

LOWER SOUTH FORK MCKENZIE RIVER VALLEY RECONNECTION PROJECT PHASE 3



Request for Proposals for:

Lower South Fork McKenzie River Valley Reconnection Project Phase 3

Proposals due by 1/12/2026, 5:00 PM

Submit Proposals to lara@mckenziawc.org

Address RFP questions to:

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1.0 PROPOSED ACTION

The McKenzie Watershed Alliance (MWA), USDA Forest Service (USFS), McKenzie River Trust (MRT), and Eugene Water & Electric Board (EWEB) are proposing to restore 335 acres/1.8 miles of the lower South Fork McKenzie River valley to a hydrologically connected stream-wetland corridor in the lower South Fork McKenzie River sub-watershed. The project area, located off FS Road 1900, extends approximately 1.8 miles from a USFS bridge crossing over the South Fork downstream to the top of the Phase 2 project area to the east and its confluence with the McKenzie River to the north, near river mile 6. The project coordinates are 44.1595711177005, -122.26622520825. The project is located 4 miles northeast of the unincorporated community of Blue River ([Figure 1](#)). The project will take place on public lands managed by the USFS McKenzie River Ranger District. Floodplain restoration actions include: (1) regrading portions of the valley to fill incised channels, (2) placement of large wood and fine woody material (i.e. slash), (3) mechanically clearing non-native invasive vegetation throughout the project area and (4) site rehabilitation. The project will excavate approximately 160,000 cubic yards of artificial and natural sediment deposits within the South Fork floodplain and redistribute the sediment within incised South Fork channels to raise the stream bed elevation and hydrologically reconnect the valley bottom. Redistributing sediment would “reset” elevations in a way that allows multiple channels to form across the valley bottom (even at base flow) and allows a large portion of the valley to be wetted again during high flows. Approximately 7,000 pieces of wood and 3,500 cubic yards of slash will be added throughout the valley bottom to provide surface roughness and dissipate stream energy, an essential component of stream and floodplain function and habitat formation. Invasive vegetation will be mechanically cleared throughout the project area to allow for future planting and maintenance activities to occur. Following all other activities, all disturbed areas will be rehabilitated and seeded.

The design approach is modeled off valley bottom reconnection projects that have been implemented on previous project phases on the South Fork McKenzie River (Phase 1 in 2018 and Phase 2 in 2019), Finn Rock Reach on the McKenzie River, Quartz Creek (2025), and Deer Creek, where hydrologic connectivity has been restored to the whole valley bottom by filling incised channels and bringing the water table back up to the pre-disturbance elevation. This fully connected, anastomosing condition is referred to as “Stage 0”. The primary goal of the project is to restore the physical, chemical, and biological processes that once maintained a healthy and resilient ecosystem and enhance critical habitat for federally listed threatened Upper Willamette spring Chinook salmon and bull trout, and other native species.

2.0 PROJECT BACKGROUND AND OVERVIEW

The project area is characterized by a relatively low gradient (~1.5%), unconfined alluvial valley, 400-2,000 feet wide. The South Fork McKenzie River is a primarily single-thread, incised channel (up to 13 feet deep) that is disconnected from its floodplain with high velocities and coarse substrates (cobble/boulder dominant). The South Fork McKenzie River originates in the High Cascades and Three Sisters Wilderness, where base flows are primarily driven by snowmelt and spring fed tributary streams. Historically, South Fork peak sustained flows usually occurred in winter and early spring months as a result of heavy rain and/or rain-on-snow events, however natural flows have been significantly altered by the construction of Cougar Dam and Reservoir in 1963. Currently, summer base flows typically range from 200 – 350 cubic feet per second (cfs). The project area is located downstream of Cougar Dam, and the U.S. Army Corps of Engineers (USACE) has agreed to keep downstream flows from Cougar Dam around 300 cfs during project implementation.

The South Fork McKenzie River has a long history of land management activities that include road construction, dam construction, removal of instream wood and beavers, blocking and filling of side channels, draining of the floodplain, riparian and upland logging, and the recent Holiday Farm Fire (2020) that have dramatically altered aquatic habitat and impacted native communities. The once anastomosing, depositional valley has been converted into a primarily single-thread, incised channel with high velocities, coarse substrates, and disconnection of flow from the rest of the valley bottom at most discharges. The conversion from a complex stream-wetland corridor to a simplified “fire hose” transport channel has resulted in significant loss of suitable habitat for native communities, including Endanger Species Act (ESA) listed fishes. Water quality and storage have also been affected by these changes with secondary effects to native plants (i.e., desiccation through loss of water table, conversion to upland plant communities, introduction of non-native weeds) and wildlife.

This Request for Proposals (RFP) focuses on work to be completed between May and September of 2026 with in-water work completed by August 15. Work shall occur within a contiguous period during this timeframe. The preferred work schedule is Monday-Friday, not exceeding 12 hours per day, between the hours of 7 AM and 7 PM with flexibility for time-sensitive extenuating circumstances such as fish salvage. Onsite discussions and meetings with Project managers will occur during the preferred daily work schedule hours unless there are extenuating circumstances. Project elements are detailed in [Section 4.0](#).

TABLE 1. Preferred South Fork Project Timeline

Project Element	Start Date	Estimated Completion Date
Permit and regulatory compliance	Spring 2025	April 2026
RFP solicitation, site visits and bid review	December 2025	January 2026
Contract award and negotiation	January 2026	February 2026
Project implementation	May 2026	August 2026
Site clean-up, demobilization, and road rehabilitation	August 2026	September 2026

TABLE 2. Preferred South Fork Project Implementation Timeline

Project Implementation Element	Start Date	Estimated Completion Date
Mobilization	May 1, 2026	June 15, 2026
Installation of temporary staging sites and access roads; vegetation clearing and stockpiling within cut and fill zones followed by layout/flagging	May 4, 2026	May 22, 2026
Invasive vegetation management (mastication)	May 4, 2026	June 15, 2026
Cut and fill in the dry	May 4, 2026	August 10, 2026
In-water work, including live water crowding; installation of temporary water crossings; sediment redistribution (cut and fill); construction of temporary drivable diversion berms; large wood and slash placement	June 1, 2026 *pending variance	August 7, 2026
Rehabilitation, seeding, and erosion control in disturbed areas	August 3, 2026	August 21, 2026
Final closeout process and rewatering of the valley bottom	August 10, 2026	August 14, 2026
Demobilization from floodplain	August 17, 2026	August 21, 2026

3.0 REQUEST FOR PROPOSALS

The McKenzie Watershed Alliance (MWA) is accepting proposals from qualified applicants to implement the Lower South Fork McKenzie River Valley Reconnection Project (Project). The MWA is the fiscal sponsor of the McKenzie Watershed Council and is the contracting entity for the Project. The MWA, USFS, MRT, and EWEB (Project Management Team) will be on-site to co-manage Project implementation and work directly with the successful applicant on all applicable Project elements. At least two project managers will be onsite and USFS representatives will be available throughout project implementation.

[Section 3.1](#) contains proposal requirements and the requested format. [Section 4.0](#) contains descriptions of each Project element. Additional considerations are outlined in [Sections 5.0](#), [6.0](#), and [7.0](#).

3.1 PROPOSAL REQUIREMENTS AND FORMAT

Bidders shall submit proposals directly to the MWA. Proposals shall include the following information and adhere to the requested general format. The MWA will not consider late proposals, incomplete proposals, or those that do not address each Project element. Complete proposals will include the following:

- Cover Letter ([3.1.1](#))
- Minimum Qualifications and Requirements ([3.1.2](#))
- References ([3.1.3](#))
- Proposed Approach to Project Scope of Work and Timeline ([3.1.4](#))
- Fee Proposal ([3.1.5](#))
- Insurance and Licenses ([3.1.6](#))

The MWA will honor requests to protect any information considered a trade secret or confidential, proprietary information except in accordance with applicable public disclosure laws and/or written permission. The Bidder should label any information contained within the proposal considered a trade secret or confidential, proprietary information with the following:

“This information constitutes a trade secret or confidential, proprietary information and is not to be disclosed except in accordance with applicable public disclosure laws.”

3.1.1 Cover Letter

Proposals shall include a one- or two-page cover letter expressing interest in bidding on the Project and commitment to the obligations described in the RFP. Identify the name of the company, the name of the primary contact, title, office and cell phone number, and email address. Provide information regarding the company size, experience in the region, owned or leased equipment, and area of expertise. An individual with contracting authority is required to sign the letter.

3.1.2 Minimum Qualifications and Requirements (Pass/Fail)

Following are the Minimum Qualifications and Requirements that all Bidders shall meet. Bidders will respond to each of the Minimum Qualifications and Requirements in writing in a brief and concise manner.

Please discuss and/or demonstrate Bidder’s ability to meet each Minimum Qualifications and Requirements criterion:

- All licenses, insurance, and support necessary to perform assigned tasks

- Proposer shall indicate if they have had a contract termination for default in the last five years. NOTE: If a Contractor has had a contract terminated for default in this period, then the Proposer shall submit full details including the other party's name, address and phone number. MWA will evaluate the facts and may, at its sole discretion, reject the proposal on the grounds of proposer's past performance
- The applicant is not included on the "LIST OF CONTRACTORS INELIGIBLE TO RECEIVE PUBLIC WORKS CONTRACTS" according to the Oregon Bureau of Labor and Industries (BOLI) and is not suspended or debarred from doing business with the federal government.
- Ability to provide GPS/GNSS-enabled heavy equipment to accomplish the cut and fill to design elevations, within +/-0.25 ft accuracy.
- Ability to provide all heavy equipment operators with Field Maps accounts for viewing the project maps with updates in real time
- 3-5 years of experience in aquatic restoration involving project management and successful cooperation with non-profit organizations or local, state and/or federal agencies.
- 3-5 years of experience in whole tree harvest (with rootwad) and logjam construction, in which at least 500 pieces of large wood were placed within one construction season.
- 3-5 years of experience in work area isolation and temporary stream crossing installation.
- 3 years of experience in sediment excavation and haul, in which at least 50,000 cubic yards of sediment was excavated and hauled within one construction season.
- 3 projects of relevant work experience. Summaries should include the name of the respective projects, year(s) of operation, location, partners, and a brief project description focused on the applicant's role.

Response to the Minimum Qualifications and Requirements will not receive point values but will be evaluated on a pass or fail basis. Only Bidders that meet all the Minimum Qualifications and Requirements will be evaluated on the content of their response to scored Evaluation Criteria, where point values shall be awarded. MWA does not pre-qualify Bidders; your proposal must show that your firm meets the requirements. MWA will attempt to answer questions or clarify the requirements if needed.

3.1.3 References

Provide contact information for up to three references who can speak to a similar type of work described within this RFP. Provide reference name, affiliation, title, email address, phone numbers, and name and dates of the relevant project(s).

3.1.4 Proposed Approach to Project Scope of Work

Provide a narrative describing how the applicant plans to approach the Project and complete the work within the preferred implementation timeline ([Table 2](#)). The narrative should provide enough detail to demonstrate an understanding of the scope and complexities of the Project. Describe the methods and approach the applicant proposes to complete each Project element, including a general description of tasks, materials, or other elements that factor into mobilization cost.

In addition to a written narrative describing the proposal approach, the proposal must include the following.

- A description of how the proposer will adhere to the preferred Project timeline.

- A proposed weekly work schedule that accounts for the preferred daily work schedule including number of personnel and equipment onsite ([Appendix B2 – Timeline Template](#))
- A list of key personnel, including their title and a brief description of their role and experience. Identify the proposer’s project supervisor.
- If a subcontractor will be used for any portion of the work, include their name and relevant experience. Documentation of subcontracting arrangement required prior to contracting.
- A safety management plan including contractors required rest period, max operator hours, required break periods, morning safety meetings, smoke/AQI thresholds etc. following OSHA guidelines.
- A description of the proposer’s mobile office accommodations and Wi-Fi capabilities including what will be available for the Project Management Team to utilize for Project-related office work.

3.1.5 Fee Proposal

Identify the total proposal fee and subtotals for each of the Project elements outlined in [Section 4.0](#) using the bid sheets in [Appendix C](#). Provide cost-per-hour information for each piece of equipment listed in Appendix C bid sheets ([Table C-8](#)).

3.1.6 Insurance and Licenses

Provide proof of insurance and applicable licenses as outlined in [Section 7.5](#).

3.2 PROPOSAL PROCESS

All applicants are required to complete a mandatory pre-bid consultation with the MWA. The MWA will host pre-bid site consultation visits at the South Fork on 12/15/25 from 10 AM to 1 PM and 12/16/25 from 1 PM to 4 PM. Applicants are required to attend one of these dates. Site visits will include a visit to relevant Project locations and/or photos and discussion. The MWA will not consider proposals from applicants that have not completed a pre-bid consultation.

Applicants may ask questions regarding the Project up until January 7, 2026, at 5:00 pm, after this date and time the MWA will not accept questions (see proposal timeline below). MWA will share relevant applicant questions (with confidentiality) and responses with all applicants by 5:00 pm on January 8, 2026, at the following link: [Addenda / FAQ](#) to provide all interested parties with consistent information regarding the project. Applicants should direct questions regarding this RFP to Lara Colley at the MWA (lara@mckenziewc.org). All questions received will be answered in a timely manner with those asked during the Holiday break (December 19 - January 2) to be answered by January 5, 2026. MWA will share answer responses to questions with all applicants in a shared Google document, to provide all interested parties with consistent information regarding the Project. Question and answer responses will hold confidentiality from who the questions came from.

Interested proposers must submit signed electronic proposals to Lara Colley (lara@mckenziewc.org) by January 12, 2026, prior to 5:00 pm to be considered for review. Any proposals received after this date and time will not be considered. Faxed or mailed proposals will not be considered.

The proposal timeline is as follows:

- RFP Review: 12/4/25 – 1/7/26
- Mandatory pre-bid meetings: 12/15/25 & 12/16/25
- Contractor question cut-off date: 1/7/26
- Bid proposal due date: 1/12/26

- Bidders notified of award decision: 1/15/26

3.3 EVALUATION OF PROPOSALS

An evaluation committee, composed of Project Team staff with relevant Project management experience, will evaluate the proposals received. For the purpose of scoring proposals, each committee member will evaluate each proposal in accordance with the Content and Evaluation Criteria listed below in [Table 3](#). The evaluation committee may seek outside expertise, including but not limited to input from technical advisors, to assist in the evaluation process. The successful applicant shall be selected by the following procedure:

1. An evaluation committee made up of representatives from the Project Team will be appointed to evaluate all submitted written proposals.
2. The MWA will evaluate submitted written proposals for pass/no pass. Passed proposals will be submitted to the evaluation committee.
3. The evaluation committee will score the passed written proposals based on information submitted in the bid according to the evaluation and point factors in the RFP.
4. A shortlist of USFS Project partners who are subject matter experts will be gathered to review MWA committee scoring and recommendations.
5. Final scores, based on the same evaluation criteria, will be determined.

TABLE 3. BID EVALUATION CRITERIA

Content and Evaluation Criteria	Maximum Pages	Maximum Score
Project Timeline and Demonstrated Ability to Meet Timeline	2	30
Project Narrative and Approach to Scope of Work (see requirements in Section 3.1.4)	5	10
Project Examples	10	10
Proposed Project Budget	1	40
Project Team and Organization	4	10
Total		100

The MWA reserves the right to make award decisions without conducting discussions with Bidders regarding proposals. The MWA may initiate clarifying discussions (written or oral) regarding proposals at its discretion for proposals deemed to be within a competitive range. The MWA will provide a phone consultation regarding unsuccessful proposals upon request.

3.4 RESERVATION OF RIGHTS

The MWA reserves the right to award to any Bidder whose proposal, in the opinion of the MWA, is in the best interest of the MWA. The MWA may cancel this RFP process at any time upon finding that it is in the MWA's best interest to do so. The MWA may reject a particular proposal or all proposals upon finding that it is in the MWA's best interest to do so.

3.5 PROTEST OF AWARD

A Bidder may protest the award or intent to award a contract if there is an issue of fact concerning a matter of bias, discrimination or conflict of interest, non-compliance with procedures described in the procurement documents, or MWA policy.

Eligible Bidders protesting award shall follow the procedures described herein. Protests that do not follow these procedures shall not be considered. This protest procedure constitutes the sole administrative remedy available to Bidders.

- a) Protests of award must be received within seven (7) days after issuance of the notice of intent to award the Contract. "Protest of Lower South Fork McKenzie River Valley Reconnection Project Phase 3 RFP" shall be entered in the subject header of the email. MWA will not consider late protests.
- b) All protests must be in writing, signed by the protesting party or an authorized Agent and submitted electronically to the MWA Project Manager listed on page 1. The protest must state all facts and arguments on which the protesting party is basing the protest.
- c) Only protests stipulating an issue of fact concerning a matter of bias, discrimination or conflict of interest, non-compliance with procedures described in the procurement documents, or MWA policy shall be considered. Protests based on procedural matters will not be considered.
- d) MWA's Executive Director will review the protest and will email the protesting party a written response within three (3) business days of receipt of the written protest to the email address provided in the bid. Any written response may be comprised of a determination of the protest, a notice to the protesting party of the need for additional time in which to evaluate the matter, or other notice to the protesting party. The Executive Director's review will be limited to the evaluation of compliance with MWA's policies and procedures, requirements of the ITB and the equal and fair application of MWA's contracting rules. The Executive Director's determination shall be MWA's final decision.

An adversely affected or aggrieved Bidder must exhaust all avenues of administrative review procedures and relief before seeking judicial review of MWA's Contractor selection or Contract Award decision.

3.6 POST-SELECTION NEGOTIATION

After the MWA selects a preferred proposal, the MWA expects to negotiate the details of the prescribed work with the successful Bidder. The Project (The Statement of Work), needed services as documented in the RFP, and Contract price of selected tasks will form the basis of the negotiations. If negotiations fail for any reason, including price, the MWA may choose to cease negotiations and move on with an alternate Bidder to obtain an appropriate contract for needed services.

4.0 PROJECT ELEMENTS

The Project contains five elements which are offered as one contract which may be subcontracted out at the Bidders discretion. These elements include:

1. Harvest and Transport of Wood and Slash ([Section 4.1](#))
 - a. Transport of decked wood and slash from Strube Flat and Langasher Road log yards to floodplain ([Sub-Section 4.1.1](#))
 - b. Harvest of wood and slash in floodplain cut zones ([Sub-Section 4.1.2](#))
2. Floodplain Restoration ([Section 4.2](#))
 - a. Installation and removal of temporary staging sites, access roads, water crossings, and erosion control measures ([Sub-Section 4.2.1](#))
 - b. Vegetation clearing within cut and fill zones and the floodplain ([Sub-Section 4.2.2](#))
 - c. Excavation and transport of floodplain sediment from cut zones to placement in fill zones ([Sub-Section 4.2.3](#))
 - d. Placement and burial of wood and slash throughout the project area ([Sub-Section 4.2.4](#))
 - e. Installation and removal of temporary diversion features; diversion of water; coordination with aquatic organism salvage plan ([Sub-Section 4.2.5](#))
3. Delta Campground Road Decommissioning (FSR 1900400) ([Section 4.3](#))
 - a. Delta Campground Road Bridge Removal ([Section 4.3.1](#))
 - b. Delta Campground Road Culvert Removal ([Section 4.3.2](#))
 - c. Delta Campground Road Trail Conversion ([Section 4.3.3](#))
 - d. Delta Campground Road Subsoiling ([Section 4.3.4](#))
4. Road Use ([Section 4.4](#))
5. Road and Site Rehabilitation ([Section 4.5](#))
6. Mobilization ([Section 4.6](#))
 - a. Mobilization/demobilization ([Sub-Section 4.6.1](#))
 - b. Fire safety ([Sub-Section 4.6.2](#))
 - c. Dust abatement ([Sub-Section 4.6.3](#))

[Section 6](#) and [Section 7](#) contain additional considerations and restrictions pertaining to the completion of the respective Project elements. [Appendix C](#) contains bid sheets directly correlated to each element.

4.1 HARVEST AND TRANSPORT OF WOOD AND SLASH

Wood is divided into the following size class categories:

- Key/Large whole trees or pieces: >24" diameter and >40' long with or without rootwad
- Medium whole trees or pieces: 12-24" diameter and > 40' long with or without rootwad
- Racking whole trees or pieces: 8-12" diameter and >25' long **or** > 8" diameter and 25-40' long with or without rootwad
- Slash: All woody vegetation <25' long or <8" diameter

Wood and slash for the project will be sourced from three onsite areas: (1) the Strube Flat Log Yard ([Figure 4](#), approximately 4,700 pieces), (2) the Langasher Road Log Yard ([Figure 4](#), approximately 300 pieces), and (3) floodplain cut zones ([Figure 2](#)). [Table 5](#) depicts an inventoried estimate of wood quantities from each source location. Some breakage is expected from currently decked wood and wood harvested from cut zones, turning larger size classes into slash; we provide estimates based on 3% breakage for Key and Large pieces, 8% breakage for Medium pieces, and 16% breakage for Racking pieces in [Table 5](#). The wood placement design calls for approximately 7,000 pieces and 3,500 cy of slash, which should be available onsite and in decked locations, even factoring in breakage. If there is excess

wood or slash onsite, it may either be used for rehabilitation of disturbed areas or added to construction wood zones, as directed by the Project Management Team ([Figure 3](#)). Piece sizes have been broken out per zone for all key structures to meet log jam “recipe” (14 pieces per structure) in [Table 6](#). This also includes total pieces needed for lattice + key structures per zone. All other wood from decked locations and floodplain wood sourcing should be placed according to recipe more generally with a mix of key/large, medium, racking, and slash relatively evenly dispersed for lattice placement. **All decked wood and wood harvested from cut zones must be incorporated in the project, no log decks may be left onsite.**

TABLE 5. LARGE WOOD SOURCES AND APPROXIMATE QUANTITIES

Site	Est. Total Pieces	Number of Key Pieces (>32" dbh, >40' long)	Number of Large Pieces (24-32" dbh, >40' long)	Number of Medium Pieces (12-24" dbh, >40' long)	Number of Racking Pieces (8-12" dbh, >25' long or > 8" dbh and 25-40' long)	Volume Slash (cy)
S Fork Log Yards Combined	4996	34	239	3921	802	607
Cut Zones	2143					2900
Sub-Total	7139					3500
Estimated Total with Breakage Factors (-3% Key/Large; -8% Medium; -16% Racking)	6689	33	232	3607	674	3500

*These are estimated, approximate quantities. Size classes are only provided for combined log yard quantities at this time based on completed inventories.

TABLE 6. WOODY MATERIAL QUANTITIES BY CONSTRUCTION ZONE

Construction Zone	Acres	Total Wood Pieces per Zone	Slash (CY) per Zone	Key Structures in Zone	Key Structure Wood Placement per Zone			Lattice Pieces Import Needed per Zone (ESTIMATE)
					Key/Large	Medium	Racking	
1	9.4	294	147	2	4	12	12	-7
2	3.7	126	63	4	8	24	24	46
3	2.0	70	35	3	6	18	18	24
4	29.8	462	231	7	14	42	42	261
5	20.0	644	322	20	40	120	120	290
6	31.3	938	469	10	20	60	60	692
7	8.8	378	189	9	18	54	54	238
8	35.4	1134	567	10	20	60	60	245
9	26.5	1204	602	38	76	228	228	487
10	37.5	1162	581	2	4	12	12	776
11	15.4	588	294	0	0	0	0	337
Total	220	7000	3500	105	210	630	630	3389

*Note: Key structures identified and shown on design maps are approximate locations and may be changed by project managers during implementation and based on floodplain wood availability. Lattice import per zone is from decked locations and is based on estimated floodplain wood availability in corresponding cut zones. All key structure pieces are expected to be imported from deck locations.

4.1.1 Transport of decked wood and slash from Strube Flat and Langasher Road log yards to floodplain

A stockpile of wood harvested during 2023 and 2024 has been decked in two locations in the Project area, referred to as Strube Flat log yard, adjacent to NF Road 1900, and Langasher Road log yard, located on a small landing on NF Road 1900-408, 389 spur ([Figure 4](#)). Approximately 5,000 pieces of wood and 600 cy of slash ([Table 5](#)) will be transported from Strube Flat and Langasher Road log yard locations to placement sites throughout the project area. There are two log deck locations at Strube Flat, one larger deck (Strube A) near NF Road 1900-410 and 1900-438 junction, and one smaller deck (Strube B) to the southeast ([Figure 4](#)). The Strube B log deck will need to be hauled first and as soon as possible (by July 1st), since this portion of Strube Flat is a designated Fire Camp area and may need to be used during fire season. The Strube A and Langasher Road log yards are designated staging areas for this project and may be used during the entire project implementation period. Proposals should account for the need to reorganize and move wood around at the log yards in order to access and haul off specified wood to placement sites. Contractor shall follow Forest Service erosion control and road maintenance standards in staging areas to avoid runoff. All bucked ends of wood must be roughed up or broken to achieve a natural appearance prior to placement in the floodplain.

4.1.2 Harvest of wood and slash in floodplain cut zones

It is estimated that approximately 2,000 wood pieces (40-50 ft lengths) and 2,900 cy of slash will be harvested from up to 39 acres of floodplain cut zones ([Figure 2](#)). Wood may be down or standing and will be hauled or skidded to wood placement sites throughout the project. All of the trees cleared within cut zones must be pushed over with ground-based equipment to keep the rootwad intact where operationally feasible and each tree kept as long as possible, as long as it is safe to do so. Because of the impacts of the Holiday Farm Fire and the subsequent windthrow, many trees are already uprooted and on the ground, often jack-strawed. Wood may be moved to temporary staging areas (within disturbed areas) throughout the project area to make room for clearing. Slash generated from the cut zones will be stockpiled for placement in logjams or for use in rehabilitation of disturbed areas. Contractor is responsible for clearing all trees and vegetation within cut and fill zones regardless of quantity. Slash is not expected to be created by disturbing additional areas outside of cut/fill zones or access roads, rather using site available slash in wood placement.

Temporary access roads, pre-designated in design ([Figure 3](#)), or any area that will be disturbed by project activities (e.g. cut zones and fill zones) may be used for heavy equipment access and transport of woody material. Boundaries of cut zones will be flagged by the Project Management Team prior to construction and GPS-enabled equipment will also be able to track boundaries.

No harvest of floodplain wood or any ground disturbing activities can occur within designated avoidance areas, to protect cultural and wildlife resources. Avoidance areas will be flagged by the Project Management Team and delineated in Field Maps for contractor reference.

4.2 FLOODPLAIN RESTORATION

4.2.1 Installation of temporary staging sites, access roads, water crossings, and erosion control measures

Up to 4 temporary equipment staging sites (17 acres) and 5 miles of potential access roads have been identified ([Figure 3](#)). In staging sites, vegetation may be cleared as needed and ground may be leveled with heavy equipment. Two of these staging sites (totaling approximately 2.5 acres) are existing cleared log staging areas.

Access roads are largely located within cut and fill zones and preexisting disturbed areas to reduce the disturbance footprint. Any alternative access roads outside of disturbance areas must be approved by Project Manager prior to construction. Main access routes will be cleared and leveled for safe and efficient travel of equipment. Minor access routes for wood placement will be minimally cleared and leveled. Proposals shall include costs associated with temporary road construction, including any lifting or rocking of roads. Alluvium for rocking roads can be found on-site within cut zones. Anywhere temporary roads overlap wetlands, the contractor is responsible for preparing roads for equipment access or haul, including grading and lifting/rocking roads, and protecting wetland soils, with mats or rock, as identified by Project Manager.

Access routes that cross live water will have temporary bridges or culverts installed that allow for fish passage through the duration of construction. If all identified access routes are used, approximately 6-10 temporary bridges/culverts would be installed ([Figure 3](#)). The contractor shall design and construct temporary crossings to pass actual discharge at start of project or at time of construction. Designs, construction materials, and methods must be approved by Project Manager prior to construction. Discharge readings can be obtained from the USGS gauge upstream of the Project area. Partners are in close coordination with the USACE to maintain flow at no more than 300 cfs during the project implementation period. Proposals should include all applicable costs for design, construction, and removal of temporary bridges/culverts. In the proposal narrative, briefly describe the type of structure that will be used (e.g. 40'x20' steel bridge, four 36" plastic culverts, etc.).

Any in-water work must be completed between June 1 and August 15, 2026 (variance dependent). All work must be in compliance with all permits ([Section 7.1](#)). The typical in-water work (IWW) period begins July 1, and June 1 start date is dependent on IWW variance approval.

Proposals shall include a description and cost for erosion control measures that will ensure project activities do not deliver turbid waters to the mainstem McKenzie River and are in full compliance with water quality permits. This is a very important part of this highly visible project. At a minimum, erosion control measures must include the availability of 2 silt curtains and pump(s) onsite. All pumps must be equipped with approved fish screens to avoid mortality. The contractor is responsible for properly managing water and turbidity according to all permits ([Section 7.1](#)).

A DEQ 1200-C NPDES permit regulates stormwater runoff to surface waters from construction activities and is required for all projects in the state affecting one or more acres. The awarded contractor is required to and responsible for obtaining a 1200-C permit for the project, including any related fees. The 1200-C permit includes rules, requirements, and pollution and erosion prevention and control measures. Turbidity readings will be taken remotely by EWEB sondes placed by the Project Management Team.

Upon completion of demobilization, the permit may be transferred to the MWA. Proposals shall reflect the costs to obtain and comply with this permit.

4.2.2 Vegetation clearing within cut and fill zones and the floodplain

Heavy equipment will be used to clear vegetation from an estimated 100 acres within cut zones, fill zones, staging sites, access roads, waste areas, and other locations as needed for operations and invasive vegetation management. Cut zones (39 acres) will be cleared of all vegetation. All trees will be pushed over with heavy equipment to keep the rootwad and full length intact and set aside for later placement. Shrubs, small trees, and other slash material will also be staged and incorporated into constructed logjams and wood lattice.

Much of the project area has non-native and invasive vegetation, including scotch broom, Himalayan blackberry and reed canary grass. When stands of invasive vegetation are encountered within cut zones or other identified treatment areas (see below), contractors will excavate the top 2-3 feet of soil, haul to upland waste areas and cover with at least 3 feet of sediment.

The Project Management Team has identified approximately 60 “leave islands” in cut zones with live conifers, cottonwoods, old growth snags, willow islands, and other desirable vegetation. Vegetation within these areas will be left intact, and all cut/excavation operations will leave soil and sediment in place well beyond the drip lines. Leave islands will serve as a seed source during post-project conditions, help provide shade to reconnected surfaces, and provide hydrological complexity to the post-project channel. Additional leave islands may be identified and flagged by the team during implementation for avoidance where operationally feasible.

In areas outside of designed cut zones, an estimated 61 acres of invasive vegetation mastication is required. This includes:

- Fill zones outside of current mapped wetted area plus a 15-foot buffer,
- A 15-foot buffer outside of all cut zones where equipment may be operating,
- Temporary access roads plus a 15-foot buffer on each side,
- A 30-foot buffer on each side of the Delta campground loop (NF Road 1900-400)
- Approximately 7 acres of additional spot treatments surrounding these areas as identified by Project Managers during implementation.

Total area of invasive vegetation management (including cut zones) is approximately 100 acres. Contractors will be directed to masticate invasive vegetation using heavy equipment (e.g. excavator). The intent will be to reduce the biomass of invasive vegetation and allow access for future herbicide treatments and replanting of native trees and shrubs through a separate contract. If Japanese knotweed is encountered, it will be left in place for later herbicide treatment through a separate contract. If Japanese knotweed or additional species of concern (French broom, American pokeweed, black locust, and bristly locust) are identified during implementation, alert the Project Management Team so these can be avoided or removed. There are no known populations of these species of concern within the project area. The Project Management Team will help identify and flag areas to be treated. The awarded Contractor will be provided a guide to quickly recognize invasive species of concern for removal or avoidance prior to implementation.

For all mechanical removal in areas outside of cut zones, contractors will follow best management practices (BMPs) for riparian restoration established by the Project Management Team and others following the HFF. These BMPs include the following:

- Leave large woody debris for wildlife habitat, organic matter retention and carbon storage.
- Do not leave excessive slash on the ground.
- Do not remove any green or live native vegetation, or large dead snags, except where needed for safety or operational considerations.

If needed for areas inaccessible to heavy equipment, a flail or rotary mower may be used to masticate invasive vegetation. The awarded Contractor may use rotary or flail mow target vegetation using a tractor, skid-steer or excavator-mounted mower or masticator. The mower shall make as few passes as possible to minimize soil disturbance.

4.2.3 Excavation and transport of floodplain sediment from cut zones to placement in fill zones

The Project will remove approximately 160,000 cubic yards (in situ) of artificial and natural sediment deposits from approximately 39 acres over 41 designated cut zones ([Figure 2](#) and [Figure 3](#)). [Table 8](#) lists cut and fill zones aggregated by construction zone, area, and volume. Sediment excavated from cut zones will be redistributed over approximately 30 acres within 51 fill zones. Proposals should articulate the cost for excavation, transport, and placement of sediment. Cut and fill volumes are calculated based on LiDAR analysis and do not account for the expansion or compaction of excavated materials. Any excess material will be ecologically stored either within identified waste areas or other areas on-site approved by the Project Manager. All sediment haul will take place on established roads developed within the project area and not NF Road 1900.

All cut and fill zones will be marked in the field by the Project Management Team prior to implementation, if vegetation doesn't prohibit access, or as heavy equipment clears vegetation. The contractor is required to provide GPS/GNSS-enabled heavy equipment to accomplish the cut and fill within designated boundaries and to design elevations, within +/- 0.25 ft accuracy. The Project Managers will provide a digital surface file to the contractor prior to construction. The contractor will meet onsite with Project Managers prior to project implementation to verify their equipment is accurately reflecting the design. Proposals shall describe your experience with GPS/GNSS-enabled heavy equipment, how you plan to use it on this project, and how many pieces and types of equipment will utilize the technology. There is an official NGS survey benchmark located just outside the project boundary on the NF Road 1900 bridge. The awarded contractor is responsible for establishing elevation control throughout the project area based on the NGS survey benchmark and existing conditions LiDAR, including installing elevation hubs as necessary. Monuments were established in 2015 and 2017 throughout most of the Phase 3 Project area and some of the Delta Campground area. Some of these may have been impacted by Delta Campground Decommissioning. The awarded contractor is responsible for ensuring that finish grade within cut and fill zones is within 0.25 ft of the design elevation. The awarded Contractor will spot check elevations throughout the day as grading work is being completed and will collaborate with the Project Manager for spot checks to ensure accuracy of equipment. Cut and fill zones will not be considered complete until the Project Managers have approved final elevations.

Heavy equipment will excavate designated cut and fill zones to target elevations, which are based on a longitudinal valley slope line called the Geomorphic Grade Line (GGL, Powers et. al. 2018) through the project. The design process creates a sloped plane from the GGL that provides target elevations for anywhere within the valley bottom. Elevations shown in design maps ([Figure 2](#) and [Figure 3](#)) are relative to the GGL. All cut zones will be excavated down to the GGL (0 feet), with the exception of cut zone C42 (cut to surrounding elevation, 4 feet above target) and all fill zones will be filled up to the GGL within + or - 0.5 feet. Additionally, three constructed islands (5 feet above target, 3,124 cubic yards fill) are proposed in the current mainstem to “overfill” the channel and provide island habitat. Constructed islands shall be built with 2:1 slopes to the surrounding fill zone and capped with fines to allow planting. The creation of microtopography is encouraged within cut and fill zones to add heterogeneity. Abundant deep leave pools are incorporated into the design and fill boundaries. The cut/fill zones should be blended into real edges including blending into the existing grade and into the river above and below the project area with no berms or plugs left impeding the flow of water.

As cut sediment is removed, it will either be pushed into fill zones (once dewatered) with dozers, if they are adjacent, or loaded into off-road dump trucks and hauled to designated fill zones or temporary staging areas for fill zones. Filling must be done in no more than 2-foot lifts and must achieve relative compaction of 70-80% (no testing will be conducted, just visual inspection by Project Management Team). Within the NF Road 1900-400 road prism, road fill sediment removed from cut zones (approximately 150 – 200 cubic yards) may not be used as project fill sediment and must be hauled offsite to designated waste areas at Strube Flat.

134 test pits up to 10 feet deep were excavated throughout the valley bottom within proposed cut zones between September 29 and October 6, 2025. On visual inspection of test pits, 66% (89 of 134) test pits were determined to be of suitable for fill material. A substantial portion of suitable material pits consisted of fine-dominant, mixed gravel and cobble with small boulders. Other common materials found consist of sandy loam and organic material. The stratigraphy generally consists of mixed floodplain alluvium. Project Managers may request that the small percentage of unsuitable fill (about 5%) be strategically placed in more appropriate locations.

No mechanical sorting of cut zone sediment sizes is needed for this project. However, to ensure abundant immediately available fish spawning habitat, gravel and small cobbles (0.1 to 4 inches) will be stockpiled by the truck load whenever encountered to be placed in the top 2 feet of fill. Project Managers will identify priority locations for gravel placement and they may require longer than normal haul routes. For bidding purposes, contractor can assume up to 5,000 cubic yards of gravels will be strategically placed. The contractor is also expected to place fill material in a way that minimizes boulders and large cobbles at the target elevation surface; coarser materials should be placed near the bottom of the fill.

Any excess material will be stored outside of the Phase 3 project area for later use in the planned Phase 4 project. Two waste areas (10.5 acres) have been identified ([Figure 3](#)) for weed infested soil and for any excess sediment from cut zones. The campground loop within NF Road 1900-400 can be used for burying invasives as well as staging (10 acres total). The section of NF Road 1900-400 between the bridge and campground loop (0.5 acres total, outside of proposed cut/fill zones) can be capped with up to 2 feet of excess fill (non-weed infested) to allow for future planting, after the road decommissioning subsoiling has been completed. The top 2 feet of waste areas will be capped with weed-free fine

sediment for a favorable planting medium. Cut zones are designed as greater than fill zones to account for maximum volumes but cut and fill is expected to balance more evenly during implementation with addition of leave islands to minimize material that must be wasted. Additional localized waste areas may be identified for excess fill during implementation, such as for slightly overfilling segments of currently active channels, to avoid transport to the large staging area.

Sediment redistribution quantities are summarized in [Table 7](#). Approximate volumes for cut zones and fill zones aggregated by construction zone are show in [Table 8](#).

TABLE 7. SEDIMENT REDISTRIBUTION QUANTITIES

Project Feature	Area (acres)	Volume (cubic yards)
Cut Zones	39	158,226
Fill Zones	30	152,050
Waste Areas	10.5	Up to 6,200

TABLE 8. CUT AND FILL ZONES AND APPROXIMATE VOLUMES (IN SITU)

Construction Zone	Acres	Total Wood Pieces per Zone	Cut Volume (CY) in Zone	Fill Volume (CY) in Zone
1	9.4	294	31851	0
2	3.7	126	2803	-413
3	2.0	70	416	-717
4	29.8	462	13132	-6428
5	20.0	644	6349	-13772
6	31.3	938	8282	-22452
7	8.8	378	1404	-9471
8	35.4	1134	64469	-16754
9	26.5	1204	0	-77157
10	37.5	1162	0	-3248
11	15.4	588	29521	-1638
Total	220	7,000	158,227	-152,050

This bid item is a lump sum quantity to include all sediment distribution necessary to ensure finish grade in all cut and fill zones is within 0.25 feet of the design target elevation and to provide transition to existing grade at 1:1 slopes unless otherwise noted. This includes tying in to existing water surfaces adjacent to the project even if the map stops short. Volumes provided in this RFP are an estimate based on lidar design surfaces which will be provided to the Contractor. It is the Contractor's responsibility to bid appropriately to include all work and to complete field verification of all new and existing conditions prior to starting work. **The lump sum bid should be for cut and fill volumes in situ and the final product of completed cut and fill zones to specs outlined in this scope of work and will not be recalculated for volumes by the truckload. This lump sum line item is non-negotiable during project implementation.**

If a significant design error or changed condition is identified during project implementation, these must be identified by the Contractor in writing immediately prior to undergoing the work, and include adequate supporting documentation.

4.2.4 Placement and burial of wood and slash throughout the project area

Approximately 7,000 pieces of wood and 3,500 cubic yards of slash will be placed throughout the valley bottom ([Figure 3](#)) for an overall wood density of about 30 pieces per acre of fluvial process space (230 acres). Wood placement will provide surface roughness and dissipate stream energy, and is an essential component of stream and floodplain function and habitat formation. All wood will be placed with heavy equipment in the form of designated “key structure” logjams (105 jams total or 1470 pieces) or lattice (designated as total pieces per construction zone, 5530 pieces total) as described above with partially buried pieces that are relatively stable and other pieces weaved into them. Each key structure logjam throughout the project will consist of approximately 2 Key/Large pieces, 6 Medium pieces, 6 Racking pieces and 10 cubic yards of slash ([Table 9](#)). Key structures are shown in approximate locations on design maps, but exact location may be changed by project managers during implementation while retaining the same number of key structures per zone specified in [Table 6](#). Lattice placement should generally follow key recipe (based on size class availability of floodplain wood) to meet total pieces per construction zone identified and approximately 6 cubic yards of slash per 14 pieces of wood placed. All bucked ends will be roughed up to achieve a natural appearance prior to placement in the floodplain.

Managers will provide geo-referenced maps indicating construction zones and general locations of key logjams for use on the contractor's tablet or smartphone in the Field Maps app. Managers will work directly with the contractor during wood placement. The contractor will follow general design guidelines provided by managers including the number of pieces per logjam, placement structure (see below), and the frequency and general locations of logjams across the project area ([Figure 3](#)). Refer to [Appendix B1](#) for additional wood placement design guidelines.

Wood placement will follow several general specifications. Wood placement will seek to maximize wood contact with the target surface and lateral coverage. Design will allow for space to aid with the capture and retention of sized wood moving through the system. Contractors will take intentional steps to ensure that log jams look and function differently from one another. Wood placement will follow the methods described in Appendix B1: Wood Placement Guide with a mix of designated “key structures” in a specific mapped location and “lattice” placement to provide general roughness across the floodplain. Contractors will be required to dig a hole for an initial rootwad or key piece. Additional holes will be dug upstream or downstream for pinner logs to be placed at acute angles. Additional large, medium, or racking pieces can be added at this point at varying angles, with at least one on the channel bed roughly perpendicular to the flow. Then add a third pinner log opposite (up or downstream) of the initial pinner logs. Generally, 30% of the pieces will be partially buried. This percentage may be increased in areas requiring more stability. Smaller racking pieces will be woven into the jam or placed directly upstream to allow them to float into the jam. Slash can be added before, during, or after the larger pieces are placed, but without preventing the larger pieces from contacting the channel bed. [Figure 6](#) shows photo examples of wood placement treatment types.

Wood placement will be done with teams of 1-2 excavators and typically with 1 project manager in close communication. Following training and an observation period from experienced project managers,

heavy equipment operators will be provided with more flexibility to place woody material and complete individual log jams without direct supervision from project managers. This approach has worked well on previous projects and increases efficiency. The awarded Contractor will mark the location of the middle of each completed key logjam in Field Maps for Project Managers to inspect and verify. All key structures will be inspected and recorded by project managers following completion. It is the awarded Contractor's responsibility to track wood by zone and ensure that we have enough wood allocated to each zone throughout the project. It is the contractor's responsibility to place all the wood that is staged and harvested in the floodplain in staging areas for each construction zone. The awarded Contractor shall be responsible for documenting wood count in construction zone staging areas. This will include inventory by designated size class. Based on prior experience this is most easily accomplished while unloading into the staging decks. The contractor will track, verify, and report in writing that the designated volume of wood has been transported and report counts to an MWA project manager. This inventory will be verified by Project Managers before placement of wood begins.

TABLE 9. WOOD MATERIAL QUANTITIES AND SPECIFICATIONS

Wood Class Size	Pieces per Logjam or Volume of Slash (CY)
Key/Large: > 24" diameter and >40' w/ or w/o rootwad	2
Medium: 12-24" diameter and >40' w/ or w/o rootwad	6
Racking: 8-12" diameter and >25' w/ or w/o rootwad	6
Total pieces per logjam	14
Slash: any wood piece <8" diameter or any diameter and <25' long	10

4.2.5 Installation and removal of temporary diversion features; diversion of water; coordination with aquatic organism salvage plan

The Project Management Team has developed preliminary plans that rely upon two methods for dewatering active channels: 1) full channel diversion and 2) channel crowding. All dewatering plans will account for the need to maintain flow to the downstream Phase 1 and 2 project areas while maintaining fish passage and will be reviewed by local ODFW partners. A draft sequence of 12 total diversions are currently planned as shown in [Figure 3-4 \(Water Management Plans\)](#). Contractors may propose changes to these diversion plans for cost or time efficiencies, with Project Management Team approval to review sequencing and feasible fish salvage operations.

Before any fill is placed in active channels, contractors will implement a series of diversions to dewater channels targeted for fill. Partners are in close coordination with the USACE to maintain flow in the South Fork at no more than 300 cfs during the project implementation period. There is a possibility that USACE will have slight variations in projected flows during implementation of the Project but that is unlikely and will be communicated in advance. A drivable diversion berm, constructed roughly 2 feet above the finished-grade surface, will be built parallel to the main channel (construction zone 1) and tied into additional berms and access roads across the valley. These berms provide dry travel corridors for equipment and route surface water from each active segment into the downstream portion of the low-flow channel, keeping downstream segments dewatered until their scheduled closure (filling, wood placement, and rewatering).

When feasible, the mainstem South Fork or active side channel(s) will be fully diverted into existing side

channel(s) or restored floodplain surface. Diversions will be accomplished using “supersacks” filled with local material and placed perpendicular to the flow path in the channel. Once the supersacks begin to divert flow onto the desired diversion surface or channel, heavy equipment will place sediment behind the super sacks to form a temporary earthen dam.

Full channel diversions will likely take place over extended periods of time to allow for enhanced fish escapement. Fish salvage will occur immediately after diversions are completed as water drains from the main channel. After fish salvage, fill operations then proceed down the fill channel in the dry, followed by wood placement. After each segment is completed, diversion berms will be removed, and sediment will be hauled to designated areas. Berm removal must meet finish-grade elevation targets and maintain the designed geomorphic surface.

The series of active side channels within the west end of the Phase 3 project area (D1-D6) will be sequentially dewatered first, with flow “flipped” to other side channels or the mainstem channel. D3 and D4 will need to be kept in place until D5, D6 and D10 are completed on the upstream portions of these side channels. D3 will likely require channel crowding in addition to proposed diversions due to groundwater activation.

For the mainstem South Fork, Project Managers anticipate that at least three full channel diversions (D10, D11 & D12), and three (D7, D8, D9) additional diversions within side channels will take place. These diversions will either redirect flow directly onto the restored floodplain surface (with wood added and filled to the target elevation) or temporarily dewater existing side channels (by blocking flow from the mainstem) so that fill and log placement activities can take place in dry conditions. Diversion berms, access roads, and all super sacks will be removed following the completion of restoration activities in the dewatered areas and as part of the project closeout process, allowing water to flow over all restored surfaces. At finish of closeout, all access has been removed and rehabilitated, wood placed, all surfaces meeting target, and inspected by project managers.

Where full diversion is not feasible, Project Managers may prescribe a “channel crowding” approach where relatively clean cobbles and other larger substrates are placed halfway or two-thirds into the channel by an excavator to form a small berm. As water recedes from the channel behind the small berm, heavy equipment will place sediment to fill the channel to grade, effectively confining the river to a narrow channel. This narrow channel will be filled with sediment after flipping the diversion into restored surfaces.

In two to three locations, partners will examine the feasibility of maintaining a pump to divert water around the fill area to the lower portion of the side channels so that downstream areas remain watered for fish or to allow for fill. The Contractor shall maintain appropriate contingency measures onsite including an appropriately sized pump and a minimum of two silt curtains. Pumps should be available onsite in case they are needed. Pumps should be appropriately sized for the flows in the South Fork and equipped with approved fish screens to avoid mortality.

Fish passage will be maintained throughout construction. Prior to and during stream dewatering, the USFS, MRT, MWA, and partners will be on-site to salvage fish and other aquatic organisms from isolation areas and relocate them to downstream locations. While not directly responsible for fish salvage, the contractor will need to be prepared to coordinate with the MWA, USFS, and ODFW during all aspects of fish salvage. Fish salvage will be conducted throughout the closeout period and for every diversion and dewatering segment.

4.3 DELTA CAMPGROUND ROAD DECOMMISSIONING (NF ROAD 1900-400)

The heavily compacted Delta Campground loop road will be decommissioned to facilitate infiltration after instream work is complete (see [Figure 5](#)). The first 0.3 miles of the road will be converted to a public trail. Work will be completed using heavy machinery such as excavators and dump trucks. Using an excavator bucket, the contractor will decompact soils to a depth of 18-24". All construction materials from bridge and culvert removals are to be disposed of legally off of Government land. Excess road fill from culvert removals may be placed in designated waste areas or hauled off site. Road fill will not be used as an acceptable channel fill material and will be hauled to designated waste areas. Decompaction can only occur when soils are not saturated. The Contractor shall saw cut structures when partial removal is required. Construct structurally adequate debris shields to contain debris within the construction limits. Do not allow debris to enter waterways, travel lanes open to public traffic, or areas designated not to be disturbed. The Contractor shall remove structures and obstructions in the roadbed to 12 inches below subgrade elevation. Remove structures and obstructions outside the roadbed to 12 inches below finished ground or to the natural stream bottom.

4.3.1 Delta Campground Road Bridge Removal

The Contractor shall remove the existing 74' span x 24' width prestressed concrete slab bridge (NF Road 1900-400 milepost 0.8) and abutments. Refer to existing bridge plans ([Figure 8](#)) for materials quantities and details of existing bridge construction. Within bridge footprint, remove road fill and re-grade slopes outside of the existing channel banks at 2:1 slope to meet target elevation in adjacent cut zones. Areas of stream banks that are disturbed should be recontoured to match the surrounding topography. The contractor will remove all concrete, steel, and timber (including fasteners) bridge materials and legally dispose of them. Bridge removal should occur after the corresponding fill zone has been dewatered and fish salvaged from the work site.

4.3.2 Delta Campground Road Culvert Removal

The Contractor shall remove 5 culverts along NF Road 1900-400 from milepost 0.3 – 0.8 during closeout of Delta campground area, as shown in [Figure 5](#). Culverts are corrugated metal pipe between 18-36 inch diameter and approximately 30 feet in length. All culvert removals are located in proposed cut zones along road. Remove road fill to meet target elevation with 2:1 slope to existing grade where applicable. For culvert crossings that are wet with active flow, culvert removals should occur after the corresponding cut or fill zones have been dewatered and fish salvaged from the work site.

4.3.3 Delta Campground Road Trail Conversion

Between milepost 0.0 – 0.3 (proposed trail location), the Contractor shall retain 2 existing culverts (18" and 24" diameter). Clean out pipes and inlets/outlets as needed to ensure flow. Subsoil outer edge of road prism to a depth of 18-24 inches while maintaining the existing road prism at 10-foot width. Existing road prism is approximately 20 feet in width with some pullouts. At culvert locations, remove road fill at 2:1 slope to narrow road to 10 feet total width and transition to existing grade. Cut existing culvert length to 1 foot beyond sloped road fill and bevel edge to match slope. All equipment must operate from existing road prism to avoid ground disturbance in surrounding avoidance area.

4.3.4 Delta Campground Road Subsoiling

For all sections of NF Road 1900-400 not impacted by proposed cut zones, crossing removals, or proposed trail (approximately 1.1 miles total, between milepost 0.3 – 1.8), the Contractor shall subsoil road prism to a depth of 18-24 inches. Existing road prism is approximately 20 feet in width. Cap with excess fill where available to allow for revegetation (fines preferred).

4.4 ROAD USE

Roads used during implementation of the Project include NF Road 1900, 1900-400, 1900-410, 1900-438, 1900-408, and 1900-389 (see [Table 10](#)). There are 2 USFS bridges that will be used during the Project for mobilization and wood haul. USFS Road Use and Bridge permits are discussed in [Section 7.1](#). NF Road 1900 is expected to remain open for use by USFS and the public throughout the duration of construction. NF1900-400 is gated and closed to the public. Contractor is required to follow road use plan set by USFS and any temporary closures or road work must be scheduled at least one week in advance with project manager. Contractor is expected to provide traffic control to keep road open as much as feasible.

Haul will occur during dry weather season May 16 – October 15. Haul will be overseen by Project managers and may be suspended during periods of wet weather. Water may be used for dust abatement on road surfaces if roads become excessively dusty during summer months. The contractor may temporarily block select USFS system roads for public safety while work is occurring. The contractor must reopen roads for emergency vehicle traffic as applicable. [Section 6.0](#) lists additional design features pertaining to applicable Federal, State, and local environmental laws and regulations.

Proposals should include all applicable costs (if any) for traffic control and flagging in [Appendix C](#) bid sheets ([Table C-4](#)).

TABLE 10. ANTICIPATED ROADS USED

Road	Surface	Miles
NF Road 1900 (Aufderheide)	Asphalt	1.2
NF Road 1900-400 (Delta CG Loop)*	Aggregate	1.8
NF Road 1900-410	Asphalt	0.5
NF Road 1900-438	Aggregate	0.1
NF Road 1900-408 (Langasher Rd)	Aggregate	1.4
NF Road 1900-389*	Aggregate	0.2
		Total: 5.2 miles
*No post project road maintenance needed		

4.5 ROAD AND SITE REHABILITATION

Maintenance requirements for USFS system roads used for transport of large wood and equipment delivery will depend upon actual use, observed condition, and road surface type. The Contractor shall repair any damage to the existing road system due to Contractors' operations, inside or outside the work area at the Contractor's expense, prior to the final acceptance by USFS representatives. The Contractor may film or otherwise document road conditions prior to the start of the Project.

The Contractor shall complete the following treatments on all haul routes identified by the USFS and MWA:

- Post haul surface blading and rolling of aggregate roads to a condition to facilitate traffic and provide for proper drainage.
- Post-haul spot rock treatment of high-volume aggregate surface haul roads (estimated treatment to be 100 cubic yards of 1 ½" minus grade gravel)
- Recontour ditch lines to pre-project conditions
- Removal of debris and berms blocking inboard ditches or outboard fill slopes from road edges
- Replace all barricades on roads that were opened up for salvage and transport
- Any asphalt damage due to contractor's operations would need to be repaired as specified by the USFS Road Use Permit.

The Contractor shall return all staging area used for large wood storage, personal accommodations, equipment storage, fueling or repair, and/or other operations to pre-project condition. Treatment shall include removal of all non-native material, subsoiling, and placement of approximately 50% ground coverage of slash, erosion control mulch, and native grass seed to prevent soil erosion. Erosion control mulch and native grass seed will be provided by the USFS or MWA.

Proposals should include all applicable costs for road and site rehabilitation in [Appendix C](#) bid sheets ([Table C-5](#)).

4.6 MOBILIZATION

4.6.1 Mobilization/demobilization

Proposals should include all applicable costs for mobilization to and from the project work site. Within the Project narrative, describe the general costs that the mobilization fee will cover (e.g. transport and cleaning of equipment, travel, lodging, fuel, supervisor wages, sanitary measures, etc.). Mobilization costs should include onsite bathroom facilities and a mobile office with Wi-Fi. Project Managers must inspect all equipment prior to or upon arrival at the project site; if equipment arrives dirty, project managers may require additional cleaning off-site.

In Appendix C bid sheets ([Table C-6](#)), please provide a list of equipment, and hourly costs, that will be mobilized to the project site.

4.6.2 Fire safety

Contractor shall provide due diligence in working with Federal, State or local regulatory agencies to follow any specific rule, statute, notification processes, or fire season requirements while performing the work under this contract. Proposals should include all applicable costs for fire safety precautionary measures consistent with USFS requirements. In the Appendix C bid sheets ([Table C-6](#)), please provide information on tanks and/or trucks to be located on site.

4.6.3 Dust abatement

Dust abatement with water (or other technique pre-approved by Project Manager, in compliance with ARBOII guidelines) will be required when any offsite movement of or excessive dust is detected by the Project Management Team. Based on our experience, we expect dust abatement to occur frequently throughout each day (primarily during clearing, excavating, and hauling activities), on a nearly

continuous basis. Water for dust abatement can be filled from the USFS water tender station on NF RD 1900 across from the Delta Campground Loop Road or drafted onsite with use of approved fish screens. The USFS water tender station is a shared site between the USFS and local fire department, and access may be limited or prohibited during active fires or other times. Proposals should include a plan for a secondary source. Proposals should include all applicable costs for dust abatement during project construction. In the Appendix B bid sheets ([Table C-6](#)), please provide information on equipment and materials to be used.

5.0 CONTRACTOR SUPERVISOR AND FURNISHED ITEMS

The contractor and Project Management Team will function as a team and work together through field meetings, office meetings, and email communication as necessary to successfully complete the Project. Acceptance of work will be determined by the Project Management Team. Nonconformance with any specification will classify the work as unsatisfactory and rework will be required to bring the work up to the engineering standards in the contract drawings and specifications. The contractor shall maintain a complete copy of the contract, drawings, and specifications available on-site at all times, for use by the contractor and the contractor's employees, and to provide for reference in discussions with the Project Management Team.

5.1 CONTRACTOR SUPERVISOR REQUIREMENTS

The Contractor will provide an on-site supervisor to be physically present throughout Project implementation. The supervisor will serve as the point of contact for MWA, USFS, MRT, and EWEB Project managers and will be responsible for daily check-ins and meetings upon request. The supervisor will ensure Project managers are included in daily morning briefing meetings and discussions regarding design and decision making and will send an end of day text message to the Project management team summarizing work that was completed. The on-site supervisor must be identified within the proposal.

The Contractor shall provide radios to all employees and the entire Project Management Team for effective communication and to provide for safety.

5.2 CONTRACTOR FURNISHED ITEMS

The Contractor will provide all equipment, repair parts, and materials/supplies to perform contract work according to specification.

5.2.1 Contractor Furnished Equipment

Equipment includes, but is not limited to:

- Heavy equipment required to complete the Project
- Petroleum, oils, lubricants (biodegradable/vegetable oil mandatory; the Contractor may select preferred type)
- Hand tools
- Equipment repair parts
- Safety equipment
- Spill containment kit for each piece of heavy equipment
- Fire extinguishing tools and tanker equipment to meet federal IFPL requirements
- Mobile office with Wi-Fi capabilities that can be utilized by the Project Management Team

5.2.2 Contractor Furnished Permits and Plans

The contractor is responsible for obtaining necessary permits for transporting heavy equipment to the Project site (e.g. ODOT permits, Oregon Department of Forestry Notification of Operations and Permit to Use Fire or Power-Driven Machinery, USFS bridge weight permits, and DEQ 1200-C NPDES permit.)

6.0 ADDITIONAL PROJECT DESIGN FEATURES

All actions shall adhere to identified design features including the following specifications:

- The contractor shall clean all equipment used off the road prior to starting work. Project managers shall inspect all off-road equipment prior to arrival at the project site. In addition, for instream work, all equipment will be cleaned of petroleum accumulations, dirt, and leaks repaired prior to entering the project area.
- The Project shall use existing landings, temporary haul roads, and old primary skid roads as much as possible prior to disturbing new areas.
- Avoid staging project materials and logs in weed patches or invasive infestation areas. If not possible, apply weed free mulch or barrier in staging areas prior to use.
- All temporary roads shall be hydrologically stable if not used during periods of wet weather. All temporary roads will be decommissioned after project completion, which may include blocking entrance, removal of temporary crossings, out sloping road surface, installation of water bars, out sloping the road surface, and/or subsoiling of compacted surfaces when necessary.
- Obtain gravel for road construction and maintenance from a weed free rock source. Rock sources will be inspected by a qualified weed inspector.
- All haul of sediment and cut material will take place on established roads developed within the project area and not on NF Road 1900.
- The contractor shall subsoil all landings, temporary haul roads, and primary skid roads to a depth of 18-24 inches at the completion of project activities.
- All areas of disturbed soil shall be covered with certified weed free straw and or onsite slash to inhibit erosion.
- Seed areas of exposed soil related to staging areas, landings, decommissioned roads, and temporary haul roads with native species, certified weed free, from either local sources or from warmer/drier parts of its range.
- Construction or maintenance of roads will not occur when soils are saturated or run-off occurs.
- Hauling on native surface roads is restricted when soils are saturated or run-off occurs.
- The contractor shall maintain all haul roads in stable condition. Project managers will monitor wet weather hauling and may suspend operations if deemed necessary.
- NF Road 1900 and 1900-408 may have one lane closed periodically to allow for Project work to occur. However, the road must be kept open to public, commercial, and emergency traffic using traffic control. Any road closures must comply with state and federal regulations allowing for passage of traffic as well as with USFS Road Use Permit.
- On NF Road 1900, log haul should be avoided on weekends and holidays when possible.
- Prior to implementation, post advance notice when activities may impact recreational opportunities at the NF Road 1900 entrance bulletin board, and other locations as directed by the Project Management Team.
- At the completion of project activities, reopened roads and any new temporary roads shall be closed (stored) or decommissioned as directed.

- Ground-based equipment used for yarding, processing or other project activities will occur only when soils are relatively dry where water is not pooling. Stop work if any trenching or rutting is detected. Operations will be suspended before precipitation events results in offsite movement of sediment into drainage courses.
- The contractor shall protect, to the best extent possible, residual and reserve trees adjacent to floodplain harvest areas during treatment.
- The contractor shall leave existing downed wood habitat and snags in place, except in cases where it is an operational safety hazard or within a designated route or area.
- If Northern spotted owls are seen in the project area during implementation, the Project Manager must be notified immediately, and the individual(s) must be protected in coordination with the McKenzie River Ranger District wildlife biologist.
- If harlequin ducks are found during project implementation, notify the Project Management Team, who will notify a McKenzie River Ranger District wildlife biologist.
- If active, occupied osprey nests are identified within the project area, all heavy equipment use is restricted March 1 to July 31 within 65 yards of an active nest. The Project Management Team will provide avoidance areas if active nests are identified prior to implementation.
- To protect Lewis's woodpecker nests, a 65 yard no treatment buffer (no tree removal, no mechanical activities) will apply around known active nests, from April 1 to July 31. The Project Management Team will provide avoidance areas that apply to this seasonal restriction. This seasonal restriction may be waived if the territory is surveyed by a wildlife biologist and found to be unoccupied during implementation.
- If previously undocumented raptor nests (e.g. bald eagle) are found during project implementation, notify the Project Management Team immediately. The McKenzie River Ranger District wildlife biologist will be notified and project modifications may be needed to protect the nest site.
- If western pond turtles or nests are discovered during project implementation, immediately stop work and notify the Project Management Team. The McKenzie River Ranger District wildlife biologist will be notified and further direction will be provided in order to reduce impacts to western pond turtles.
- If cultural resources are identified during project implementation (inadvertent discovery) all work would cease immediately in that area until the situation is reviewed by the McKenzie River Ranger District Archaeologist and an assessment and mitigation plan is instituted.
- The Contractor shall leave the completed project site in a hydrologically stable condition with erosion prevention measures required by the DEQ 1200-C NPDES permit in place.
- Surface water may be diverted to meet construction needs, only if developed sources are unavailable or inadequate. Since ESA-listed fish may be present, diversions may not exceed 10% of available flow and fish screens will be installed and maintained, as approved by the Project Management Team.
- Since ESA-listed are present, when diverting water by pump or gravity, do not exceed a rate of 3 cfs. If diversion rates are expected to exceed 3 cfs, notify the Project Management Team in advance of project implementation (at least 120 days before implementation), as this action would need to be individually reviewed and approved by NMFS in advance.
- Fish screens on pumps must meet the following NMFS specifications:(a) An automated cleaning device with a minimum effective surface area of 2.5 square feet per cfs, and a nominal maximum approach velocity of 0.4 feet per second (fps), or no automated cleaning device, a minimum effective surface area of 1 square foot per cfs, and a nominal maximum approach rate of 0.2 fps; and (b) a round or square screen mesh that is no larger than 2.38 mm (0.094") in the

narrow dimension, or any other shape that is no larger than 1.75 mm (0.069") in the narrow dimension.

- If lignosulfonate is used for dust abatement, one application will occur during the dry season (July/August/September) at a dilution rate of 50 percent lignin sulfate and 50 percent water. Lignosulfonate will remain on the road surface and not go over road edge. During blading, small berms could be created or wattles used at stream crossings to assist with keeping palliatives on the road surface. A one foot no application buffer on the edge of gravel will be used if road width allows. Lignosulfonate will not be applied when raining and when possible, a 3 day forecast of clear weather will follow application.

7.0 ADDITIONAL REQUIREMENTS AND CONDITIONS

7.1 PERMITS

Required permits will be provided to the Contractor prior to the start of work. Project partners have or will obtain required permits for the Project including Clean Water Act Section 404 Fill/Removal Permit, Oregon DEQ Section 401 Water Quality Certification, DSL and USACE Standard Individual Fill/Removal Permit. Prior to project implementation, partners will have completed all required consultation with National Marine Fisheries Service and U.S. Fish and Wildlife Service for affected ESA-listed species under the programmatic Aquatic Restoration Biological Opinion (ARBOII). The ODFW In-Water Work Period is July 1 – August 15. Partners are seeking an In-Water Work Variance from ODFW and the Services to begin June 1, but that has not yet been approved. Partners will monitor turbidity during In-Water Work in accordance with the 401 Permit, and the contractor should be prepared to temporarily shut down operations when the permit thresholds are exceeded.

The MWA and USFS will work with the successful applicant to obtain a USFS Bridge Permit for oversized vehicles used during the Project and development of a USFS Road Use and Traffic Control Plan. In order to expedite the bridge permitting process, all equipment details must be included on the bid form ([Appendix C](#)).

A DEQ 1200-C NPDES permit will be obtained by the successful applicant prior to work and project partners with CESCL Certification will assume monitoring responsibilities post-project.

The Contractor will keep a copy of relevant permits on site during the Project.

7.2 SPILL PREVENTION, CONTROL, AND COUNTERMEASURE

The Contractor will adhere to all applicable Federal, State, and local environmental protection laws and regulations. Any maintenance work, equipment repairs, and refueling of equipment will be completed at fueling stations located in the equipment staging site or existing roads. Equipment furnished will be free from any leakage of petroleum products. Excessive leakage will be a basis for issuing an immediate shutdown of operations. Equipment will be inspected daily for fluid leaks before leaving the staging area for operation.

The Contractor is responsible for developing a spill prevention, control, and countermeasure (SPCC) plan. The Contractor will submit the SPCC to the MWA at least two days prior to commencing work. The MWA may either accept the plan or work with the Contractor to modify the SPCC plan. Upon request, an example of an SPCC plan may be provided to the Contractor. The SPCC should contain the following information:

1. Response priorities
2. Contractor representative in charge
3. Duties of Contractor personnel
4. Contractor emergency response procedures
5. Contents of a Spill Containment Kit.

The SPCC should also list and describe any hazardous material that would be used at the Project site including procedures for inventory, storage, handling, monitoring, notification procedures, specific clean-up and disposal instructions, proposed methods for disposal of spilled material, and employee training for spill containment. The Contractor will maintain a Spill Containment Kit (SCK) on site as described in the SPCC during any operation and provide training to employees on how components of the SCK are used. The SCK must be designed for use with petroleum products.

The Contractor will report any spill or discovery of existing hazardous substances (i.e. petroleum products) immediately to Project managers. The Contractor will attempt to absorb, neutralize, or otherwise control the spill at the time of release or discovery. Project managers may halt on-the-ground activities within the immediate area depending on the scope of the emergency.

7.3 FIRE PRECAUTIONS

The Contractor will adhere to all State of Oregon and applicable Federal fire prevention laws. Fire restrictions may result in limited hours of equipment operations at the worksite including the use of gasoline vehicles and power tools. The Contractor is responsible for providing any equipment required by the Oregon Department of Forestry. Smoking or flaming materials are not allowed on the Project site or nearby areas with significant fuel loads during fire season.

7.4 ENVIRONMENTAL SAFETY

Project Managers will follow OSHA guidance for work site safety, wildfire smoke, air quality, and heat safety.

7.5 INSURANCE REQUIREMENTS

The Contractor will maintain the minimum of the insurance coverages below and provide MWA with certification prior to initiation of work. The Contractor will carry Commercial General Liability Insurance in the amount of \$1,000,000 per occurrence; \$2,000,000 in the aggregate. The Contractor will also carry automobile insurance with limits equal to the minimum required by the State of Oregon. The Contractor will comply with the Oregon Worker's Compensation law by qualifying as a carrier-insured employer or as a self-insured employer and will comply with all other applicable provisions of such law. The successful applicant must provide proof of Commercial General Liability Insurance with McKenzie Watershed Alliance, it's divisions, officers and employees listed as additionally insured prior to any implementation of the Project.

7.6 BONDING

The Contractor will provide a performance bond and payment bond in a sum equal to the full contract price, and a public works bond. The completed bond forms must be supplied to MWA prior to final execution of the Agreement and commencement of work. The Contractor shall promptly notify the

Surety company of any changes to the Agreement that impact time allowed for completion and/or an increase to the total compensation of the Agreement.

7.7 PREVAILING WAGE

The Project is subject to State of Oregon Prevailing Wage Rate Law and must comply with all aspects of the law and reporting requirements. The Contractor employing workers on a public works Project must pay to such workers no less than the applicable prevailing rate of wage for each trade or occupation, as determined by the commissioner, in which the workers are employed. Additionally, all wages due and owing to the workers shall be paid on the regular payday established and maintained under ORS 652.120; OAR 839-025-0035(1). Public works includes but is not limited to “Roads, highways, buildings, structures and improvements of all types, the construction, reconstruction or major renovation of which is carried on or contracted for by any public agency to serve the public interest.” OAR 839-025-0004(20). For more information, Prevailing Wage Laws and requirements including certified payroll consult: https://www.oregon.gov/boli/whd/pwr/pages/w_pwr_pwrbk.aspx or BOLI at 971-673-0761.

7.8 PAYMENT

Contract(s) between the MWA and the successful Bidder will establish a not-to-exceed amount, based on agreed-upon negotiations, that is within the funding constraints of the MWA. The Contractor may invoice for progress payments on a predetermined basis, not to exceed monthly, during the duration of the contract. The MWA shall make payments within 45 days of receipt and approval of invoice by the MWA. The MWA is unable to provide advance payment for any portion of the work

7.9 BUILD AMERICA, BUY AMERICAN

The Project is subject to the Infrastructure Investment and Jobs Act(“IIJA”), Pub.L. No. 117-58, which includes the Build American, Buy American (BABA) Act, Pub. L. No. 117-58, §§ 70901-52 and OMB M-22-11, recipients of an award of Federal financial assistance from the Department of Commerce (DOC) are hereby notified that none of the funds provided under this award may be used for a Project for infrastructure unless:

1. All iron and steel used in the Project are produced in the United States—this means all manufacturing processes, from the initial melting stage through the application of coatings, occurred in the United States;
2. All manufactured products used in the Project are produced in the United States—this means the manufactured product was manufactured in the United States; and the cost of the components of the manufactured product that are mined, produced, or manufactured in the United States is greater than 55 percent of the total cost of all components of the manufactured product, unless another standard for determining the minimum amount of domestic content of the manufactured product has been established under applicable law or regulation; and
3. All construction materials are manufactured in the United States—this means that all manufacturing processes for the construction material occurred in the United States.

The Buy America preference only applies to articles, materials, and supplies that are consumed in, incorporated into, or affixed to an infrastructure project. As such, it does not apply to tools, equipment, and supplies, such as temporary scaffolding, brought to the construction site and removed at or before the completion of the infrastructure project. Nor does a Buy America preference apply to equipment and furnishings, such as movable chairs, desks, and portable computer equipment, that are used at or within the finished infrastructure project but are not an integral part of the structure or permanently

affixed to the infrastructure project. Further information on the NIST/MEP supplier scouting services is available at: <https://www.nist.gov/mep/supplier-scouting> .

APPENDIX A MAPS, FIGURES AND PHOTOS

Figure 1. South Fork Context Map

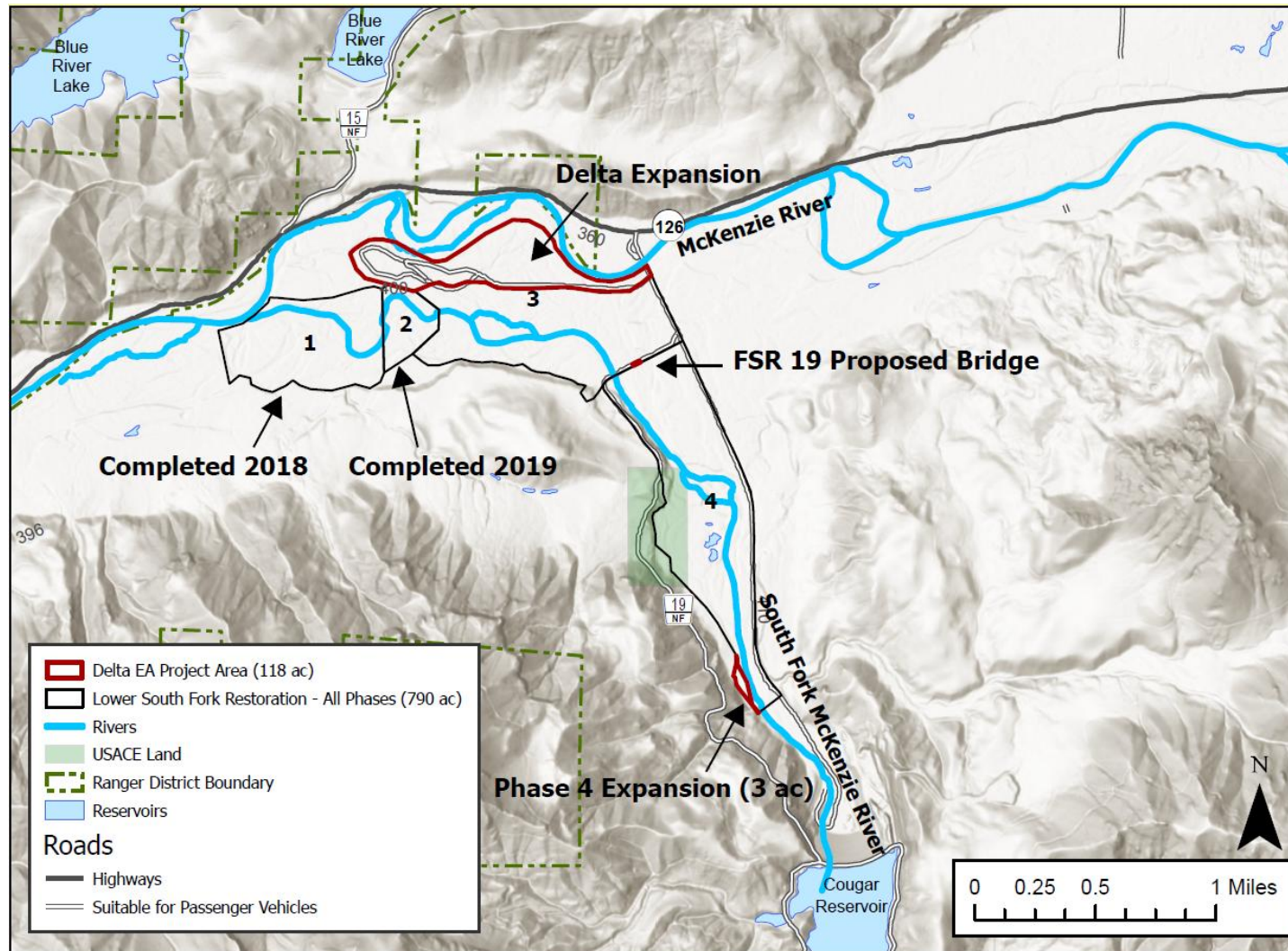


Figure 2. South Fork 90% Design Map

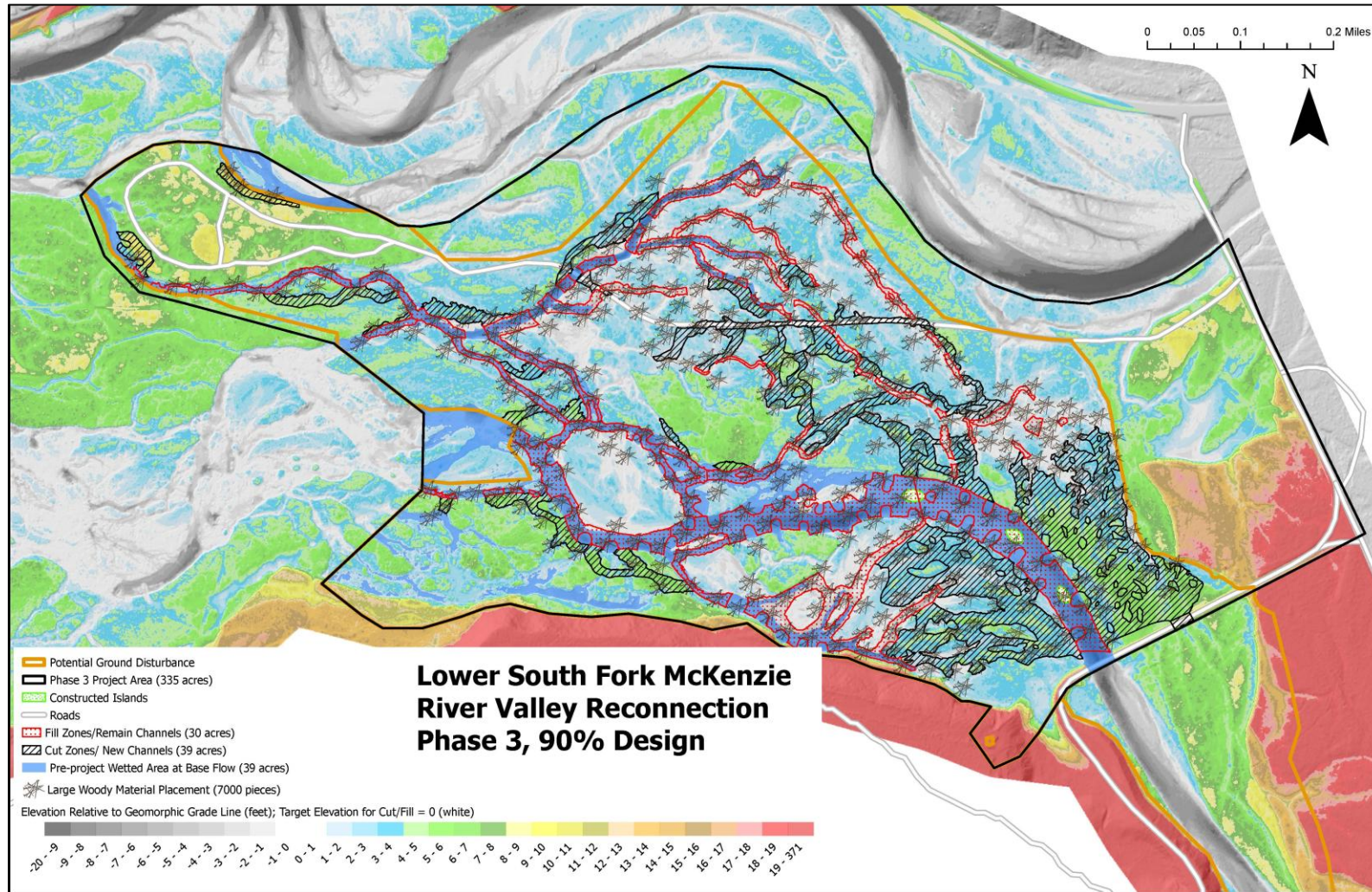


Figure 3. South Fork Construction Plan Maps

Available as a separate document via the McKenzie Watershed Council website: <https://www.mckenziwc.org/requests-for-proposals/>

Figure 3-1 Existing Conditions and Index

Figure 3-2 Proposed Ortho

Figure 3-3 Proposed REM

Figure 3-4 Water Management Plans

Figure 4. South Fork Wood Locations and Haul Routes Map

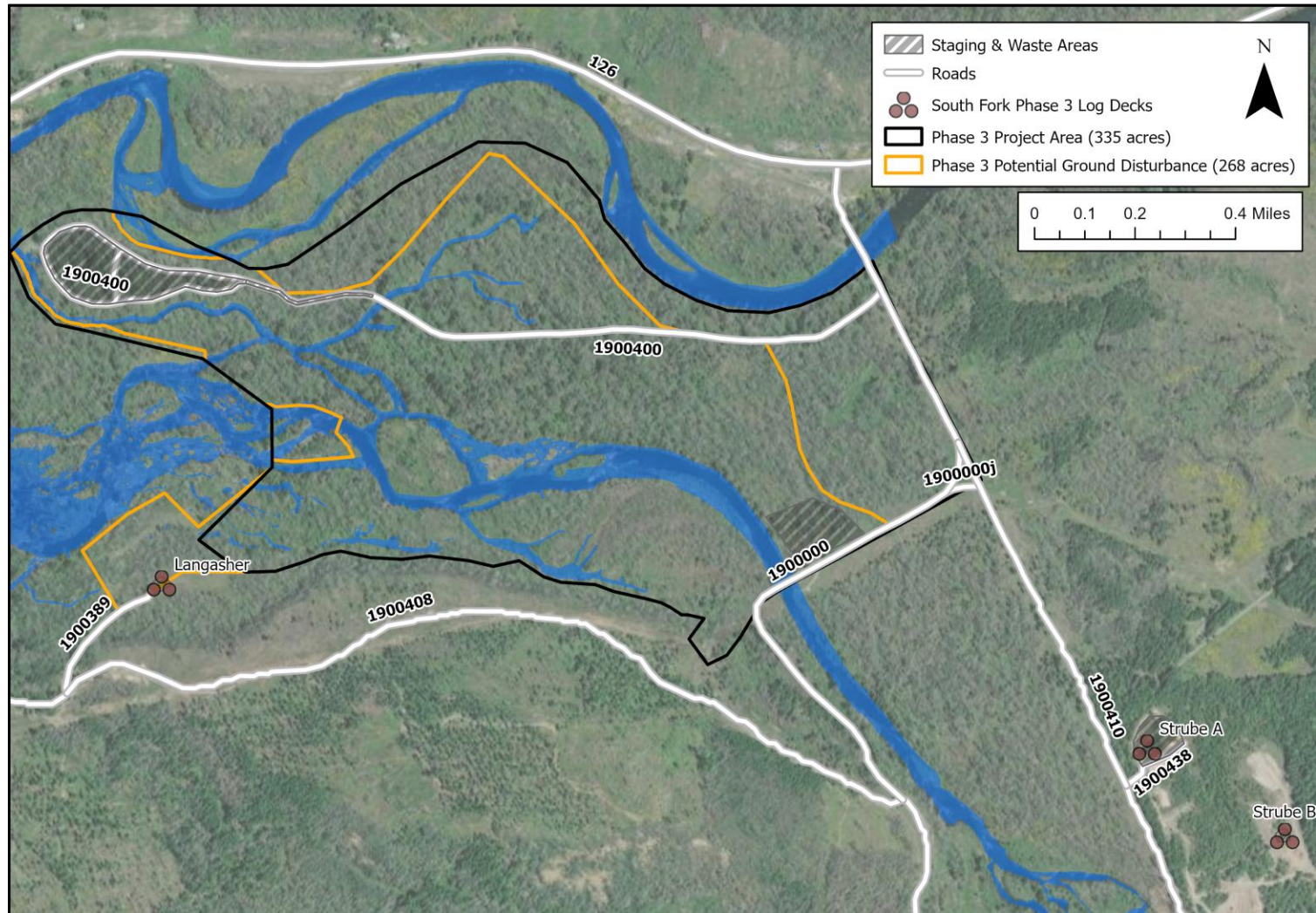


Figure 5. Delta Campground Road Decommissioning Map

*Note: Two culverts along trail conversion section are to be retained.

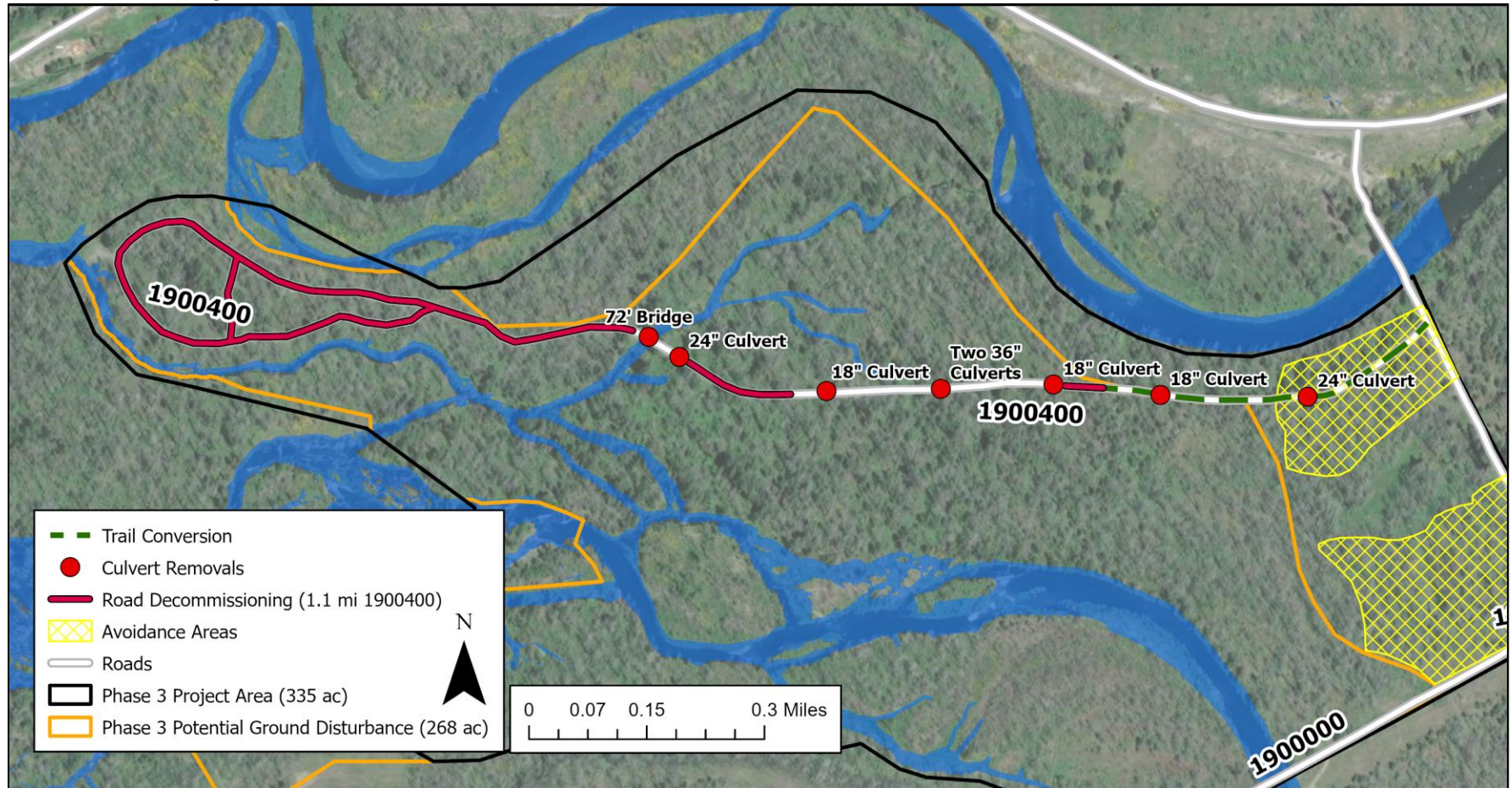


Figure 6. Wood Placement Example Photos from Quartz Creek







Figure 7. South Fork Photos

Photo 1. Looking upstream at Phase 3 project Area from top of Phase 2



Photo 2. Looking upstream at Phase 3 project area



Photo 3. Looking downstream at Phase 1&2 treated project area and confluence with McKenzie River

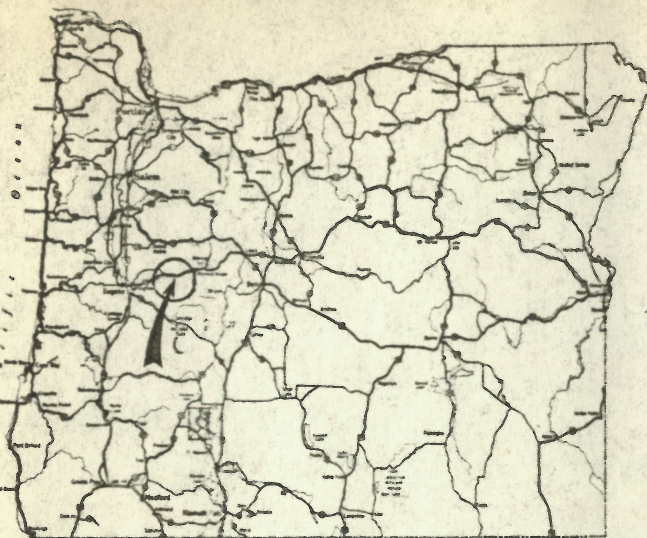


Photo 4. Looking downstream at Phase 1 project confluence with McKenzie River



Figure 8. Delta Bridge Plans

Also available on the MWA website at the following link:
<https://www.mckenziwc.org/requests-for-proposals/>



KEY MAP OF OREGON SHOWING LOCATION OF PROJECT

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE — REGION SIX

WILLAMETTE NATIONAL FOREST
BLUE RIVER RANGER DISTRICT

PLANS FOR PROPOSED

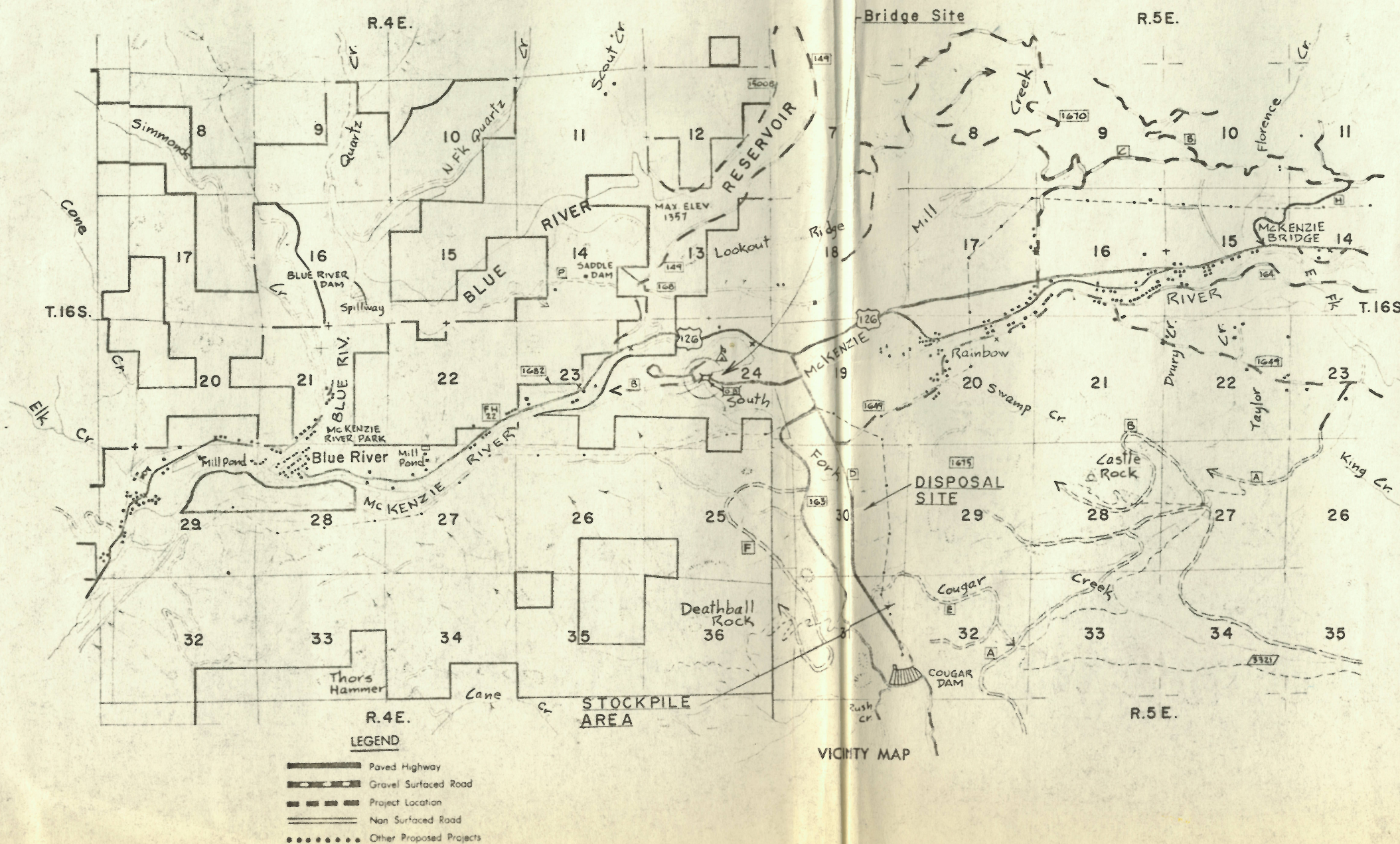
DELTA BRIDGE

PROJECT NAME

PROJECT NUMBER 163 S-0.8

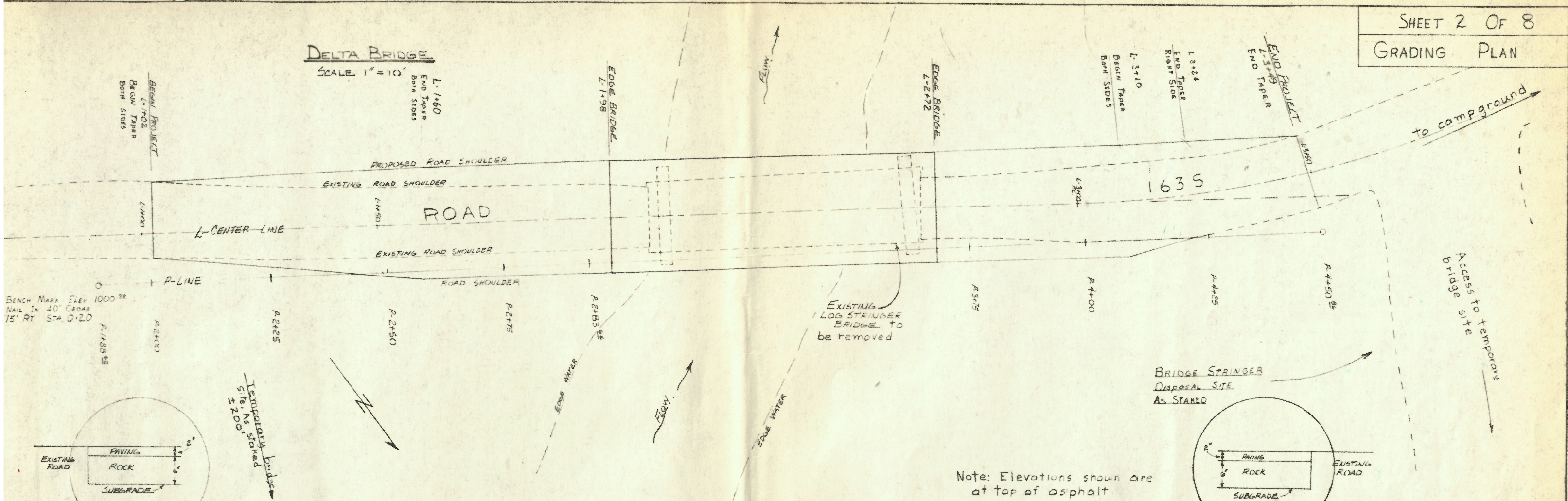
TYPE OF WORK BRIDGE CONST.

INDEX TO SHEETS		
SHEET NO.	DRAWING NO.	DESCRIPTION
1	R-34083	TITLE
2	"	GRADING PLAN
3	"	PLAN & ELEVATION
4	"	DECK PLAN
5	"	ABUTMENT PLAN & ELEV.
6	"	END BEAM " "
7	"	PRESTRESSED GIRDERS
8	S-231	STEEL BRIDGE RAIL



SUBMITTED BY:	
<i>Phil B. Kew</i>	May 7, 1974
BRIDGE ENGINEER	DATE
RECOMMENDED BY:	
<i>R. D. [Signature]</i>	5/1/74
REGIONAL ENGINEER	DATE
APPROVED BY:	
<i>[Signature]</i>	5/1/74
FOREST SUPERVISOR	DATE

DELTA BRIDGE
SCALE 1" = 10'



GENERAL NOTES:

SPECIFICATIONS: Construction, Forest Service Standard Specifications for Construction of Roads and Bridges 1972; Design, A.A.S.H.O. Standard Specifications for Highway Bridges, 1973

DEAD LOAD: Concrete and asphaltic concrete, 150 Lbs. per cu. ft. No allowance for future paving. Earth pressure equivalent to a fluid weighing 40 Lbs. per cu. ft.

LIVE LOAD: HS 20-44 Loading. Impact $I = \frac{50}{L+25}$ (L = Span Length). Maximum I = 30%

UNIT STRESSES: Concrete in prestressed girders shall have the following 28 day design strength: $f'_c = 6,000$ psi. Minimum indicated concrete stress at transfer of prestress $f_{ci} = 5,000$ psi. Ultimate strength of $\frac{1}{2}$ " ϕ seven wire prestressing strand shall be 41,300 Lbs., minimum $f_s = 269,800$ psi. Allowable stress in Class "A" concrete $f_c = 1,200$ psi, based on an assumed 28 day design strength of 3,000 psi. Allowable stress in reinforcing steel: $f_s = 20,000$ psi. $n = 10$.

CONCRETE: Concrete in prestressed girders shall be Class "D" with 1" maximum size coarse aggregate. All other concrete shall be Class "A" with $\frac{1}{2}$ " maximum size coarse aggregate. An approved air entraining admixture shall be used in all concrete. All concrete shall be vibrated. Chamfer exposed edges of all concrete $\frac{3}{4}$ " unless otherwise shown. No additive containing calcium chloride shall be used in any concrete. High early strength cement may be used.

FINISHING CONCRETE: The following surfaces shall be given a "Rubbed Finish": all faces of curbs and exposed surfaces of endwings to one foot below the slope line. All other surfaces shall be given an "Ordinary Surface Finish."

REINFORCING STEEL: All bars shall conform to A.S.T.M. Spec A615, Grade 40. The minimum covering to the face of any bar shall be 2" unless otherwise shown. Bar sizes *4 thru *9 shall be spliced 24 bar diameters, larger bars shall be spliced as shown on the plans. Bar splices other than those shown on the plans will not be paid for. Substructure reinforcing shall not be fabricated until actual footing elevations have been established in the field.

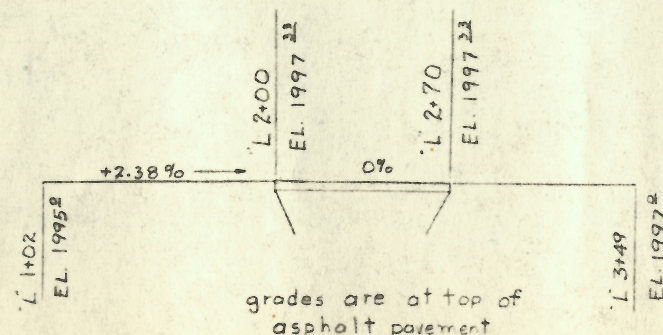
PRESTRESSING STEEL: Pretensioned prestressing steel shall be 270K, $\frac{1}{2}$ " ϕ seven wire bright prestressing strand conforming to ASTM Spec A416. Each strand shall be pretensioned to a total load of 28,910 Lbs., $f_s = 0.7 f'_s = 188,800$ psi. The estimated losses and the final effective prestress force per strand are 7,990 Lbs and 20,920 Lbs.

PRESTRESSED CONCRETE GIRDERS: Prestressed girders shall be manufactured as detailed on the plans. All concrete, including reinforcing steel, prestressing steel, elastomeric bearing pads, lifting devices, and any other materials required for their manufacture or erection shall be included in the contract price, complete in place, per each, for "Prestressed Concrete Structural Members". Elastomeric bearing pads shall be Grade 70 pads conforming to the requirements of Section 717.13 of the specifications.

STRUCTURAL STEEL: Structural steel for bearing plates, anchor bolts, and drains shall conform to ASTM. A36. Cost of furnishing, fabricating, and installing shall be included in the bid item "Structural Concrete". All structural steel items shall be galvanized after fabrication.

PROFILE GRADE

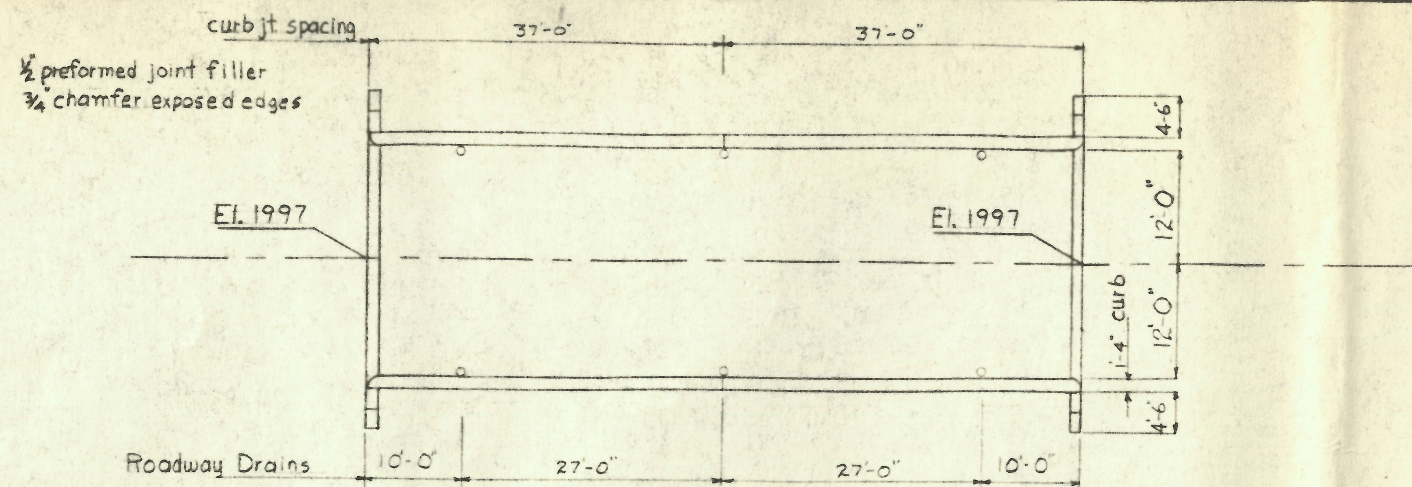
Not to Scale



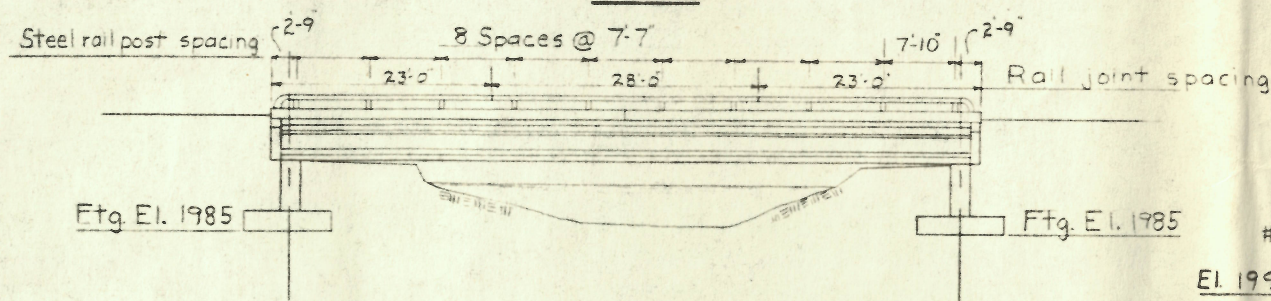
U. S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
REGION SIX

WILLAMETTE
NATIONAL FOREST
DELTA BRIDGE
PLAN & ELEVATION

BRIDGE NO. 1635-0.8 LOADING HS-20
DESIGNED BY DATE 5/1/77
APPROVED DATE 5/1/77
BRIDGE ENGINEER

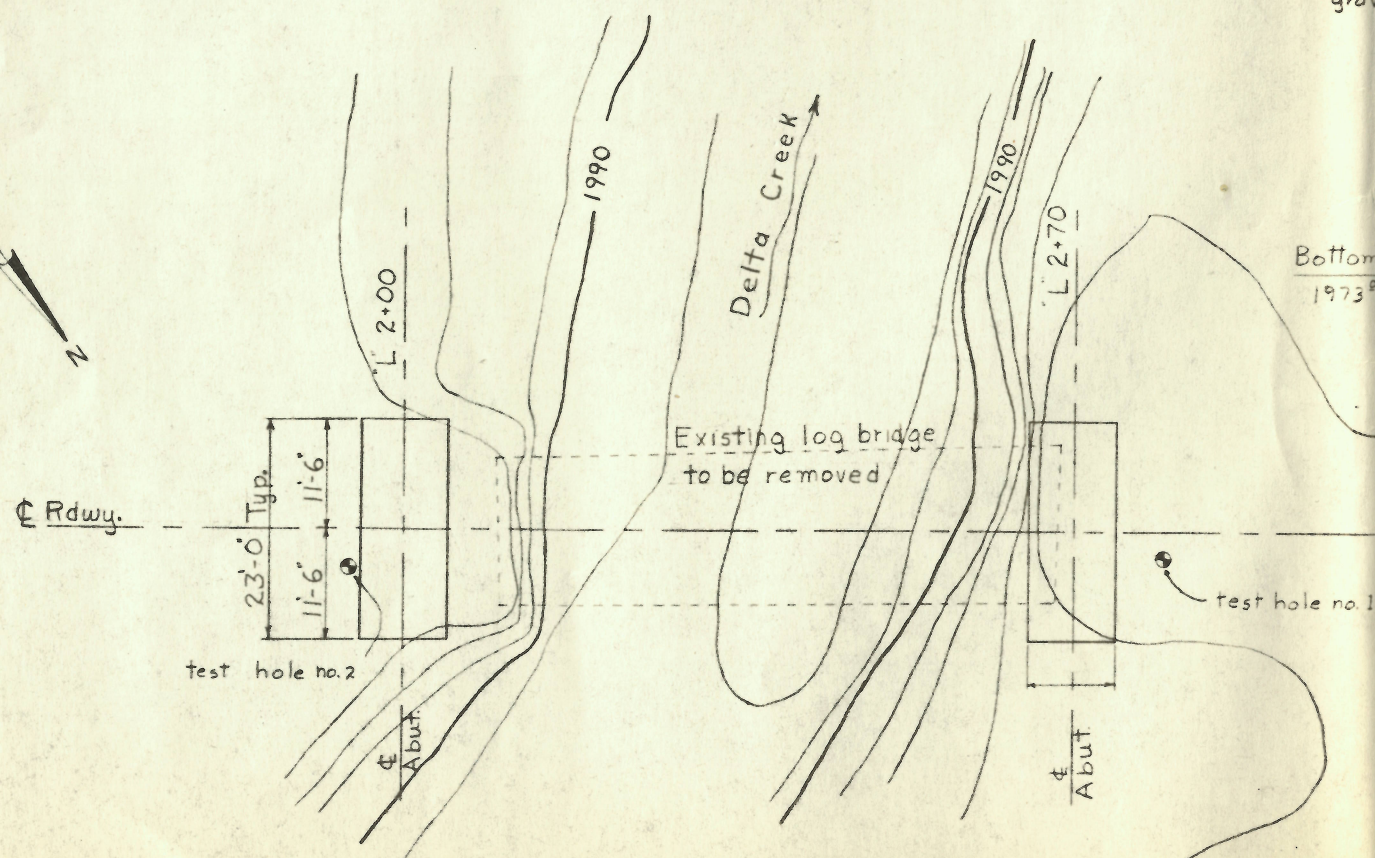
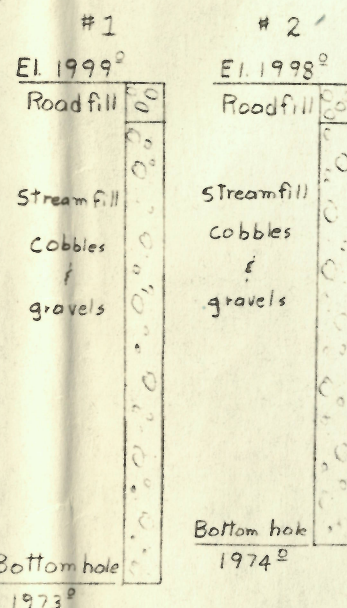


PLAN

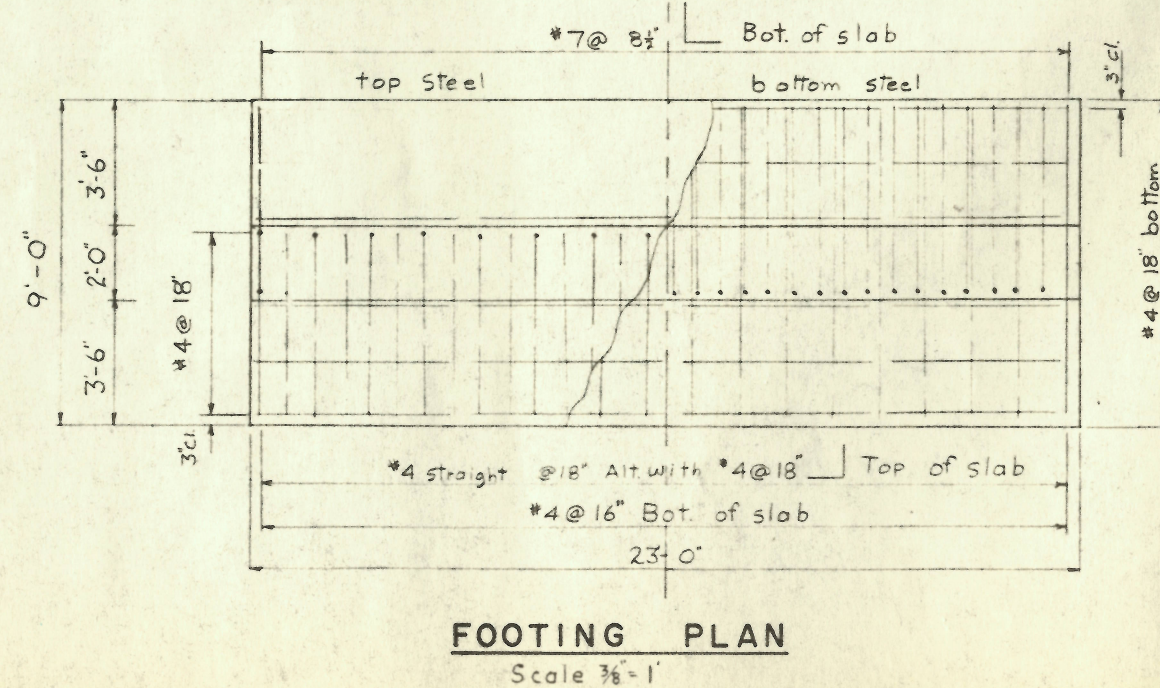
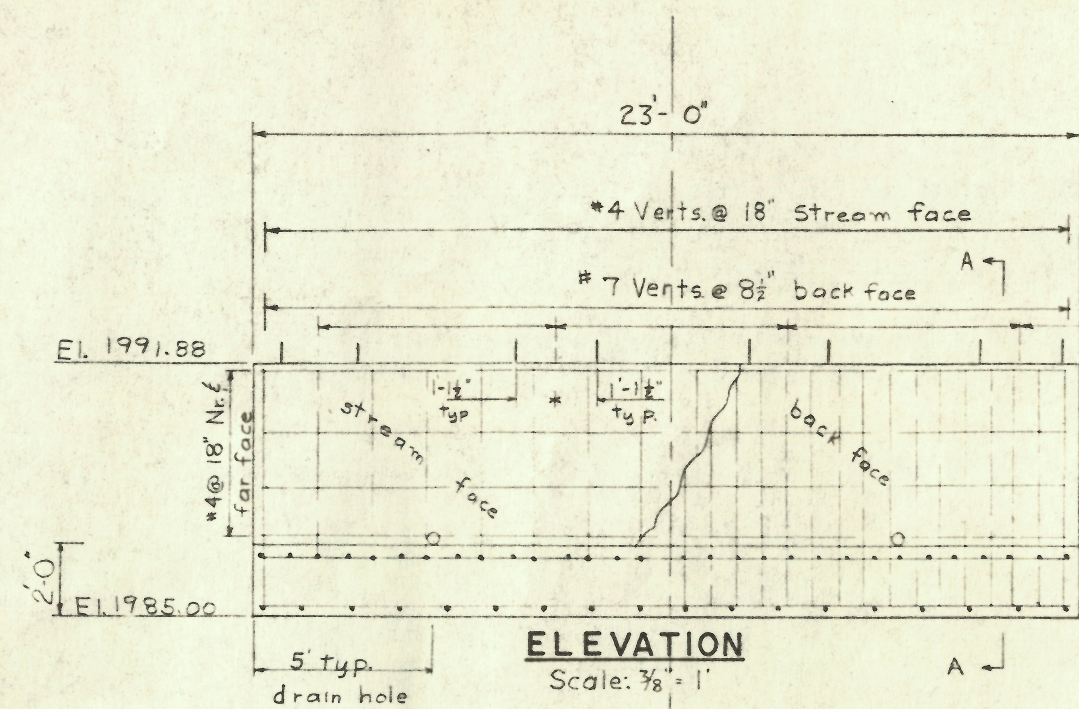


ELEVATION

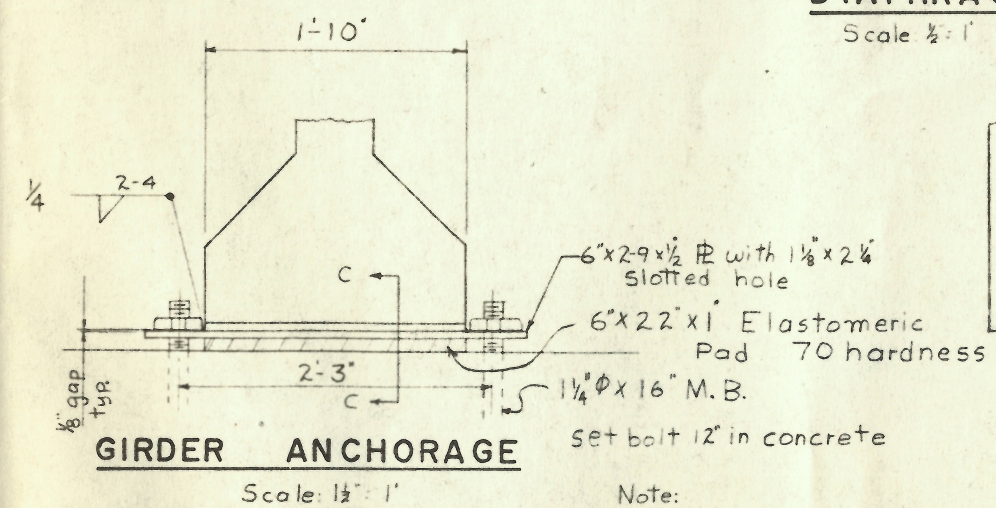
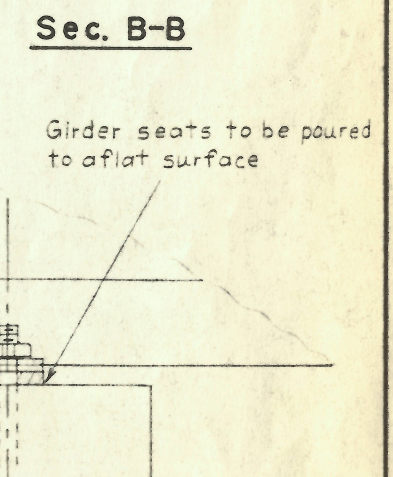
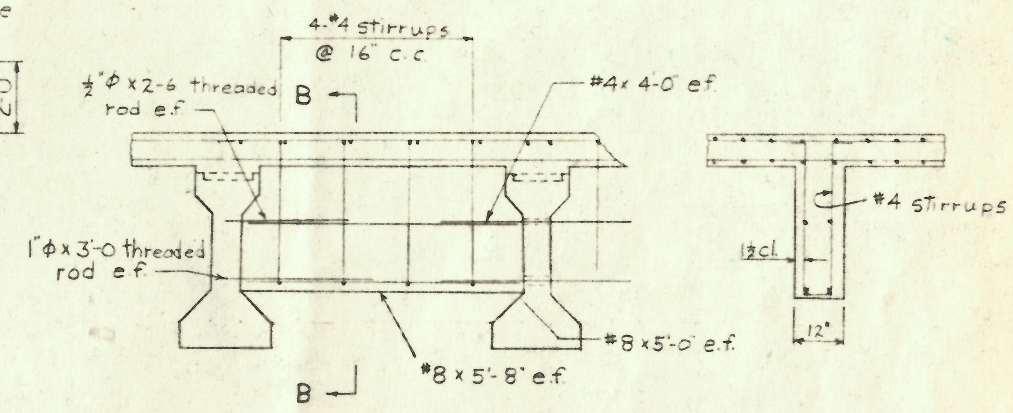
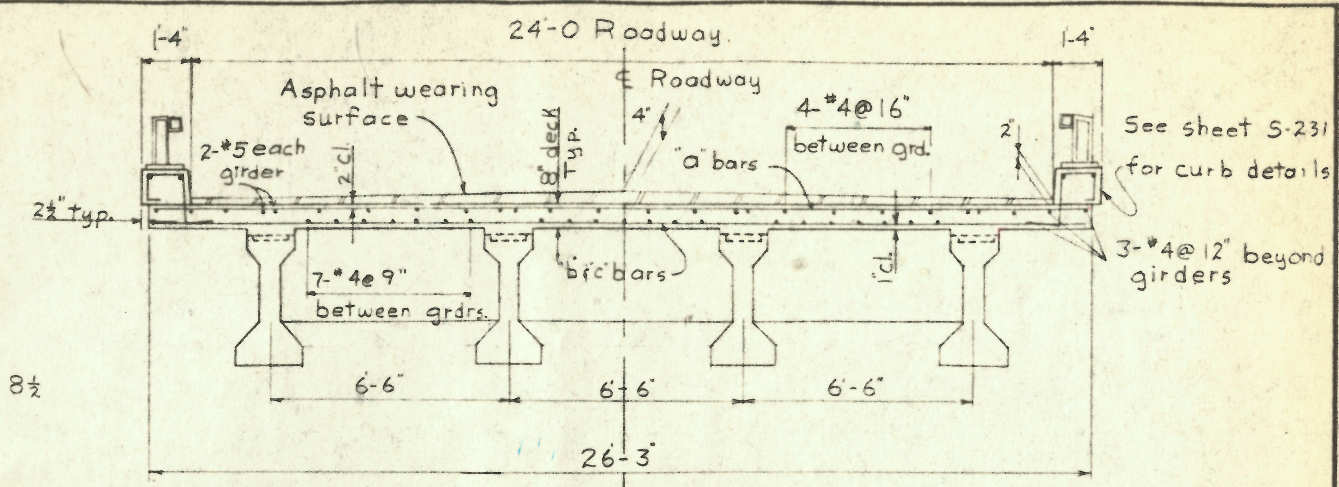
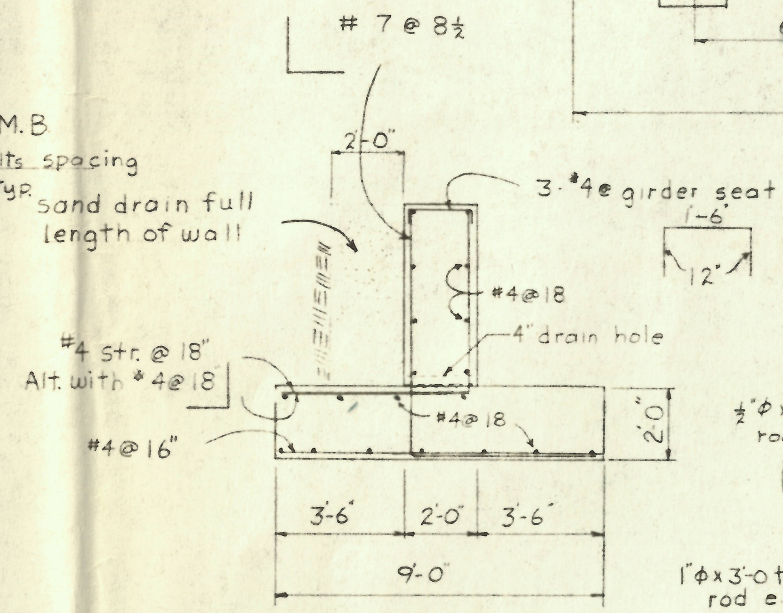
Test Hole



FOUNDATION PLAN



1 1/4" x 16" M.B.
Anchor bolts spacing
6'-6" c.c. typ.
sand drain full
length of wall



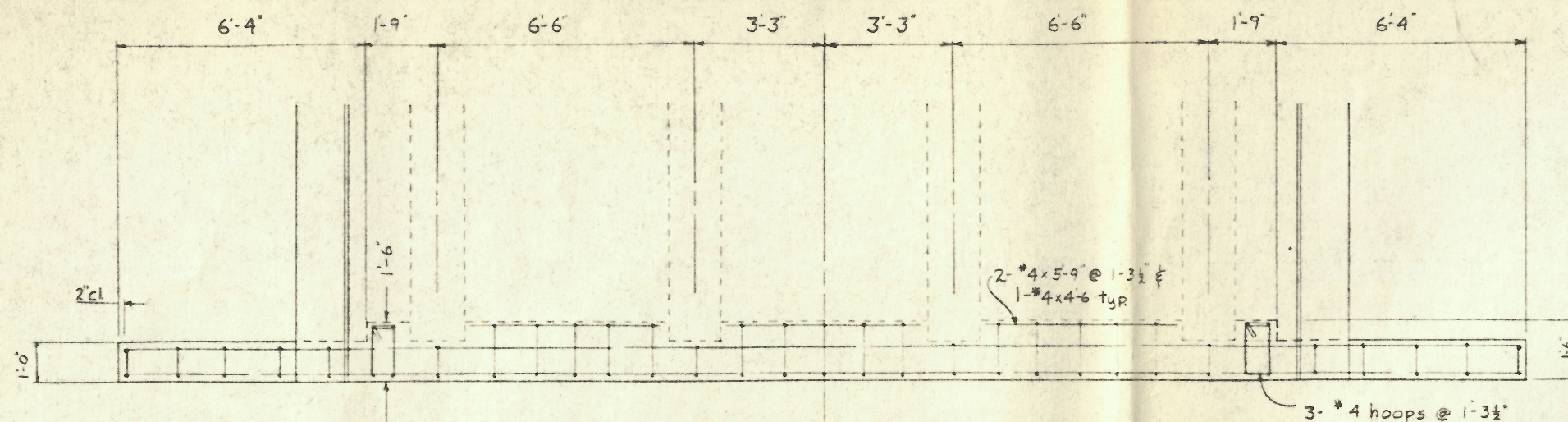
Note:
Field weld girder sole plate to anchor plate after girders have been set and aligned. Tack weld nuts with 1/2" gap between nut and plate.

Sec. C-C

U. S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
REGION SIX

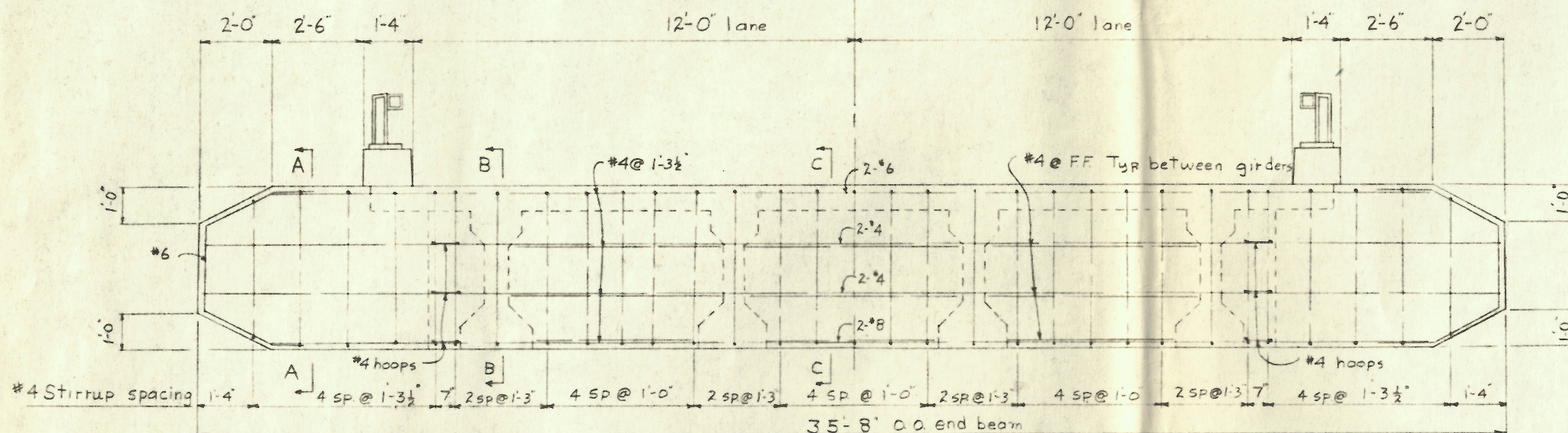
WILLAMETTE NATIONAL FOREST
DELTA BRIDGE
ABUTMENT PLAN & ELEVATION

BRIDGE NO. 1635-0-8 LOADING HS-20
DESIGNED BY J. S. G. DRAWN BY J. S. G. CHECKED BY J. S. G.
APPROVED BY J. S. G. DATE 5/17/74
BRIDGE ENGINEER



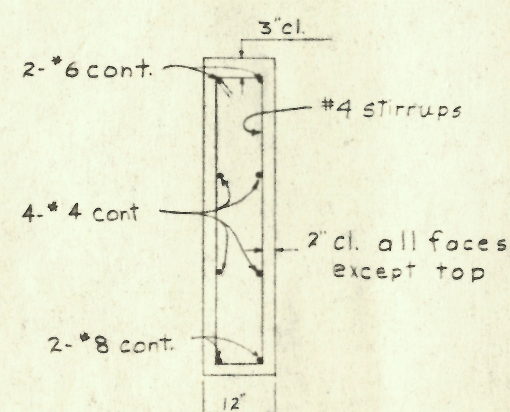
END BEAM PLAN

Scale: 1/2" = 1'



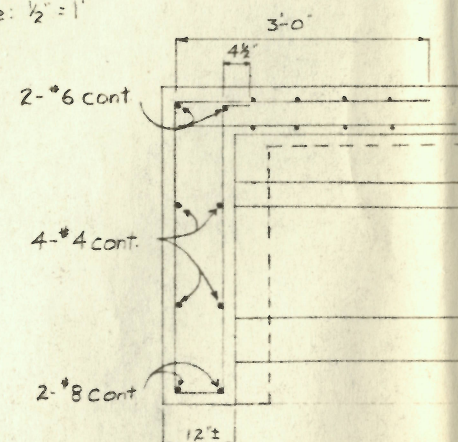
END BEAM ELEVATION

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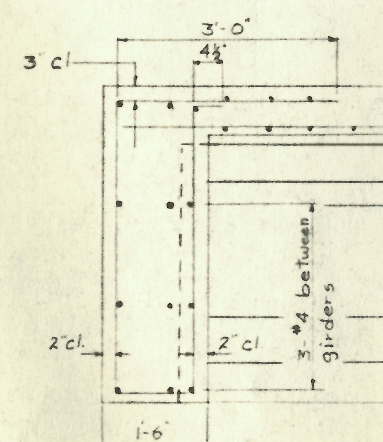
SECTION A-A

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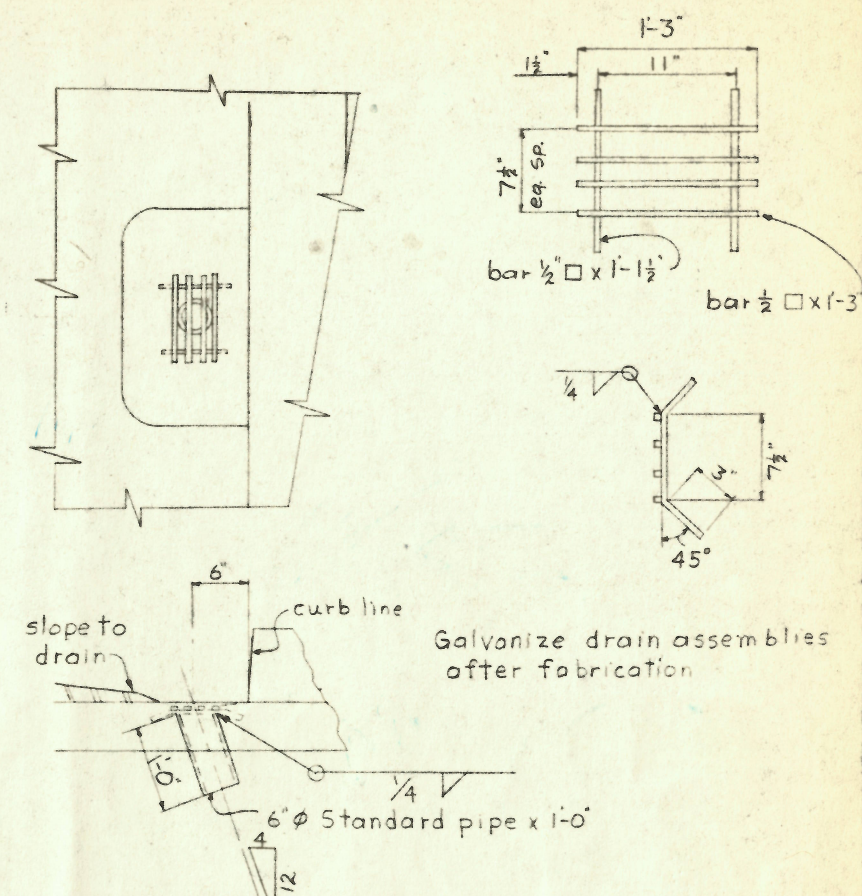
SECTION B-B

Scale: 3/4" = 1'



SECTION C-C

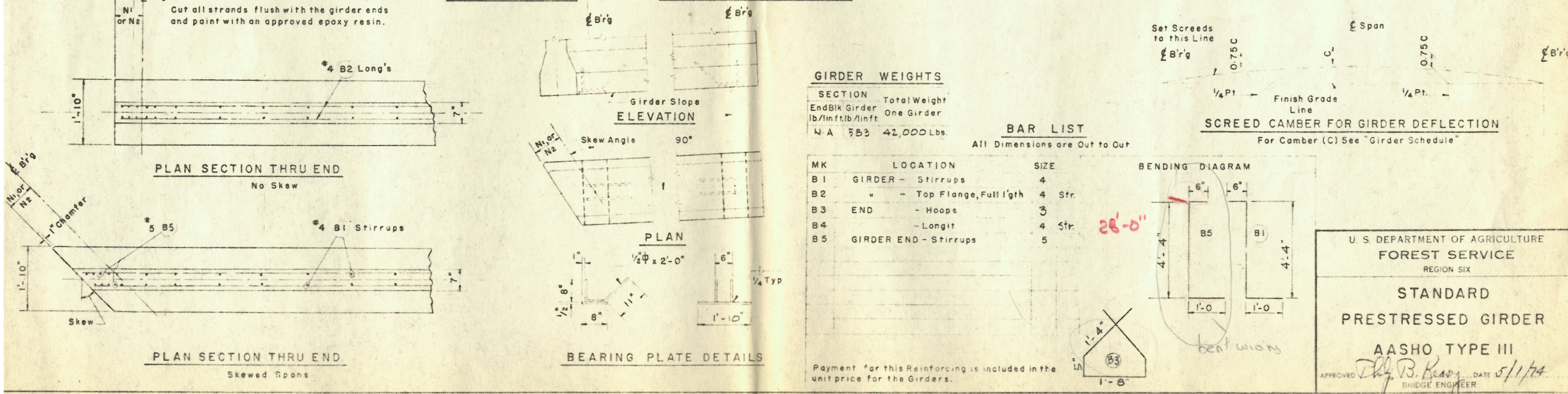
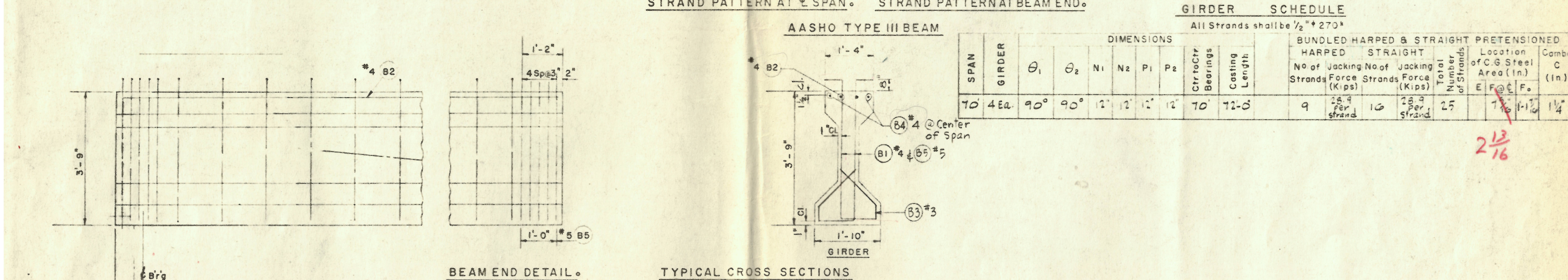
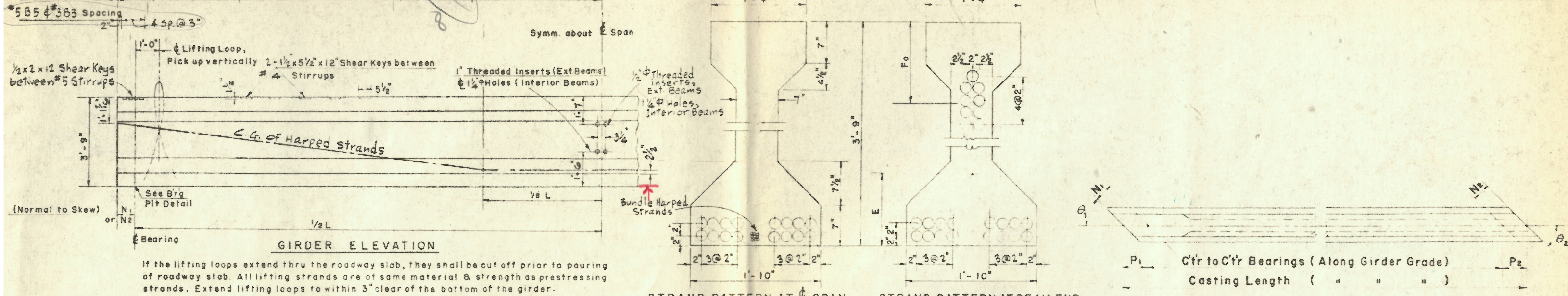
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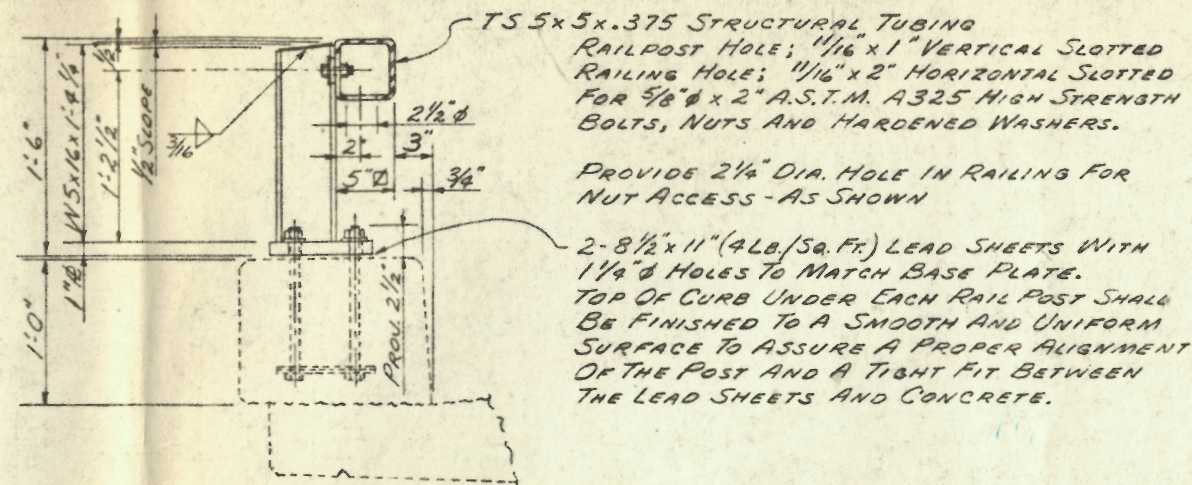


DECK DRAIN DETAILS

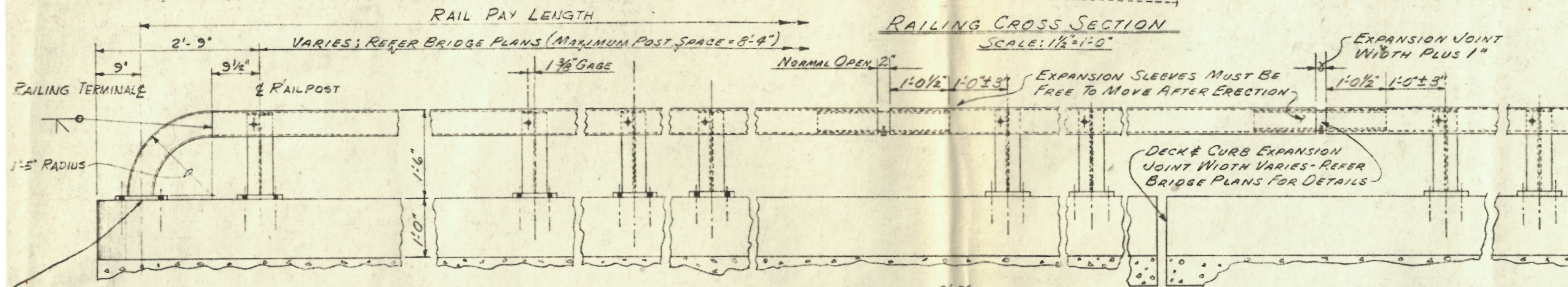
No Scale

U. S. DEPARTMENT OF AGRICULTURE FOREST SERVICE REGION SIX	
WILLAMETTE NATIONAL FOREST DELTA BRIDGE END BEAM PLAN & ELEVATION	
BRIDGE NO. 1635-0.8	LOADING HS-20
DESIGNED R.W.S.	DRAWN D.J.G.
APPROVED [Signature]	DATE 5/11/24
BRIDGE ENGINEER	

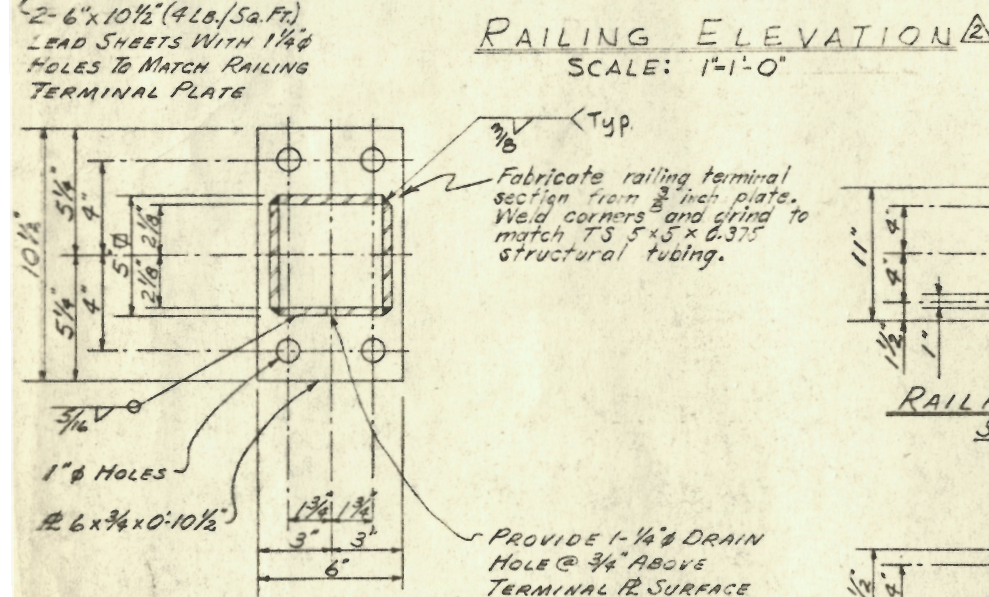




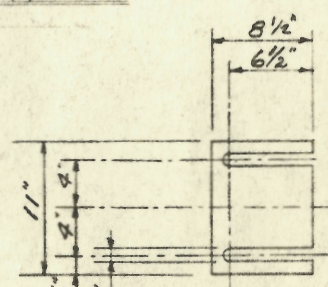
RAILING PLAN
SCALE: 1" = 1'-0"



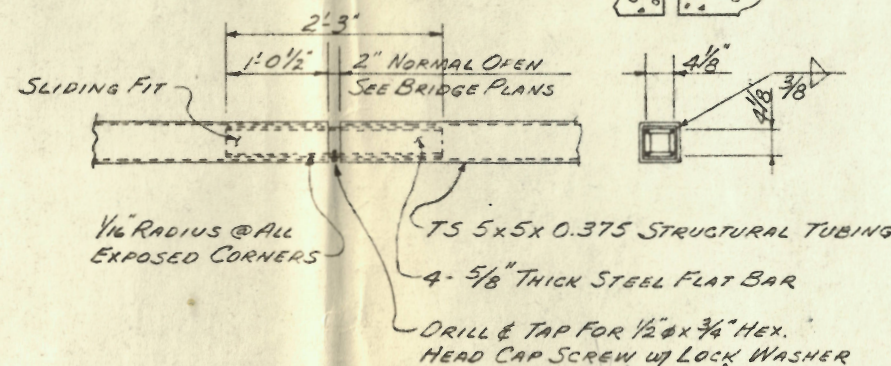
RAILING CROSS SECTION
SCALE: $1\frac{1}{2}'' = 1'-0''$



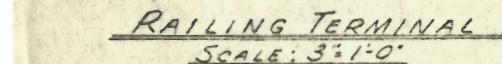
RAILING ELEVATION ②
SCALE: 1"=1'-0"



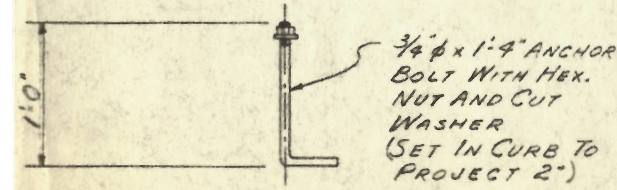
RAILPOST BASE SHIM
SCALE: $1\frac{1}{2}" = 1'-0"$



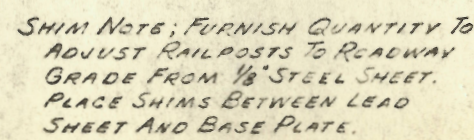
RAILING EXPANSION SLEEVE (2)
SCALE: 1"=1'-0"



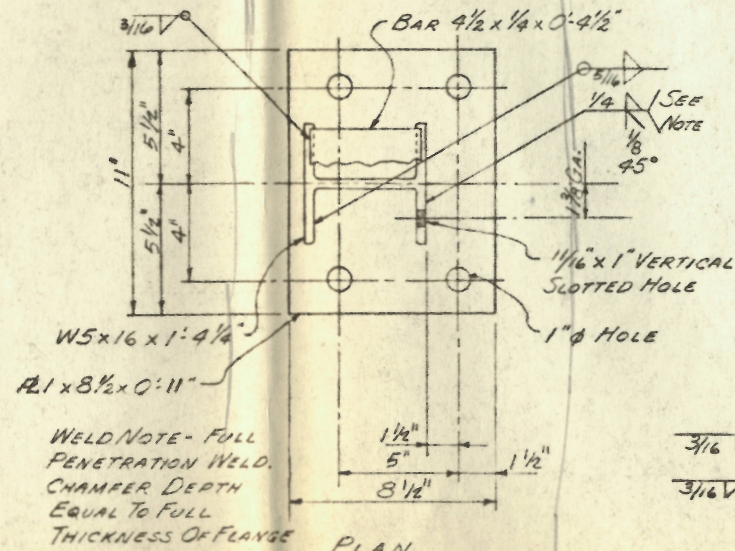
RAILING TERMINAL
SCALE: 3"=1'-0"



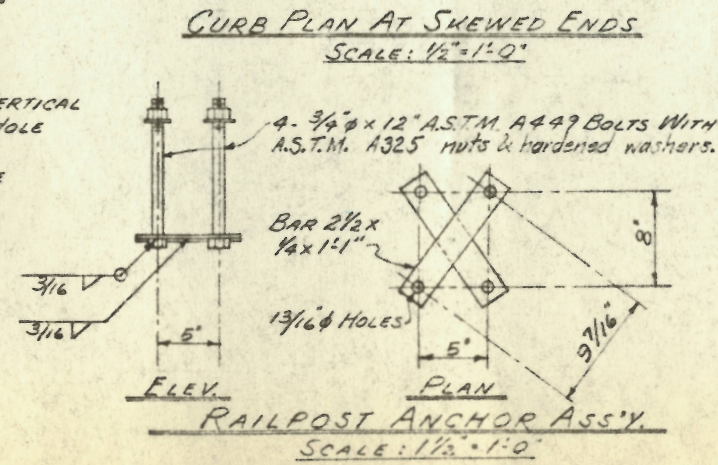
RAILING TERMINAL ANCHOR
SCALE: 1 1/2" = 1'-0"



RAIL END BASE SHIM
SCALE: 1 1/2" = 1'-0"



RAILPOST ASSEMBLY
SCALE: 3" = 1'-0"



CURB PLAN AT SKEWED ENDS
SCALE: $\frac{1}{2}" = 1'-0"$

RAILPOST ANCHOR ASS'Y.
SCALE: 1 1/2" = 1'-0"

GENERAL NOTES

STRUCTURAL STEEL:

POSTS AND PLATES SHALL BE STRUCTURAL STEEL CONFORMING TO A.S.T.M. A-36. THE RAILS SHALL BE FABRICATED FROM MATERIAL CONFORMING TO A.S.T.M. A-500-68, COLD FORMED WELDED AND SEAMLESS CARBON STEEL STRUCTURAL TUBING IN ROUNDS AND SHAPES, GRADE B, OR TO A.S.T.M. A501-68a, HOT-FORMED WELDED AND SEAMLESS CARBON STEEL STRUCTURAL TUBING.

WELDING:

ALL WELDING SHALL CONFORM TO THE REQUIREMENTS OF AMERICAN WELDING SOCIETY SPECIFICATION FOR WELDED HIGHWAY AND RAILWAY BRIDGES, AWS, D2.0-69 EXCEPT AS MODIFIED BY THE SUPPLEMENTAL SPECIFICATIONS. ELECTRODES FOR MANUAL SHIELDED METAL ARC WELDING SHALL BE AWS E 7016 OR E 7018.

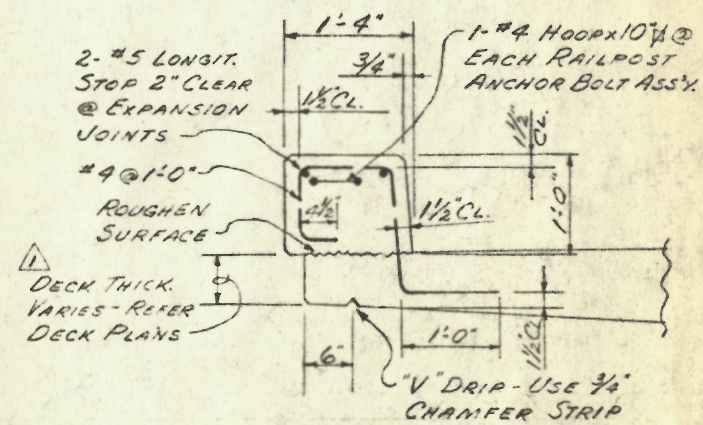
GALVANIZING:

ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH A.S.T.M. DESIGNATION A 153-71. RAIL ELEMENTS, SLEEVES AND POSTS SHALL BE GALVANIZED IN ACCORDANCE WITH A.S.T.M. A 123-71. SHIMS SHALL BE GALVANIZED IN ACCORDANCE WITH A.S.T.M. A-93, CLASS 2.50.





ERECTION:

RAIL POSTS SHALL BE SET PERPENDICULAR AND THE RAILS SET PARALLEL TO THE GRADE OF THE ROADWAY. TO OBTAIN PROPER ALIGNMENT, ANCHOR BOLT ASSEMBLIES MUST BE HELD IN EXACT POSITION WHILE POURING CURB.

CURB TOP SURFACE LEVEL EXCEPT PARALLEL
WITH SUPERELEVATED ROADWAY



CURB CROSS SECTION
SCALE: 1"=1'-0"

	OMIT POSTS @ RAILING ENDS ADD RAILING EXPANSION SLEEVES		9:72
	VARIES DIM. @ CURB JOINT & DECK TURN		4:72
REV.	DESCRIPTION	By DATE	

U. S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
REGION SIX

STEEL BRIDGE RAIL-TYPE 1

DESIGNED	DRAWN	CHECKED
APPROVED	DATE	DATE

BRIDGE ENGINEER

APPENDIX B1 – WOOD PLACEMENT GUIDE

South Fork Phase 3 Wood Placement Guide

Key Logjam Recipe:

- **2 Large/Key Pieces:** > 24" diameter and > 40' long w/ or w/o rootwad
 - **8 Medium Pieces:** 12-24" diameter and > 40' long w/ or w/o rootwad
 - **6 Racking Pieces:** 8-12" diameter and > 40' long or > 8" diameter and 25-40' long
 - **10 CY of Slash:** < 8" diameter any length and any diameter < 25' long
- ★ *This is the general recipe for key logjams, can vary with lattice or depending on available wood in each zone*
- ★ *Pieces broken during placement should not be used as key or medium pieces in key structures, but can be used in lattice or racking.*

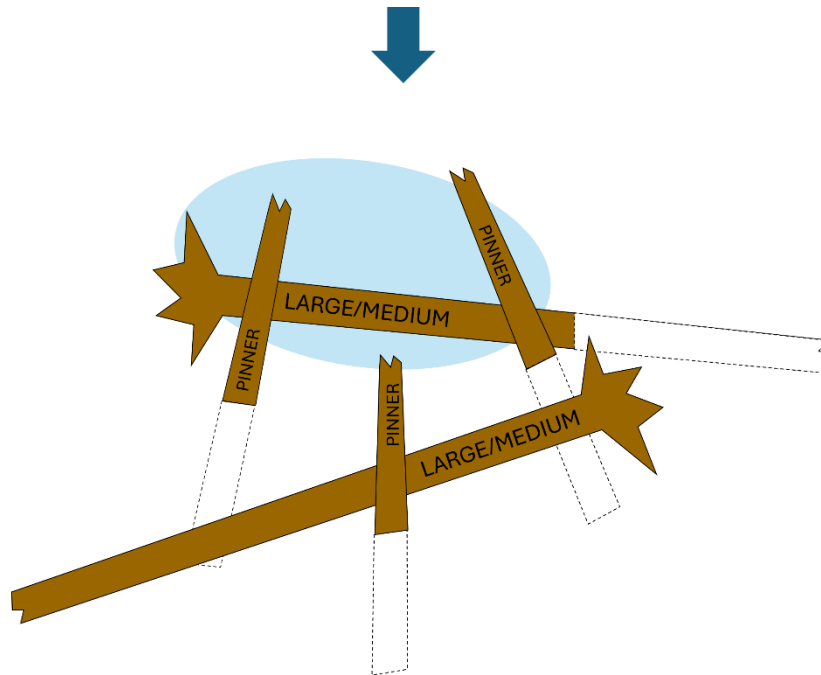
Logjam Example Types:

- 5 pieces within each logjam (30%) are partially buried
 - 8 pieces within each logjam (50%) are partially buried
- ★ *> 25% of the length of each buried piece should be buried 4-10 feet deep*
- ★ *> 50% of the length of each "pinner log" (i.e. slash or racking pieces >18" diameter and roughly 15-30 feet long) should be buried up to 10 feet deep; "pinner logs" should be placed at acute angles of 20-35 degrees*
- ★ *Bury wood below target elevation, not above*
- ★ *Always follow type listed on design map – these are for a research project*
- ★ *ALL bucked ends MUST be roughed up to appear natural*

Logjam Guidance:

- **Primary Objectives:**
 1. To maximize wood contact with the channel bed/target surface (i.e. design for low flow conditions)
 2. To maximize the footprint (lateral coverage)
 3. To capture wood moving through the system (i.e. some pieces in at least every other jam >8 feet above target)
 4. Logjams should look and function differently from one another
 5. "Key Structures" mapped should follow recipe above for greater stability.
 6. Lattice wood placement in all other areas should be a well distributed placement to meet the wood density identified for each zone. These should not be discrete "jams" but an interconnected surface with high lateral coverage and a mix of different size classes per wood zone as identified. Lattice placement should assume 6 cy slash per 14 pieces of wood placed.

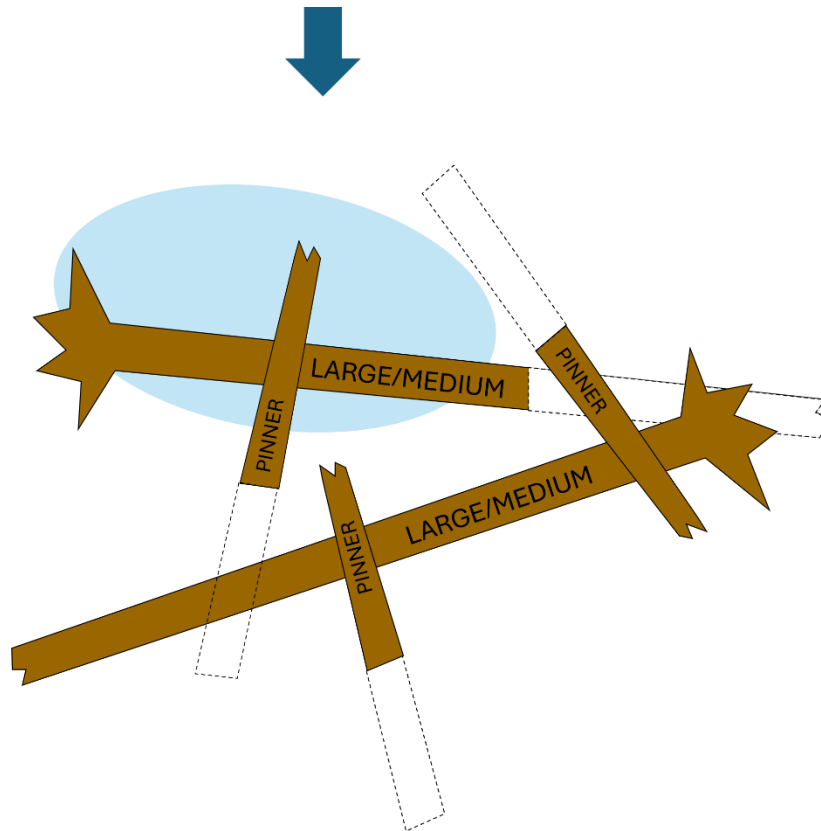
— **Example 1 – Cut or Fill Zone Typical:**



Foundation for Example 1

1. Dig a pool 5-15 feet diameter x 2-5 feet deep.
2. Set the rootwad of a large/medium piece in the pool with the bole running across the channel bed roughly perpendicular to flow. Bury at least 25% of the tip.
3. Dig two deep (8-10') holes on the downstream side of opposing ends for pinner logs.
4. Set the pinner logs in the holes leaning upstream against the log on the bed to achieve an acute angle of 20-35 degrees (vertical offset). You can set another large/medium log over the bottom one to get larger angles. Try to vary the horizontal offset angles of the pinner logs so they are not directly upstream. Aim to get at least half of each pinner log buried.
5. Set another large/medium log on the channel bed, downstream of the first one, roughly perpendicular to flow.
6. Dig a deep (8-10') hole on the downstream side for a third pinner log that forms a triangle with the other two.
7. Backfill and track pack the buried portion of the three pinner logs.
8. Additional logs should be buried in varying ways.
9. Weave and pin remaining pieces upstream and around pinner logs and adjacent standing trees, banks, or islands.
10. Racking pieces either be weaved into the logjam or placed on the stream bed on the face of the logjam (as if they floated in from above).
11. Slash can be added before, during, or after the larger pieces are placed, but don't let the slash prevent the larger pieces from contacting the channel bed.

– Example 2 – Cut or Fill Zone Typical (Pivot Variation):



Foundation for Example 2

1. Follow Example 1 but instead of the first two pinner logs both being on the downstream side, place one pinner on the upstream side (with the top oriented downstream) to prevent the pieces from pivoting. The upstream side pinner log will be opposite the side of the logjam that is inclined to pivot downstream.

APPENDIX B2- TIMELINE TEMPLATE

*Available as a fillable Excel spreadsheet on the MWA website:

APPENDIX C- BID PROPOSAL FORMS

BID SHEET FOR LUMP SUM ELEMENTS AND ITEMS

Complete each table below as requested. Include cost totals for each line item. Include an equipment and material list as indicated and applicable. Note that the task descriptions are meant to serve as reminders only. Refer to the appropriate section for complete element description.

Table C-1. Element #1.0 – Harvest and Transport of Wood and Slash

#	Task Description	List equipment & materials to be used (include make, type and class)	Cost
1.1	Transport of decked wood and slash from NF Road 1900-438 and 1900-389 log yards to floodplain		
1.2	Harvest of wood and slash in floodplain cut zones		

Table C-2. Element #2.0 – Floodplain Restoration

#	Task Description	List equipment & materials to be used (include make, type and class)	Cost
2.0	Installation and removal of temporary staging sites, access roads, water crossings, and erosion control measures *BABA: includes construction materials		
2.1	Vegetation clearing within cut and fill zones and the floodplain		
2.2.1	Vegetation clearing in the floodplain outside of cut zones		
2.3	Excavation and transport of floodplain sediment from cut zones to placement in fill zones		
2.4	Placement and burial of wood and slash throughout the project area (Use 7000 pieces of wood and 3,500 CY of slash for bidding purposes)		
2.5	Installation and removal of temporary diversion features; diversion of water; coordination with aquatic organism salvage plan		

	*BABA: includes construction materials		
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Table C-3. Element #3.0 Delta Campground Road Decommissioning (NF Road 1900-400)

#	Task Description	List equipment & materials to be used (include make, type and class)	Cost
3.1	Delta Campground Road bridge removal		
3.2	Delta Campground Road culvert removal		
3.3	Delta Campground Road trail conversion		
3.4	Delta Campground Road subsoiling		

Table C-4. Element #4.0 – Road Use

#	Task Description	List equipment & materials to be used (include make, type and class)	Cost
4.0	Road use		

Table C-5. Element #5.0 Road and Site Rehabilitation

#	Task Description	List equipment & materials to be used (include make, type and class)	Cost
5.0	Road and site rehabilitation		

Table C-6. Element #6.0 Mobilization

#	Task Description	List equipment & materials to be used (include make, type and class)	Cost
6.1	Mobilization/demobilization		
6.2	Fire safety		
6.3	Dust abatement		
6.4	Performance Bond		

Table C-7. Cost Summary

#	Element	Cost
1.0	Harvest and Transport of Wood and Slash	
2.0	Floodplain Restoration	
3.0	Delta Campground Road Decommissioning (NF Road 1900-400)	
4.0	Road Use	
5.0	Road and Site Rehabilitation	
6.0	Mobilization	
Total Cost		

Table C-8. Cost Summary for Identified Equipment

Equipment (include make, type and class	Cost/hour

Total Amount for Lump Sum Items: \$_____