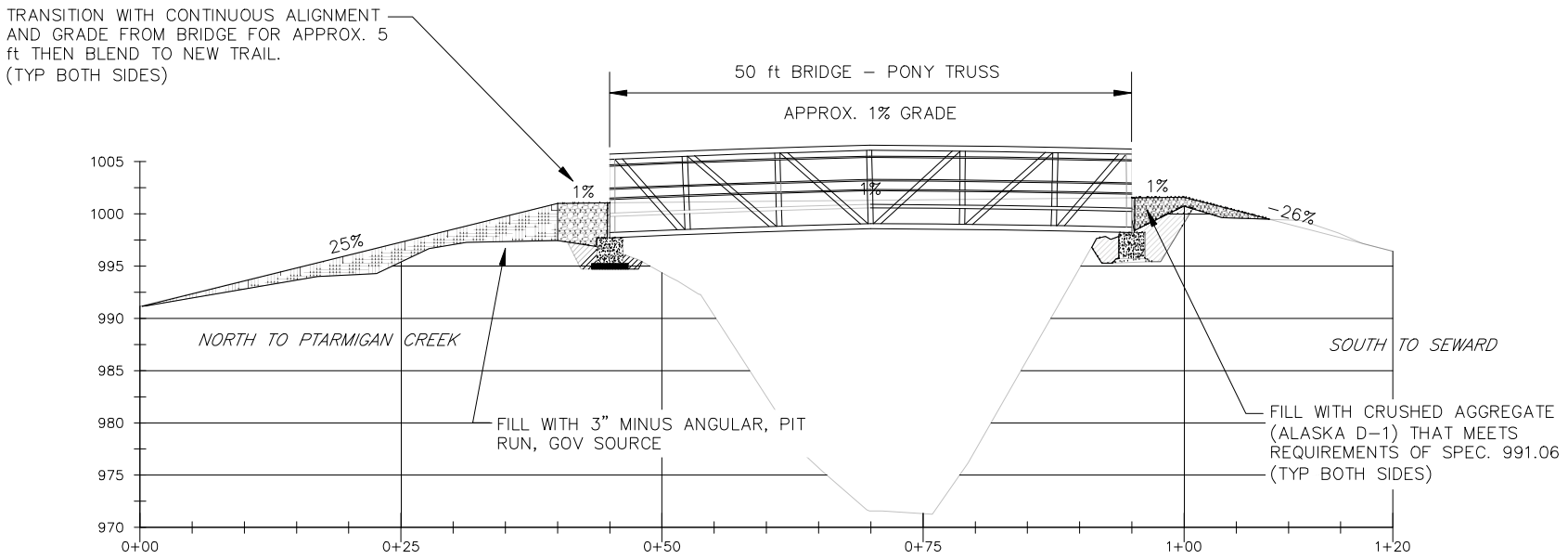
CHUGACH NATIONAL FOREST

SEWARD RANGER DISTRICT

DRAWING TITLE

Waterfall Plan

DATE 2/23/2024	ARCHIVE NO.
DESIGNER TBD	DRAWING SHEET NO. 8
DRAWN E.A., H.C.	
CHECKED I. ANDERSON	
PROJECT NO. 23-ENG-1004-101	SHEET 8 OF 33



FINAL BRIDGE DIMENSIONS FOR WIDTH & HEIGHT, AND FINISH ELEVATIONS, WILL BE DETERMINED BY MANUFACTURER'S STRUCTURE DESIGN. DEPTH TO COMPETENT ROCK IS UNKNOWN AND BOTTOM ELEVATIONS OF THE ABUTMENTS ARE ESTIMATED.

FINAL BRIDGE POSITION AND ELEVATIONS TO BE APPROVED BY THE CO IN THE FIELD PRIOR TO BRIDGE PLACEMENT. BRIDGE IS SHOWN ON 1% GRADE; THIS CAN BE ADJUSTED AS NEEDED ONCE DEPTH TO BEDROCK IS KNOWN.

Pt	Station	Northing (ft)	Easting (ft)	Elevation (ft)	Grade Out	H Dist (ft)	Direction
1	0+00.00	2,332,145.36	1,758,615.92	991.16			
					25.00%	40.00	S27° 14' 10"E
2	0+40.00	2,332,109.79	1,758,634.23	1,001.00			
					1.00%	5.00	S14° 45' 8"E
3	0+45.00	2,332,104.96	1,758,635.50	1,001.05			
					1.00%	50.00	S14° 45' 8"E
4	0+95.00	2,332,056.60	1,758,648.23	1,001.55			
					1.00%	5.00	S14° 45' 8"E
5	1+00.00	2,332,051.79	1,758,649.50	1,001.60			
					-26.00%	20.00	S16° 36' 31"E
6	1+20.00	2,332,032.60	1,758,643.77	996.44			

United States Department of Agriculture
Forest Service

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PROJECT NAME
INHT: WATERFALL TO PTARMIGAN BRIDGES AND TRAIL

CHUGACH NATIONAL FOREST

SEWARD RANGER DISTRICT

DRAWING TITLE
Waterfall Profile

DATE: 2/23/2024	ARCHIVE NO.
DESIGNER: TBD	DRAWING SHEET NO. 9
DRAWN: E.A., H.C.	
CHECKED: I. ANDERSON	
PROJECT NO.: 23-ENG-1004-101	SHEET 9 OF 33

								HANDRAIL					END POST		DECK		
STRUCTURE NUMBER	TRAIL NO.	BRIDGE LOCATION (MP EST)	BRIDGE LENGTH c-c BRNG	BRIDGE SPAN OUT-TO-OUT	BRIDGE CLEAR WIDTH	PEDESTRIAN LOAD	GROUND SNOW LOAD	ADA REQUIRED	HEIGHT	RUB RAIL SPECIES	RUB RAIL SIZE	TREATMENT	VERTICAL	DIAGONAL	SPECIES	SIZE	TREATMENT (Y/N)
100430...	365	6.1206	70 ft	70 ft	5 ft	90 psf	88 psf	NA	42 in	AYC	2x6	NO	ST	ST	DF	3x12	YES
100430...	365	4.2233	50 ft	50 ft	5 ft	90 psf	88 psf	NA	42 in	AYC	2x6	NO	ST	ST	DF	3x12	YES

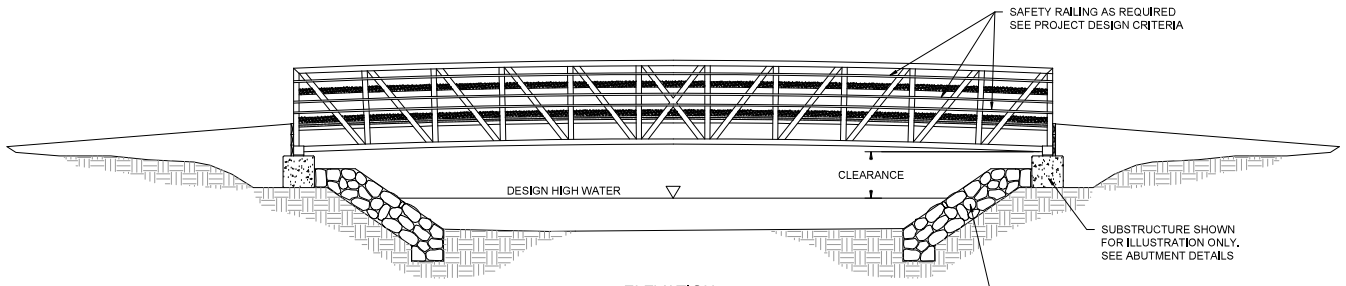
DECK TYPE: ST = STEEL THROUGH TRUSS, FRP = FIBER REINFORCED POLYMER TRUSS, CONC = CONCRETE VOID SLAB

	RUNNING PLANK				ABUTMENT			BACKWALL						APPROACHES						
STRUCTURE NUMBER	SPECIES	SIZE	WIDTH	TREATMENT (Y/N)	TYPE	SIZE	TREATMENT (Y/N)	TYPE	SPECIES	SIZE	WIDTH	HEIGHT	TREATMENT (Y/N)	LENGTH N	LENGTH S	WIDTH	MATERIAL TYPE	MATERIAL DEPTH	GEO-SYNTHETIC TYPE	COMMENTS
100430...	DF/HF	3x	5 ft	NO	CONC	30" x 30"	NA	TIMBER	DF	3 x12	TBD	TBD	YES	35 ft	45 ft	VARIES	AGGREGATE	VARIES	NA	PTARMIGAN CREEK
100430...	DF/HF	3x	5 ft	NO	CONC	30" x 30"	NA	TIMBER	DF	3 x12	TBD	TBD	YES	45 ft	25 ft	VARIES	AGGREGATE	VARIES	NA	WATERFALL

ABUTMENT MATERIAL TYPE: SS = SOLID SAWN, GLU = GLULAM, CONC = CONCRETE

TIMBER SPECIES:
AYC=ALASKA YELLOW CEDAR. ALASKA CEDAR OR PORT ORFORD CEDAR ARE ACCEPTABLE
DF=DOUGLAS FIR
HF=HEM FIR

PTARMIGAN CREEK AND WATERFALL ADDITIONAL NOTES
- RAILING DESIGN TO MEET AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 13 RAILINGS



ELEVATION

NOT TO SCALE
- MAXIMUM GRADE ℄ BEARING TO ℄ BEARING = 5%

- RUNNING PLANKS AND DECK PLANKS NOT SHOWN FOR CLARITY

United States Department of Agriculture
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ALASKA REGION

STAMPS, LOGOS, AND SEALS

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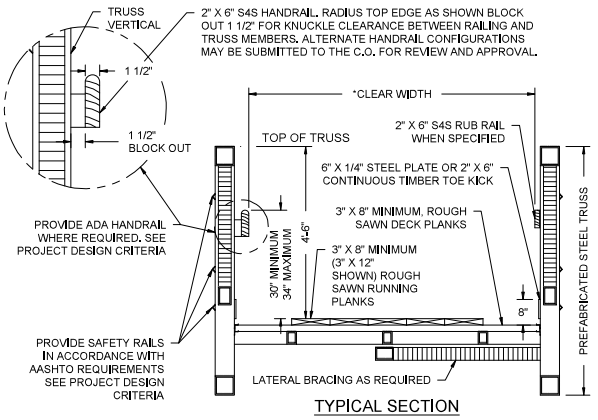
PROJECT NAME
INHT: WATERFALL TO PTARMIGAN BRIDGES AND TRAIL

CHUGACH NATIONAL FOREST

SEWARD RANGER DISTRICT

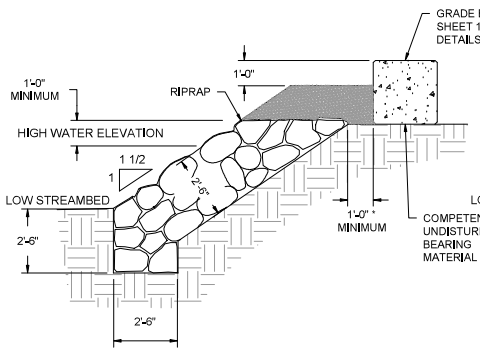
DRAWING TITLE
Prefab Planning & Criteria

DATE 2/23/2024	ARCHIVE NO.
DESIGNER TBD	DRAWING SHEET NO. 10
DRAWN E.A., H.C.	
CHECKED I. ANDERSON	
PROJECT NO. 23-ENG-1004-101	SHEET 10 OF 33

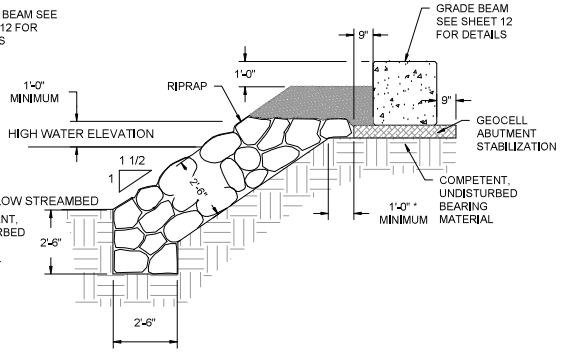


TYPICAL SECTION

* INSIDE FACE TO INSIDE FACE(RUB RAILS AND RAIL)



GRADE BEAM FOUNDATION
RIPRAP ARMORING



GRADE BEAM FOUNDATION
RIPRAP ARMORING W/ GEOCELL

* SETBACK TO BE DETERMINED BY A FOUNDATION ANALYSIS IN CONFORMANCE WITH THE DESIGN SPECIFICATIONS. ENSURE FOUNDATIONS ARE DESIGNED AND CONSTRUCTED WITH CONSIDERATION FOR SITE CONDITIONS RELATIVE TO FOUNDATION MATERIAL, NOMINAL BEARING PRESSURES, WATER TABLES, AND PROXIMITY TO ADJACENT SLOPES. DESIGN THE FOUNDATIONS IN ACCORDANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.

GENERAL NOTES:

SPECIFICATIONS:

DESIGN : AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, CURRENT EDITION AND AASHTO LRFD GUIDE SPECIFICATIONS FOR THE DESIGN OF PEDESTRIAN BRIDGES, CURRENT EDITION, EXCEPT AS NOTED.

CONSTRUCTION: STANDARD SPECIFICATIONS FOR CONSTRUCTION OF ROADS AND BRIDGES ON FEDERAL HIGHWAY PROJECTS (FP-03) AND STANDARD SPECIFICATIONS FOR CONSTRUCTION OF TRAILS AND TRAIL BRIDGES ON FEDERAL PROJECTS.

PREFABRICATED STEEL BRIDGE SUPERSTRUCTURE: PREFABRICATED STEEL SUPERSTRUCTURE DESIGN MUST BE A TRUSS CONFIGURATION SIMILAR TO THAT SHOWN ON THE DRAWINGS. MAINTAIN THE CLEARANCES ABOVE HIGH WATER TO THE BOTTOM CHORD INDICATED ON THE BRIDGE ELEVATION. FOR THE CONTRACTOR PROPOSED CROSS-SECTION, PROVIDE THE WIDTH AND RAILING DETAILS INDICATED ON THE BRIDGE TYPICAL SECTION, AND DETERMINE TRUSS HEIGHT AND THE LOCATION OF THE DECK WITH RESPECT TO THE TOP AND BOTTOM CHORDS (U FRAME VS. H FRAME). OVERHEAD LATERAL BRACING IS UNACCEPTABLE. AFTER APPROVAL BY THE CO, FINALIZE CONSTRUCTION OF THE SELECTED STRUCTURE, AND ENSURE THAT RELATED DETAILS SUCH AS PROFILE, ABUTMENT DETAILS, BEARINGS, AND TIMBER DECKING ARE CONSIDERED AND INCLUDED IN THE DESIGN AND CONSTRUCTION.

DESIGN THE PREFABRICATED STEEL BRIDGE SUPERSTRUCTURE, ABUTMENT FOUNDATIONS, AND ASSOCIATED DETAILS INCLUDING TIMBER COMPONENTS, UNDER THE DIRECTION OF A REGISTERED PROFESSIONAL ENGINEER. SUBMIT THE COMPLETED DESIGN, DRAWINGS, AND SPECIFICATION PACKAGE TO THE CONTRACTING OFFICER FOR REVIEW AND APPROVAL.

PROVIDE CAMBER FOR 100% OF THE FULL DEAD LOAD DEFLECTION PLUS 1% OF BRIDGE SPAN. SUBMIT SHOP DRAWINGS AND CALCULATIONS FOR APPROVAL AND MUST BE APPROVED BEFORE FABRICATION.

MATERIALS: USE STEEL SHAPES, PLATES AND BARS OF WEATHERING STEEL CONFORMING TO AASHTO M270, GRADE 50W (ASTM A588 OR ASTM A242) OR ASTM A847 FOR SQUARE AND RECTANGULAR TUBING, MINIMUM STEEL THICKNESS SHALL BE AS SPECIFIED IN THE GUIDE SPECIFICATIONS FOR DESIGN OF PEDESTRIAN BRIDGES. USE HIGH STRENGTH BOLTS CONFORMING TO AASHTO M164, (ASTM F3125, GRADE A325), TYPE 3, UNLESS NOTED OTHERWISE. USE MALLEABLE IRON WASHERS AGAINST WOOD.

STEEL FABRICATION: FABRICATE THE PREFABRICATED STEEL BRIDGE SUPERSTRUCTURE IN A PLANT MEETING QUALITY REQUIREMENTS AS A CERTIFIED STEEL FABRICATOR BY AISC. WELD STRUCTURAL STEEL IN ACCORDANCE WITH AWS D1.5 AND SUITABLE FOR THE GRADE OF STEEL AND INTENDED USE OR SERVICE.

ERECTION PLAN : SUBMIT AN ERECTION PLAN FOR THE PREFABRICATED STEEL BRIDGE SUPERSTRUCTURE TO THE C.O. FOR APPROVAL 14 DAYS BEFORE ERECTION IS SCHEDULED. IF ALLOWED UNDER THE PROJECT DESIGN CRITERIA, TEMPORARY IN-STREAM SUPPORT BENTS MAY BE USED FOR THE ERECTION OF THE PREFABRICATED STEEL TRUSS BRIDGE. CONSTRUCT TEMPORARY IN-STREAM BENTS USING UNTREATED TIMBER CRIBBING, SILLS, CONCRETE BLOCKS OR OTHER SUPPORTS THAT ARE PLACED WITH MINIMAL DISTURBANCE WITHIN THE STREAM. REMOVE ALL MATERIALS USED TO CONSTRUCT THE TEMPORARY IN-STREAM BENTS. SUBMIT DRAWINGS INDICATING TEMPORARY BENT LOCATIONS AND DETAILS. INDICATE THE EQUIPMENT AND METHODS PROPOSED TO INSTALL AND REMOVE THE TEMPORARY BENTS AND ERECT THE NEW PREFABRICATED STEEL TRUSS SUPERSTRUCTURE.

MATERIALS:

TIMBER & LUMBER:

SOLID SAWN TIMBER: CONFORM TO THE REQUIREMENTS OF THE GRADING RULES AGENCY FOR THE SPECIES, TYPE, AND GRADE SPECIFIED BELOW. UNLESS SHOWN OTHERWISE, ACCEPTABLE GRADING RULES AGENCIES ARE WWPA OR WCLIB.

GLULAM MEMBERS: CONFORM TO THE AMERICAN NATIONAL STANDARD, STANDARD SPECIFICATIONS FOR STRUCTURAL GLUED LAMINATED TIMBER OF SOFTWOOD SPECIES (ANSI 117) FOR THE COMBINATION, SPECIES, USE, AND APPEARANCE CALLED FOR IN THE DESIGN.

DECKING
- TREATED (AS ALLOWED): COASTAL REGION DOUGLAS FIR - LARCH FULL ROUGH SAWN NO.2
- UNTREATED/DECAY RESISTANT: ALASKA YELLOW OR WESTERN RED CEDAR, FULL ROUGH SAWN NO. 2

RUNNING PLANKS
- COASTAL REGION DOUGLAS FIR - LARCH ROUGH SAWN NO.2 GRADE, GRADING RULES AGENCY - WWPA, WCLIB

RAILS, POSTS (SEE PROJECT CRITERIA)
- SAWN: ALASKA YELLOW OR WESTERN RED CEDAR, S4S, SELECT STRUCTURAL,

TREATMENT: SEE PROJECT CRITERIA FOR MEMBERS IDENTIFIED TO BE TREATED AND FOR TREATMENT TYPE. TREAT MEMBERS IN ACCORDANCE WITH THE CURRENT AMERICAN WOOD PROTECTION ASSOCIATION (AWPA) SPECIFICATIONS USING THE TREATMENT MATERIALS LISTED BELOW, IN COMPLIANCE WITH THE REQUIREMENTS OF THE CURRENT EDITION OF WESTERN WOOD PRESERVERS INSTITUTE (WWPI) "BEST MANAGEMENT PRACTICES FOR THE USE OF TREATED WOOD IN AQUATIC ENVIRONMENTS".

DECKING, RUNNING PLANKS, IF TREATED
- AWPA USE CATEGORY SYSTEM (U1) FOR USE CATEGORY 3B ABOVE GROUND - EXPOSED (UC3B)
- PENTACHLOROPHENOL IN LIGHT OIL (TYPE C SOLVENT)
- COPPER NAPHTHENATE (CuN) IN LIGHT OIL (TYPE C SOLVENT)

SILLS, BACKING PLANKS, CRIBS, TIMBER WALLS, IF TREATED
- AWPA USE CATEGORY SYSTEM (U1) FOR USE CATEGORY 4B GROUND CONTACT - HEAVY DUTY (UC4B)
- PENTACHLOROPHENOL IN HEAVY OIL (TYPE A SOLVENT)
- COPPER NAPHTHENATE (CuN) IN HEAVY OIL (TYPE A SOLVENT)

FIELD TREATMENT: FURNISH COPPER NAPHTHENATE (2% SOLUTION) FOR FIELD TREATING OF WOOD. FOR FIELD TREATING ALL ABRASIONS AND FIELD CUTS - AS APPROVED BY THE CONTRACTING OFFICER - CAREFULLY TRIM MEMBERS AND TREAT USING THREE BRUSH COATS OF THE FIELD TREATMENT SOLUTION. WHERE APPROVED FIELD DRILLING OF BOLT OR NAIL HOLES IS REQUIRED OR ALLOWED, FILL THE HOLES WITH PRESERVATIVE PRIOR TO INSERTING THE FASTENERS.

TIMBER FABRICATION: SUBMIT SHOP DRAWINGS FOR ALL TIMBER BRIDGE COMPONENTS (EXCEPT TIMBER RUNNING PLANKS). SHOW ALL DIMENSIONS AND FABRICATION DETAILS FOR ALL CUT OR BORED TIMBER. INDICATE ON SHOP DRAWINGS WHERE FIELD DRILLING OF HOLES IS REQUIRED OR RECOMMENDED.

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ALASKA REGION

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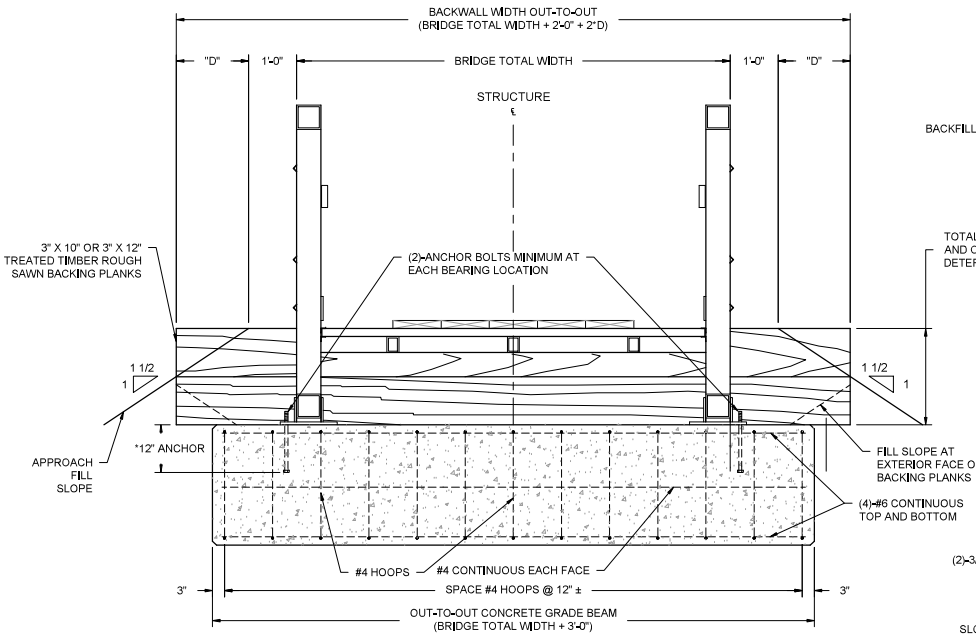
PROJECT NAME
INHT: WATERFALL TO PTARMIGAN BRIDGES AND TRAIL

CHUGACH NATIONAL FOREST

SEWARD RANGER DISTRICT

DRAWING TITLE
Prefab Notes & Sections

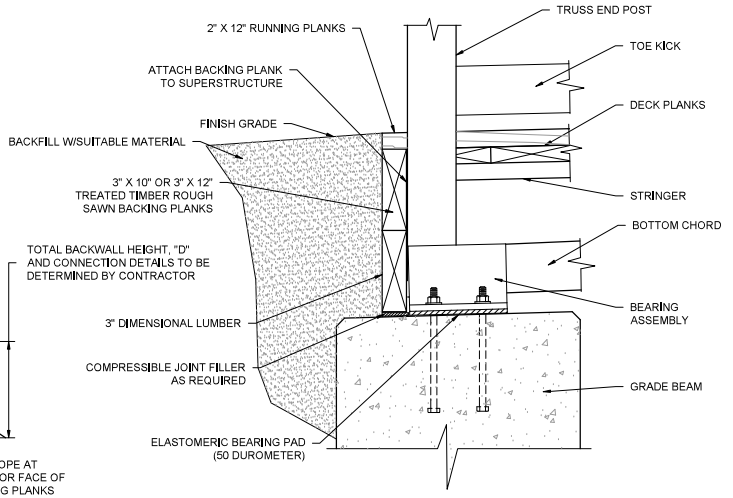
DATE 2/23/2024	ARCHIVE NO.
DESIGNER TBD	DRAWING SHEET NO. 11
DRAWN E.A., H.C.	
CHECKED I. ANDERSON	
PROJECT NO. 23-ENG-1004-101	SHEET 11 OF 33



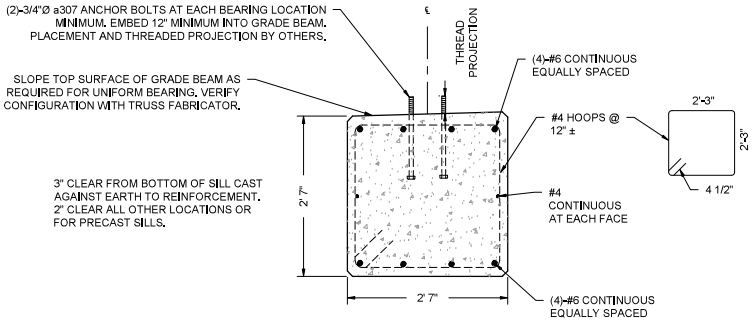
ELEVATION - GRADE BEAM

* 12" CAST-IN-PLACE ANCHOR OR 7" EPOXY ANCHOR WHEN APPROVED BY CO.

NOT TO SCALE



BEARING DETAIL



TYPICAL SECTION

NOTES:

CONCRETE: USE CLASS A(AE) FOR CONCRETE, f'c = 4500 PSI AT 28 DAYS WITH AN ENTRAINED AIR CONTENT OF 5% ±1% OR AS REQUIRED BY THE DESIGN. PROVIDE ALL CONCRETE IN ACCORDANCE WITH AN APPROVED MIX DESIGN. CHAMFER ALL EXPOSED EDGES OF CONCRETE 3/4-INCH.

REINFORCING STEEL: USE REINFORCING STEEL OF THE DEFORMED TYPE CONFORMING TO AASHTO M31 (ASTM A615), GRADE 60, WITH CONCRETE COVER AS SHOWN OR A MINIMUM OF 2 INCHES WHERE NOT SHOWN, IN CONFORMANCE WITH AASHTO SPECIFICATIONS. CUT AND BEND STEEL IN ACCORDANCE WITH ACI 315.

CONCRETE GRADE BEAM: DETAILS SHOWN ON THIS SHEET PROVIDE MINIMUM SIZES AND REQUIREMENTS. PREPARE AND SUBMIT COMPLETE GRADE BEAM DETAILS SPECIFIC TO THE BRIDGE DESIGN WITH THE PROPOSED SUPERSTRUCTURE DESIGN AND SHOP DRAWINGS.

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Forest Service

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PROJECT NAME

INHT: WATERFALL TO PTARMIGAN BRIDGES AND TRAIL

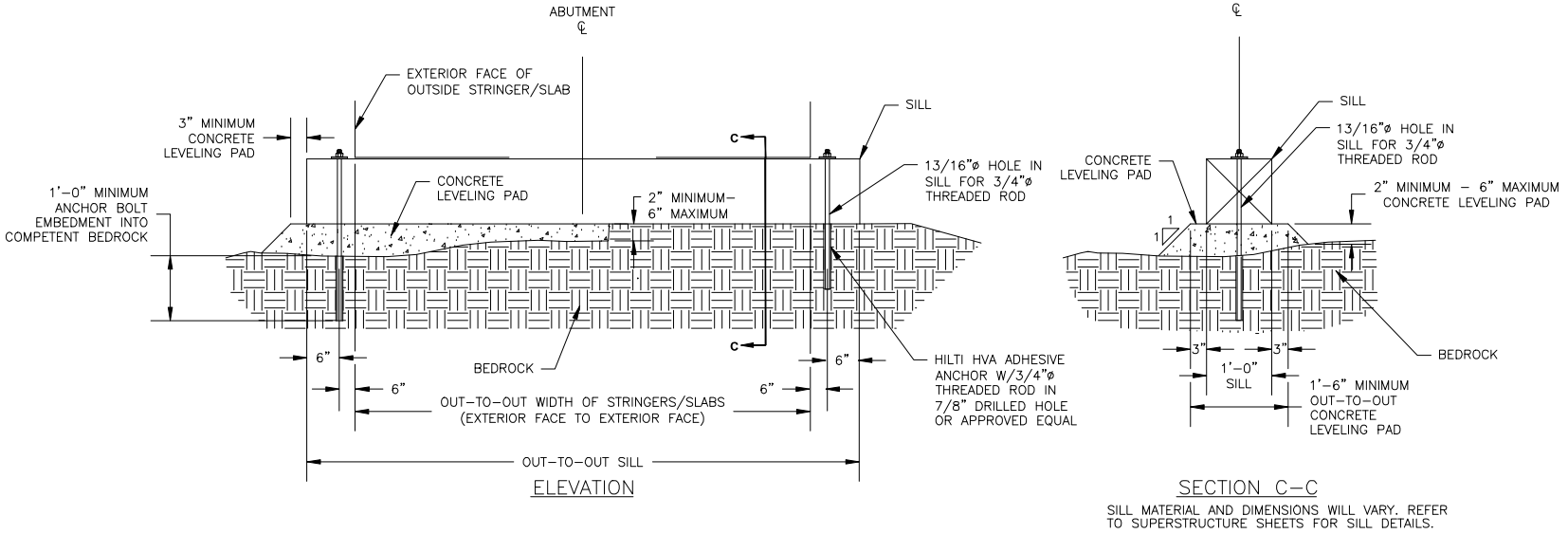
CHUGACH NATIONAL FOREST

SEWARD RANGER DISTRICT

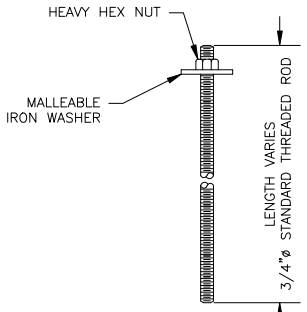
DRAWING TITLE

Prefab Bearing and Substructure

DATE: 2/23/2024	ARCHIVE NO.
DESIGNER: TBD	DRAWING SHEET NO. 12
DRAWN: E.A., H.C.	
CHECKED: I. ANDERSON	
PROJECT NO.: 23-ENG-1004-101	SHEET 12 OF 33



CONCRETE LEVELING PAD ON BEDROCK FOUNDATION



ELEVATION–
ANCHOR BOLT DETAIL

FOUNDATION NOTES:

SPECIFICATIONS: MATERIALS AND CONSTRUCTION OF THIS STRUCTURE SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATION FOR CONSTRUCTION OF ROADS AND BRIDGES ON FEDERAL HIGHWAY PROJECTS (FP–03) AND FOREST SERVICE STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MAINTENANCE OF TRAILS,

HARDWARE AND STRUCTURAL STEEL: SEE SUPERSTRUCTURE DRAWINGS FOR PROJECT DESIGN CRITERIA AND GENERAL NOTES.

GEOCELL ABUTMENT STABILIZATION: REFER TO THE SPECIAL PROJECT SPECIFICATIONS FOR A DESCRIPTION OF THE WORK, MATERIALS, AND INSTALLATION PROCEDURES.

TREATED TIMBER & LUMBER: REFER TO THE GENERAL NOTES ON THE SUPERSTRUCTURE DRAWINGS FOR TREATED TIMBER & LUMBER SPECIFICATIONS AND FIELD TREATING OF WOOD.

USDA FOREST SERVICE

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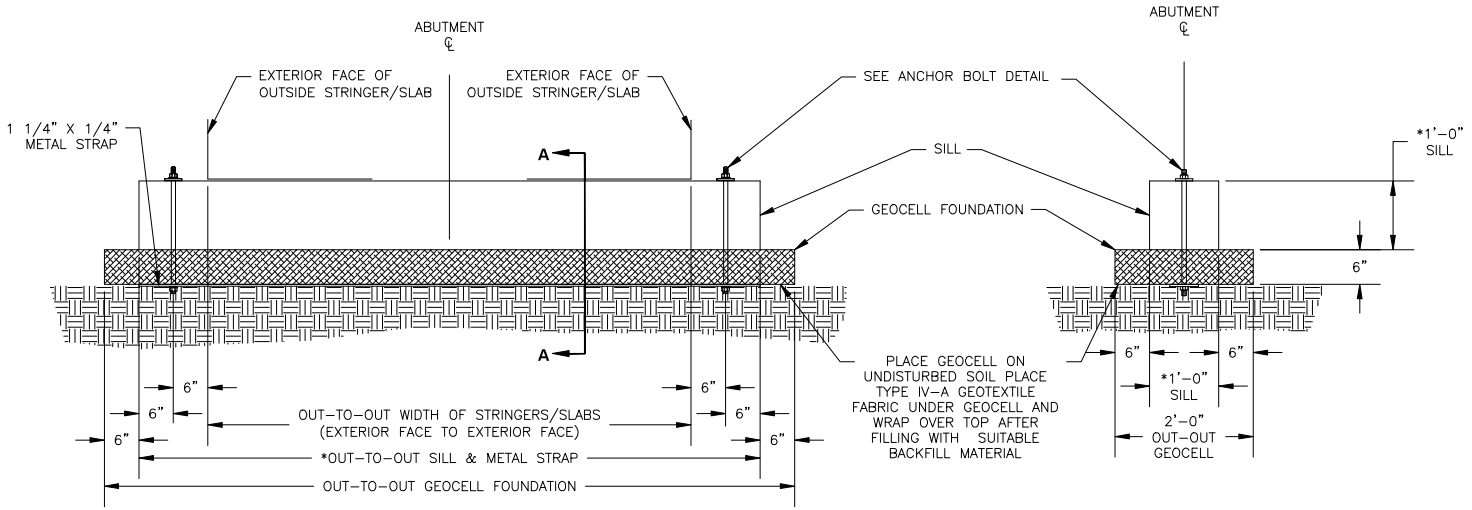
PROJECT NAME
INHT: WATERFALL TO PTARMIGAN BRIDGES AND TRAIL

CHUGACH NATIONAL FOREST

SEWARD RANGER DISTRICT

DRAWING TITLE
Waterfall S Abut Conc Lvl on Bedrock

DATE: 2/23/2024	ARCHIVE NO.
DESIGNER: TBD	DRAWING SHEET NO. 13
DRAWN: E.A., H.C.	
CHECKED: I. ANDERSON	
PROJECT NO.: 23-ENG-1004-101	SHEET 13 OF 33



ELEVATION – GEOCELL FOUNDATION

SECTION A–A

*SILL MATERIAL AND DIMENSIONS WILL VARY. REFER TO SUPERSTRUCTURE SHEETS FOR ACTUAL SILL DIMENSIONS AND ADJUST GEOCELL AS NEEDED.

FOUNDATION NOTES:

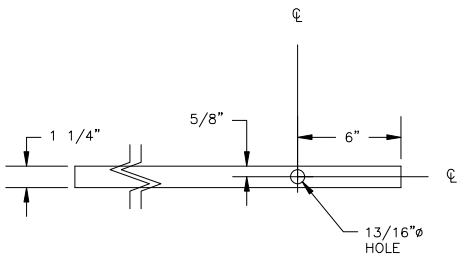
SPECIFICATIONS: MATERIALS AND CONSTRUCTION OF THIS STRUCTURE SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATION FOR CONSTRUCTION OF ROADS AND BRIDGES ON FEDERAL HIGHWAY PROJECTS (FP–03) AND FOREST SERVICE STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MAINTENANCE OF TRAILS,

HARDWARE AND STRUCTURAL STEEL: SEE SUPERSTRUCTURE DRAWINGS FOR PROJECT DESIGN CRITERIA AND GENERAL NOTES.

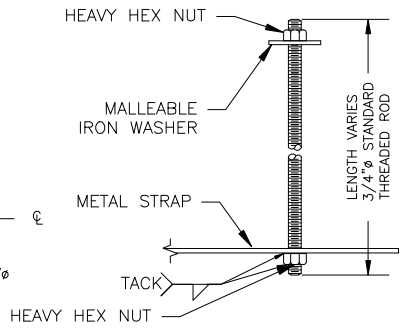
GEOCELL ABUTMENT STABILIZATION: REFER TO THE SPECIAL PROJECT SPECIFICATIONS FOR A DESCRIPTION OF THE WORK, MATERIALS, AND INSTALLATION PROCEDURES.

WATERFALL NOTES

CONSTRUCT GEOCELL ON NORTH SIDE.
USE CONCRETE GRADE BEAM.
GEOCELL WIDTH TO BE 6" WIDER ON EACH SIDE OF GRADE BEAM.



1 1/4" X 1/4" METAL STRAP



ELEVATION–ANCHOR BOLT DETAIL

United States Department of Agriculture
Forest Service

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ALASKA REGION

STAMPS, LOGOS, AND SEALS

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PROJECT NAME
INHT: WATERFALL TO PTARMIGAN BRIDGES AND TRAIL

CHUGACH NATIONAL FOREST

SEWARD RANGER DISTRICT

DRAWING TITLE
Waterfall N Abut Geocell Pad

DATE 2/23/2024	ARCHIVE NO.
DESIGNER TBD	DRAWING SHEET NO. 14
DRAWN E.A., H.C.	
CHECKED I. ANDERSON	
PROJECT NO. 23-ENG-1004-101	SHEET 14 OF 33

WORKLOG AND FIELD STAKING IS FOR REFERENCE ONLY
ALL TRAIL WORK EXCLUDING PUNCHEON IS INCIDENTAL TO NEW TRAIL CONSTRUCTION PAY ITEM

Station	Description of Work	Type ID	Pat Unit	Quantity	Comments
	Begin type 2 tread	TSF-2	LF	370	North bridge abutment
3+70	End type 2, start type 1	TSF-1	LF	824	
4+75	Construct Climbing Turn	CTN-1	EA	1	
8+98	Reference Point				Waterfall on left
12+14	End 1 tread, start 2 tread	TSF-2	LF	976	
17+95	Construct Ford	RF1-1	EA	1	By 2 Large Spruce
21+65	Solid Rock Removal	TSF-3	LF	80	Rock Waterfall
22+70	End type 2, begin type 1	TSF-1	LF	1,109	
32+21	Reference Point				Hemlock Knoll
33+79	End type 1, start type 2	TSF-2	LF	320	
35+38	Construct Ford	RF1-1	EA	1	Large Drainage
35+90	Solid Rock Removal	TSF-3	LF	50	Rock Outcrop
37+49	End type 2, start type 1	TSF-1	LF	2,692	
42+24	Construct Ford	RF1-1	EA	1	Trail to left
50+16	Construct Puncheon 33'	SP1-1	LF	33	
51+74	Construct Ford	RF1-1	EA	1	
64+94	Construct Climbing Turn	CTN-1	EA	1	Steep
64+94	End type 1, start type 2	TSF-2	LF	244	
66+53	Construct Climbing Turn	CTN-1	EA	1	Steep
67+58	End type 2, begin type 1	TSF-1	LF	106	
68+64	End type 1, begin type 2	TSF-2	LF	317	
69+70	Construct Ford	RF1-1	EA	1	Large Drainage
71+81	End type 2, begin type 1	TSF-1	LF	264	
74+45	End type 1, begin type 2	TSF-2	LF	317	
76+03	Reference Point				Large drainage
76+56	Construct Ford	RF1-1	EA	1	
77+62	End type 2 begin type 1	TSF-1	LF	5,630	
84+48	Construct Puncheon 37'	SP1-1	LF	37	
86+06	Construct Climbing Turn	CTN-1	EA	1	
99+70	Construct Climbing Turn	CTN-1	EA	1	
97+68	Construct Ford	RF1-1	EA	1	
102+96	Construct Puncheon 147'	SP1-1	LF	147	
112+99	Construct Puncheon 38'	SP1-1	LF	38	
114+58	Construct Puncheon 28'	SP1-1	LF	28	
124+42	Construct Climbing Turn	CTN-1	EA	1	
125+32	Construct Climbing Turn	CTN-1	EA	1	
126+49	Construct Climbing Turn	CTN-1	EA	1	
134+84	Construct Climbing Turn	CTN-1	EA	1	
435+92	Construct Climbing Turn	CTN-1	EA	1	
137+81	Construct Climbing Turn	CTN-1	EA	1	
138+22	Construct Climbing Turn	CTN-1	EA	1	
138+22	End type 1, begin type 2	TSF-2	LF	71	
138+93	End type 2 begin type 1	TSF-1	LF	994	
141+25	Reference Point				Reroute trail right off of brush line-trail leave brushed corridor
145+37	Construct Ford	RF1-1	EA	1	
146+45	Construct Puncheon 55'	SP1-1	LF	55	
148+86	Ptarmigan bridge approach				
149+42	Ptarmigan bridge abutment site				

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PROJECT NAME
INHT: WATERFALL TO PTARMIGAN BRIDGES AND TRAIL

CHUGACH NATIONAL FOREST

SEWARD RANGER DISTRICT

DRAWING TITLE
TRAIL WORKLOG

DATE 2/23/2024
ARCHIVE NO.
DESIGNER TBD
DRAWN H.C.
CHECKED W. BRENNAN
PROJECT NO. 23-ENG-1004-101
DRAWING SHEET NO. 15
SHEET 15 OF 33

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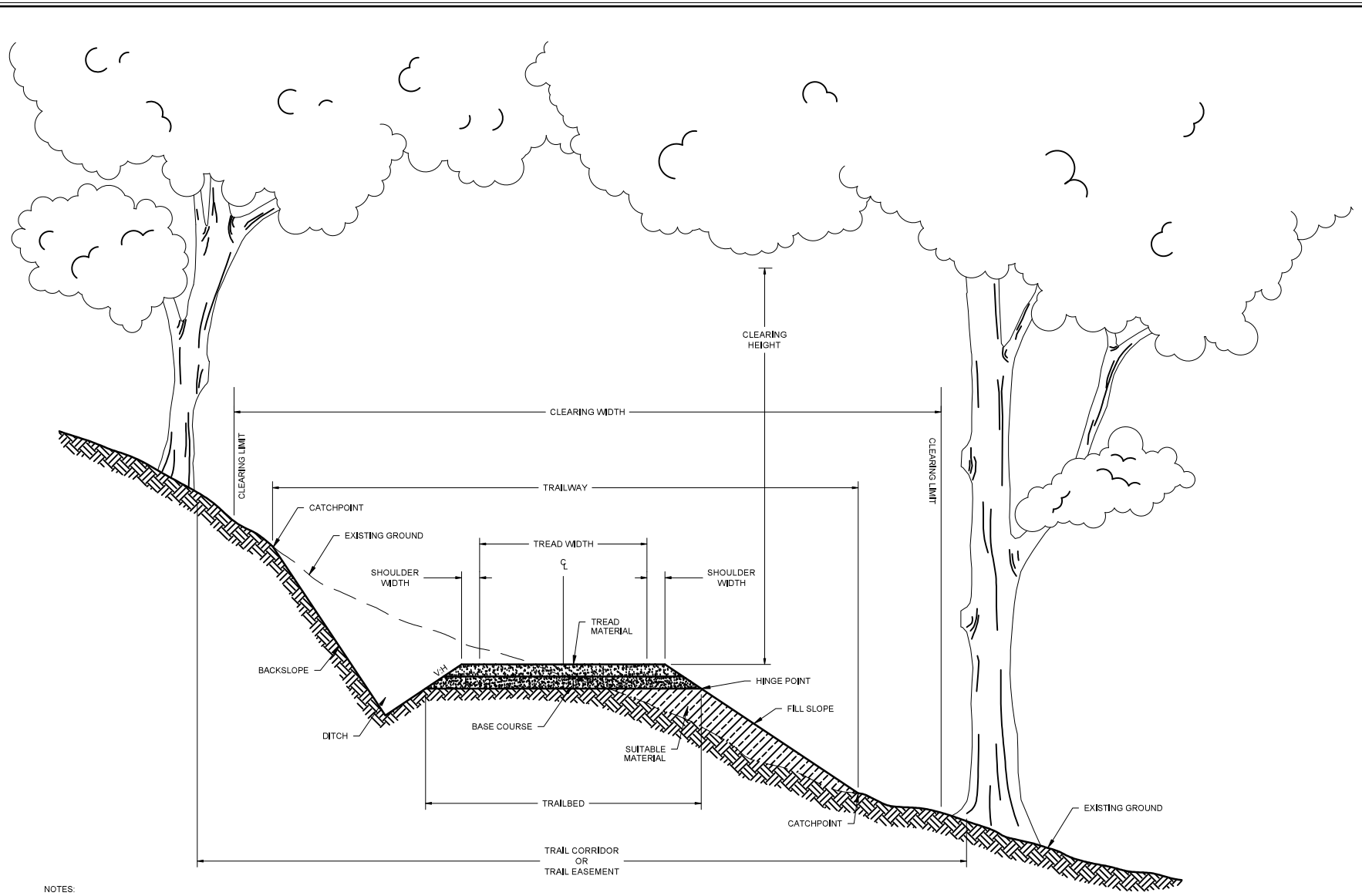

NOTES:

1. ALL SLOPES ARE SHOWN AS VERTICAL-TO-HORIZONTAL DISTANCE (V:H).
2. ALL UNITS SHOWN ARE US CUSTOMARY UNITS IN FEET AND INCHES UNLESS OTHERWISE NOTED.

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PROJECT NAME

INHT: WATERFALL TO PTARMIGAN BRIDGES AND TRAIL

CHUGACH NATIONAL FOREST

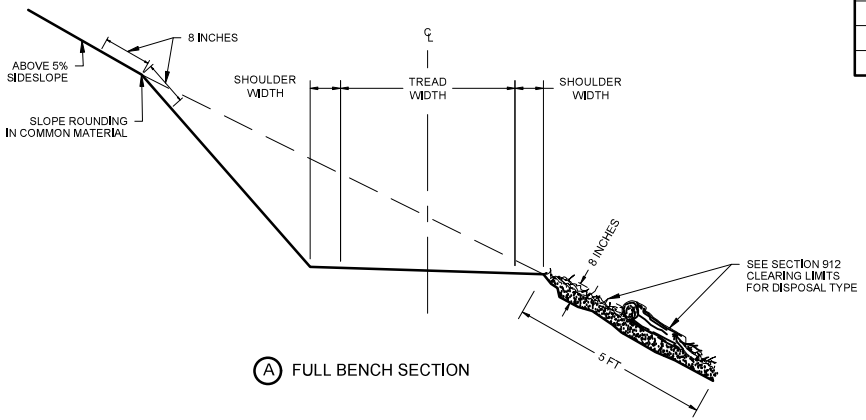
SEWARD RANGER DISTRICT

DRAWING TITLE

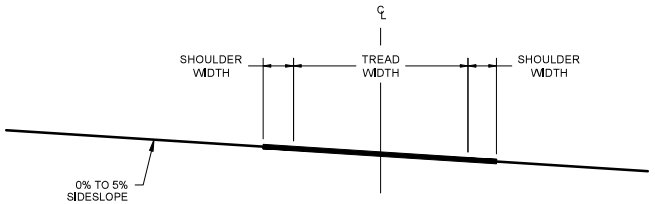
910-01 TRAIL TYPICAL

DATE 2/23/2024	ARCHIVE NO.
DESIGNER TBD	DRAWING SHEET NO. 16
DRAWN H.C.	
CHECKED W. BRENNAN	
PROJECT NO. 23-ENG-1004-101	SHEET 16 OF 33

TYPICAL TRAIL CROSS SECTIONS



(A) FULL BENCH SECTION



(B) FLAT SECTION

TYPICAL TRAIL TREAD AND SHOULDER WIDTH

TYPICAL ID	SECTION TYPE	TREAD FINISH	TREAD WIDTH	SHOULDER WIDTH		COMMENTS
				UPHILL	DOWNHILL	
TSF-1	A,C	T1	36"*	12"	12"	UNLESS OTHERWISE STAKED
TSF-2	A	T1	60"*	12"	12"	WHERE STAKED IN STEEP TERRAIN OR LARGE ROCK PRESENT
TSF-3	A	T1	60"*			5' ROCK BENCH WITH 36" WIDE MIN. WALK-ABLE SURFACE

TREAD CROSS SLOPE

TYPICAL ID	OUTSLOPE	INSLOPE	CROWNED SECTION	COMMENTS
TSF-1/2	3-5%	N/A	N/A	
TSF-3	3-8%	N/A	N/A	

SLOPE AND TRAILBED FINISH

TREAD FINISH	ROOTS	LOOSE ROCK	EMBEDDED ROCK	COMMENTS
T1	3"	3"	3"	
T2	NA	NA	NA	SOLID ROCK REMOVAL EXPECTED
				NATIVE GRAVEL SURFACING ONLY WHERE BEDROCK
				SURFACE IN NOT SUITABLE FOR WALKING.

TRAILBED AND SLOPE FINISH

SLOPE FINISH

REMOVE ROOTS THAT PROTRUDE FROM THE BACKSLOPE WITH DIAMETERS GREATER THAN SHOWN IN THE SLOPE AND TRAILBED FINISH TABLE.

TRAILBED FINISH

REMOVE LOOSE ROCK ON THE TRAILBED WITH A DIMENSION GREATER THAN SHOWN IN THE SLOPE AND TRAILBED FINISH TABLE.

REMOVE OR REDUCE EMBEDDED ROCK THAT PROTRUDES MORE THAN THE DIMENSIONS SHOWN IN THE SLOPE AND TRAILBED FINISH TABLE.

NOTES:

1. SLASH CONSISTS OF LOGS, LIMBS, BRUSH, AND ROCKS PLACED RANDOMLY IN A WAY TO CATCH SEDIMENT MOVEMENT.
2. LIMB ALL TREES AND SHRUBS AND TAMP SLASH INTO GROUND SO THAT 80% OF SLASH IS IN CONTACT WITH THE GROUND.

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STAMPS, LOGOS, AND SEALS

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PROJECT NAME

INHT: WATERFALL TO PTARMIGAN BRIDGES AND TRAIL

CHUGACH NATIONAL FOREST

SEWARD RANGER DISTRICT

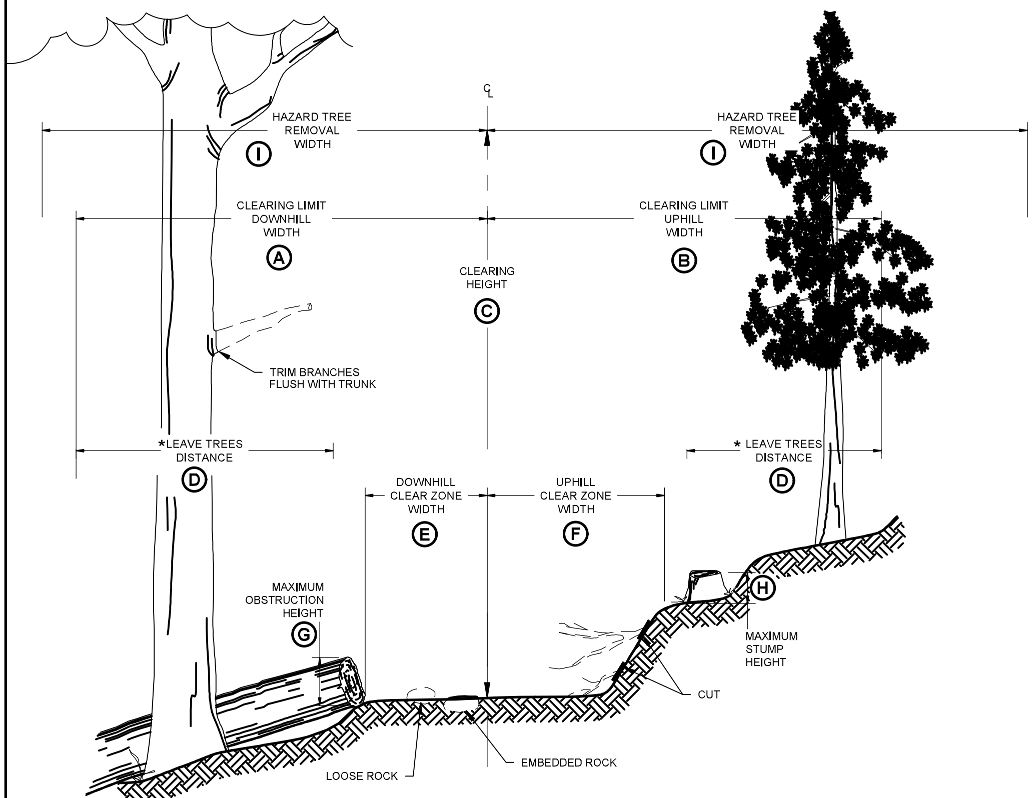
DRAWING TITLE

911-01 TRAIL SECTIONS

DATE 2/23/2024	ARCHIVE NO.
DESIGNER TBD	DRAWING SHEET NO. 17
DRAWN H.C.	
CHECKED W. BRENNAN	
PROJECT NO. 23-ENG-1004-101	SHEET 17 OF 33

CLEARING LIMITS - TREES AND LOGS

		CLEARING LIMITS			* LEAVE TREES		CLEAR ZONE			STUMPS	HAZARD TREE		
TYPICAL ID	CLEARING METHOD	DOWNHILL WIDTH (A)	UPHILL WIDTH (B)	CLEARING HEIGHT (C)	DISTANCE (FEET) (D)	DIAMETER (INCHES)	DOWNHILL WIDTH (E)	UPHILL WIDTH (F)	MAXIMUM OBSTRUCTION HEIGHT (G)	MAXIMUM HEIGHT (H)	REMOVAL WIDTH (I)	DISPOSAL METHOD	COMMENTS
CLT-1	ALL	6'	6'	10'	2'	10"	36"	36"	8"	9"	20'	D1	



CLEARING METHOD

CLEARING TYPE	CLEARING METHOD	COMMENTS
C1	NEW CONSTRUCTION	TREES, PRUNING, & BRUSH
C2	CLEARING LIMIT RESTORATION	TREES, PRUNING, LOGS, BRUSH & MAINTENANCE
C3	TRAIL OPENING	LOGGING OUT, LOOSE ROCK & DRAINAGE CLEARING
C4	HAZARD TREE REMOVAL	ALONG TRAIL CORRIDOR
C5	HAZARD TREE REMOVAL	INDIVIDUAL (AS MARKED)
C6	LOOSE ROCK & ROOT REMOVAL	

LEAVE TREES: LEAVE TREES SHOULD BE LIVE, SOUND & UNDAMAGED WITH UNCOMPROMISED ROOT SYSTEMS.

HAZARD TREES: HAZARD TREES ARE TREES THAT ARE STANDING OR LEANING DEAD TREES LARGER THAN 8 INCHES IN DIAMETER AND GREATER THAN 90 FEET IN HEIGHT.

DISPOSAL METHOD

DISPOSAL TYPE	DISPOSAL METHOD	COMMENTS
D1	LOP AND SCATTER OUTSIDE TRAILWAY	SCATTER OUT OF SIGHT OF TRAIL
D2	LOP AND SCATTER ON FILL SLOPE	
D3	PILE AND BURN	
D4	CHIP	
D5	HAUL TO DISPOSAL SITE	

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PROJECT NAME

INHT: WATERFALL TO PTARMIGAN BRIDGES AND TRAIL

CHUGACH NATIONAL FOREST

SEWARD RANGER DISTRICT

DRAWING TITLE

912-01 CLEARING

DATE 2/23/2024
ARCHIVE NO.
DESIGNER TBD
DRAWN H.C.
CHECKED W. BRENNAN
PROJECT NO. 23-ENG-1004-101
DRAWING SHEET NO. 18
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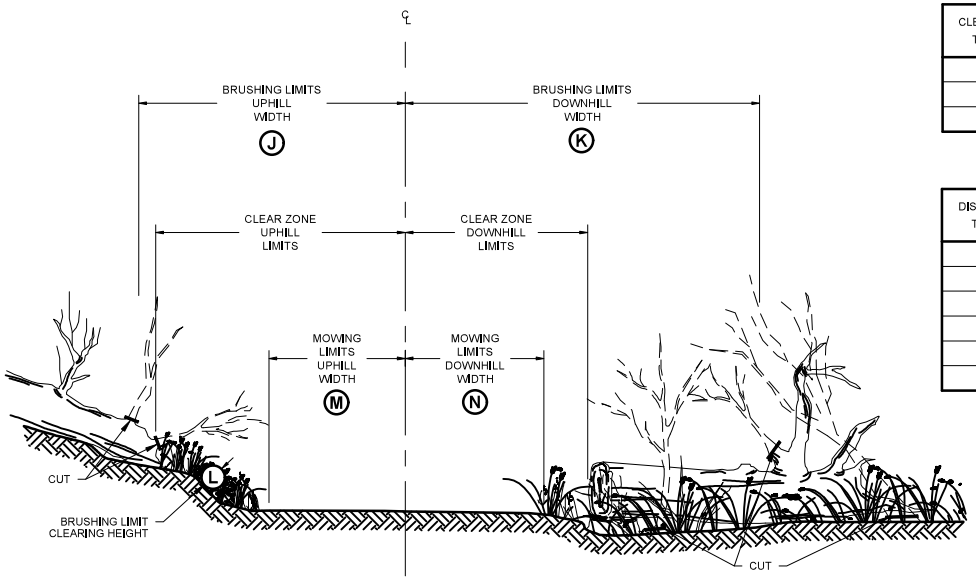
CLEARING LIMITS - BRUSHING

TYPICAL ID	CLEARING METHOD	BRUSHING LIMITS UPHILL WIDTH (J)	BRUSHING LIMITS DOWNHILL WIDTH (K)	BRUSHING LIMITS CLEARING HEIGHT (L)	MOWING LIMITS UPHILL WIDTH (M)	MOWING LIMITS DOWNHILL WIDTH (N)	DISPOSAL METHOD	COMMENTS
CLB-1	C9	6'	6'	10'	36"	36"	D1	MAINTAIN EXISTING TRAIL
CLB-2	C9	8'	8'	10'	36"	36"	D1	NEW TRAIL CONSTRUCTION



NOTE:
SEE SHEET 912-01 FOR CLEAR ZONE LIMITS

CLEARING METHOD

CLEARING TYPE	CLEARING METHOD	COMMENTS
C9	BRUSHING	
C10	MOWING	

DISPOSAL METHOD

DISPOSAL TYPE	DISPOSAL METHOD	COMMENTS
D1	LOP AND SCATTER OUTSIDE TRAILWAY	
D2	LOP AND SCATTER ON FILL SLOPE	
D3	PILE AND BURN	
D4	CHIP	
D5	HAUL TO DISPOSAL SITE	

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PROJECT NAME

INHT: WATERFALL TO PTARMIGAN BRIDGES AND TRAIL

CHUGACH NATIONAL FOREST

SEWARD RANGER DISTRICT

DRAWING TITLE

912-02 BRUSHING

DATE 2/23/2024
ARCHIVE NO.
DESIGNER TBD
DRAWN H.C.
CHECKED W. BRENNAN
PROJECT NO. 23-ENG-1004-101
DRAWING SHEET NO. 19
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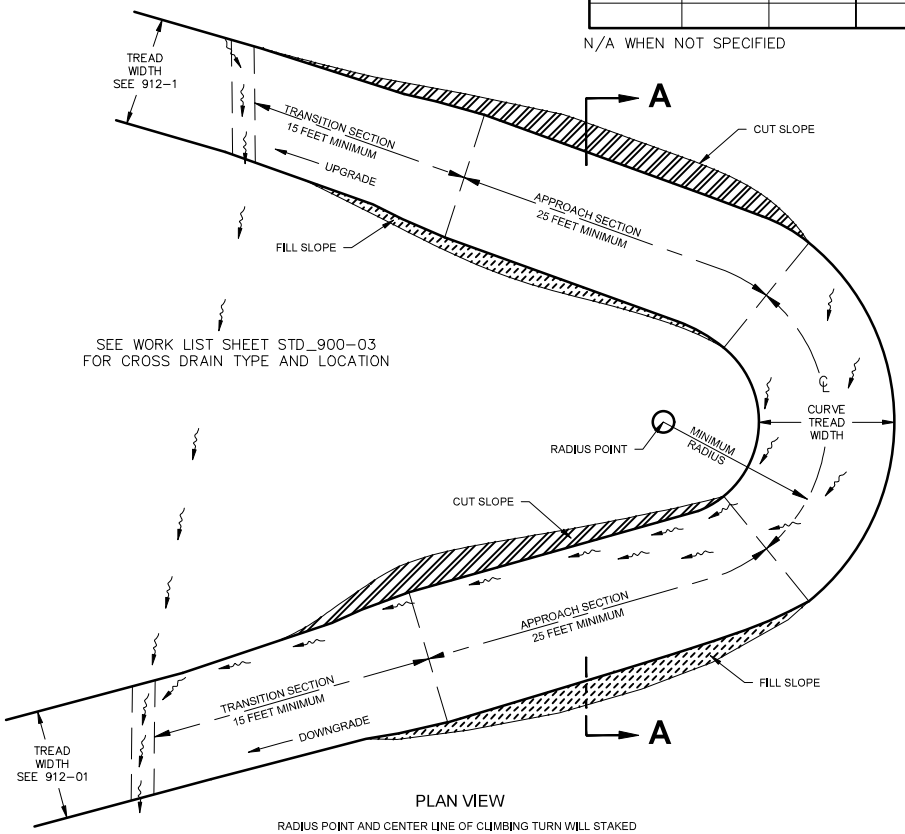
CLIMBING TURN SECTIONS

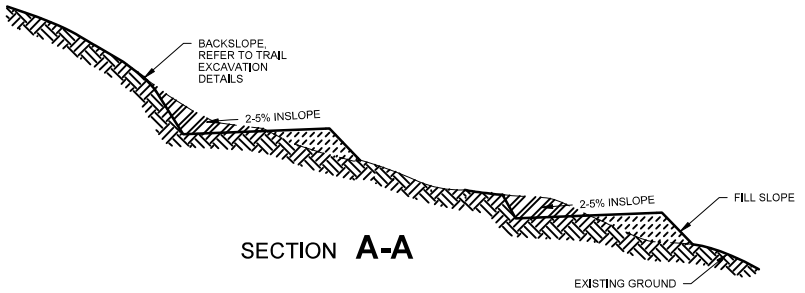
TYPICAL ID	MINIMUM RADIUS	CURVE TREAD WIDTH	BARRIER TYPE	COMMENTS
CTN-1	10'	TREAD + 1'	N/A	

N/A WHEN NOT SPECIFIED



PLAN VIEW

RADIUS POINT AND CENTER LINE OF CLIMBING TURN WILL STAKED ON THE GROUND.



SECTION **A-A**

NOTES:

1. CONSTRUCT CONSTANT GRADE THROUGH BOTH APPROACH SECTIONS.

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PROJECT NAME

INHT: WATERFALL TO PTARMIGAN BRIDGES AND TRAIL

CHUGACH NATIONAL FOREST

SEWARD RANGER DISTRICT

DRAWING TITLE

914-01 CLIMBING TURN

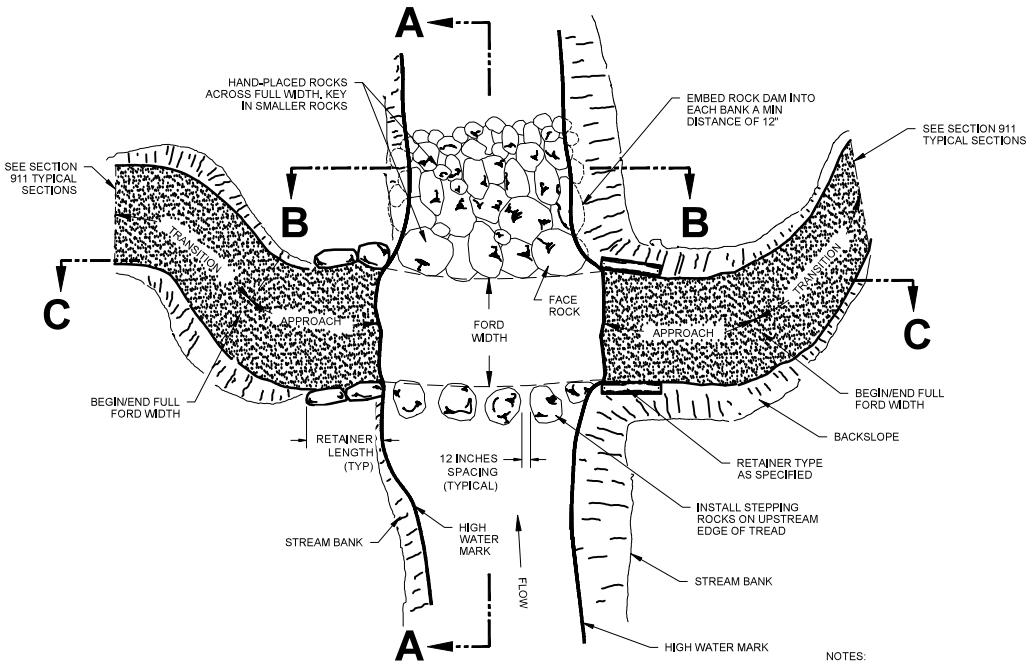
DATE 2/23/2024	ARCHIVE NO.
DESIGNER TBD	DRAWING SHEET NO. 20
DRAWN H.C.	
CHECKED W. BRENNAN	
PROJECT NO. 23-ENG-1004-101	SHEET 20 OF 33

CONSTRUCTED FORD - ROCK STRUCTURE

TYPICAL ID	FORD LENGTH	APPROACHES % GRADE NEAR	APPROACHES % GRADE FAR	RETAINERS[1] TYPE	RETAINERS[1] LENGTH	FOUNDATION[2] TYPE	FOUNDATION[2] DEPTH	FOUNDATION[2] LENGTH	FOUNDATION[2] GEOTEXTILE TYPE	SURFACE COURSE TYPE	SURFACE COURSE DEPTH	SURFACE COURSE LENGTH	ROCK DAM MINIMUM LENGTH	ROCK DAM MINIMUM FACE ROCK SIZE (LBS)	STEPPING ROCK MINIMUM SIZE (LBS)	COMMENTS
RF1-1	*	**	**	R1	24"	F1	8"	***	N/A	S1	3"	***	36"	25	50	*FORD LENGTH DEPENDENT ON CREEK WIDTH
																** APPROACH GRADES AS STAKED
																*** FOUNDATION AND SURFACE COURSE LENGTH
																DEPENDENT ON CREEK WIDTH

N/A WHEN NOT REQUIRED

1. FOR TYPICAL RETAINERS SEE SHEET 911-03
2. FOR FOUNDATIONS SEE SHEET 918-10-01



PLAN VIEW

GEOTEXTILE TYPE

TYPE	MATERIAL	COMMENTS
G1	NON-WOVEN	
G2	WOVEN	
G3	GEOGRID	

FOUNDATION MATERIAL TYPE

TYPE	MATERIAL	COMMENTS
F1	GRAVEL	SMALL ROCKS LESS THAN 3 INCHES
F2	PAVING BLOCK	
F3	GEOCELL	

SURFACE COURSE MATERIAL TYPE

TYPE	MATERIAL	GRADATION	COMMENTS
S1	PITRUN	2" MINUS	
S2	AGGREGATE		
S3	CLAY		
S4	WOODCHIPS		

NOTES:

1. THE TRANSITION AND GRADE SHALL BE THE AVERAGE OF THE APPROACH GRADE AND THE TRAIL GRADE TO CREATE A SMOOTH TRANSITION.
2. TRANSITION TREAD WIDTH FROM FORD WIDTH TO TYPICAL TREAD WIDTH TO ACCOMMODATE GRADE TRANSITION.

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STAMPS, LOGOS, AND SEALS

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PROJECT NAME

INHT: WATERFALL TO PTARMIGAN BRIDGES AND TRAIL

CHUGACH NATIONAL FOREST

SEWARD RANGER DISTRICT

DRAWING TITLE

917-20-01 FORD

DATE 2/23/2024	ARCHIVE NO.
DESIGNER TBD	DRAWING SHEET NO. 21
DRAWN H.C.	
CHECKED W. BRENNAN	
PROJECT NO. 23-ENG-1004-101	SHEET 21 OF 33

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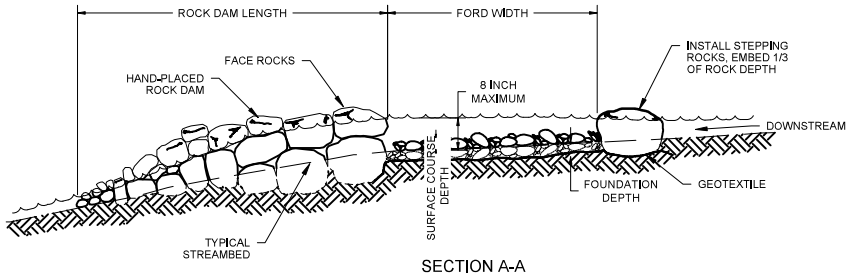
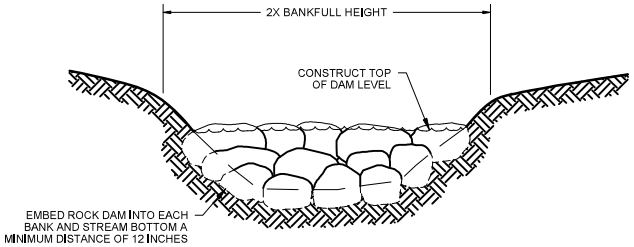
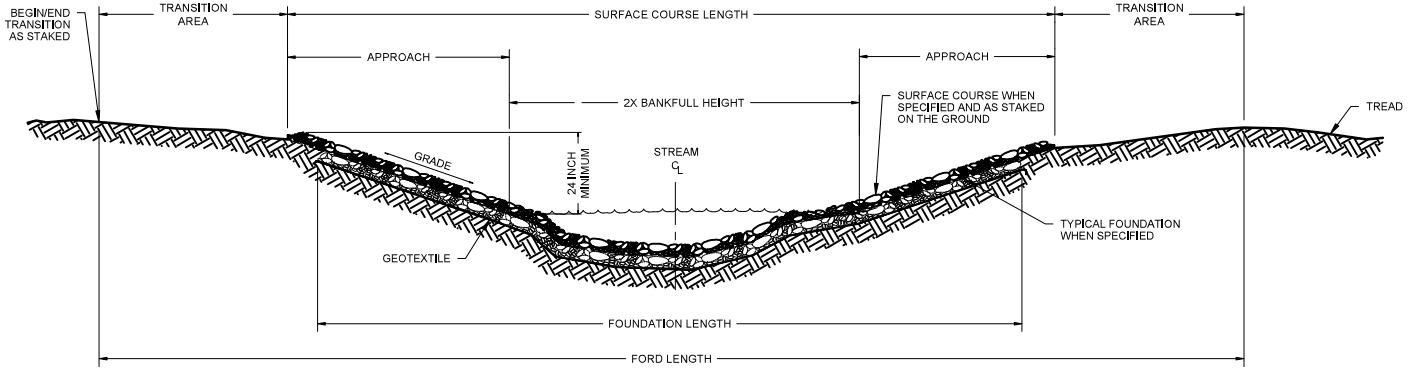


SECTION A-A



SECTION B-B



SECTION C-C

SHEET 2 OF 2

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PROJECT NAME

INHT: WATERFALL TO PTARMIGAN BRIDGES AND TRAIL

CHUGACH NATIONAL FOREST

SEWARD RANGER DISTRICT

DRAWING TITLE

917-20-02 FORD

DATE 2/23/2024	ARCHIVE NO.
DESIGNER TBD	DRAWING SHEET NO. 22
DRAWN H.C.	
CHECKED W. BRENNAN	
PROJECT NO. 23-ENG-1004-101	SHEET 22 OF 33

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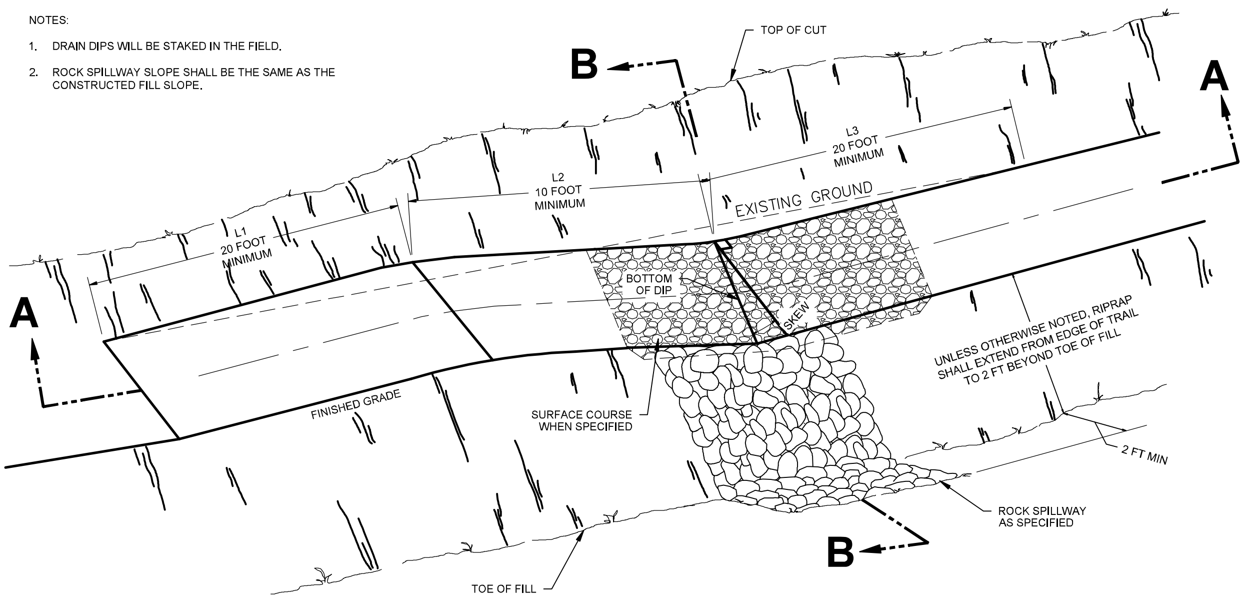
DRAIN DIP SECTION

TYPICAL ID	DRAIN DIP TYPE	GEOTEXTILE TYPE	SKEW	SURFACE COURSE TYPE	SURFACE COURSE DEPTH	ROCK SPILLWAY***	COMMENTS
DD1-1	DD1	N/A	30 DEG	S1	6"	N/A	DD1 FOR ALL TRAIL GRADES

N/A WHEN NOT APPLICABLE

NOTES:

1. DRAIN DIPS WILL BE STAKED IN THE FIELD.
2. ROCK SPILLWAY SLOPE SHALL BE THE SAME AS THE CONSTRUCTED FILL SLOPE.



DRAIN DIP CONSTRUCTION DIMENSIONS

DRAIN DIP TYPE	% PROFILE GRADE	L1	L2	L3	(H)	(E)
DD1	0 TO 4	20'	10'	20'	12"	6' MIN
DD2	5 TO 6					
DD3	7 TO 8					
DD4	9 TO 10					

OVER 10% NOT RECOMMENDED
H = ℄ OF TREAD

SURFACE COURSE MATERIAL TYPE

TYPE	MATERIAL	GRADATION	COMMENTS
S1	PITRUN	1" MINUS	NATIVE MATERIAL
S2	AGGREGATE		

SHEET 1 OF 2

United States Department of Agriculture
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STAMPS, LOGOS, AND SEALS

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PROJECT NAME

INHT: WATERFALL TO PTARMIGAN BRIDGES AND TRAIL

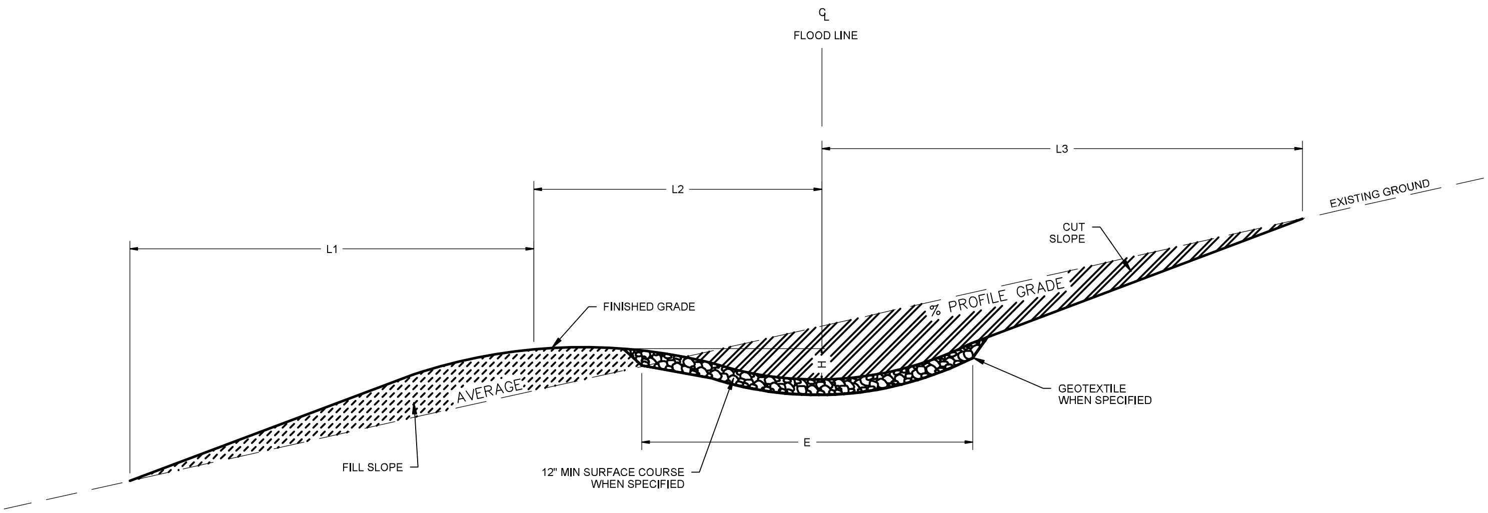
CHUGACH NATIONAL FOREST

SEWARD RANGER DISTRICT

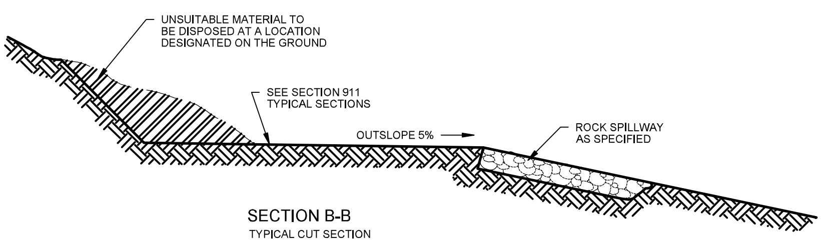
DRAWING TITLE

927-10-01 DRAIN DIP

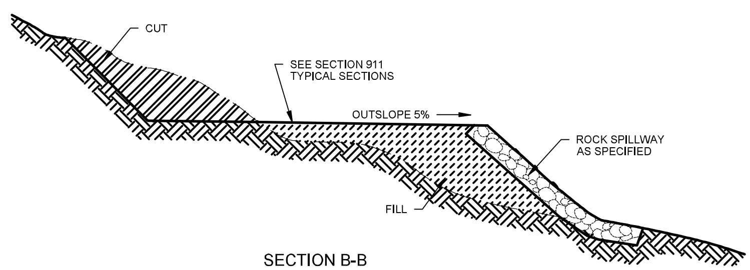
DATE 2/23/2024
ARCHIVE NO.
DESIGNER TBD
DRAWN H.C.
CHECKED W. BRENNAN
PROJECT NO. 23-ENG-1004-101
DRAWING SHEET NO. 23
SHEET 23 OF 33



SECTION A-A



SECTION B-B
TYPICAL CUT SECTION



SECTION B-B
TYPICAL FILL SECTION

SHEET 2 OF 2

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ALASKA REGION

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PROJECT NAME

INHT: WATERFALL TO PTARMIGAN BRIDGES AND TRAIL

CHUGACH NATIONAL FOREST

SEWARD RANGER DISTRICT

DRAWING TITLE

927-10-02 DRAIN DIP

DATE 2/23/2024 | ARCHIVE NO.

DESIGNER TBD

DRAWN H.C.

CHECKED W. BRENNAN

PROJECT NO. 23-ENG-1004-101

DRAWING SHEET NO. 24

SHEET 24 OF 33

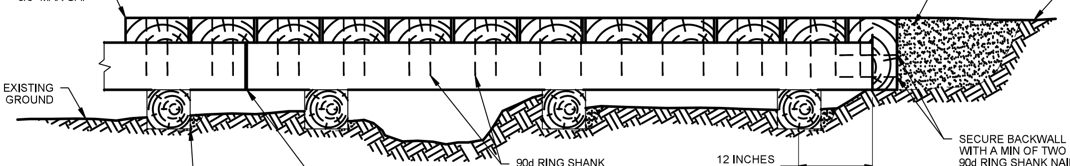
2/20/24 11:10 HCOOGLE C:\USERS\HCOOGLE\BOX\2350TRAILS-SO\INHT\INHT_EARMARK_GAOA_PROJECT PLANNING FY22-25\WATERFALL TO PTARMIGAN\PERMITS\NEW FOLDER\AUTOCAD DRAWINGS\SH 15 TO END TRAIL DETAILS.DWG;

STANDARD PUNCHEON

	STRINGER/MUD SILL				DECK/BACKWALL				CURB			WEARING SURFACE				
TYPICAL ID	SIZE	SPECIES	NUMBER	PRESERV. TYPE	TYPE	SIZE	SPECIES	PRESERV. TYPE	SIZE	SPECIES	PRESERV. TYPE	TYPE	SIZE	SPECIES	PRESERV. TYPE	COMMENTS
SP1-1	*8X8	SAWN	AS REQ	P3	SAWN	4X10	LARCH NO 2	DECK P2 BACKWALL P3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	*SILLS 8X8 , STRINGERS 6 X 6
																DECKING LENGTH: 56"-64"

N/A WHEN NOT APPLICABLE

NOTE: ALL WOOD SHALL BE COMMERCIALLY SOURCED AND PRESSURE TREATED

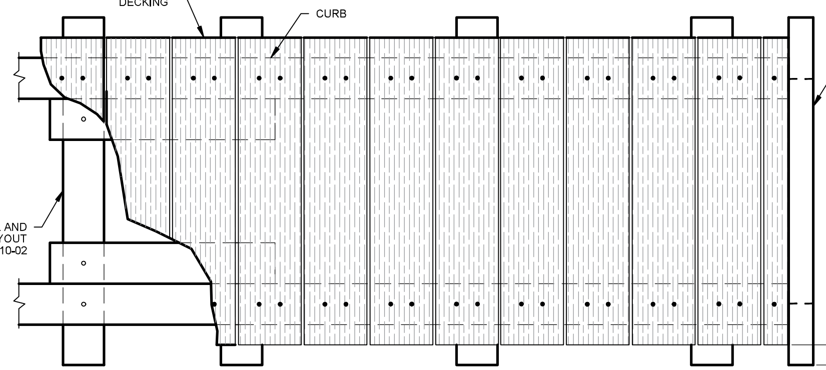


ELEVATION VIEW

TYPICAL SECTION

NOTES:

1. PRE-DRILL HOLES FOR FASTENERS TO PREVENT SPLITTING OF LOGS OR SAWN TIMBERS.
2. RECESS END OF REBAR 1/2 INCH BELOW TOP OF STRINGERS.
3. COMPACT BACKFILL IN 6 INCH LIFTS UNTIL NO VISUAL DISPLACEMENT.
4. ALL FIELD DRILLED HOLES AND CUTS SHALL BE FIELD TREATED.
5. FINAL DECK ELEVATION FOR RUNNING PLANKS OR DECKING SHALL BE NO MORE THAN 1/2 INCH DIFFERENCE IN ELEVATION.



PLAN VIEW

PRESERVATIVE TREATMENT - (REFER TO AWPA USE CATEGORY SYSTEM)			
PRESERVATIVE TYPE	TREATMENT TYPE	USE CATEGORY	COMMENTS
P1	WB	UC3B	
P2	WB	UC4A	
P3	WB	UC4B	

TREATMENT TYPE

WB = WATERBORNE
OT = OIL-BORNE

USE CATEGORY

UC3B = ABOVE GROUND - EXPOSED
UC4A = GROUND CONTACT - GENERAL USE
UC4B = GROUND CONTACT - HEAVY DUTY

SHEET 1 OF 2

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PROJECT NAME

INHT: WATERFALL TO PTARMIGAN BRIDGES AND TRAIL

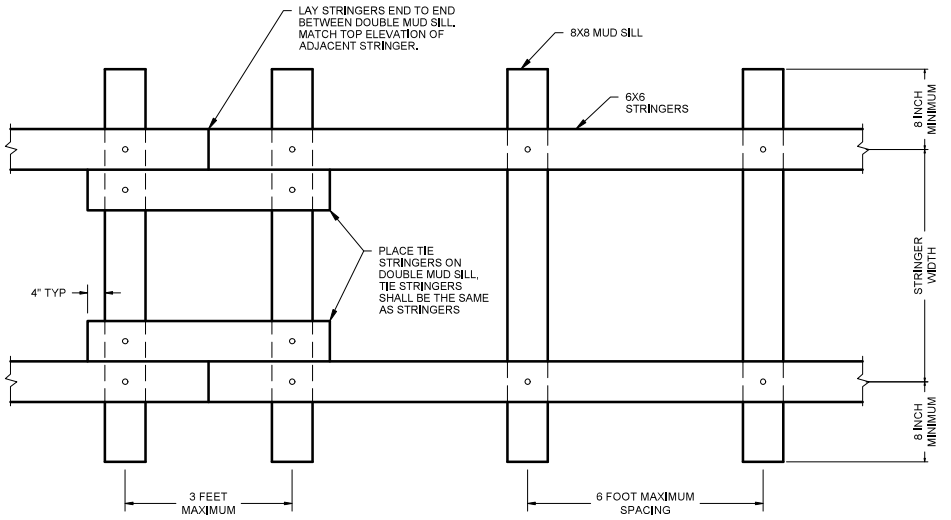
CHUGACH NATIONAL FOREST

SEWARD RANGER DISTRICT

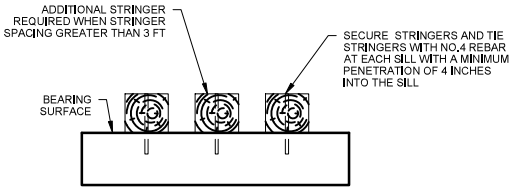
DRAWING TITLE

934-10-01 PUNCHEON

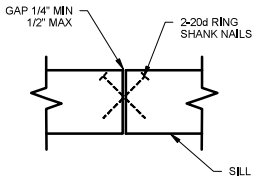
DATE 2/23/2024
ARCHIVE NO.
DESIGNER TBD
DRAWN H.C.
CHECKED W. BRENNAN
DRAWING SHEET NO. 25
PROJECT NO. 23-ENG-1004-101
SHEET 25 OF 33



MUD SILL AND STRINGER LAYOUT



MUD SILL AND STRINGER LAYOUT



TYPICAL BUTT JOINT

SHEET 2 OF 2

USDA FOREST SERVICE

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ALASKA REGION

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INHT: WATERFALL TO PTARMIGAN BRIDGES AND TRAIL

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DRAWING TITLE

934-10-02 PUNCHEON

DATE 2/23/2024	ARCHIVE NO.
DESIGNER TBD	DRAWING SHEET NO. 26
DRAWN H.C.	
CHECKED W. BRENNAN	
PROJECT NO. 23-ENG-1004-101	SHEET 26 OF 33

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APPENDIX A

SHEETS 27 - 33 ARE NOT WORK ITEMS LISTED IN THE TRAIL WORK LOG OR TRAIL BRIDGE DESIGN

THESE SHEETS ARE FOR CONTRACTOR REFERENCE ONLY IN THE CASE OF UNEXPECTED SITE CONDITIONS DIFFERING FROM WORK REFERENCED IN THE WORK LOG AND CONTRACT

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PROJECT NAME

INHT: WATERFALL TO PTARMIGAN BRIDGES AND TRAIL

CHUGACH NATIONAL FOREST

SEWARD RANGER DISTRICT

DRAWING TITLE

APPENDIX A

DATE 2/23/2024	ARCHIVE NO.
DESIGNER TBD	DRAWING SHEET NO. 27
DRAWN H.C.	
CHECKED W. BRENNAN	
PROJECT NO. 23-ENG-1004-101	SHEET 27 OF 33

TYPE 1 - STANDARD TURNPIKE

NOTES:

1. COMPACT BACKFILL IN 6 INCH LIFTS UNTIL NO VISUAL DISPLACEMENT.
2. REMOVE AND DISPOSE OF DUFF AND TOP ORGANIC LAYERS DOWN TO MINERAL SOIL.
3. LEADOFF DITCH TO BE CONSTRUCTED THE SAME AS SIDE DITCHES.
4. LEAD-OFF DITCH TO DRAIN TO DAYLIGHT.

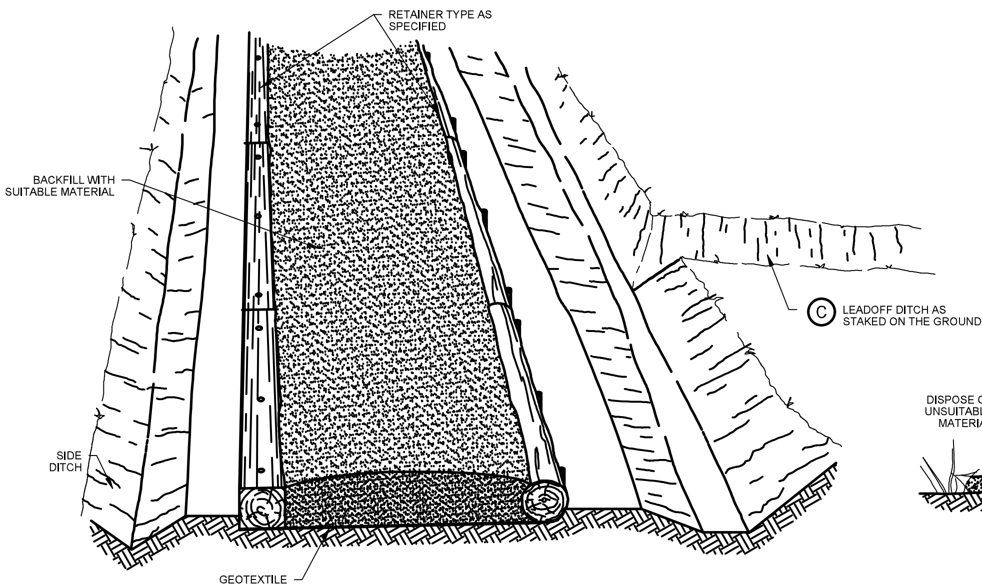
		RETAINER*	DITCH							
TYPICAL ID	GEOTEXTILE TYPE	TYPE	TYPE	LOCATION		DIMENSIONS (INCHES)				COMMENTS
				LT	RT	(D)	(E)	(F)	(G)	
TPK-1	G1	R2	A	X	X	12-18"	18-24"	9-12"	N/A	ENSURE SIDE DITCHES DON'T UNDERMINE RETAINER LOGS, 2' MIN
										SPACING FROM LOGS, OR AS STAKED.

N/A WHEN NOT APPLICABLE

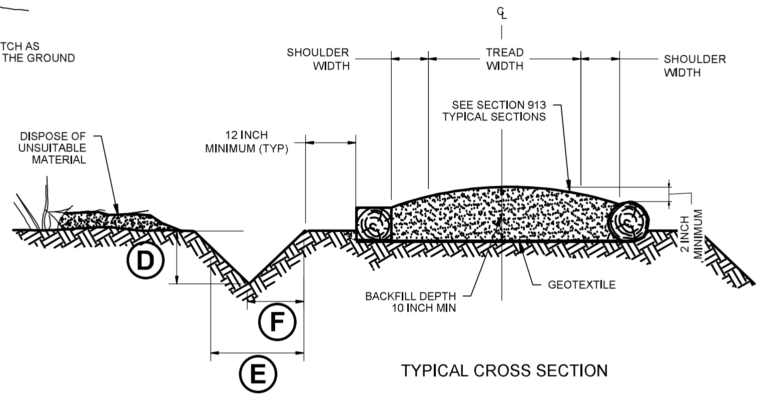
*FOR TYPICAL RETAINERS SEE SHEET 911-03

GEOTEXTILE TYPE

TYPE	MATERIAL	COMMENTS
G1	NON-WOVEN	SEPARATION FUNCTION - CLASS 3 IAW AASHTO M288
G2	WOVEN	



PLAN VIEW



(A) "V" DITCH SECTION

TYPICAL CROSS SECTION

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PROJECT NAME

INHT: WATERFALL TO PTARMIGAN BRIDGES AND TRAIL

CHUGACH NATIONAL FOREST

SEWARD RANGER DISTRICT

DRAWING TITLE

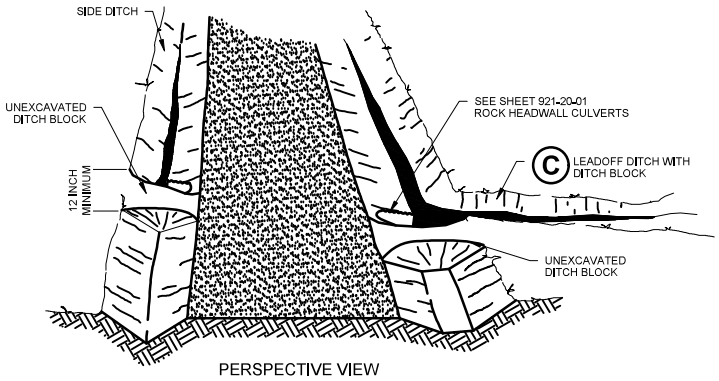
932-10 TURNPIKE

DATE 2/23/2024
ARCHIVE NO.
DESIGNER TBD
DRAWN H.C.
CHECKED W. BRENNAN
DRAWING SHEET NO. 28
PROJECT NO. 23-ENG-1004-101
SHEET 28 OF 33

TYPICAL DITCH SECTIONS

TYPICAL ID	DITCH TYPE	GEOTEXTILE TYPE	DITCH DIMENSIONS (INCHES) Ⓓ	Ⓔ	Ⓕ	Ⓖ	Ⓗ	LINING MATERIAL Ⓙ	TYPE	DITCH BLOCK SPACING (FEET)	MATERIAL	DITCH BLOCK LT	RT	COMMENTS
TDS-1	A	N/A	12-18"	18-24"	9-12"	N/A	24" MIN	N/A	N/A	N/A	N/A	N/A	N/A	

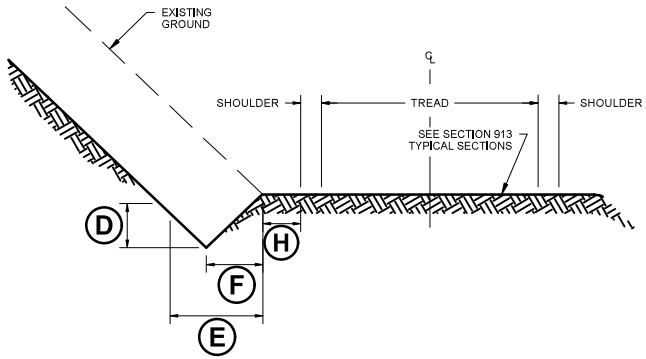
N/A WHEN NOT APPLICABLE



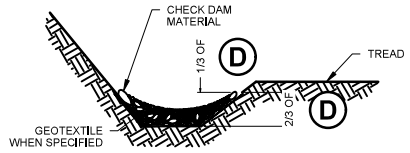
PERSPECTIVE VIEW

LEAD OFF DITCH/ CHECK DAM SPACING

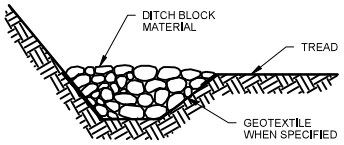
DRAINAGE GRADE	DRAINAGE SPACING (FEET)
<3	OCCASIONAL
3-7	60
8-12	30
>12	18



Ⓐ "V" DITCH SECTION



TYPICAL DITCH CHECK DAM SECTION



TYPICAL DITCH BLOCK SECTION

NOTE:

1. LEAD-OFF DITCHES SHALL UTILIZE NATURAL TOPOGRAPHY AND "DAYLIGHT" TO ALLOW WATER TO EXIT THE DITCH AND DRAIN AWAY FROM THE TRAIL.

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INHT: WATERFALL TO PTARMIGAN BRIDGES AND TRAIL

CHUGACH NATIONAL FOREST

SEWARD RANGER DISTRICT

DRAWING TITLE

925-01 DITCHES

DATE 2/23/2024	ARCHIVE NO.
DESIGNER TBD	DRAWING SHEET NO. 29
DRAWN H.C.	
CHECKED W. BRENNAN	
PROJECT NO. 23-ENG-1004-101	SHEET 29 OF 33

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CULVERT TYPE

TYPE	MATERIAL	COMMENTS
C1	CMP - GALV	
C2	HDPE	12" DIAMETER
C3	PLASTIC	
C4	ALUMINUM	
C5	CONCRETE	

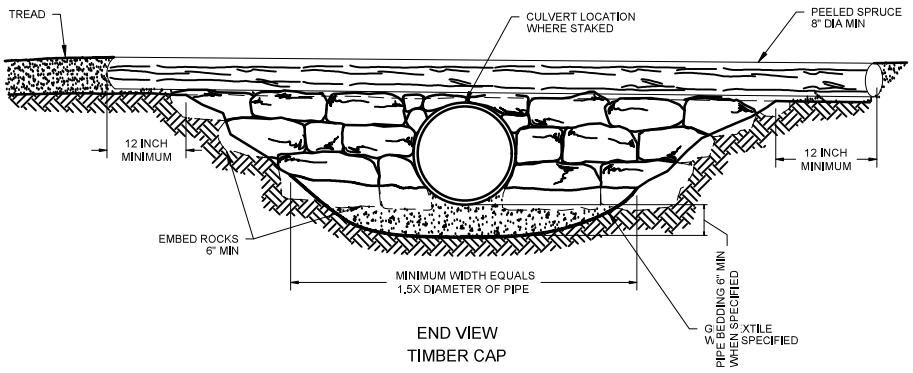
NOTES:

1. CAP MATERIAL SHALL BE ROCK IF AVAILABLE ON SITE. 8" MIN PEELED SPRUCE IS AN ACCEPTABLE ALTERNATIVE IF THERE IS A SHORTAGE OF ROCKS ON SITE.
2. COMPACT BACKFILL IN 6 INCH LIFTS UNTIL NO VISUAL DISPLACEMENT.
3. NO ROCKS LARGER THAN 1 1/2 INCHES WITHIN 12 INCHES OF PIPE.
4. CLEAR WIDTH BETWEEN CAP MATERIAL MUST BE A MIN OF 48".

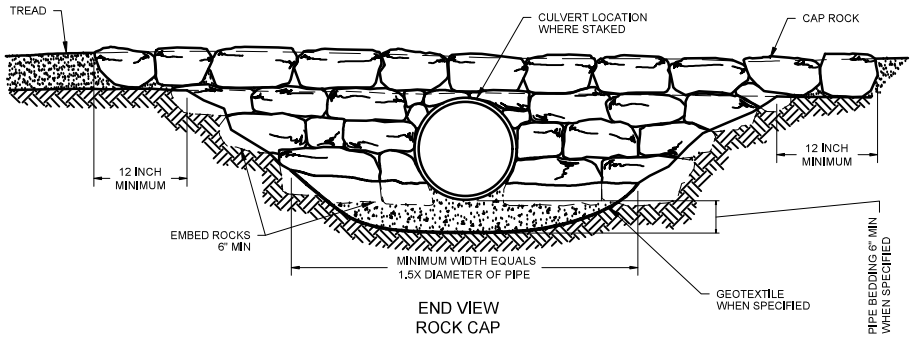
STANDARD CULVERT WITH HEADWALLS

TYPICAL ID	GEOTEXTILE TYPE	BEDDING TYPE	CULVERT TYPE	HEADWALL MINIMUM ROCK SIZE	HEADWALL MAXIMUM ROCK SIZE	COMMENTS
CVH-1	N/A	B1	C2	50 LBS	N/A	6' LENGTH
CVH-2	N/A	B1	C2	50 LBS	N/A	8' LENGTH
CVH-3	N/A	B1	C2	50 LBS	N/A	12' LENGTH

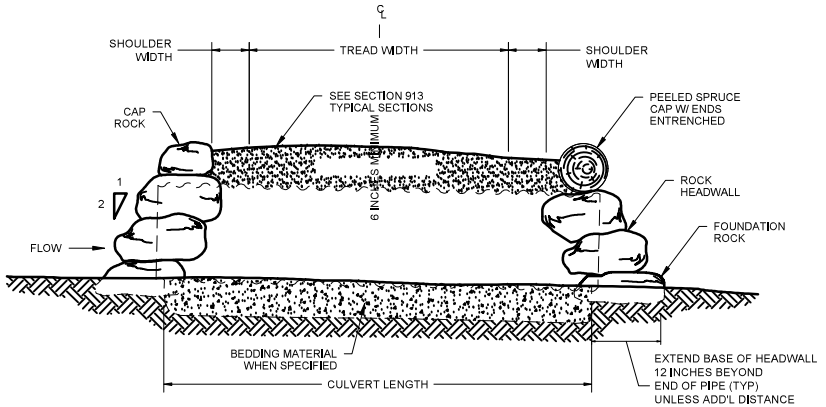
N/A WHEN NOT APPLICABLE



END VIEW
TIMBER CAP



END VIEW
ROCK CAP



ELEVATION VIEW

BEDDING MATERIAL TYPE

TYPE	MATERIAL	GRADATION	COMMENTS
B1	PITRUN	3" MINUS	NATIVE W/O DELETERIOUS ACCEPTABLE
B2	AGGREGATE		

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PROJECT NAME
INHT: WATERFALL TO PTARMIGAN BRIDGES AND TRAIL
CHUGACH NATIONAL FOREST
SEWARD RANGER DISTRICT

DRAWING TITLE
912-20 TRAIL CULVERT

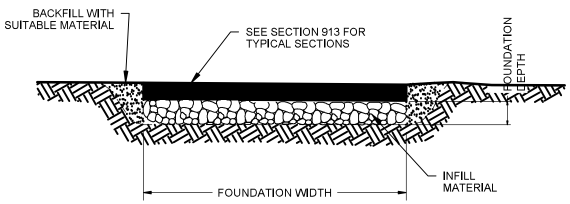
DATE 2/23/2024	ARCHIVE NO.
DESIGNER TBD	DRAWING SHEET NO. 30
DRAWN H.C.	
CHECKED W. BRENNAN	
PROJECT NO. 23-ENG-1004-101	SHEET 30 OF 33

2/20/24 11:19 H:\DOGLE C:\USERS\HCDOGLE\BOX\2307\TRAILS-SCRIPTS\INHT_EARMARK_GAOA_PROJECT PLANNING FY23\25\WATERFALL TO PTARMIGAN\PERMITS\NEW FOLDER\AUTOCAD DRAWINGS\SH 15 TO END TRAIL DETAILS.DWG

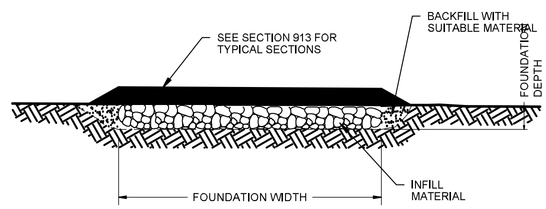
ROCK FOUNDATIONS

TYPICAL ID	SECTION TYPE	GEOTEXTILE TYPE	FOUNDATION DEPTH	FOUNDATION WIDTH	FOUNDATION IN-FILL MATERIAL TYPE	RETAINER* TYPE	COMMENTS
RKF-1	ALL	N/A	6"	48"	FM 2/3	N/A	USED FOR FORDS

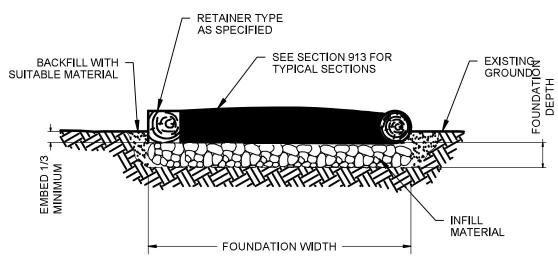
N/A WHEN NOT APPLICABLE
*FOR TYPICAL RETAINERS SEE SHEET 911-03



(A) EXCAVATED SECTION



(B) RAISED SECTION



(C) RETAINER SECTION

NOTES:

1. REMOVE AND DISPOSE OF DUFF AND TOP ORGANIC LAYERS DOWN TO MINERAL SOIL.
2. COMPACT BACKFILL IN 6 INCH LIFTS UNTIL NO VISUAL DISPLACEMENT.

TYPE	MATERIAL	ROCK SIZE	GRADATION %	COMMENTS
FM1	AGGREGATE	1 INCH MINUS		
FM2	COARSE AGGREGATE	3 INCH MINUS		
FM3	ROCK	3 TO 6 INCH		
FM4	ROCK	4 TO 8 INCH		
FM5	HEAVY ROCK	8 INCH PLUS		

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PROJECT NAME

INHT: WATERFALL TO PTARMIGAN BRIDGES AND TRAIL

CHUGACH NATIONAL FOREST

SEWARD RANGER DISTRICT

DRAWING TITLE

918-10-01 ROCK TRAIL FOUNDATION

DATE 2/23/2024
ARCHIVE NO.
DESIGNER TBD
DRAWN H.C.
CHECKED W. BRENNAN
PROJECT NO. 23-ENG-1004-101
DRAWING SHEET NO. 31
SHEET 31 OF 33

SURFACING SECTIONS

TYPICAL ID	SECTION TYPE	TREAD WIDTH	SHOULDER WIDTH		GEOTEXTILE TYPE	BASE COURSE		SURFACE COURSE		COMMENTS
			UPHILL	DOWNHILL		TYPE	DEPTH	TYPE	DEPTH	
TSS-1	ALL	36"	6"	6"	N/A	N/A	N/A	S2	6"	
TSS-2	ALL	60"	6"	6"	N/A	N/A	N/A	S2	6"	

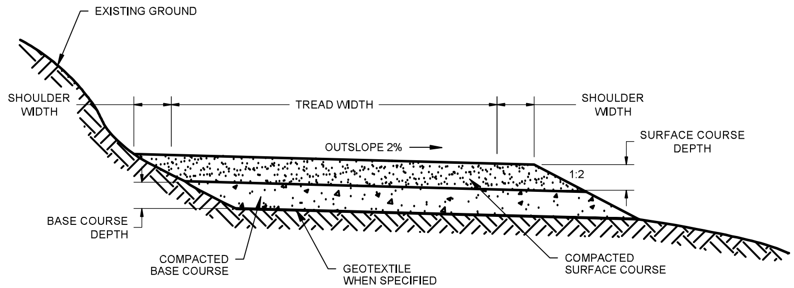
N/A WHEN NOT APPLICABLE

BASE COURSE MATERIAL TYPE

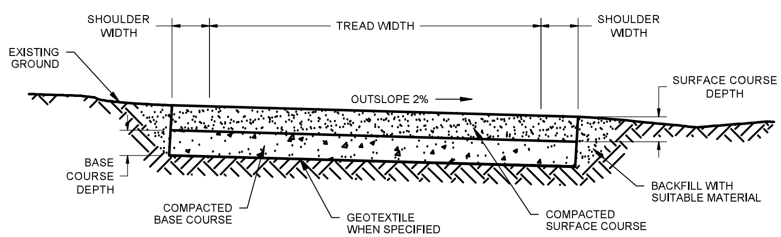
TYPE	MATERIAL	GRADATION	COMMENTS
B1	PITRUN	3" MINUS	
B2	AGGREGATE	D-1	

SURFACE COURSE MATERIAL TYPE

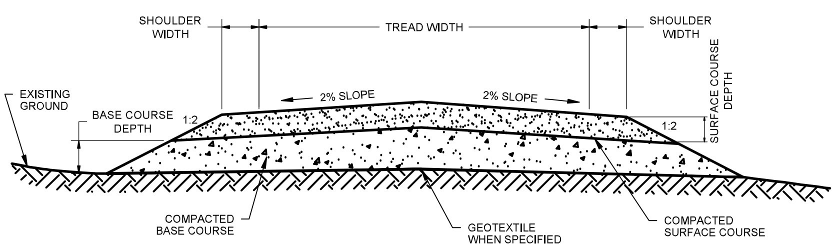
TYPE	MATERIAL	GRADATION	COMMENTS
S1	PITRUN		
S2	AGGREGATE	D-1	
S3	CLAY		
S4	WOODCHIPS		



(A) OUTSLOPED SECTION



(B) EXCAVATED SECTION



(C) RAISED SECTION

NOTES:

1. REMOVE AND DISPOSE OF DUFF AND TOP ORGANIC LAYERS DOWN TO MINERAL SOIL.
2. COMPACT BACKFILL IN 6 INCH LIFTS UNTIL NO VISUAL DISPLACEMENT.

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PROJECT NAME

INHT: WATERFALL TO PTARMIGAN BRIDGES AND TRAIL

CHUGACH NATIONAL FOREST

SEWARD RANGER DISTRICT

DRAWING TITLE

913-01 SURFACING

DATE 2/23/2024 | ARCHIVE NO.

DESIGNER TBD

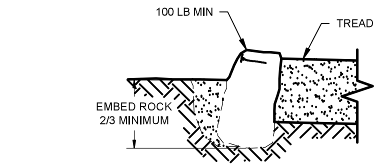
DRAWN H.C.

CHECKED W. BRENNAN

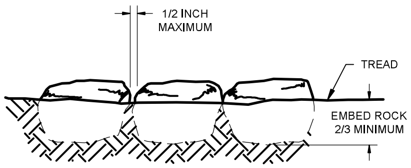
DRAWING SHEET NO. 32

PROJECT NO. 23-ENG-1004-101

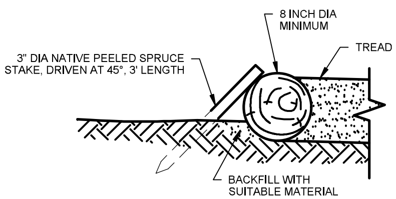
SHEET 32 OF 33



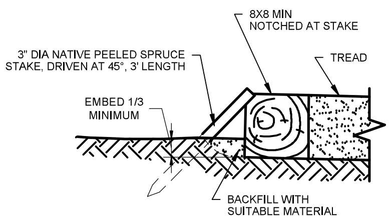
R1 TYPICAL ROCK RETAINER



TYPICAL ROCK SPACING



R2 TYPICAL LOG RETAINER

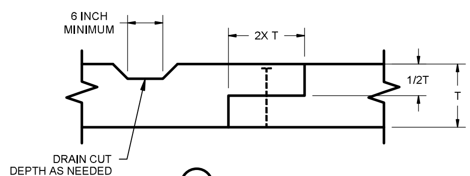


R3 TYPICAL TIMBER RETAINER

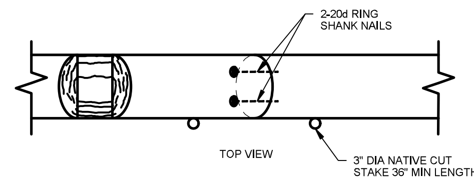
TYPICAL RETAINER TYPE

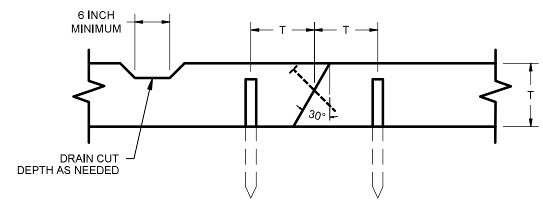
RETAINER TYPE	MATERIAL	SIZE	SPECIES/ GRADE	PRESERV. TYPE	JOINT TYPE	COMMENTS
R1	ROCK	18" MIN	N/A	N/A	N/A	6" MIN ABOVE GRADE. MAY BE SOURCED ON SITE OR IMPORTED
R2	LOG	8" MIN	NATIVE	N/A	L2	
R3	SAWN TIMBER	10 X 10	*	P3	L1	*WHATEVER IS LOCALLY AVAILABLE & MEETS PRESERVATIVE REQS

N/A WHEN NOT APPLICABLE



L1 TYPICAL LAP JOINT
T = THICKNESS OF RETAINER





L2 TYPICAL SCARF JOINT
T = THICKNESS OF RETAINER

NOTES:

1. PLACE REBAR, ANCHOR BOLT OR STAKE 6 INCHES FROM EACH END OF TIMBER WITH MAXIMUM SPACING OF 36 INCHES, FOR STACKED RETAINERS STAGGER JOINTS 24 INCHES MINIMUM.
2. COMPACT BACKFILL IN 6 INCH LIFTS UNTIL NO VISUAL DISPLACEMENT.
3. ALL FIELD DRILLED HOLES AND CUTS SHALL BE FIELD TREATED.
4. REMOVE AND DISPOSE OF DUFF AND TOP ORGANIC LAYERS DOWN TO MINERAL SOIL.
5. FOR NATIVE STAKES, BEGIN WITH ~4' LENGTH AND CUT THE END AS IT SPLITS WHILE DRIVING. TOTAL FINISHED LENGTH TO BE 3' MINIMUM.

PRESERVATIVE TREATMENT - (REFER TO AWPA USE CATEGORY SYSTEM)			
PRESERVATIVE TYPE	TREATMENT TYPE	USE CATEGORY	COMMENTS
P1	WB	UC4A	
P2	WB	UC3B	
P3	WB	UC4B	

TREATMENT TYPE

WB = WATERBORNE
OT = OIL-BORNE

USE CATEGORY

UC3B = ABOVE GROUND - EXPOSED
UC4A = GROUND CONTACT - GENERAL USE
UC4B = GROUND CONTACT - HEAVY DUTY

USDA

United States Department of Agriculture
Forest Service

R10
ALASKA REGION

STAMPS, LOGOS, AND SEALS

NO.	REVISION / ISSUE	DATE
4		
3		
2		
1		

PROJECT NAME

INHT: WATERFALL TO PTARMIGAN BRIDGES AND TRAIL

CHUGACH NATIONAL FOREST

SEWARD RANGER DISTRICT

DRAWING TITLE

911-03 RETAINER

DATE 2/23/2024 ARCHIVE NO.

DESIGNER TBD

DRAWN H.C.

CHECKED W. BRENNAN

PROJECT NO. 23-ENG-1004-101

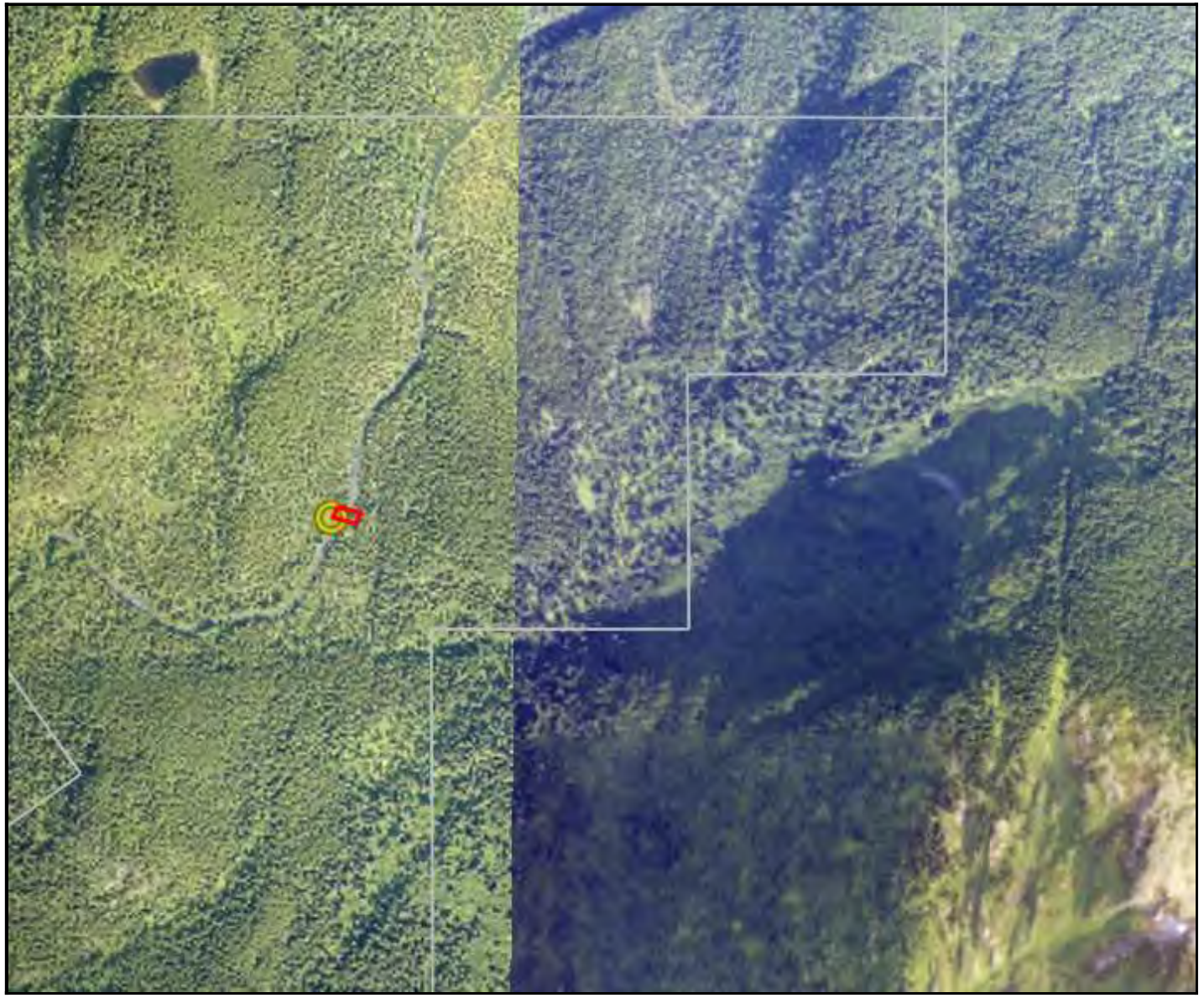
DRAWING SHEET NO. 33

SHEET 33 OF 33

KENAI PENINSULA BOROUGH

Planning

Project Overview and Vicinity Map



0 2000 4000 ft

Ptarmigan Creek Footbridge

Project Area

KPB Parcel(s):

' '

Project Description:

Vicinity: Crown Point

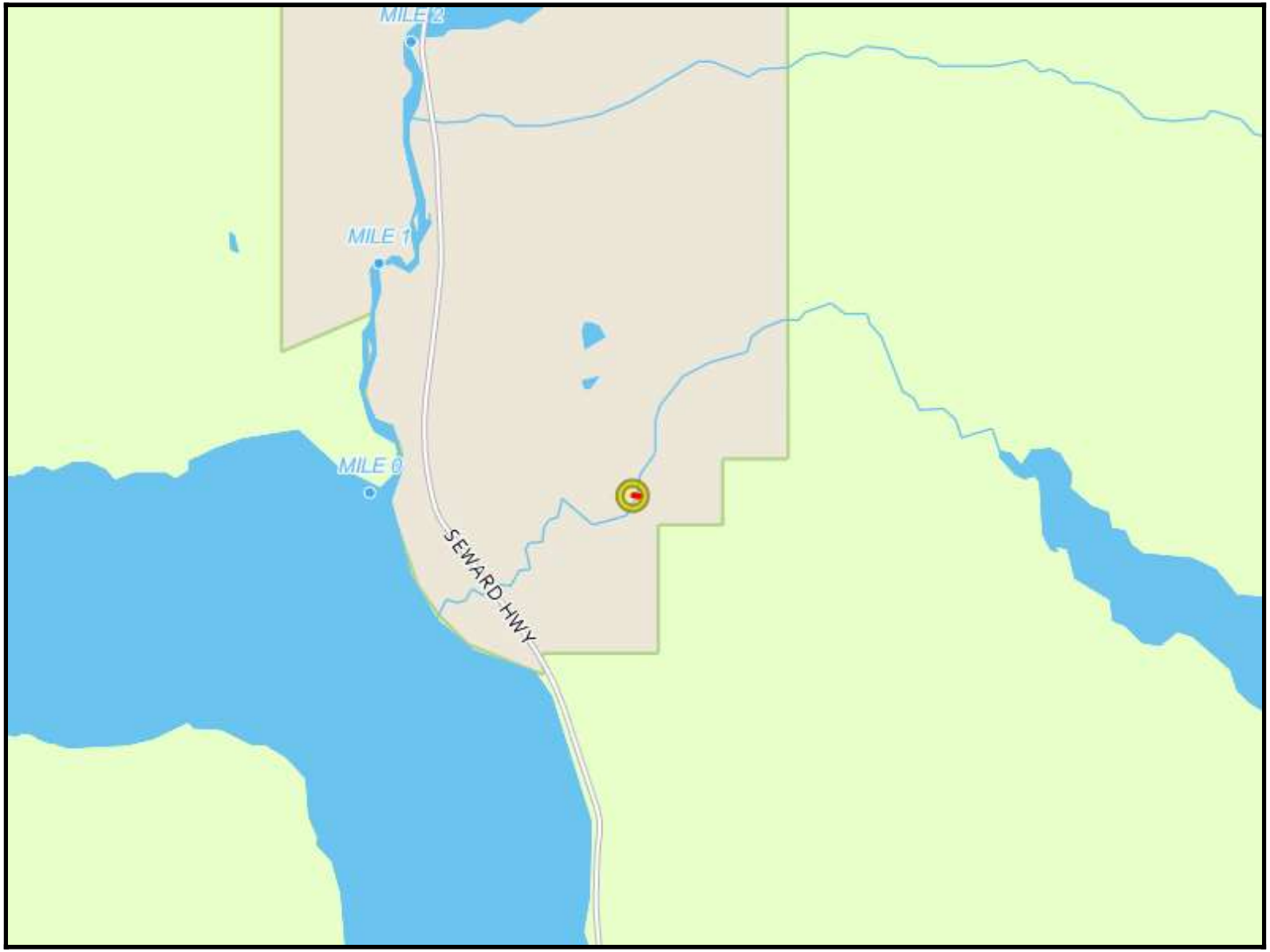
Map created by Aldridge, Morgan
Tuesday, March 12, 2024

KENAI PENINSULA BOROUGH

Planning

Terrain Map

Ptarmigan Creek Footbridge



Project Area

KPB Parcel(s):

, ,

River Miles

Map created by Aldridge, Morga
Tuesday, March 12, 2024

0 1 2 mi

Conditional Use Permit
Anadromous Waters Habitat Protection District
Staff Report

KPB File No.	**2024-05**
Planning Commission Meeting:	**March 25, 2024**
Applicant	**USDA Forest Service**
Mailing Address	**161 W 1st Ave**
	Anchorage AK 5501
Legal Description	**T 4N R 1E SEC 30 SEWARD MERIDIAN SW GOVT LOTS 1 THRU 4 & NE1/4 NE1/4 & W1/2 NE1/4 & E1/2 W1/**
KPB Parcel Number	**12532105**

Project Description

A Conditional Use Permit is sought pursuant to KPB 21.18 for the construction of a foot bridge within the 50-foot Habitat Protection District of the Ptarmigan Creek, as established in KPB 21.18.040.

Background Information

The USDA Forest Service is seeking a permit for installation of a pre-engineered steel trail bridge spanning approximately 80 feet x 5 feet, and for the construction of approximately 2.8 miles of new trail. All abutments to stream banks will be armored with Class I FP-14 rip rap, the armoring will be ~15 cy per abutment (footprint ~200 sq ft/abutment). The approaches and abutments will raise the existing ground ~ 10' for 50' length on either side of this trail bridge. The trees and vegetated debris will be used along the cut slopes and toes of fill to act as a slash filter to trap sediment and prevent excess sediment from flowing into Ptarmigan Creek. The work on the trail bridge and trail bridge approaches within 50 feet of the O.H.W. mark is only expected to last 14 days.

Project Details within the 50-foot Habitat Protection District

1. The bridge will be constructed on steel trusses with estimated lengths of 80 feet by 5 feet.
2. Removal of vegetation as needed to install allowable foundation fill.
3. Approximately 400 square feet of Class I rip rap will be utilized on the abutments of the bridge.

Findings of fact pursuant to KPB 21.18.081 Conditional Use Permit

1. Portions of this proposed project are within the 50-foot habitat protection district as defined by KPB 21.18.040.
2. Pursuant to KPB 21.18.081(B)(5), construction of critical infrastructure may be approved as a conditional structure/use within the habitat protection district.
3. Pursuant to 21.18.081(D) General Standards, staff finds that the proposed project meets the five general standards.
4. Pursuant to KPB 21.18.020(A), this chapter was established to protect and preserve the stability of anadromous fish through controlling shoreline alterations and disturbances along anadromous waters and to preserve nearshore habitat.
5. Pursuant to KPB 21.18.20(B)(5), one purpose of this chapter was established to separate conflicting land uses.

6. The proposed project is consistent with the 2019 Kenai Peninsula Borough Comprehensive Plan and other applicable planning documents and borough code, including the Kenai Peninsula Borough Coastal Management Plan.
7. Pursuant to KPB 21.06.081(D)(3), the proposed work will occur on the applicant's property and shall not have an adverse effect on adjoining properties.
8. Kenai Peninsula Borough Planning Commission Resolution 2015-35 defines water-dependent as:
   "…a use or structure located on, in or adjacent to water areas because the use requires access to the waterbody. The definition is applicable to facilities or activities that must be located at or near the shoreline and within the 50-foot buffer. An activity is considered water dependent if it is dependent on the water as part of the intrinsic nature of its operation. Examples of water dependent facilities may include, but are not limited to, piers, boat ramps, and elevated walkways."
9. The River Center found the application complete and scheduled a public hearing for March 25, 2024.
10. Agency review was distributed on March 6, 2024. No comments or objections have been received from resource agencies to date.
11. Notice of this project was sent to the Moose Pass Advisory Planning Commission on March 21, 2024.
12. Pursuant to KPB 21.11.030, public notice was mailed to all property owners within a radius of 300 feet of the project on March 6, 2024. A total of 2 mailings were sent.
13. Pursuant to KPB 21.11.020, public notice was published in the Peninsula Clarion on March 14, 2024 and March 21, 2024.
14. The applicant is currently in compliance with Borough permits and ordinances.

Permit Conditions

1. Construction techniques and best management practices shall be utilized to ensure that land disturbing activities do not result in runoff or sedimentation to the Ptarmigan Creek.
2. The foot bridge must be designed and installed to meet KPB floodplain requirements.
3. The permittee shall minimize damage to all vegetation and shall revegetate all disturbed areas with native vegetation.
4. For each tree removed, two seedlings less than 5.5-feet tall of a species native to the region will be planted within the 50-foot HPD.
5. Storage or use of fuel is prohibited within 50-feet of any open water.
6. The River Center shall be notified at least 3 days prior to the start of the project.
7. If changes to the approved project described above are proposed prior to or during its siting, construction, or operation, the permittee is required to notify the River Center to determine if additional approval is required.
8. The permittee shall be held responsible for the actions of the contractors, agents, or others who perform work to accomplish the approved plan.
9. The construction or installation phase of this Conditional Use Permit must be completed within two calendar years from the date of the permit's issuance, or the Conditional Use Permit shall expire unless the Planning Commission finds that more time is necessary to effectuate the purposes of this chapter, in which case the commission may extend the deadline for a maximum of six years from the date of issuance. Prior to its expiration date and upon written request, the Planning Director may grant a Conditional Use Permit extension for 12 months (KPB 21.18.081 (H)).
10. In addition to the penalties provided by KPB 21.18.110, and pursuant to KPB 21.50, the permit may be revoked if the permittee fails to comply with the provisions of this chapter or the terms and conditions of a permit issued under this chapter. The Borough Clerk shall provide at least 15 day's written notice to the permittee of a revocation hearing before the hearing officer (KPB 21.18.082).
11. The permittee shall comply with the terms, conditions and requirements of the Kenai Peninsula Borough Code of Ordinances Chapter 21.18, and any regulations adopted pursuant to this chapter.

12. The permittee is responsible for abiding by all other federal, state, and local laws, regulations, and permitting requirements applicable to the project (KPB 21.18.081 (G)).

General Standards

Pursuant to 21.18.081(D) General Standards, the following standards shall be met before conditional use approval may be granted:

1. The use or structure will not cause significant erosion, sedimentation, damage within the habitat protection district, an increase in ground or surface water pollution, and damage to riparian wetlands and riparian ecosystems; **Conditions 1-5 and Finding 2 appear to support this standard.**
2. Granting of the conditional use shall be consistent with the purposes of this chapter, the borough comprehensive plan, other applicable chapters of the borough Code, and other applicable planning documents adopted by the borough; **Conditions 1-3 and Findings 4-8 appear to support this standard.**
3. The development of the use or structure shall not physically damage the adjoining property; **Finding 7 appears to support this standard.**
4. The proposed use or structure is water-dependent; **Finding 8 appears to support this standard.**
5. Applicant's or owner's compliance with other borough permits and ordinance requirements. **Conditions 11-12 and Finding 12 appears to support this standard.**

Attachments

Multi-Agency Application
Draft Resolution 2024-05
Floodplain Memo

Recommendation

Based on the findings, staff finds that the proposed project meets the five general standards of KPB 21.18.081. The Planning Commission could consider additional permit conditions to mitigate for any habitat loss if it chooses.

Staff recommends the Planning Commission grant a Conditional Use Permit for the proposed project details subject to adopted conditions as set forth in 2024-05.

Note: An appeal of a decision of the Planning Commission may be filed to the Hearing Officer, in accordance with the requirements of the Kenai Peninsula Borough Code of Ordinances, Chapter 21.20.250. An appeal must be filed with the Borough Clerk within 15 days of date of the notice of the decision using the proper forms and be accompanied by the filing and records preparation fee.

END OF STAFF REPORT

From: Hindman, Julie
To: Aldridge, Morgan
Subject: Resolution 2024-05 Ptarmigan Creek Footbridge
Date: Wednesday, March 13, 2024 3:14:41 PM
Attachments: image001.png

Good afternoon,

I have reviewed the project and determined the proposed design will comply with KPB Floodplain requirements. If approved by the Planning Commission, a floodplain permit will be issued.

Julie Hindman
Planner – Floodplain Administrator
Donald E. Gilman River Center
KPB Planning Department
907-714-2463

KENAI PENINSULA BOROUGH
514 Funny River Road
Soldotna, Alaska 99669

Donald E. Gilman River Center
514 Funny River Road, Soldotna, Alaska 99669 • (907) 714-2460 • (907) 260-5992 Fax
A Division of the Planning Department

Peter A. Micciche
Borough Mayor

KENAI PENINSULA BOROUGH PLANNING COMMISSION
NOTICE OF PUBLIC HEARING

The Kenai Peninsula Borough received an application for a Conditional Use Permit under KPB 21.18.081 for a project within the 50-foot Habitat Protection District (HPD) of the Ptarmigan Creek. This project has been scheduled for a public hearing before the Kenai Peninsula Borough Planning Commision.

Why are you receiving this notice?

Per code, property owners within 300 feet of the proposed project must receive notice of the public hearing. This project is located in Lawing, Alaska, Parcel ID 12532105. Our records indicate that you are a property owner within 300 feet of that parcel.

Project Description:

The Forest Service is requesting a permit to construct a foot bridge along the Ptarmigan Trail within the 50-foot HPD of the Ptarmigan Creek.

How can you look at the application?

The meeting packet will be posted the week prior to the meeting. Once it has been posted it can be viewed at https://kpb.legistar.com/Calendar or by scanning this QR code with your phone:

How do you attend the Planning Commission meeting?

When: Monday, March 25, 2024 at 7:30 p.m.
Where: This meeting will be held at the George Navarre Building at 144 N Binkley St in Soldotna, in the Betty Glick Assembly Chambers and also electronically via Zoom.
Zoom: Meeting ID 907 714 2200
https://us06web.zoom.us/j/9077142200
1-888-788-0099 or 1-877-853-5247

How do I comment on the project?

You can provide verbal comment at the meeting (see information above). You may also submit written comments. **Written comments must be received by 1:00 pm Friday, March 22, 2024.**

Mail comments to:
Donald E. Gilman River Center
514 Funny River Road
Soldotna, Alaska 99669

Email comments to:
KenaiRivCenter@kpb.us

For additional information, please contact Morgan Aldridge at maldridge@kpb.us or (907) 714-2465.

KENAI PENINSULA BOROUGH PLANNING COMMISSION

RESOLUTION 2024-05

A RESOLUTION GRANTING A CONDITIONAL USE PERMIT PURSUANT TO KPB 21.18 FOR THE CONSTRUCTION OF A FOOTBRIDGE WITHIN THE 50-FOOT HABITAT PROTECTION DISTRICT OF THE PTARMIGAN CREEK.

WHEREAS, Chapter 21.18 provides for the approval of Conditional Use Permits for certain activities within the habitat protection district; and

WHEREAS, KPB 21.18.081 provides that a conditional use permit is required for construction not meeting the standards of KPB 21.18.071; and

WHEREAS, KPB 21.18.091 provides for mitigation measures by the planning department staff to address impacts to the Habitat Protection District from a proposed, ongoing, or completed project; and

WHEREAS, public notice was sent to all property owners within a 300-foot radius of the proposed activity as provided in Section 21.11.030; and

WHEREAS, public notice was published in the Peninsula Clarion on March 14, 2024 and March 21, 2024 as provided in Section 21.11.020; and

WHEREAS, public testimony was received at the March 25, 2024 meeting of the Kenai Peninsula Borough Planning Commission;

NOW, THEREFORE, BE IT RESOLVED BY THE PLANNING COMMISSION OF THE KENAI PENINSULA BOROUGH:

That the Planning Commission makes the following findings of fact pursuant to KPB 21.18:

Section 1. Project Details Within the 50-foot Habitat Protection District

1. The bridge will be constructed on steel trusses with estimated lengths of 80 feet by 5 feet.
2. Removal of vegetation as needed to install allowable foundation fill.
3. Approximately 400 square feet of Class I rip rap will be utilized on the abutments of the bridge.

Section 2. Findings of fact pursuant to KPB 21.18.081

1. Portions of this proposed project are within the 50-foot habitat protection district as defined by KPB 21.18.040.
2. Pursuant to KPB 21.18.081(B)(5), construction of critical infrastructure may be approved as a conditional structure/use within the habitat protection district.
3. Pursuant to 21.18.081(D) General Standards, staff finds that the proposed project meets the five general standards.

4. Pursuant to KPB 21.18.020(A), this chapter was established to protect and preserve the stability of anadromous fish through controlling shoreline alterations and disturbances along anadromous waters and to preserve nearshore habitat.
5. Pursuant to KPB 21.18.20(B)(5), one purpose of this chapter was established to separate conflicting land uses.
6. The proposed project is consistent with the 2019 Kenai Peninsula Borough Comprehensive Plan and other applicable planning documents and borough code, including the Kenai Peninsula Borough Coastal Management Plan.
7. Pursuant to KPB 21.06.081(D)(3), the proposed work will occur on the applicant's property and shall not have an adverse effect on adjoining properties.
8. Kenai Peninsula Borough Planning Commission Resolution 2015-35 defines water-dependent as:

   "…a use or structure located on, in or adjacent to water areas because the use requires access to the waterbody. The definition is applicable to facilities or activities that must be located at or near the shoreline and within the 50-foot buffer. An activity is considered water dependent if it is dependent on the water as part of the intrinsic nature of its operation. Examples of water dependent facilities may include, but are not limited to, piers, boat ramps, and elevated walkways."
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12. Pursuant to KPB 21.11.030, public notice was mailed to all property owners within a radius of 300 feet of the project on March 6, 2024. A total of 2 mailings were sent.
13. Pursuant to KPB 21.11.020, public notice was published in the Peninsula Clarion on March 14, 2024 and March 21, 2024.
14. The applicant is currently in compliance with Borough permits and ordinances.

Section 3. Permit Conditions

1. Construction techniques and best management practices shall be utilized to ensure that land disturbing activities do not result in runoff or sedimentation to the Ptarmigan Creek.
2. The foot bridge must be designed and installed to meet KPB floodplain requirements.
3. The permittee shall minimize damage to all vegetation and shall revegetate all disturbed areas with native vegetation.
4. For each tree removed, two seedlings less than 5.5-feet tall of a species native to the region will be planted within the 50-foot HPD.
5. Storage or use of fuel is prohibited within 50-feet of any open water.
6. The River Center shall be notified at least 3 days prior to the start of the project.
7. If changes to the approved project described above are proposed prior to or during its siting, construction, or operation, the permittee is required to notify the River Center to determine if additional approval is required.
8. The permittee shall be held responsible for the actions of the contractors, agents, or others who perform work to accomplish the approved plan.
9. The construction or installation phase of this Conditional Use Permit must be completed within two calendar years from the date of the permit's issuance, or the Conditional Use Permit shall expire unless the Planning Commission finds that more time is necessary to effectuate the

purposes of this chapter, in which case the commission may extend the deadline for a maximum of six years from the date of issuance. Prior to its expiration date and upon written request, the Planning Director may grant a Conditional Use Permit extension for 12 months (KPB 21.18.081 (H)).

10. In addition to the penalties provided by KPB 21.18.110, and pursuant to KPB 21.50, the permit may be revoked if the permittee fails to comply with the provisions of this chapter or the terms and conditions of a permit issued under this chapter. The Borough Clerk shall provide at least 15 day's written notice to the permittee of a revocation hearing before the hearing officer (KPB 21.18.082).
11. The permittee shall comply with the terms, conditions and requirements of the Kenai Peninsula Borough Code of Ordinances Chapter 21.18, and any regulations adopted pursuant to this chapter.
12. The permittee is responsible for abiding by all other federal, state, and local laws, regulations, and permitting requirements applicable to the project (KPB 21.18.081 (G)).

Section 4. Pursuant to 21.18.081(D) General Standards, the following standards shall be met before conditional use approval may be granted:

1. The use or structure will not cause significant erosion, sedimentation, damage within the habitat protection district, an increase in ground or surface water pollution, and damage to riparian wetlands and riparian ecosystems; **Conditions 1-5 and Finding 2 appear to support this standard.**
2. Granting of the conditional use shall be consistent with the purposes of this chapter, the borough comprehensive plan, other applicable chapters of the borough Code, and other applicable planning documents adopted by the borough; **Conditions 1-3 and Findings 4-8 appear to support this standard.**
3. The development of the use or structure shall not physically damage the adjoining property; **Finding 7 appears to support this standard.**
4. The proposed use or structure is water-dependent; **Finding 8 appears to support this standard.**
5. Applicant's or owner's compliance with other borough permits and ordinance requirements. **Conditions 11-12 and Finding 14 appears to support this standard.**

THIS CONDITIONAL USE PERMIT EFFECTIVE ON _____ DAY OF_____, 2024.

_____
Jeremy Brantley, Chairperson
Planning Commission

ATTEST:

_____
Ann Shirnberg
Administrative Assistant

Note: An appeal of a decision of the Planning Commission may be filed to the hearing officer, in accordance with the requirements of the KPB Code of Ordinances, Chapter 21.20.250. An appeal must be filed with the Borough Clerk within 15 days of date of the notice of the decision using the proper forms and be accompanied by the filing and records preparation fee.