

**STATE OF MONTANA
DEPARTMENT OF TRANSPORTATION
BID PACKAGE**

Sealed bids for construction of this project will be received by the Montana Department of Transportation, Construction Contracting Section, Room 101, 2701 Prospect, Helena, Montana until 9:00 a.m. on August 6, 2026. All bids will then be publicly opened, reviewed for correctness, and then publicly read.

Federal Aid Project(s):

NHPB-SSS 90-1(253)69

Cyr Interchange Structure

Bid proposals, Plans, Standard Specifications, Detail Drawings, and Standard Contract Forms are on file for examination and may be obtained from the Construction Contracting Bureau of the Montana Department of Transportation, 2701 Prospect Avenue, P.O. Box 201001, Helena, Montana 59620-1001.

Prime bidders use the Electronic Bid System or bid on-line through Bid Express to produce a bid containing Proposal Forms, Schedule of Items, and Disadvantaged Business Enterprises (DBE) Requirements (if applicable).

MONTANA DEPARTMENT OF TRANSPORTATION

Loran Frazier, Chairperson
Montana Transportation Commission

Christopher Dorrington
Director of Transportation

Contract No.02826
HB:ST:9786002ADV

SPECIAL PROVISIONS

CONTRACT NO. 02826

MONTANA DEPARTMENT OF TRANSPORTATION
SCHEDULE OF ITEMS

CONTRACT ID: 02826

PROJECT: NHPB-SSS 90-1(253)69 9786253002 CYR INTERCHANGE
STRUCTURE

SECTION: 0001 - BRIDGE REPLACEMENT

PROP LINE NO.	ITEM NUMBER	ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY
0010	103000000	TRAINING PROGRAM	HOURL	1,500.00
0020	103500005	ESCROW OF BID DOCUMENTS	LS	1.00
0030	104030010	MISCELLANEOUS WORK	UNIT	75,000.00
0040	105070000	CONTRACTOR SURVEY AND LAYOUT	LS	1.00
0050	108000000	CRITICAL PATH SCHEDULE	LS	1.00
0060	108000010	STRUCTURE ANALYSIS	LS	1.00
0070	109200005	MOBILIZATION	LS	1.00
0080	202020041	REMOVE STRUCTURE	LS	1.00
0090	203020100	EXCAVATION-UNCLASSIFIED	CUYD	2,545.00
0100	203020310	SPECIAL BORROW-NEAT LINE	CUYD	1,685.00
0110	203020380	SPECIAL EMBANKMENT	CUYD	230.00
0120	208010150	TEMPORARY EROSION CONTROL-LS	LS	1.00
0130	208010200	TEMPORARY EROSION CONTROL-FIXED	UNIT	500.00
0140	209010100	STRUCTURE EXCAVATION TYPE 1	CUYD	960.00
0150	209010160	TEMPORARY SHORING	LS	1.00
0160	301020340	CRUSHED AGGREGATE COURSE	CUYD	725.00
0170	301020625	AGGREGATE TREATMENT	SQYD	2,189.00
0180	401020162	COMMERCIAL MIX-1/2 IN-PG 58V-34	TON	955.00
0190	402020315	EMULSIFIED ASPHALT-TACK COAT	GAL	355.00
0200	402020320	EMULSIFIED ASPHALT-FOG SEAL	GAL	169.00
0210	402020375	EMULSIFIED ASPHALT CHFRS-2P	TON	5.70
0220	409000010	COVER-TYPE 1	SQYD	3,009.00
0230	411010000	COLD MILLING	SQYD	504.00
0240	411011135	RUMBLE STRIPS	MILE	0.70
0250	551020035	CONCRETE-CLASS STRUCTURE	CUYD	1,114.00
0260	551020036	CONCRETE-CLASS STRUCTURE LOW	CUYD	935.30
0270	551020126	CONTROLLED LOW STRENGTH MATL	CUYD	327.00
0280	551020166	CONCRETE-CLASS DRILLED SHAFT	CUYD	983.90
0290	552010010	TEMPORARY ACCESS FACILITIES	LS	1.00
0300	552010140	TRANSVERSE DECK GROOVING	SQYD	2,968.40

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PROP LINE NO.	ITEM NUMBER	ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY
0310	552010160	BRIDGE DECK CRACK SEAL	SQYD	3,138.90
0320	552011020	EXPANSION JOINT-MODULAR	LNFT	39.90
0330	552011300	SCUPPER	EACH	8.00
0340	555010100	REINFORCING STEEL	LB	310,224.00
0350	555010200	REINFORCING STEEL-EPOXY COATED	LB	275,544.00
0360	555010400	REINFORCING STEEL-SEISMIC	LB	64,328.00
0370	556010011	STRUCTURAL STEEL - GIRDER	LS	1.00
0380	558000210	DRILLED SHAFT - 10.0 FT	LNFT	311.00
0390	558001225	DRILLED SHAFT CASING	LB	411,430.00
0400	558010050	THERMAL INTEGRITY PROFILER	EACH	4.00
0410	559010202	RE-DRIVE TEST PILE	EACH	3.00
0420	559040035	DYNAMIC LOAD TEST	EACH	3.00
0430	559050117	FURN STEEL PILE-HP	LB	564,144.00
0440	559060115	DRIVE STEEL PILE	LNFT	4,730.40
0450	559060300	PILE DRIVING POINT	EACH	44.00
0460	565000010	ELASTOMERIC BEARING DEVICES	EACH	4.00
0470	565000020	ELASTOMERIC BEARING DEV-PTFE	EACH	4.00
0480	603013552	CONNECT TO EXISTING INLET	EACH	1.00
0490	603017040	STORM DRAIN PIPE-12 IN	LNFT	53.90
0500	604010302	MANHOLE STRUCTURE BASE 48 IN (1220	EACH	1.00
0510	604010662	DROP INLET FRAME AND GRATE	EACH	1.00
0520	605000092	36 IN SS CONCRETE BARRIER RAIL-BR	LNFT	1,492.50
0530	606010335	MASH W-BEAM TERMINAL SECTION	EACH	3.00
0540	606010337	MGS GUARDRAIL/LONG POSTS	LNFT	1,406.20
0550	606010342	MASH THRIE BEAM BR APPRCH SECTION	EACH	4.00
0560	606010345	MGS ONE-WAY DEPARTURE TERMINAL	EACH	1.00
0570	606010385	REMOVE GUARDRAIL	LNFT	1,519.30
0580	609010112	CURB 4 IN-CONCRETE	LNFT	183.60
0590	610100480	TURF REINF MAT-SYNTHETIC FIBER	SQYD	128.00
0600	610100559	REVEGETATION	LS	1.00
0610	613100105	ANCILLARY ARMOR	CUYD	3.70
0620	618030005	TRAFFIC CONTROL DEVICES CB	UNIT	300,000.00
0630	618030180	TRAFFIC CONTROL-CROSSOVER	EACH	2.00
0640	618030190	TRAFFIC CONTROL-TWO WAY TRAF	MILE	2.20
0650	618030215	WIDE LOAD MARSHALLING	LS	1.00
0660	618030260	CROSSOVER-CONST, MAINTAIN, CLOSE	EACH	1.00

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PROP LINE NO.	ITEM NUMBER	ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY
0670	618030280	CROSSOVER RECLAMATION	EACH	1.00
0680	618030310	CROSSOVER-MEDIAN BARRIER RAIL	EACH	1.00
0690	618100000	SINGLE USE SIGNS	SQFT	377.00
0700	618100005	PORTABLE VARIABLE MESSAGE SIGN	EACH	3.00
0710	619010062	SIGNS-ALUM SHEET INCR XI	SQFT	44.00
0720	619010090	SIGNS-ALUM REFL SHEET XI	SQFT	19.00
0730	619010230	REMOVE SIGN	EACH	8.00
0740	619010240	REMOVE SIGN-GUIDE	EACH	2.00
0750	619010300	POSTS-TUBULAR STEEL	LB	174.00
0760	619010310	POSTS-STEEL U SIGN	LB	27.00
0770	619010320	POSTS-STEEL STRUCTURAL SIGN	LB	265.00
0780	619010480	POLES-TREATED WOOD 4 IN	LNFT	24.00
0790	619010724	FRANG SIGN POST BKWY-S5 X 10	EACH	2.00
0800	619010744	FRANG SIGN POST BKWY-4 IN RD	EACH	1.00
0810	619011090	DELINEATOR TYPE 1	EACH	19.00
0820	619011095	DELINEATOR TYPE 2	EACH	4.00
0830	620013000	STRIPING-WHITE PAINT	GAL	18.00
0840	620013960	STRIPING-WHITE EPOXY	GAL	14.00
0850	620014000	STRIPING-YELLOW PAINT	GAL	8.00
0860	620014960	STRIPING-YELLOW EPOXY	GAL	6.00
0870	622011043	PERM EROSION CONTROL-HIGH SURV	SQYD	16.00
0880	622011084	GEOTEXTILE STABILIZATION	SQYD	2,595.00

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SECTION II

Nondiscrimination Notice
Permit Maps
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SECTION III

Standard Provisions & Requirements

SPECIAL PROVISIONS
FEDERAL AID PROJECT NO(S). NHPB-SSS 90-1(253)69
 (REVISED 6-25-26)

The following special provisions are hereby made part of the contract and supplement and/or supersede any sections of the Standard Specifications of Road and Bridge Construction, adopted by the Montana Department of Transportation and the Montana Transportation Commission and all supplements thereto in conflict therewith.

The following documents are hereby incorporated by reference into this contract:

- "Question and Answer Forum": [Question and Answer Forum](#)
- "Standard Specifications for Road and Bridge construction":

[Standard Specifications June 2026](#)

- The most recent version of the Detailed Drawings: [Detailed Drawings](#)
- Materials Manual of Test Procedures: [Materials Manual June 25, 2026](#)

The latest version of the Standard Specifications, Biannual updates, and revision summaries can be found at the following website: [Standard Specifications](#)

The Question-and-Answer Forum opens at 5:00 p.m. on the bid letting advertisement date and closes at 8:00 a.m. on the Monday before the bid letting. If Monday is a state holiday, the forum will close on Friday before the bid letting at 3:00 p.m. Answers provided by the Department to the questions, clarifications, and notifications can be posted up to 5:00 p.m. on the day before the letting.

The U.S. Department of Transportation (DOT) operates a toll-free number at 1-800-424-9071, 24 hours a day - 7 days a week. Anyone with knowledge of possible bid rigging, bidder collusion, or other fraudulent activities should use this number to report such activities. All information will be treated confidentially, and callers may remain anonymous.

The Department attempts to provide reasonable accommodations for any known disability that may interfere with a person participating in any service, program, or activity of the Department. Alternate accessible formats of this document will be provided upon request. If reasonable accommodation is needed to participate in Department bid lettings, call the Civil Rights Bureau at 444-6331 or TTY 406-444-7696 [TTY 1-800-335-7592 (toll free)].

1. PROJECT DESCRIPTION [102]

Bridge replacement across the Clark Fork River including grading and plant mix bituminous surfacing and crossovers on the Cyr Interchange Structure project in Mineral County, west of Alberton. The project is located on westbound I-90 from approximately RP 69.5 to 71.7. Work involves removing and replacing the existing westbound I-90 bridge over the Clark Fork River.

2. CONTRACT TIME - COMPLETION DATE [108]

A. This contract is a completion date contract. The work begins on the effective date stated in the Notice to Proceed (NTP) and all work is to be completed no later than October 29, 2027. Unusually severe weather is not considered as a delay cause. The NTP will be issued with an effective date of October 5, 2026.

1) General. This provision modifies Subsection 108.02 of the Specifications.

2) Notice to Proceed. The Contractor may change the notice to proceed date to an earlier date if written notification is received at least ten calendar days in advance of the date selected and the selected date is approved by the Project Manager. Include an updated schedule with the notification.

3) Contract Time. Contract time assessment will begin on the notice to proceed date issued by the Department or as changed by the Contractor, whichever is earlier.

B. All items except for chip seal, final striping, revegetation, and bridge deck crack seal need to be completed by October 29, 2027. An additional 15 working days will be added to

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the contract after October 29, 2027, for completing this work in 2028. 108.07.3 will apply for these days after October 29, 2027.

3. CROSSOVER TRAFFIC – INCENTIVE DISINCENTIVE MILESTONE

A. Description. A contract time incentive and disincentive will be assessed for this project for returning traffic back to normal traffic flow during winter shutdown periods November 15 through April 15.

B. Definition of Terms. The following terms apply to this contract.

1) Normal Traffic Flow. Defined as two lanes westbound and two lanes eastbound flowing unimpeded.

2) Daily Road User Cost. The dollar figure that represents the average daily cost to the traveling public resulting from the disruption of normal traffic flow. The daily road user cost for this contract is \$4300. The incentive/disincentive for this contract is \$4300 per calendar day based on early or late restoration of traffic to normal traffic flow.

C. Incentive / Disincentive

1) Early restoration. An incentive of \$4300 per calendar day, up to a maximum of 20 calendar days, that traffic is restored to normal traffic flow prior to October 29, 2027.

2) Late restoration. A disincentive of \$4300 will be assessed for every calendar day traffic is not restored to normal traffic flow between November 15, 2026, and April 15, 2027. Traffic may be crossed over on an earlier date than April 15, 2027, as agreed upon between the Project Manager and the contractor with no penalty.

3) Late restoration. Liquated damages will apply for every calendar day traffic is not returned to normal traffic flow after October 29, 2027.

4. SEQUENCE OF OPERATIONS

A. Traffic Control Plan. Provide traffic control and a traffic control plan in conformance with Section 618.

B. General Requirements. This special provision outlines the basic sequencing strategy and any specific limitations required for this project's traffic control requirements. However, the basic strategy is not intended to cover every situation which may arise in the field because of the Contractor's operations or otherwise. Cooperate with the Project Manager and adjust the traffic control as required to fit specific field conditions.

C. Ensure that all temporary traffic routing, unless otherwise noted, facilitates the movement of interstate vehicles. Ensure that all lane widths are a minimum of 12-feet (clear of channelization devices) unless otherwise noted and include widened radii to accommodate turning movements where necessary.

D. Sequence of Operations. In addition to the requirements of Subsection 104.05, Maintenance of the Work, Subsection 203.03.7, Limitation on Grading Operations, and Subsection 108.04, Limitation of Operations, schedule operations in a manner to provide the least amount of inconvenience possible to the traveling public and comply with the following:

1) Maintain a smooth, drivable surface where traffic is present at all times.

2) Maintain at least one-lane for each direction of travel at all times.

3) Close the crossovers for winter weather shutdown.

4) Minimize the use of crossovers by performing as much structure construction under the existing bridge as possible prior to transferring traffic to the eastbound lanes of I-90. Structure construction may include, but is not limited to:

a) Temporary access facilities

b) New bridge foundations

c) New bridge columns

5) Construct and maintain crossovers at RP 69.5 and 71.7 as shown in the plans. Maintain full use of westbound Exit 70 off-ramp and eastbound Exit 70 on-ramp at all times unless construction operations require short-term closures.

6) Transfer traffic to the eastbound lanes of I-90 no earlier than March 30, 2027, or as approved by the Project Manager.

7) Complete all structure and mainline work while traffic is crossed over except for chip seal, final striping, and bridge deck crack seal.

8) Return traffic to normal operations on I-90.

9) Close the crossovers at RP 69.5 and 71.7.

E. Basis of Payment. All the work resulting from this special provision is covered under the respective bid items of the contract. Where work is specified and not distinctly covered by a unit quantity and price, that work is considered as incidental to and absorbed in the various bid items of the contract and no separate payment will be made.

Traffic Control will be measured and paid for in accordance with Section 618 of the Standard Specifications and the "Traffic Control Rate Schedule" found elsewhere in this bid package.

5. CONTRACT DOCUMENTS [102] (REVISED 1-15-26)

The following documents are now available within the Contractors Reference Material on the Department's Contracting and Bidding webpage

<https://www.mdt.mt.gov/business/contracting/> :

1) [Table of Contractor's Submittals](#). (Revised 1-15-26)

2) [Traffic Control Rate Schedule](#) (Revised 3-9-23)

3) [Erosion Control Rates](#) (Revised 1-09-25)

6. LABOR AND CIVIL RIGHTS REQUIREMENTS [102] (REVISED 1-15-26)

Executive Orders 13658 and 13706 do not apply to this contract. Pay the minimum wage rates contained elsewhere in the bid package and comply with the required contract provisions contained in the form FHWA 1273 included with this contract. To obtain more information, contact the Department's Construction Engineering Services Bureau at 2701 Prospect, Helena, MT (406)475-2258, (800)335-7592 (TTY) or (406)444-7297 (Fax).

Ensure bulletin board requirements contained in the FHWA Form 1273 are met. Please see the following webpage for required bulletin board materials:

[Bulletin Board Materials & Requirements](#)

7. SOIL BORING INFORMATION [102] (REVISED 1-16-14)

The Department routinely conducts subsurface investigations and laboratory testing to collect soil, rock and groundwater information ("geotechnical information") within the anticipated limits of upcoming projects and maintains a comprehensive set of this information in its geotechnical file. For this contract, geotechnical information has been collected by the Department and logs of boring summarizing this information have been included in the Special Provisions and Plans. "Logs of Borings" in the Special Provisions and Plans are based on an interpretation of the field investigation and laboratory testing data, and do not include all the geotechnical information that may be available. The geotechnical information contained in the "Logs of Borings" has been edited or abridged and may not reveal all the geotechnical information which might be useful or of interest to the bidder.

The comprehensive set of geotechnical information is considered too voluminous to include in the bidding package. The geotechnical information that the Department has is available for review or copying upon request. Rock core samples are regularly retained as well. All bidders are expected to fully review all of the geotechnical information prior to submitting their bid. The prime bidder is responsible for ensuring that a firm submitting a subcontractor quote for the prime's use is aware of all available geotechnical information.

Submission of a bid without fully reviewing the Department's comprehensive set of geotechnical information or accepting a quote from a subcontractor without verifying that the subcontractor reviewed all available geotechnical information is a business decision by the

bidder. Failing to fully review all available geotechnical information waives the contractor from making any claim, whether termed "superior knowledge", "justifiable reliance", "differing site condition", or otherwise, against the Department for any information that may be included in the comprehensive geotechnical information file and not shown, or not fully shown, in the "Logs of Borings" contained in the contract documents.

Soil, rock, and groundwater conditions shown on the logs of boring apply only at the specific boring locations and at the time the borings were made. They are not warranted to be representative of subsurface conditions at other locations or times. Groundwater conditions commonly vary seasonally and from that encountered during drilling. Determination of a material's classification is based in part on judgment and opinion. The Department assumes no responsibility for any variation or misinterpretation of the classification of materials.

Utilize the Question and Answer forum to request additional geotechnical information or to submit questions regarding the geotechnical information. To review all available geotechnical information, submit a request in writing to the Department's Geotechnical Section to schedule a time to review the available geotechnical information. Requests for access should be made a minimum of 10 business days prior to the bid opening.

8. BIDDER'S PROPOSED AGGREGATE SOURCE(S) [103] (REVISED 8-07-25)

No later than 7 calendar days after the date of bid-opening (the date of bid opening to count as the first full day), submit to ECCS form MDT-CON-106-02-3 in accordance with Subsection 103.11.

9. ESCROW OF BID DOCUMENTS [103] (REVISED 4-28-22)

Escrow of bid documents under 103.09 is required for this contract.

10. CONTRACTOR SURVEYING AND LAYOUT [105] (REVISED 7-10-14)

Furnish Contractor Survey and Layout in accordance with Subsection 105.08.2.

11. PARTNERING [105] (ADDED 1-11-24 M)

In accordance with Subsection 105.05.1, this contract requires Level (I) facilitation.

12. STEEL PRICE ADJUSTMENT [106] (REVISED 11-13-25)

In accordance with Subsection 106.09.1, the base price per pound of steel for this contract is: \$1.15.

13. DOMESTIC MATERIALS REQUIREMENTS [106] (REVISED 11-13-25)

A. Steel and Iron Materials. Furnish iron and steel materials in accordance with subsection 106.09. A manufactured product consisting primarily of steel and iron as defined in 23 CFR 635.410 is accepted under subsection 106.09.

B. Construction Materials. Furnish construction materials manufactured in the United States. Construction materials include articles, materials, or supplies that are or consist primarily of:

- Non-ferrous metals.
- Plastic and polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables).
- Glass (including optic glass).
- Fiber optic cable (including drop cable).
- Optical fiber.
- Lumber.
- Drywall, and
- Engineered wood.

Construction materials exclude cement and cementitious materials, aggregates including stone, sand, or gravel, or aggregate binding agents (e.g., asphalt binder) or additives (e.g., polymer modifiers and admixtures).

Manufacturing processes for the construction material must occur in the United States. Manufacturing processes for each of the bulleted construction materials above are defined in 2 CFR 184.6 and are summarized below.

- a) Non-ferrous metals: Initial smelting or melting through final shaping, coating, and assembly.
- b) Plastics: Initial combination of plastic, polymer based, or composite materials until item is in its final form.
- c) Glass: Initial batching and melting, annealing, cooling, and cutting.
- d) Fiber Optic Cable: Initial ribboning, buffering, and fiber stranding and jacketing.
- e) Optical Fiber: Initial preform fabrication through completion of draw.
- f) Lumber: Initial debarking, treatment, and planing.
- g) Drywall: Initial blending of gypsum, cutting, and drying of sandwiched panels.
- h) Engineered Wood: Initial combination of constituents until item is in its final form.
- C. Manufactured Products. Furnish manufactured products as defined in 2 CFR

184.3 that meet the requirements of 23 CFR 635.410. Beginning with the letting of November 13, 2025, the final fabrication of all manufactured products must occur in the United States. Beginning with the November 12, 2026 bid letting, the product must be 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 must be greater than 55% of the total cost of all components of the manufactured product.

With respect to precast concrete products that are classified as manufactured products, ensure the components of precast concrete products that consist wholly or predominantly of iron or steel or a combination of both meet the requirements of subsection 106.09.

D. General. Domestic materials preference applies to articles, materials, and supplies that are consumed in, incorporated into, or affixed to a project. It does not apply to tools, equipment, and supplies brought to the construction site and removed at or before the completion of the project (e.g., temporary aluminum scaffolding). Buy America preference does not apply to equipment and furnishings that are used at or within the finished infrastructure project but are not permanently affixed to the structure (e.g., movable chairs, desks, or computer equipment used at or within the project but are not integral or permanently affixed to a structure).

Refer to the decision tree in Section 3.5 of MT 601 to aid in appropriately categorizing specific materials.

Submit Form MDT-MAT-407 "Manufacturer's Certificate of Compliance" for every material identified as a construction material or manufactured product. Do not incorporate materials covered by Form MDT-MAT-407 into the project until all required documentation is submitted to the Department. Ensure suppliers and manufacturers understand the domestic material and contract requirements to supply the required materials and associated documentation.

The Department will not accept items installed until all supporting documentation has been reviewed and is found to be in accordance with the contract requirements. Insufficient or unavailable documentation or documentation showing products containing construction materials of foreign origin are grounds for removal and replacement at the contractor's expense. The Department has designated contract materials as either "construction materials" or "manufactured products" by their respective 9-digit material codes in section MT 601 of the Montana Materials Manual. The Department recognizes there will be situations where a product or material may not fit the designation indicated in section MT 601. In these cases, submit documentation demonstrating or justifying the supplier or manufacturer's position that their specific item has been misclassified to the Project Manager at least 10 business days in

advance of installation. The Department, in conjunction with FHWA, will review the submitted documentation and decide as to how that specific product or material will be classified. These determinations will be final, and the appropriate documentation as defined above is required.

The Department further recognizes there will be situations when a product or material may not be addressed in MT 601. In these cases, submit certification of the material's domestic origin appropriate for the material classification to the Project Manager prior to installation.

The US DOT has found that it is in the public interest to issue a waiver of domestic preferences in certain situations. For construction materials and manufactured products, the domestic preference may be waived if the total value of non-compliant material is under \$1,000,000 or 5% of the total applicable project costs, whichever is less. Submit actual individual material costs, minus manufacturing costs outside the defined manufacturing processes outlined above, along with justification in the form of invoices, bills of lading, or other appropriate documents to the Department if requesting the waiver.

The above waiver does not apply to iron and steel, the existing de minimis standard for iron and steel under subsection 106.09 continues to apply.

A project with a total contract value of \$500,000 or less is exempt from all domestic preference regulations including steel and iron.

14. CONSTRUCTION EQUIPMENT ON STRUCTURES [107] (REVISED 9-21-23)

- A. Description: Requirements associated with the operation of equipment on structures.
- B. Definition. The following definition applies to this special provision:
 - 1) Equipment. Any vehicle or machine weighing more than 5000 pounds.
- C. Construction Requirements. Do not use bridges as work platforms, work bridges, or to support or move equipment without the Project Manager's written approval.
 - 1) For bridges having no posted load restrictions and no removal of deck concrete (not milled), provide a full engineering submittal for approval for all equipment utilizing outriggers on the structure and for any equipment not already approved under one of the following conditions:
 - a) Legal Loads. A vehicle that is a legal load as defined by Section 61-10 MCA.
 - b) Pre-Approved Equipment. The equipment is currently listed on MDT's [Approved Construction Equipment List \(ACEL\)](#) and will be operated according to any conditions stated in the ACEL.
 - 2) For bridges with a posted load restriction or if bridge deck concrete is partially milled or removed, submit a full engineering submittal for approval for any of the following cases:
 - a) Equipment weight exceeds 25 tons.
 - b) Vehicle weight and configuration does not satisfy the posted load restriction.
 - c) More than one piece of equipment will be simultaneously located on a span.
 - d) Concrete removal results in significant debonding of the top mat of deck reinforcing steel. The Project Manager, in conjunction with the Bridge Bureau, will determine if significant debonding is present.
 - e) Repairs to bridge beams or truss members are specified in the contract and repairs are not complete.
 - f) Equipment outriggers will be used.
 - 3) Full engineering submittal requirements. Submit an engineering analysis and report performed by a Professional Engineer registered in Montana.
 - a) Engineering analysis. Clearly describe loading conditions and assumptions and provide calculations. Investigate an envelope within which the equipment may function without damaging the structure or endangering workers or the public. MDT proposes the following topics, at a minimum. Provide additional information when necessary.
 - (1) Load Cases.

(a) Minimum suggested live load vehicles are Type 3 and Type 3S2 trucks in live load combinations from AASHTO "Manual for Condition Evaluation of Bridges."

(b) Consider all loads on the bridge including axle loads, outriggers, equipment dynamic forces, and wind forces on the load, the boom, and the equipment. Consider deflection and secondary force effects. Include traffic live load if the structure will carry traffic during equipment operations.

(c) Investigate different loading combinations for all configurations. Include the distribution of dead load and changing center-of-gravity of the equipment with and without load at different boom extensions, rotations, and elevations.

(2) Structural Effects. Identify critical members. Determine any conditions under which the equipment cannot safely operate.

(a) Written Report. Provide a report containing a narrative summarizing the results of the analysis. Describe special measures necessary to protect the structure through all phases of the equipment's positioning and use. Include drawings as necessary and indicate any minimum equipment clearances to relevant portions of the structure and to traffic flow. Estimate the work's duration.

D. Method of Measurement. Work associated with this provision is not measured for payment.

E. Basis of Payment. Include all costs associated with the requirements of this provision in the lump sum bid for Structure Analysis. Exception: If a full engineering analysis is required as a result of top mat debonding alone (none of the other criteria listed under C.2 are met) then it will be considered extra work and considered for time extension under 108.07.5.

15. SUBCONTRACTING CONSULTANTS [108] (REVISED 2-27-14 M)

The following consultants performed work on the project.

- Morrison-Maierle, Inc.
- SK Geotechnical
- Dan Brown & Associates
- Modjeski & Masters

16. NOTICE TO BIDDERS [108] (ADDED 11-21-08)

This project is funded in whole or in part by funds received from the Federal Highway Administration (FHWA), and its construction is wholly contingent on the state's continued receipt of those federal funds. If the federal funds are reduced or not received, the Department may choose to terminate the contract for convenience under the provisions of Subsection 108.10. Any bidder on this project, by submitting its bid, understands and accepts the possibility of the contract being terminated in the event federal funds are reduced or not available and by submitting a bid, each bidder waives any claims for costs or damages other than as specifically allowed by Subsection 108.10.2. In particular, bidders understand and accept that no payment will be allowed for any claimed anticipated profit for work not performed.

17. TRAINING PROGRAM [109] (REVISED 3-19-26 M)

Provide on-the-job training for 3 trainees. For more information and requirements of the job training program, see Subsection 109.12.

The Department's Civil Rights Bureau has taken oversight of the Training Program. Within Subsection 109.12, all references to the CES Bureau will now be rescinded and replaced with the Civil Rights Bureau.

18. MOISTURE SENSITIVE SOILS [203] (REVISED 9-11-14)

A. Description. Subsurface investigation for this project indicates that subgrade and/or foundation soils located within the project limits are sensitive to changes in moisture

content and may cause construction difficulties. Use construction methods and equipment appropriate for moisture-sensitive soils.

B. Construction. Unless otherwise specified in the contract or by the Project Manager, limit the length of subgrade exposed to precipitation events to an amount that can be adequately sealed by the contractor within 30 minutes of the start of a precipitation event.

Many possibilities are available to facilitate construction and to achieve proper compaction of the subgrade or foundation soils in the project limits. The Department does not direct the use of any of them. However, in preparing bids, identify measures to address the identified conditions. Some possibilities to consider are:

1) Sealing the surface of all exposed subgrade/foundation by rolling with a smooth drum roller whenever work at a particular location is interrupted for 6 or more hours and at the end of each work day;

2) Grading and sloping the surface of all exposed subgrade/foundation to facilitate unimpeded surface drainage away from the work area; and/or,

3) Allowing soils to adequately dry (including after precipitation events) before attempting any type of construction work on the subgrade/foundation soils.

C. Method of Measurement and Basis of Payment. Include all costs for the method(s) chosen to effectively address construction on moisture sensitive soils in the bid item for unclassified excavation/borrow. No additional compensation will be allowed or given for claimed increased costs to address that portion of the work addressed by this provision.

19. MONTANA FLOODPLAIN AND FLOODWAY MANAGEMENT ACT [208] (REVISED 9-9-21M)

This contract is located within the regulated floodplain of the Clark Fork River, Mineral County, Montana and Incorporated Areas, Community Panel Number 30061C0665D. The Department has obtained a preconstruction floodplain permit from the Mineral County Environmental Health and Planning, P.O. Box 396, 300 River Street, Superior, MT, (406) 822-3525 for the permanent features associated with this contract. A copy of this floodplain permit is available upon request from the Project Manager.

Review Subsection 208.03.3(J) for more information.

20. STORM WATER PERMITTING REQUIREMENTS UNDER THE MT POLLUTANT DISCHARGE ELIMINATION SYSTEM (MPDES) [208] (REVISED 8-10-23)

A. Description. The DEQ regulates storm water discharges under the MPDES program. If the bid package contains blank erosion control plans, a construction storm water discharge permit authorization will be required. If not, a storm water discharge permit authorization may be required for this project depending on Contractor's operations. Sum the disturbance area (as defined by DEQ) identified in the contract with the area of disturbance caused by contractor operations to determine if the permit acreage threshold is exceeded. Contractor operations can include, but are not limited to, the following support activities: staging areas, access roads, material storage areas, temporary concrete, or asphalt batch plants, borrow areas, areas used for fill placement, etc. If the summed disturbance area is one acre or more, use the DEQ authorization to discharge under the MPDES General Permit for Storm Water Discharges Associated with Construction Activity (General Permit) for this project. In order to facilitate permit transfer, separate NOI packages are required for areas within the right-of-way and areas outside of the right-of-way. A NOI package includes a Notice of Intent, with a topographic map, a SWPPP, the erosion control plans, sage grouse consultation letter, if applicable, and supporting documentation.

Blank Erosion Control Plans, and a topographic map, are provided with the plans if the plans include greater than 1 acre of disturbance. Complete the erosion control plans as required by the general permit. Complete the SWPPP using DEQ's most current SWPPP Form.

B. Materials. Follow the requirements described in the Department's *Erosion and Sediment Control Best Management Practices Manual (December 2016)*. Rescind Section 208 detailed drawings. Submit to the Project Manager for review and acceptance BMPs proposed for use that are not included in the Manual.

C. Construction Requirements.

1) MPDES Permit Required.

a) Submit one NOI package and the associated fees to DEQ for ground disturbance areas shown in the plans or within the right-of-way. For ground disturbance areas shown in the plans and any other areas within the right-of-way where Contractor activities causing ground disturbance are planned, the Contractor is the sole permittee until construction is complete and the General Permit is transferred to the Department or another entity.

The Department is not responsible for delays caused by incomplete or inaccurate submittals by the Contractor.

Comply with the requirements of the General Permit and implement the SWPPP. Provide an electronic copy of the NOI Package submitted to DEQ and confirmation for receipt of a complete NOI Package from DEQ to the Project Manager prior to conducting any ground disturbance activities.

Do not begin construction activities until the required copy of the NOI Package submitted to DEQ and confirmation for receipt of a complete NOI Package from DEQ is received by the Project Manager.

b) Furnish and install public signage as required by the General Permit. Include the cost of the required sign(s) in the Temporary Erosion Control Lump Sum bid item. Submit a separate NOI package and the associated fees to DEQ for ground disturbance and support activity areas outside the right-of-way and not shown in the plans. Contractor furnished material sources, staging areas, plant sites, or any other Contractor caused ground disturbance outside the right-of-way and not shown in the plans, are the Contractor's responsibility and must be submitted under a separate NOI package from the ground disturbance within the right-of-way. For all support activities outside the right-of-way which are not part of a larger commercial operation serving multiple unrelated construction activities and will not continue operation beyond the completion of the contracted road construction activity, a notice of intent package must be submitted to DEQ to obtain an authorization under the General Permit. Sand and gravel borrow area operations, gravel pits, and/or concrete batch plants that will continue operation beyond the completion of the contracted road project, are part of a larger commercial operation, or serving multiple unrelated construction activities, must obtain permit coverage under the Multi-Sector General Permit for Storm Water Discharges Associated with Industrial Activity (MSGP) regardless of acreage size of the activity if the activity does not already have MSGP authorization. The Contractor is the sole permittee until stabilization is complete and the General Permit is terminated or transferred to another entity. The Department is not responsible for delays caused by incomplete or inaccurate submittals to DEQ by the Contractor.

Provide copies of all NOI Packages submitted to DEQ and confirmations for receipt of complete NOI Packages from DEQ to the Project Manager prior to conducting any ground disturbance activities.

Be responsible for all temporary erosion, sediment, and pollution prevention controls for Contractor furnished material sources, staging areas, plant sites, or any other Contractor caused ground disturbance outside the right-of-way and not shown in the plans.

c) Complete and document all inspections in accordance with the requirements of the General Permit. Use DEQ's most current self-inspection form available online at: <https://deq.mt.gov/files/Water/WQInfo/Documents/WPBFForms/2023-Attachment-B-MTR100000.pdf>. Provide a copy of all inspection reports to the Project Manager within 7 calendar days of the inspection.

Report potential noncompliance in accordance with applicable regulations, guidance, and permit conditions. Submit to the Project Manager within 7 calendar days of sending or

receiving all correspondence to or from regulatory agencies regarding potential noncompliance or violations.

The temporary erosion and sediment control measures and devices to prevent pollution and control sediment transport and soil erosion will be inspected as part of the final inspection to ensure they are maintained and functioning properly. Do not transfer or terminate the General Permit coverage until the BMPs are inspected and accepted and all records required under the permit, including inspection and monitoring reports, are furnished to the Project Manager and authorization is received from the Department. The Department may require that certain BMPs be replaced by another type of BMP as a condition of permit transfer.

Upon approval of site conditions, measures, devices and all pertinent records, the Department will notify the Contractor to begin the Permit Transfer Notification in DEQ FACTS. Once completed, provide verification that all fees have been paid and the permit is ready for transfer in DEQ FACTS. The Department is not liable for the completeness or accuracy of Contractor records completed prior to the permit transfer. Ensure permit conditions and responsibilities are met until confirmation of the transfer is received from DEQ. Defend and hold the Department harmless from any violations, claims, enforcement actions, penalties or fines issued for Contractor activities or recordkeeping that occurred prior to the transfer of the General Permit.

If the Department concurs that final stabilization has been met during the final walk-through, the Contractor may submit a Notice of Termination form to DEQ. Pay the annual fee invoice due at the time of termination. Submit the annual fee invoice to the Project Manager for reimbursement.

2) MPDES Permit not Required.

The BMP-Administration item is included in contracts that may not meet either criteria for an MPDES permit but include ground disturbing activities. Complete BMP inspections and install BMPs, if necessary, in accordance with Section 208, if no storm water permit is required. Utilize form MDT-ENV-014, Water Pollution Control Inspection Report. A certified SWPPP Administrator is not required to conduct the inspections if no permit is required.

D. Method of Measurement. DEQ MPDES fees and monitoring costs associated with obtaining and maintaining the General Permit for ground disturbance areas both within and outside the right-of-way are not measured separately for payment.

If no permit is necessary, include the cost of all erosion control, devices, and inspections in the BMP-Administration bid item.

E. Basis of Payment. No additional payment will be made for the DEQ MPDES fees and monitoring costs associated with the General Permit. Include these costs in the Temporary Erosion Control-Lump Sum bid item.

For project including the BMP-Administration item, include the cost of all erosion control, devices, and inspections in the BMP-Administration bid item. Partial payment for the BMP-Administration will be monthly based on the lump sum contract price in accordance with Table 208-2 in Subsection 208.05.1.

Payment for BMPs required by an event or extra work, and approved by the Project Manager, will be measured and paid for in accordance with the Erosion Control Rate Schedule contained in the contract at a unit price of \$1.00 per unit.

21. ENVIRONMENTAL SPECIFICATIONS [208]

The Contractor is required to review and meet the specifications of the following subsections:

Water Pollution Control	Subsection 208.03.1
Aquatic Resource Protection	Subsection 208.03.2
AIS Watercraft and Equipment Inspection	Subsection 208.03.2D
Migratory Bird Treaty Act Compliance – Vegetation Removal	Subsection 208.03.4A(1)

Migratory Bird Treaty Act Compliance – Structures	Subsection 208.03.4A(2)
Work in Bear Habitat	Subsection 208.03.4E

22. CLEAN WATER ACT SECTION 404 PERMIT AND SECTION 401 CERTIFICATION

A. Description. This provision describes the project work that has been authorized under Sections 404 and 401 of the Clean Water Act (CWA) and the associated conditions that must be adhered to for compliance with CWA requirements.

B. Section 404 CWA Nationwide Permit 14 Description. The permanent features of this project are authorized under US Army Corps of Engineers Nationwide Permit 14 – Linear Transportation Projects, (Army Corps File Number NWO-2023-00159-MT).

1) The permit for this project authorizes the following permanent features within waters of the US.

a) Permanent impact, from removing two existing piers, of 700 Cubic Yards impacting 0.25 acres of streambed below the OHWM of the Clark Fork River, Section 1, Township 14N, Range 24W. Latitude 47.003767, Longitude -114.579023

b) Permanent impact of 0.007 acres of streambed below the OHWM of the Clark Fork River (605+40.43), Section 1, Township 14N, Range 24W. 47.003767, Longitude - 114.579023.

2) This authorization is valid until March 14, 2026.

3) Obtain the 2021 Nationwide Permit 14 Fact Sheet that fully describes the Nationwide Permit 14 and lists the General Conditions that must be adhered to for this authorization to remain valid. Adhere to the General Conditions.

C. Section 404 CWA Nationwide Permit 33 Description. Obtain authorization for the temporary features of this project (e.g. work bridges, work pads, cofferdams, diversions, etc.) under US Army Corps of Engineers Nationwide Permit 33 – Temporary Construction, Access, and Dewatering.

1) Acquire an additional Section 404 Permit and 401 Certification authorization for temporary discharges that are:

a) Located within 100 feet of the water source in natural spring areas;

b) Within the boundaries of any Tribal Reservation or Tribal trust lands;

c) Within the following waterways and their impoundments: Kootenai River, Missouri River, Yellowstone River, Bitterroot River, Clark Fork River (tributary to the Columbia River), Flathead River, Flathead Lake, and Milk River; or,

d) Within Special River Management Zone of the Upper Yellowstone River.

Prepare and submit a joint application in accordance with Section 208.03.3. MDT is not responsible for delays caused by incomplete or inaccurate submittals by the Contractor.

2) For all other temporary discharges, submit a written description to the Project Manager detailing the temporary facilities planned for the project, along with the associated restoration plan. Allow 5 working days for the Project Manager to review the plan and confirm CWA 404 pre-construction notification is not required. For temporary discharges authorized under Nationwide Permit 33 without pre-construction notification, the authorization is valid until March 14, 2026.

3) Obtain the 2021 Nationwide Permit 33 Fact Sheet that fully describes the Nationwide Permit 33 and lists the General Conditions that must be adhered to for this authorization to remain valid. Adhere to the General Conditions.

D. CWA Section 404 Regional Conditions. Obtain the 2011 Nationwide Permits Regional Conditions, Omaha District, State of Montana, Effective February 25, 2022, that also apply to this project and must be adhered to for these authorizations to remain valid. Adhere to the Regional Conditions, including but not limited to the following:

1) Temporary fills in wetlands must be placed on a horizontal marker layer, such as fabric or certified weed-free straw, to delineate the pre-project ground elevation and facilitate complete fill removal and site restoration.

2) All erosion control blanket or fabric used in or adjacent to waters of the U.S. must be comprised of degradable material to ensure decomposition. Do not use material that includes stabilized netting or stabilized open mesh, as these products take a long time to degrade and they can trap small animals, birds, amphibians and fish. This prohibition also applies to mesh materials used for wattles, rolled materials, and bank wraps. Erosion control blanket or fabrics that break down within 24 months are acceptable. Non-degradable blankets or fabric may be allowed on a case-specific basis if it will be buried beneath riprap or structures and it is not likely to be exposed. Non-degradable blanket or fabric that becomes exposed within waters of the US must be removed.

E. CWA Section 401 Water Quality Certification is granted for Nationwide Permits 14 and 33 by the Montana Department of Environmental Quality (DEQ), provided that certain general and special conditions are met.

1) Obtain the water quality certification requirements issued by DEQ on December 14, 2020. Adhere to those general and special conditions.

2) Notification in accordance with General Condition E.1 has been fulfilled by MDT.

F. Copies of the 2021 Nationwide Permit Fact Sheets for Nationwide Permits 14 and 33, the 2021 Nationwide Permit Regional Conditions for the State of Montana, and DEQ's 401 Water Quality Certification requirements for the 2021 Nationwide Permits are available upon request from Environmental Services or on the web at <http://www.mdt.mt.gov/business/contracting/environmental/cwa.shtml>.

Coordinate with the project manager if you have questions regarding this authorization. Proposed changes to the permanent structures should be directed to the project manager for coordination with the District Environmental Project Engineer in the Environmental Services Bureau. Temporary facility permitting and/or general permit questions should be directed to the project manager for coordination with the District Environmental Engineering Specialist.

23. STREAM PROTECTION ACT 124 [208]

A. Description. The proposed project has been authorized by Preconstruction Stream Protection Act (SPA) 124 Permit No.: MDT-R2-01-2026, by the Montana Department of Fish, Wildlife, and Parks (FWP); provided the General and Special Conditions listed below are followed. This Preconstruction SPA 124 authorizes the permanent features at the following locations:

1) Clark Fork River – approximate Station 604+30.

B. General Conditions

1) Obtain a temporary facility SPA 124 Permit/Authorization in accordance with Subsection 208.03.3.2B.

C. Special Conditions

1) Meet on the project site with FWP, MDT staff and contractors prior to preparation of the contractor's temporary facilities SPA 124 application to discuss:

a) Avoidance, minimization, or mitigation for impacts to the bed and banks of the Clark Fork River during construction. Identifying areas of potential construction impacts throughout the project area and any necessary sediment and erosion controls.

b) Reclamation of any temporary access points and access roads and reseed back to preconstruction conditions, including re-contouring to pre-project condition, re-vegetation plan, and weed control.

c) Equipment and materials staging areas, project timing and schedule and other applicable aspects.

2) Ensure FWP is updated as project designs and volumes change.

3) Notify the Project Manager a minimum of 10 working days prior to starting work authorized under this permit. The Project Manager will notify the District Biologist a minimum of 5 working days prior to starting this work.

4) Obtain a Short-Term Water Quality Standard for Turbidity (318 Authorization) from DEQ in accordance with Subsection 208.03.3D.

D. Contact the Project Manager for coordination with the District Biologist on questions regarding this authorization. Copies of the Preconstruction SPA 124 Authorization are available upon request from Environmental Services.

24. LEAD-BASED PAINT (LBP) REMOVAL AND DISPOSAL

A. Description. Lead and other heavy metal-based paint removed from highway bridge structures is considered a hazardous waste.

EPA defines a LBP inspection as a surface-by-surface investigation to determine the presence of LBP. EPA defines LBP as any surface coating that contains 1.0 milligram per square centimeter (mg/cm² or 0.5% by weight). The paint was tested utilizing field X-Ray Fluorescent (XRF) methodology along with paint chips of the main support beams that determined that lead is present in the paint exceeding those levels. The highest concentration detected was 2.2% by weight. Lead-based paint can cause serious health effects on workers and the environment if precautionary measures are not conducted.

B. Construction Requirements.

1) Do not remove any paint covering the existing steel structure if not necessary for demolition. Salvage steel coated with lead-based paint with the paint left on. Do not allow paint to escape into the environment. Immediately halt work if lead-based paint waste is observed to be entering the environment and re-evaluate work procedures to prevent any release of lead-based paint to the environment.

2) If lead based paint is disturbed as necessary for demolition, containerize and dispose of any lead-based paint waste in accordance with applicable regulations, which may include RCRA regulations (40 CFR Parts 266-299). Comply with all storage and transportation requirements.

3) Salvage the existing steel structure in accordance with applicable state and federal regulations.

C. Contractor Responsibilities.

1) Be familiar with and perform all work in accordance with all applicable standards provided in the Code of Federal Regulations, Title 29 Part 26, including the OSHA Hazard Communication Standard (29 CFR 1926.59), the OSHA Lead Standard (29 CFR 1926.62), and the OSHA Respiratory Standard (29 CFR 1926.134); the Resource Conservation and Recovery Act (40 CFR Parts 266-299) and Administrative Rules of Montana Title 17 Chapter 53. To obtain copies of the Federal regulations, contact the U.S. Governments Printing Office at (202) 783-3238. Questions concerning state regulations or to obtain copies of state regulations, contact the Montana Department of Environmental Quality, Hazardous Waste Program at 406-444-5300.

2) Be entirely responsible for all health and safety requirements for workers when cutting and handling any bridge material coated with lead-based paint.

D. Basis of Payment. Include the costs associated with the requirements of this special provision in the cost of other items.

25. PROTECTION OF AQUATIC RESOURCES AND THREATENED AND ENDANGERED SPECIES [208]

A. Description. The following approximate location(s) have been identified as apparent aquatic resources in the project limits:

1) Clark Fork River is a documented bull trout occupied waterbody and is designated bull trout critical habitat within the project limits.

B. Construction. Conduct work in a manner that avoids impacts to aquatic resources. Prevent all non-permitted material from entering aquatic resources through the implementation of BMP's for aquatic resource protection. Meet all applicable requirements

contained within the current MDT Standard Specifications subsections 208.03.1 Water Pollution Control and 208.03.2 Aquatic Resource Protection.

- 1) Submit an aquatic resource protection plan to the Project Manager detailing the BMPs or alternate methods proposed for each location a minimum of 10 business days prior to start of work. Modification(s) to the Contractor's aquatic resource protection plan or BMPs requires approval from the Project Manager.
- 2) Stop work and immediately notify the MDT Project Manager if any material enters any aquatic resource. The Project Manager will direct the resumption of work only after the non-compliance is resolved.

26. CONSERVATION AND COORDINATION MEASURES FOR BULL TROUT [208]

A. Description. Bull trout, protected under the Endangered Species Act, are documented in the Clark Fork River in the vicinity of this project and the river is designated critical habitat. Contact the Project Manager for coordination with the District Biologist if you have any questions regarding this authorization.

B. Construction Requirements.

1) To minimize the risk of barotrauma and fish mortality from driving piles for construction of the new bridge and any temporary work bridges, both on dry land and in water, according to the Biological Opinion rendered by the U.S. Fish and Wildlife Service:

- a) Impact pile driving may occur between July 15 and August 31.
- b) If impact pile driving is necessary to occur outside the July 15 to August 31 work window:

(1) Limit the periods of impact pile driving to no more than 12 hours per day, except in rare circumstances when safety issues require the work to be completed that day. The project manager must be notified and approve pile driving that exceeds 12 hours per day. The project manager will notify the Department's District Biologist, who will then notify the Service.

(2) Conduct hydroacoustic monitoring. Through hydroacoustic monitoring, it is possible that the physical harm thresholds of the peak sound pressure level (SPL) of 206 decibels (dB; re: 1 micropascal [μ Pa]) or the cumulative sound exposure level (SEL) of 187 decibel (re: 1 μ Pa) may be attained or exceeded during the calibration exercise. The calibration period will be limited in duration with the purpose of obtaining a representative sample of piles (e.g., size and materials) and locations to ensure that the appropriate sound information is collected for use in the National Marine Fisheries Service Calculator Tool. In combination with hydroacoustic monitoring, use one of the following measures:

(a) Use a vibratory hammer to drive piles to a point where an impact hammer will be required to drive the pile to the point of completion; OR

(b) For production piledriving, use a "soft start" or "ramp up" pile driving method (e.g., driving does not begin at 100% energy) to encourage fish to vacate the surrounding area. Use the information collected during the hydroacoustic monitoring calibration and the National Marine Fisheries Service Calculator Tool to determine how many pile strikes can occur during a day, based on pile type and size, before reaching the cumulative SEL threshold of 187 dB. Once the number of strikes has been attained, impact pile driving must be stopped for the day. If pile driving with an impact hammer over consecutive days, do not drive piling between the hours of 9:00 PM and 6:00 AM; OR

(c) Use Department approved noise reduction methods, such as those offered in Leslie and Schwertner (2013; e.g., bubble curtains).

(3) The Department and Administration will coordinate with the Service so that a representative of the Service may be present during the calibration exercise(s).

2) To the maximum extent practicable, disassemble and remove the existing bridge without pieces being allowed to fall into the river. If debris or portions of the existing bridge enter the river during demolition, remove them from the river without dragging the material along the streambed.

3) Any blasting required during demolition will be contained to the maximum extent practicable using some type of containment shielding device to attenuate the blast's pressure wave within the water and to prevent debris from entering the river. Meet all applicable requirements contained within the current MDT Standard Specifications Section 204 – Blasting. Any blasting shall conform to the same work window as for in-water pile driving (July 15-August 31).

4) Instream work conducted within the channel shall be kept to the minimum amount necessary and conducted during periods of low flow, typically July 15 to October 15. This includes, but is not limited to, construction and removal of pilings for any temporary support structures that may be necessary. Instream construction work shall be completed in the shortest amount of time possible.

5) Visually monitor all dewatering activities to ensure bull trout are not trapped. In the unlikely event a live bull trout is found within a dewatering area, immediately return it to the river. Should this occur, notify the Department Project Manager and record information relative to the date and approximate size of the individual(s). The Project Manager will contact the Service Field Office at (406) 449-5225 within 24 hours.

6) Upon locating dead or injured bull trout, notify the MDT Project Manager and record information relative to the date, time, and location of dead or injured bull trout when/if found. Include any activities that were occurring at the location and time of injury and/or death of each fish and provide this information to the USFWS. The Project Manager will contact the USFWS Field Office at (406) 449-5225 within 24 hours.

7) Conduct project-related activities outside of construction limits in a manner which will not adversely affect species and/or designated critical habitat listed under the Endangered Species Act.

8) Additional standard BMPs will be implemented with the project to include the following:

a) Minimizing the site disturbance to only the area absolutely necessary to complete the project.

(1) Clearing and grubbing should not be allowed within the ROW beyond the construction limits or required clear zone. Any temporary clearing outside the construction limits (e.g., for culvert installation, etc.) but within the ROW should be kept to the smallest area possible and reclaimed immediately following construction.

(a) Minimize impact on riparian vegetation fringing the project area and the Clark Fork River to the greatest extent practicable.

(b) All excavated material that cannot be reused as backfill will be contained and hauled off site.

(c) Stabilize exposed soils with a desirable native vegetation community as soon as feasible.

27. INCREASE IN TURBIDITY [208] (REVISED 10-8-15)

A. Description. Montana Fish, Wildlife and Parks (FWP) has determined that this project may cause a significant increase in turbidity.

B. Requirement. Contact the Department of Environmental Quality (DEQ) to determine narrative conditions required to meet short-term (318 Authorization) water quality standards and protect aquatic biota.

1) Complete and submit the Joint Application for Proposed Work in Montana's Streams, Wetlands, Floodplains, and Other Water Bodies (Application Revised 6-5-2015) and all required attachments, according to the applications instructions. Form can be down loaded from: <http://dnrc.mt.gov/licenses-and-permits/stream-permitting>.

2) Application fees are the responsibility of the Contractor.

3) Do not begin any work that will affect a Montana stream, wetland, floodplain, and/or other water body until a valid 318 Authorization is received from DEQ. Other permits/authorizations may also be required for the proposed work.

C. Basis of payment. Include the cost to obtain this permit in the mobilization bid item.

28. BASE PRICE FOR CONCRETE [551] (REVISED 12-17-20)

Price reductions measured by the cubic yard will be calculated using the greater of the contract bid price or \$500 per cubic yard for the following items:

- Class Deck
- Class Overlay
- Class Structure
- Class Structure – Low Slump

Price Reductions for Class Drilled Shaft item will be calculated using the greater of the contract bid price or \$300 per cubic yard.

29. STEEL STRUCTURES [556] (ADDED 6-05-25)

Rescind Section 556 Steel Structures and replace with the following:

A. Description. This work is the furnishing, fabricating, painting, and erecting of steel structures and the steel structure portions of composite structures.

The Department uses 490 pounds per cubic foot to calculate the weight of structural steel.

The weights of rolled shapes and plates up to and including 36 inches in width are computed based on their nominal weights and dimensions as shown on the shop drawings. One-half of the allowed percentage of overrun in weight as tabulated in ASTM A6 will be added to the nominal weights of plates exceeding 36 inches in width. The weight is computed on the basis of rectangular dimensions for all plates and overall lengths for all structural shapes with no deductions for copes, slips, sheared edges, punching, borings, milling, or planing. When parts can be economically cut in multiples from materials of larger dimension, the calculated weight is that of the material from which the parts are cut.

Bolts, nuts, and washer weights are the calculated weight in the AISC Manual of Steel Construction.

Weld metal weight is not computed.

B. Materials. Furnish materials in accordance with the following subsection requirements:

Bearing Assembly Anchor Bolts for Bridges	711.13
Bolts and Nuts	711.07
Castings	711.12
Compression Joint Seals	711.15
Elastomeric Bearing Devices	711.14
Fiber-reinforced Pads for Bearing Plates	711.16
Galvanized Metal	711.08
High Strength Bolts	711.06
Pins and Rollers	711.04
Structural Steel	711.02
Structural Steel Tubing	711.03
Welding Electrodes	711.05
Welded Stud Shear Connectors	711.09

C. Construction Requirements

For the fabrication of steel structures, follow AASHTO LRFD Bridge Construction Specifications, and the AASHTO LRFD Steel Bridge Fabrication Specifications. unless otherwise specified in the contract.

D. 556.03.1 Pre-Qualification for Steel Fabricators

Use metal fabricators that are pre-qualified under the AISC Quality Certification Program for the items listed below. The Department will make an exemption for new manufacturing plants that are of the same ownership as an existing certified plant, provided the new manufacturing plant operates under the same quality assurance and control programs as the certified plants, modified to address any production differences, and all fabrication is performed under the direct supervision of a quality assurance and control manager provided by an existing pre-qualified plant. Direct supervision means that the quality assurance and control manager is on site during all fabrication performed in the new fabrication plant and is responsible for the quality assurance and control activities. For new manufacturing plants, submit and receive approval of any proposed modifications to the parent plant's quality assurance and control program prior to beginning production. Allow 30 business days from the date submitted for Department review and approval. New manufacturing plants may operate under the parent plant's quality assurance and control programs for a maximum of 18 months from the date of opening. Items not listed may be fabricated by non-certified shops. Use metal fabricators having the following AISC quality certification categories:

- 1) Use fabricators having Advanced Bridges (ABR) certification to fabricate the following:
 - a) Fracture critical members and attachments. Fabricators must have the Fracture Critical Endorsement (F).
 - b) Tub, trapezoidal or closed box girders, large or non-preassembled trusses [over 200 feet] cable supported bridges, bascule bridges, arches, and bridges with tight radius.
- 2) Use fabricators having Intermediate Bridges (IBR) certification to fabricate the following:
 - a) Fracture critical members and attachments. Fabricators must have the Fracture Critical Endorsement (F).
 - b) Rolled beams with field or shop splices, either straight or with a radius over 500 feet.
 - c) Built-up I-shaped plate girders with constant depth, either straight or with a radius over 500 feet.
 - d) Built-up I-shaped plate girders with variable web depth (e.g., haunched), either straight or with a radius over 1000 feet.
 - e) A truss with a length of 200 feet or less that is entirely or substantially pre-assembled at a certified facility and shipped in no more than three sub-assemblies.
 - f) Welded floor beams.
 - g) Diaphragms for horizontally curved girders.
- 3) Use fabricators having Simple Bridges (SBR) certification to fabricate the following:
 - a) Non-spliced rolled beams.
 - b) Non-spliced rolled floor beams.
 - c) Non-spliced rolled diaphragms for straight girders (does not include diaphragms used for concrete beams).
- 4) Use fabricators having an SBR or Bridge and Highway Metal Component Manufacturers certification to fabricate the following:
 - a) Bridge expansion joints.
 - b) Steel grid decking.
 - c) Bridge expansion bearings.
 - d) Overhead sign bridge and cantilever sign structures.

e) Lighting poles and anchor bases.

E. 556.03.2 Submittals

1) Fabrication Drawings. Prior to fabricating members, submit fabrication drawings and include the following information. The Department will have 20 calendar days to review.

a) An erection layout with each member assigned a production number.

b) A tentative fabrication schedule.

c) Denote any changes from the details in the contract.

d) All dimensions, geometrical information, details, and other data required for fabrication. Include camber information, blocking diagrams and shop splices.

e) Denote specification, grade, finish, required toughness testing and required surface preparation for all steel plates, shapes, pipes, tubes, bars, and all miscellaneous hardware such as shear studs, bolts, stud bolts, threaded rods, nuts, and washers.

f) Identify the applicable specification for galvanized items. Specify paint type, manufacturer and recommended dried film thickness for each coat applied in the shop for painted items. Also identify surface preparation for each item to be painted. For paint requirements see Sections 612 and 710.

g) A list of field bolts and other items furnished by the fabricator:

h) Appropriate weld sizes, symbols, requirements for non-destructive testing, heat cambering and bending procedures. Provide welding certifications and welding procedure specifications and any supporting documentation for all welding required for fabrication. For welding requirements see Section 624; and

i) Welding Procedure Specification (WPS) identification is required in the weld symbol tail for all weld symbols shown on the shop drawings.

Submit shop drawings of welding procedures and design calculations. Ensure the submittal includes all information required to check the structural accuracy and fabrication procedures for the structure.

Structural shop drawings must be designed and stamped by a professional engineer registered and licensed to conduct engineering in the State of Montana.

Do not begin fabrication until the Department approved drawings are received by both the plant and the Project Manager. Coordinate the fabrication schedule with the Project Manager.

2) Certificate of Compliance. Furnish a manufacturer's Certificate of Compliance for all bolts, nuts, washers, and load indicator washers. Include documentation in accordance with Subsection 106.09 and test reports performed on the finished bolt confirming that all of the materials provided meet the requirements of the applicable AASHTO or ASTM specification. The documentation must include the name and address of the test laboratory, the date of testing, lot identification and the sample sizes of bolts and nuts used for each test performed for the certification.

Submit the following items before installation: The Department will have 20 calendar days to review.

a) The certification from the supplier showing that all tests required by the AASHTO and ASTM specifications have been performed. Include the date and location of those tests, as well as the production lot numbers, and the sample sizes used for each test performed with the certification.

b) The certification from the supplier showing that the wedge tests and rotational capacity tests have been performed. Also show production lot numbers, dates, locations, and sample sizes of these tests and who performed them.

c) Three bolt, nut, and washer assemblies from each rotational capacity test lot for verification by the Department.

d) Do not install fasteners prior to receiving approval.

F. 556.03.3 Mill and Shop Inspection

1) Inspection of Work. Do not begin manufacturing or shop fabrication until the Department's Inspector has inspected the shop.

2) Facilities for Inspection. Furnish facilities for inspecting the material and workmanship in the mill and shop. Always allow the Inspector free access to the work.

3) Inspector's Authority. The Inspector may reject material or work not in accordance with the specifications. In case of dispute, the Contractor may appeal the Inspector's decision to the Project Manager.

4) Mill Test Reports. Provide the Project Manager signed documentation in accordance with Subsection 106.09. Certify all steel meets the project specifications. Identify each piece of steel with a mark number on the mill test report.

5) Facilities for Testing. Furnish, at Contractor expense, test specimens, labor, testing machines, and tools to make the specimens and tests.

6) Rejections. Material or finished members accepted by the Inspector may be rejected if the material is subsequently found defective. Replace or repair rejected material at Contractor expense.

G. 556.03.4 Storage and Handling of Materials

Mark alloy and high-strength steels as required by the AASHTO LRFD Bridge Construction Specifications. Mark material required to meet a Charpy requirement for identification.

1) Store materials off the ground and keep them clean and dry.

2) Place and store girders upright.

3) Support long members, including but not limited to columns, chords, and girders on blocks spaced to prevent deflection.

4) Store high-strength fastener components in accordance with the manufacturer's recommendations.

5) Store the bolts and nuts in the original containers until used.

6) Protect from dirt and moisture.

7) Remove only as many fasteners from protected storage as can be tightened during a work shift and return unused fasteners to protected storage at the end of each work shift.

H. 556.03.5 Quality Control

Prepare and submit a quality control (QC) plan for ensuring the quality of all work and conformance to specifications. The Department will have 20 calendar days to review.

Ensure that all nondestructive testing (NDT) is performed by personnel qualified in conformance with the American Society for Nondestructive Testing (ASNT) Recommended Practice No. SNT-TC-1A to minimum Testing Level II for the individual methods. Ensure that the QC plan meets the following minimum requirements:

Include descriptions of any necessary pre-work meetings, procedures to verify materials meet approved submittals, and QC testing plan.

1) NDT, Radiographic Inspection. Inspect 100% of all complete joint penetration (CJP) groove welds.

2) NDT, Ultrasonic Inspection. Inspect 100% of all CJP groove welds on plates thicker than ¼-inch.

3) NDT, Magnetic Particle Inspection. Randomly inspect 25% of all welding for each member throughout the entire structure in accordance with AWS D1.5 bridge welding code. The Project Manager reserves the right to select locations for testing.

4) Personnel qualifications. Include the qualifications of the specific individuals that will be performing the QC testing.

5) Quality control manager. Identify the QC manager that will be the primary contact person for all QC communication. Ensure that this person is responsible for all QC work.

6) NDT, Phased Array Ultrasonic Testing (PAUT). This method may be used in place of RT and UT for the inspection of CJP groove welds. Perform all aspects of PAUT

inspection in accordance with AWS D1.5, Annex K. Provide, for approval, a submittal package 30 days prior to inspection. Provide all information, qualifications, etc. needed to determine the requirements of Annex K can be met. Include the inspector's history of successful NDT projects specific to PAUT and the requirements of AWS D1.5.

Complete reports of all QC testing as the testing is performed. Identify in the reports any deviations from specifications, standards, or the QC plan and a discussion of why the deviation occurred. Submit any reports containing any deviations, defects, or non-compliance to the Project Manager within 24 hours. Make other reports available upon request. Submit repair plans for approval. The Department will have 3 working days to review.

At the completion of fabrication, and before shipment, provide all QC reports and a certification signed by the quality control manager that contains the following statement and supporting information:

Required Statement: "This is to certify that the quality control plan was followed and that the results of the quality control program indicate that the materials and the construction operations controlled by the quality control plan are in conformity with the approved plans and specifications. Exceptions to the plans, specifications, and quality control plan are described below."

I. 556.03.6 Pilot and Driving Nuts for Pins.

Furnish 2 pilot nuts and 2 driving nuts for each size of pin unless otherwise specified.

Pilot and driving nuts are not required when shoes are assembled at the fabrication plant.

J. 556.03.7 Bolts and Bolted Connections

1) General.

a) When galvanized fasteners are specified, furnish assemblies manufactured with a visible dye, so a visual check verifies the presence of lubricant at installation.

b) When uncoated fasteners are specified, use black fasteners oily to the touch at installation.

c) Use beveled washers to provide full bearing to the head or nut where bolts are used on beveled surfaces.

2) Definitions. Terms are defined in the Steel Structures Technology Center, Inc. Structural Bolting Handbook, 2022 ed. (Bolting Handbook).

3) Unfinished Bolts. Furnish standard unfinished bolts. Furnish bolts that extend through the nuts a maximum ¼-inch.

a) Breakaway Connections. Install breakaway connections in accordance with the breakaway device manufacturer's recommendations.

b) Temporary Bolts. When used, temporary bolts are required to be of the same diameter as the production bolt and clearly marked or coated to distinguish them from permanent bolts. They are exempt from testing and storage requirements and may be re-used as temporary bolts.

K. 556.03.8 Bolted Connections - High-Tensile-Strength Bolts

Submittals. Prior to installing bolts, submit the following for review and approval. The Department will have 20 calendar days to review.

- Erection Plan. Submit an erection plan meeting 556.03.14.
- Installation Method. Submit the method(s) that will be used:
- Turn of the nut,
- Calibrated wrench,
- Direct Tension Indicator (DTI),
- Tension Control Bolts (twist-off),
- Combined Method (Torque Nut Angle)

1) General. Make bolted connections in accordance with the most current version of Steel Structures Technology Center's Structural Bolting Handbook (Bolting Handbook), which is a compilation of the Research Council on Structural Connections (RCSC 2020 ed.), AISC (2022 ed.), and AASHTO (4th ed. 2017 with interim) code requirements.

In the event of a conflict between this Special Provision, a code, and the Bolting Handbook, the hierarchy is as follows: 1. This Special Provision, 2. code, 3. Bolting Handbook. All provisions termed as “recommendations” in the Bolting Handbook are contract requirements.

Jobsite Storage. Store bolting components as required in the Bolting Handbook.

Production Lot Traceability. Protect bolt container labels from damage. Maintain lot traceability of each component during storage and handling, so that any component’s lot number will be identifiable until the point of installation.

Component Assembly Condition. Do not install components that are rusty, dirty, or otherwise damaged/compromised.

Tension Control (Twist-Off) Assemblies. Reject tension control components that are rusty or dirty, or otherwise compromised, or have them cleaned and relubricated by the original manufacturer.

Other Components. Reject other components that are rusty or dirty or clean/relubricate according to the Bolting Handbook. Suppliers written recommendations for type and application of lubrication are required and must be applied to all remaining components of the lot(s) in question.

a) Bolt Lengths. Use bolt lengths having the grip-length values in Table 556-1 plus the total thickness of connected material. The values in Table 556-1 consider nut, one flat washer, and bolt point.

Increase the bolt length $\frac{1}{8}$ -inch if direct tension indicator washers are used.

Adjust the length to the next $\frac{1}{4}$ -inch increment up to a 5-inch bolt and to the next $\frac{1}{2}$ -inch increment for bolts over 5 inches.

Table 556-1
Bolt Length Determination

Bolt Diameter	Added Grip Length ¹
English	
$\frac{1}{2}$ -inch	$\frac{7}{8}$ -inch
$\frac{5}{8}$ -inch	1-inch
$\frac{3}{4}$ -inch	1 $\frac{1}{8}$ -inch
$\frac{7}{8}$ -inch	1 $\frac{3}{8}$ -inch
1-inch	1 $\frac{1}{2}$ -inch
1 $\frac{1}{8}$ -inch	1 $\frac{5}{8}$ -inch
1 $\frac{1}{4}$ -inch	1 $\frac{3}{4}$ -inch
Metric	
M16	25 mm
M20	30 mm
M22	35 mm
M24	40 mm

Note: Add to total thickness of connected material.

Where beveled washers are used, adjust bolt lengths to account for the use of nonstandard or beveled washers.

b) Bolted Parts. Ensure bolted surfaces in contact with the bolt head and nut do not have a slope of more than 1V:20H to a plane normal to the bolt axis.

Provide a Class B finish, in accordance with AASHTO LRFD Bridge Construction Specifications for all faying surfaces. Restore the Class B finish for faying surfaces that have degraded prior to joint assembly.

c) Washers. Install hardened washer(s) under the turned component and in accordance with the Bolting Handbook.

Pre-Erection Meeting. Schedule a pre-erection meeting to be at least seven calendar days before beginning steel erection and prior to installation of permanent high strength bolts, to review the bolting requirements and the approved erection sequence. The Project Manager, Steel Fabrication Specialist (or their designee), and the bolting crew supervisor(s) are required to attend the meeting. Repeat annually for multi-year projects.

2) Pre-Installation Verification (PIV) Testing. Perform Pre-installation verification procedures in accordance with the Bolting Handbook. Retest when directed by the Project Manager. Use a Skidmore Wilhelm Bolt Tension Measuring Device (BTMD) or equal that has been calibrated by the manufacturer or testing laboratory within the last 12 months. Keep calibration documentation with the BTMD. Notify the Project Manager at least seven calendar days prior to PIV testing. The Steel Fabrication Specialist or their designee must be present during PIV testing.

For all installation methods, use the same tools for PIV testing that will be used during the installation.

The Steel Fabrication Specialist or their designee will issue a written certification for passing lots. Do not install components without certification.

a) Reuse of previously pretensioned components. Do not reuse previously pretensioned components.

3) Production Bolting. Do not install components from any lot until the lot has passing PIV and Department Lab testing. Repeat sampling and testing (PIV and Lab) for subsequent construction seasons.

Condition. Verify that the condition of the assembly is equivalent to that of the Pre-installation Verification test. Conditions of the assembly and the efficiency of the lubricant can be affected by many factors, including:

- a) Exposure to the elements.
- b) High temperatures during storage.
- c) High temperatures during tightening.
- d) Low temperatures during tightening.
- e) Additional moisture from snow and rain during pretensioning.
- f) Contaminants such as dirt, dust, rust.
- g) Loss of lubrication.

If these conditions occur, or if untensioned bolts have been exposed to weather for more than two days, or if bolts have been cleaned and relubricated, repeat the pre-installation verification test on at least 3 assemblies of each length. If any of the test fails, replace or relubricate all components within the affected connection(s).

Re-lubrication. If bolts require relubrication, submit for approval the supplier's written recommendations for type and application of lubrication. Re-lubrication of tension control bolts may only be performed by the manufacturer.

Snugging. Snug tighten structural connections in accordance with the snugging procedures and systematic approach given in the Bolting Handbook. Repeat the snugging cycle over the connection as necessary until all plies are brought into firm contact. A minimum of 2 snugging cycles is required. If firm contact is not achievable, notify the Project Manager.

Pretensioning. Fully tighten bolts in accordance with the pre-tensioning procedures given in the Bolting Handbook.

Turn of the Nut Method. Match mark as described in the Bolting Handbook.

Failures. Report fastener assembly stripping, breaking, or other failures to the Project Manager immediately and stop bolting until the cause of failure has been determined and documented, and the Project Manager approves continuation of pretensioning. Provide broken fastener(s) to the Project Manager.

Connection Acceptance. In the presence of the Inspector, verify each structural connection within 72 hours of completing installation and pretensioning of bolts as described below.

Access. Provide arms-length access to the connection for the Inspector so that they can observe installation or perform verification.

Bolt selection and marking. The Inspector will select and circle ten percent (two minimum) of every bolt length within the connection for verification testing.

Pretension Verification.

Connections with Direct Tension Indicating (DTI) Washers (including Self Indicating DTI washers).

For verification of a completed joint, use a metal feeler gauge to inspect DTI washers on the selected fasteners. Connection fastener tension is acceptable if the selected fasteners meet the feeler gauge refusal/acceptance requirements listed in the Bolting Handbook and manufacturer recommendations/instructions. For passing results, the Inspector will mark the connection, indicating acceptance.

If any fastener checked does not meet the requirements, inspect each bolt in the connection with the feeler gauge and continue/complete pretensioning each as necessary. Resubmit the connection for inspection.

Other Connections. Furnish and use a torque wrench that indicates torque by means of a readout or that may be adjusted to give an indication that a defined torque has been reached, to verify tension as follows.

Calibration. Calibrate the torque wrench at least once each inspection day using five fastener assemblies of the same grade, size, and condition as those under inspection. Use a washer under the part turned in tightening each bolt if washers are used on the connection. Use the same material that abuts the part turned in the tension measuring device as used on the connection if washers are not used on the connection. In the calibration device, tighten each bolt to the exact value listed in the Required Minimum Bolt Pretension table in the Bolting Handbook. Apply the torque wrench to the tightened bolt to determine the torque required to turn the nut or head five degrees (approximately one inch at a 12-inch radius), in the tightening direction. Discard the high and low torque values. The inspection torque is the average of the torque values for the other three bolts. Discard any bolts used for calibration.

Verification. Verify the bolts represented by the test bolts by applying, in the tightening direction, the inspection torque to the bolts selected by the Inspector.

Connection fastener tension is acceptable if no nut or bolt head is turned. The Inspector will mark acceptable connection(s) with an indelible marker.

If any nut or bolt head is turned with the inspecting torque, apply the inspection torque to all fasteners in the connection. Once the inspection torque has been applied to all fasteners, the connection is acceptable and the Inspector will mark the connection, indicating acceptance.

L. 556.03.9 Welded Stud Shear Connectors

The type, size or diameter, and length of stud shear connectors are specified in the contract.

Furnish fabrication material and perform welding in accordance with Section 624.

1) Shop Drawing Review. Provide alternate stud locations that will avoid conflict with safety and lifting devices. Ensure that all shear studs are a minimum of 6 inches away from top flange shop splices. Obtain approval from the Bridge Bureau before installing any studs in these alternate locations.

2) Field Removal. Stud shear connectors that are removed in the field must use one of the following removal methods:

a) Cut completely through the stud above the weld.

b) Partially cut the stud above the weld and break off the stud the rest of the way.

Prevent damaging the base metal during stud removal.

3) Field Replacement. Replace all stud shear connectors that are removed in the field. Replacement shear studs must be within 3 inches of the original stud location, no closer than 1½ inches from base metal edges, and at least 1 inch between adjacent studs. Follow all the surface preparation, field welding, and testing requirements in accordance with AWS D1.5.

4) Additional Payment. No additional payment will be made for field removal and replacement of stud shear connectors and base metal inspection, repair, or replacement.

M. 556.03.10 Field Welding

Notify the Project Manager and Steel Fabrication Specialist at least 3 working days prior to field welding. Do not weld temporary construction supports to beams, girders, or other main members. Any member with unauthorized field welds, tack welds, or arc strikes will be rejected. Perform welding in accordance with Section 624.

N. 556.03.11 Assembling Steel

Field or shop assemble steel parts as follows:

1) Shop Work. Clean all contacting metal surfaces of deleterious materials before assembling, bolting, or welding. Paint may be applied to contact surfaces after bolting or welding.

Shop assemble and adjust to line and camber all bolted trusses, continuous plate girders, curved steel elements, box girders, I-beam spans, skew portals, skew connections, rigid frames, bents, and towers.

Drill and ream the field splice holes during assembly. Holes for other field connections may be shop drilled or reamed with the connecting parts assembled or drilled or reamed to metal templates with hardened bushings, without assembling.

Use an approved alternate procedure where shop space prevents complete shop assembly of continuous span girders or trusses. The procedure may require adjusting the line and camber of at least two abutting sections of girder for drilling or reaming of field splices if all girder lines for the complete structure are assembled consecutively.

Field butt joints for welded girders may be assembled with abutting members adjusted for line and camber and prepared to fit for welding, subject to Project Manager approval.

Bridge expansion devices must be initially shop assembled to establish the proper fit between the joint parts.

2) Field Work. Assemble the parts as specified in the contract, following the match-marks. Prevent damaging the material while handling. Clean all bearing and member surfaces in permanent contact before assembly.

Splices and field connections must have a minimum of ½ of the holes filled with bolts or erection pins before removing temporary supports or releasing the load from erecting equipment.

Do not place deck forms or other loads on straight steel girders except in accordance with an approved erection plan.

Use erection pins 1/32-inch larger than the nominal diameter of the permanent bolts.

3) Drifting of Holes. Use a minimum of two drift pins during assembly to the extent necessary to bring the parts into position without enlarging or distorting the holes or metal. Do not ream holes during field fitting without approval from the Project Manager.

4) Match-marking. Match-mark parts assembled in the shop for reaming field connection holes and provide the Project Manager a diagram showing the marks.

O. 556.03.12 Marking and Shipping

Paint or mark each member with an erection mark and furnish the Project Manager an erection diagram detailing the erection marks.

Furnish copies of material orders, shipping statements, and erection diagrams. Show the individual member weights on the statements.

A shipping statement must accompany the material and be marked to clearly identify it with the delivered material and the relevant domestic material and contract specification certifications.

Mark the weight on members weighing 3 tons or more. Load and unload structural members on trucks or cars without stressing or causing damage.

Pack bolts, loose nuts, or washers of each size separately. Ship pins, small parts, bolts, washers, and nuts in boxes, crates, kegs, or barrels, with the gross weight of each package not exceeding 300 pounds. Plainly mark each shipping container, listing and describing the contents on the outside of each shipping container.

Keep structural material clean and free from damage.

P. 556.03.13 Painting

Clean and paint all iron and steel surfaces in accordance with Section 612.

Q. 556.03.14 Erection

Submit a steel erection plan and specifications meeting the latest editions of the AASHTO LRFD Bridge Construction Specifications and the AASHTO Steel Bridge Erection Guide Specification, that ensures safety, prevents overstressing of the steel, maintains stability, prevents damage to the work or surroundings, and achieves the proper final geometry. Submit a complete erection plan and specifications for erection of the steel and for any necessary falsework, temporary bracing, temporary bolts, or other items. Describe the sequencing of bolt snugging and pretensioning.

The erection plan and specifications must bear the signature and seal of a professional engineer licensed to practice in Montana. Check and approve before submitting. The Department has 20 calendar days to review and return the submittal.

R. 556.03.15 Falsework

Design, construct, and maintain falsework to support the maximum construction loadings. Check and approve falsework drawings before submitting. The Department has 20 calendar days to review and return the submittal.

S. 556.03.16 Bearing and Anchorage

Place masonry bearing plates in accordance with Subsection 565.03.2.

T. 556.03.17 Placing Anchor Bolts

Place anchor bolts in accordance with Subsection 552.03.13.

U. 556.03.18 Straightening Bent Material

Submit a plan to the Project Manager for approval, for straightening bent material. The Department has 20 calendar days to review and return the submittal.

V. 556.03.19 Pin Connections

Furnish the Project Manager the pilot and driving nuts provided with the steelwork once the work is complete. The members must take full bearing on the pins. Bring pin nuts up tight and burr the threads at the nut face.

W. 556.03.20 Misfits

Correct all misfits, errors, and injuries as a part of the assembly and erection work. Report to the Project Manager all shop work errors that prevent the assembly and fitting of parts with a minimum use of drift pins, reaming, slight chipping or cutting. Obtain Department approval for the correction method. Corrections must be inspected and approved.

X. 556.03.21 Cleanup

Remove all falsework, excavated or unused materials, rubbish, and temporary buildings. Restore all public and private property damaged during construction to its original condition.

Pull, cut off or otherwise remove all falsework piling 1-foot below finished the ground line or streambed, unless otherwise directed. Perform all work affecting the stream channel in accordance with Subsection 208.03.4 before final acceptance.

Y. 556.03.22 Rejections

An Inspector's acceptance of material or finished members does not prevent later rejection if defects are found. Replace or repair rejected material and work at Contractor expense.

Z. 556.03.23 Girder Profile Survey. Survey the top flange 10th points under steel dead load after completion of erection and before adding any additional dead load. Submit to the Project Manager a minimum of 14 calendar days prior to deck placement.

AA. 556.04 Measurement and Payment. Structural Steel is measured and paid for by the lump sum.

The weight of structural steel in the contract is an estimate only. No guarantee is made that the estimated weight is the correct weight to be furnished. No adjustment in the contract unit price is made if the weight furnished is more or less than the estimated weight.

If changes in the work ordered by the Project Manager vary the weight of steel to be furnished, the lump sum payment is adjusted as follows:

The value per pound of a decrease or increase in the weight of structural steel involved is determined by the following:

Value per Pound = $\frac{\text{Contract Lump Sum Bid}}{\text{Estimated Contract Weight}}$

The adjusted contract lump sum amount paid is the contract lump sum bid plus or minus the value of steel involved in the change.

Should the ordered change materially alter the character of the work and the unit cost, compensation for that work is made at an agreed price established before the work is performed. Detail in writing, the changes in procedures and the resulting costs for labor, equipment, and materials to support the agreed price.

Partial payments for structural steel will be made based on the lump sum contract unit price as follows:

- 1) 90% when erected.
- 2) 97% when bolted and spot painted.
- 3) 100% when fully in compliance with the plans and specifications.

30. CONCRETE - CLASS STRUCTURE LOW SLUMP (REVISED 9-9-21)

A. Description. Furnish Concrete – Class Structure Low Slump for all full depth bridge deck concrete, bridge barrier rail, and metal bridge rail curbing.

B. Construction Requirements. Furnish material meeting the requirements of Concrete – Class Structure, with the following modifications:

- 1) The maximum target value for slump is 3-inches with a tolerance of plus 1½-inches to minus 2-inches.
- 2) When used in bridge barrier rail or metal bridge rail curbing, the target slump may be adjusted to a maximum of 6-inches.
- 3) Overall Lot Pay Factor. The overall lot pay factor will be calculated for all bid items using Concrete – Class Structure Low Slump, except metal bridge rail.
- 4) Applicable Pay Factors. See Table 551-9 for applicable pay factors. Pay factors for strength, air content, and gradation are applicable. The pay factor for permeability is not applicable.

C. Measurement. Concrete – Class Structure Low Slump is measured by the cubic yard.

D. Basis of Payment. Include all costs associated with this provision in the bid price for Concrete – Class Structure Low Slump (CUYD).

31. BRIDGE DECK REINFORCING STEEL COVER [564] (REVISED 10-28-21)

A. Description. The Department may measure the depth of the concrete cover over the top reinforcing steel of the bridge deck(s) and the deck thickness, using Ground Penetrating Radar (GPR) equipment.

B. Construction Requirements. Schedule 3 business days for the Department to access the deck. Ensure the deck is completely bare during the 3 business-day period, or until the test is complete, to allow full access to the entire surface. The timeframe for access to the bridge deck is after the water cure has been completed and prior to opening the bridge deck to

traffic. The Department will perform the test only on a dry deck. The test may be completed either prior to or after transverse deck grooving or rail construction. If inclement weather prevents the test from being performed within the 3 business days provided, the test will be cancelled or rescheduled. Provide the Project Manager a minimum of 14 calendar days' notice for the 3 business-day access period. The Project Manager will coordinate the test with the Department's CES Bridge Reviewer.

C. Method of Measurement and Basis of Payment. Consider all costs associated with this provision and its requirements incidental to performance of the work. Include the costs in the cost of other items.

32. MODIFIED BRIDGE DECK CONCRETE WATER CURE [551]

A. Description. Protect full depth bridge deck concrete from shrinkage and thermal cracking.

B. Materials.

1) Burlap. Furnish burlap in accordance with Subsection 717.01.2.

2) Water. Furnish water in accordance with Subsection 713.01.

3) Temperature data logging. Submit for approval a temperature monitoring system having at least 4 channels, capable of measuring internal concrete and ambient temperatures, recording time and temperature at 30-minute intervals or less for a minimum of 14 days, with an accuracy of 1 degree or less.

C. Construction Requirements.

1) For each concrete placement, install 4 probes at 3 locations on the deck (12 probes total per placement) in concrete a minimum of 5 feet away from any edge or joint. For placements that are less than 10 cubic yards, place only 4 probes at one location. Place and secure probes at 4 depths within the deck as follows:

- at least 2 feet above deck surface. This probe may be moved to the edge of deck to facilitate attachment;
- to the top of the top mat of rebar;
- midway between the 2 mats of rebar, and;
- to the bottom of the bottom mat of rebar.

2) Start recording temperatures at least 1 hour prior to concrete placement. Ensure probes read within 3.6 °F (2 °C). Replace probes that do not. Protect probes during concrete placement. Relocate any displaced probes within wet concrete. Monitor and record ambient air temperature while recording probe temperatures. Monitor concrete temperature probes until concrete is within 5 °F (2.8 °C) of ambient, and vertical temperatures through the deck thickness are uniform (within 10 °F [5.5 °C]) and concrete is at least 96 hours old (72 hours old if concrete does not contain silica fume).

Exception: for cold weather concrete, monitor temperatures until cold weather protection is removed.

3) Increase ambient humidity by fogging above finished concrete and concrete forms/rebar using one or more 3000 psi (21MPa) or greater pressure washer powered fogging wands. Do not:

- use low pressure spray nozzles;
- use fogging systems attached to the screed;
- use fogging, or other methods, to add finishing water to unfinished concrete;
- allow water to drip, flow, or puddle on the concrete surface during fog misting, when placing the burlap, or at any time before the concrete has achieved final set.

4) Maintain the forward edge of concrete placement nearly parallel to and not more than 6 feet (1.8 m) ahead of the strike-off.

5) Use catwalk(s) to facilitate uniform application of the fog mist across the entire deck and to facilitate placement of the wet burlap on the fresh concrete surface. Apply a fog

mist as necessary to maintain a moist surface on the finished concrete before and after covering with burlap until the water cure process is operational.

6) Start the water cure as soon as possible without damaging the concrete finish by applying pre-moistened burlap to maintain a water-saturated environment on the concrete surface. Meet the following requirements for the water cure.

a) Ensure the temperature of all water used in the water cure is within 20 °F (17 °C) of the in place concrete temperature.

b) Presoak the burlap by immersing it in water for at least 24 hours prior to placement.

c) Apply the wet burlap to the concrete surface no later than 15 minutes after striking off and finishing the surface of deck-slab concrete.

d) Place soaker hoses when the concrete has hardened sufficiently to prevent marring of the surfaces.

e) Keep the entire deck surface saturated for 3 hours (1 hour for cold weather concrete, unless otherwise approved by the Project Manager) after concrete has reached maximum temperature as recorded by the probes. Immediately turn off soaker hoses and apply clear plastic sheeting over the wet burlap to keep concrete moist.

f) Apply cold weather insulation blankets to minimize the rate of cooling of concrete immediately following the installation of plastic sheeting.

g) Remove all curing and allow deck to dry when concrete is within 5 °F (2.8 °C) of ambient, and vertical temperatures through deck thickness are uniform (within 10 °F [5.5 °C]) and the concrete is at least 96 hours old (72 hours old if concrete does not contain silica fume).

h) Furnish temperature data to Project Manager within 24 hours of removing curing.

D. Method of Measurement and Basis of Payment. Fogging and water cure will not be measured separately for payment. Include all costs associated with this provision in the concrete receiving the cure.

33. TEMPORARY ACCESS FACILITIES

A. Description. This work includes temporary Contractor access facilities such as access roads, work bridges, barges, etc. Access requirements are solely dependent on the Contractor's selected equipment, means, and methods of construction.

B. Construction Requirements. Design, construct, remove and reclaim temporary access facilities necessary to access and perform the work. Acquire temporary facilities permits as required elsewhere in the contract. Locate and construct roads and other facilities used for access to the work to minimize disturbance to the existing terrain and vegetation. Do not use private property without the landowner's or lessee's written permission. Furnish copies of the written permission to the Project Manager. Restore disturbed areas to the original contour and condition in compliance with Section 610.

C. Submittals.

1) Submit one set of plans and a written description of temporary access facilities to the Project Manager for approval. At a minimum, show or describe access to all bents and piers, and areas to be used for staging, and erection of the structure. Detail all locations, methods of construction, methods of removal and restoration, topsoiling, fertilizing, seeding, and temporary erosion control measures to be used. Perform no work on access roads or other access facilities until the submitted proposal is reviewed and approved. An on-site review of the proposal will be held with attendance including the Contractor, the Project Manager, and representatives of other concerned agencies.

2) Provide a Schedule of Values for the primary work components for partial completion payments. The Schedule of Values is a percentage breakdown of the costs associated with various portions of the work such as access road earthwork, work bridge(s), barges, site restoration, seeding, etc., and is the basis for periodic invoicing.

Invoicing for this pay item will be based on the completion or percentage of completion of items listed in the Schedule of Values as determined by the Project Manager. The total of the Schedule of Values will be the contract lump sum price for Temporary Access Facilities. No invoices for this work will be submitted or paid prior to MDT approval of the Schedule of Values.

D. Method of Measurement. Lump sum measurement for work described in this special provision will be made under the item Temporary Access Facilities.

E. Basis of Payment. Periodic payments for Temporary Access Facilities will be made according to the Schedule of Values, subject to the total payments for this item not exceeding:

- 1) 70% of the lump sum bid amount upon complete installation of access facilities.
- 2) 100% of the lump sum bid amount upon complete removal and reclamation of all access facilities.

Consider all work related to constructing, removing and reclaiming temporary Contractor access a subsidiary obligation of the contract and include all costs in connection therewith in the lump sum bid amount.

Payment at the contract lump sum price is full compensation for all resources necessary to complete this item of work under the contract.

34. PROTECTION OF CLARK FORK RIVER UNDER STRUCTURE (REVISED 5-28-04)

A. Description. Provide complete protection at all times to the Clark Fork River and traveling public crossing under any structure in accordance with this Special Provision and the Standard Specifications. Employ positive means such as netting, tarpaulins, wood, or metal covering to prevent tools, materials, etc., from falling into the river or below the structure. Positive protection may include traffic control methods, or other approved means to ensure complete protection.

B. Submittals. Submit the proposed method and any modifications of the proposed method of protection for approval to the Project Manager a minimum of 2 days prior to the start of this work. Do not begin work until the protection plan is approved and installed to the satisfaction of the Project Manager. Failure to maintain such safeguards in an effective manner may result in an immediate shutdown of work until corrected.

C. Method of Measurement. Work associated with this provision is not measured for payment.

D. Basis of Payment. Include all costs associated with this provision in the costs of other items.

35. WATERWAY PASSAGE AND SIGNING (REVISED 2-23-10)

A. General. Provide and sign at all times during the bridge work a passable waterway channel for waterway users.

B. Construction Requirements.

1) Establish and maintain regular contact with the Montana Fish, Wildlife & Parks Region 2 River Recreation Outreach Coordinator and the Project Manager regarding operations that affect recreational use of the Clark Fork River in the vicinity of the project.

2) Construct falsework and work bridges to provide a minimum 20 ft-wide by 6 ft-high waterway opening. Construct the falsework opening and work bridge piers parallel to the stream flow. Review the site with the Project Manager to determine the best placement of the opening considering channel depth and current. Establish the vertical clearance using hydrological data for the month having the highest flows that the falsework will be in place. Monitor the six foot clearance daily and immediately remove the structure over the 20 ft opening if rising water reduces the clearance to less than six feet.

3) Submit a work barge plan to the Project Manager for approval five days prior to beginning barge work. Detail in the plan the barge mooring, barge dimensions, operations to be performed from the barge, and the period of use including the estimated calendar dates. Do not

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permit the barge or its moorings to encroach into the channel marked by the buoys as described in this provision.

C. Signing. Provide and sign the waterway for the bridge work as follows:
Install "6-FOOT MAXIMUM CLEARANCE AT CYR INTERCHANGE I-90 BRIDGE" signs at the following waterway access sites:

Site(s)	Controlling Entity	Town	Phone
Forest Grove	MT FWP	Superior	(406) 542-5529
Tarkio	MT FWP	Superior	(406) 542-5529
Ralph's Takeout	MT FWP	Superior	(406) 542-5529
Tarkio East	MT FWP	Alberton	(406) 542-5529
Lower Osprey	MT FWP	Alberton	(406) 542-5529
Middle Osprey	MT FWP	Alberton	(406) 542-5529
Upper Osprey	MT FWP	Alberton	(406) 542-5529
Cyr Bridge	MT FWP	Alberton	(406) 542-5529
St. John's	MT FWP	Alberton	(406) 542-5529

Install 5 ½ ft x 3 ft "NAVIGATION RESTRICTION AHEAD" signs on both banks at approximately 500 feet and 1500 feet upstream of the structure work. Sign the downstream side if waterway traffic warrants signing. Attach two Type C Steady burn lights to the top corners of each sign. Place the signs at a point above the high water level, or as directed, facing oncoming waterway users.

Contact the MDT Traffic Section, (406) 444-6222 for sign design calculations.

D. Channel Marker Buoys. Furnish and install hanging can or anchor buoys to delineate a channel to the falsework opening. Use buoys having the hazard-warning symbol with the "HAZARD AREA" message.

For downstream river traffic only, space the buoys on 25 ft centers starting from the falsework and/or bridge to at least 100 feet upstream, measured normal from the upstream structure face.

For downstream and upstream river traffic, space the buoys on 25 ft centers starting from the falsework and/or bridge to at least 250 feet upstream and downstream, measured normal from the structure faces.

Follow the buoy manufacturer's installation recommendations. Consult with the Project Manager and determine a mutually agreeable date for removing and installing buoys due to river icing. Use buoys and channel markers following the U.S. Aids to Navigation (ATON) system. Contact the U.S. Coast Guard District Aids to Navigation office at (206) 220 – 7270.

1) Hanging Can Buoys. Use an aerial cable to suspend the hanging can buoys approximately two feet from the water's surface.

Flare the cables out from both sides of the falsework/bridge opening to both shorelines.

2) Surface Buoys. Lay and anchor the cables to the river/stream bottom for attaching the buoy mooring lines. Ensure the anchor cable is ballasted to prevent it from rising from the river/stream bottom. Flare the cable out from both sides of the falsework/bridge opening to both shorelines.

E. Falsework and Bridge Opening Lighting. Install Type C Steady burn lights, spaced on maximum 3 ft centers, on the top and sides of the false work opening or bridge opening to be used by waterway users.

F. Public Notice. Submit at the preconstruction conference, one copy of the draft public notice for the Project Manager's approval. Once approved, place the notice in the nearest town newspaper and forward copies to local radio station(s) four weeks and two weeks before work restricts the waterway. Include the following in the notice: name of waterway and

location of the bridge work, the dimensions of the waterway opening, the time period the restricted waterway opening is anticipated to be in place, and the phone number to call for additional information.

Submit the approved public notice to MDT Web Administrators at mdtwebadmin@mt.gov.

G. Method of Measurement and Basis of Payment. Waterway passage and signing is not measured for payment. Include the cost of this work in other contract items.

36. CLARK FORK RIVER TEMPORARY CLOSURES

A. General. Temporary closures of the Clark Fork River prior to any work which creates a clear and present risk to the safety of recreationists traveling through the work site are solely under the jurisdiction and control of the Montana Fish and Wildlife Commission (MFWC).

Recreational uses of the river generally occur during the months from May through September.

1) Closures can reasonably be expected to be approved by MFWC during the months from September through May.

2) Closures may be approved by MFWC during the month of June.

3) No closures will be approved by MFWC during the months of July and August.

4) Coordinate proposed temporary closures with the downstream MDT Clark Fork / Old Hwy 10 Project to the greatest extent possible.

B. Submittals.

1) If temporary closures are proposed, submit a river access closure plan meeting the following requirements:

a) Develop the river closure plan in cooperation with the Project Manager(s) and the FWP Contact. Obtain approval of signing and the river closure plan 14 calendar days before initiating operations that require the closure.

b) Warn the public in advance of temporary river closures by placing a notice in the Mineral Independent and Missoulian newspapers and forwarding copies to local radio station(s) two weeks and one week before work, and submitting the notice to MDT Web Administrators at mdtwebadmin@mt.gov.

c) Install signs and other traffic control devices on the Clark Fork River upstream and downstream of the closure, and at the Fishing Access Sites specified in these special provisions.

C. Notify FWP at least 7 days prior to commencing any work which creates a clear and present risk to the safety of floaters traveling through the work site or users of the fishing access sites in order to activate the temporary river closure process through FWP. Include in the notification the activity necessitating the closure, the risk to safety of the floating public, specific dates, times and anticipated duration of closure required.

1) FWP Contact Information:

Cody Kenyon, Region 2 River Ranger
3201 Spurgin Road
Missoula, MT 59804
Phone: (406) 542-5533

D. Notify the following entities of temporary river closures at least 48 hours in advance of the temporary closure:

1) The Montana Board of Outfitters
301 S. Park, Room 428
Helena, MT 59620
(406) 841-2202

2) Fishing Outfitters Association of Montana (FOAM)
P.O. Box 485
Twin Bridges, MT 59754

- (406) 925-2276
 3) Montana Outfitters and Guides Association (MOGA)
 2021 11th Ave
 Helena, MT 59601
 (406) 449-3578

E. Contact FWP immediately upon completion of the work to lift the temporary river closure.

The maximum time allowed for each instance of work requiring temporary river closure is 48 hours. Expedite this work to minimize the temporary river closure period necessary.

F. Measurement and Payment. No measurement or payment will be made for Clark Fork River temporary closures. Include all costs of this work in other contract items.

37. BRIDGE DEMOLITION NOTIFICATION

A. Description. Prior to demolition of structures in Montana, including highway bridges, a notification form is required to be submitted to the Montana DEQ Asbestos Control Program. The Montana Demolition Notification form MTACP02 is available through the program internet site at <http://deq.mt.gov/asbestos/acpcontractorinfo.mcp>. Direct questions regarding this special construction Project Manager.

An inspection of the bridge has been conducted, including a review of as-built drawings and inspection photos for the bridge structures, and sampling of suspect materials. No asbestos containing materials have been identified. A copy of the asbestos inspection is available from the Project Manager.

B. Construction. Submit the completed form to DEQ and the Project Manager at least 10 days prior to commencement of any bridge demolition activities. Provide a copy of the notification acknowledgement to the Project Manager upon receipt from the DEQ. Maintain a copy of the Asbestos Inspection Report on site during demolition.

C. Measurement and Payment. Measurement and payment for the notification is included in other items.

38. REMOVE STRUCTURE

A. Description. This work includes the removal of the I-90 Westbound structure over the Clark Fork River (Structure No. 01385) in accordance with these special provisions, Section 202, and as approved by the Project Manager. The structure is located at RP 70.1.

The nine-span structure includes three main spans (4, 5, and 6) of fracture critical, continuous welded steel plate twin girders. Spans 1, 2, 8, and 9 include prestressed concrete beams; spans 3 and 7 include welded steel plate girders.

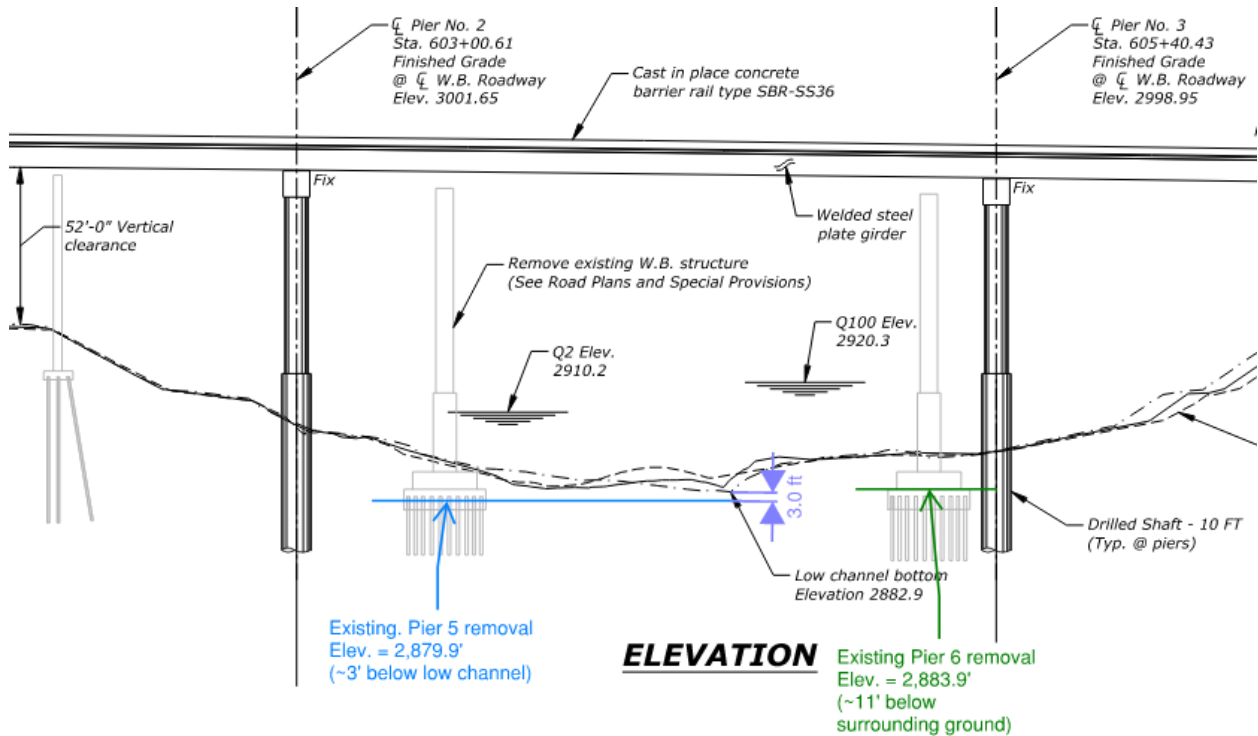
End bents are spill through type with reinforced concrete columns and reinforced concrete caps. Intermediate river piers consist of twin reinforced concrete columns with tie beams founded on spread footings over concrete seals / untreated timber piles.

Intermediate Bents No. 2 and 9 consist of twin reinforced concrete columns with tie beams founded on spread footings. Intermediate Bents No. 3 and 8 consist of twin reinforced concrete columns with tie beam founded on treated timber piles. Intermediate Bents No. 4 and 7 consist of twin reinforced concrete columns with tie beam founded on steel piles. The structure has an approximate length of 762 feet and an approximate width of 32 feet.

Remove the entire existing structure including but not limited to the asphalt surfacing, deck slab, beams, bridge rails, curbs, end bents, intermediate piers, foundations, and all incidental items. Do not waste any materials within the project limits or any wetland or waterway.

Remove existing piers No. 5 and 6 only during low flow in the Clark Fork River, typically between July 15th and October 15th. Use removal methods that minimize turbidity and do not leave any rubble exposed to active river flow. Do not attempt to extract existing timber piles.

Remove existing pier No. 5 to elevation 2,879.9'. Remove existing pier No. 6 to elevation 2,883.9'.



B. Submittals. Submit a written proposal that describes the plan for removal of the existing structure, and protection of the Clark Fork River and traveling public to the Project Manager for approval. Include a narrative of all operations, equipment and stages required for the removal of the existing bridge.

Include a detailed load analysis of the existing structure during all stages of the removal based on the removal plan and the proposed equipment to be used. The written report and the engineering analysis must each bear the stamp and the signature of a Professional Engineer licensed to practice in Montana. Do not begin removal operations prior to receiving approval by the Project Manager.

C. Construction Requirements.

1) Provide protection at all times to the traveling public.

2) All superstructure and substructure materials will become property of the

Contractor.

3) Comply with these special provisions and all OSHA requirements for lead-based paint handling, removal and disposal. Dispose of all materials in accordance with approved methods and applicable rules, laws and regulations for disposal of solid waste.

4) Backfill the removals of piers No. 5 and 6 with displaced natural streambed or bank materials, or rounded stone simulating streambed material, meeting Class III Riprap gradation to pre-removal streambed elevations. Infill voids with streambed materials meeting Filter Material No. 2 gradation.

D. Method of Measurement. Measurement is made as one lump sum.

E. Basis of Payment. Include in the contract unit price per lump sum bid for Remove Structure, all costs for removing and disposing of the existing structures including furnishing all tools, material, labor, and equipment necessary to complete the work in accordance with this provision.

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39. SPECIAL BORROW (REVISED 2-2-2022)

- A. Description. Place special borrow at the locations shown in the plans, cross sections, or as directed by the Project Manager.
- B. Materials. Provide material for special borrow consisting of a well-graded sand and gravel, free of organic and other deleterious material, meeting the AASHTO M 145 requirements for A-1-a group classification, with 100% passing the 4-inch sieve and a maximum of 8% by weight passing the number #200 sieve.
- C. Construction. Compact special borrow in accordance with Section 203.
- D. Method of Measurement. Special borrow is measured in accordance with Subsection 203.04.

40. SPECIAL EMBANKMENT (ROCK FILL)

- A. Description. Place Special Embankment (Rock Fill) at the locations and grades shown on the project plans and cross sections, or as directed by the Project Manager.
- B. Materials.
 - 1) Provide Non-Woven Stabilization Geotextile meeting requirement of Section 716.
 - 2) Provide material for Special Embankment (Rock Fill) meeting requirements of Class I Random Riprap in accordance with Subsection 701.06.
- C. Construction.
 - 1) Excavate horizontal bench within existing embankment at the locations and grades as shown on the project plans and cross sections, or as directed by the Project Manager.
 - 2) Place Non-Woven Stabilization Geotextile on excavation back slope as shown on plans.
 - 3) Place and compact Special Embankment (Rock Fill) in maximum 18-inch vertical lifts until a non-yielding surface is observed.
 - 4) Proof roll each lift with 44-kip grid roller or equivalent.
 - 5) Place a 4-inch leveling course of Special Borrow across the top of the Special Embankment (Rock Fill) surface to create a level surface.
 - 6) Place Non-Woven Stabilization Geotextile over Special Embankment (Rock Fill) followed by Special Borrow as shown in the plans.
- D. Method of Measurement. Special Embankment (Rock Fill) is measured by volume in cubic yards calculated from the plan dimensions, or as ordered in writing by the Project Manager. There is no allowance for shrink, swell, compaction, waste, or other adjustments.
- E. Basis of Payment. Special Embankment (Rock Fill) is paid for at the contract unit price in cubic yards of Special Embankment. Includes all costs associated with furnishing and placing Rock Fill.

41. STRUCTURAL STEEL SHIPPING

- A. Description. This provision adds the following to Subsection 556.03.12 - Marking and Shipping.

Transport steel to ensure safety and prevent overstressing of the steel. Ship primary steel members in the same orientation as the completed structure, unless approved in writing by the Project Manager. MDT will base approval on the submittal described below.

If the primary steel members are not shipped in the same orientation as the completed structure (web in vertical position), submit a transportation plan that fully illustrates the proposed method of steel member transportation and provides complete details of the transportation process including, but not limited to the following:

- 1) Location and type of temporary supports, stiffening trusses, beams, or other apparatus used to ensure stability and control shipping stresses. The type, size, and locations of tie-downs.

- 2) All calculations in accordance with the current edition of the AASHTO LRFD Bridge Design Specifications.
 - a) Calculate girder stresses due to self-weight while being shipped with a minimum dynamic load allowance of 100 percent.
 - b) Ensure girder stresses satisfy the provisions of the AASHTO LRFD Bridge Design Specifications.
 - c) Ensure fatigue stresses do not exceed the constant-amplitude fatigue threshold for the appropriate categories in Table 6.6.1.2.5-3 of the AASHTO LRFD Bridge Design Specifications.
 - d) Other shipping and handling stresses as required, i.e. dynamic lateral stresses and lifting stresses.
 - e) Clearly show the value and location of the maximum stresses that each member will be subjected to during shipping.
- 3) Provide loading and unloading instructions and all special shipping, handling or storage requirements.
- 4) Submit the transportation plan and supporting calculations to the Project Manager a minimum of 20 working days prior to implementation for approval. Provide the transportation plan, calculations and supporting documentation bearing the stamp and the signature of a Professional Engineer licensed to practice in Montana.

42. BOLTED CONNECTIONS

- A. Description: Additional requirements for Bolted Connections – High Tensile Strength Bolts.
- B. Construction Requirements. Use DuraSquirt Direct Tension Indicator (DTI) washers, manufactured to ASTM F959-23 specifications, produced/supplied by Applied Bolting Technology. Follow manufacturer's instructions and recommendations for installation and tensioning.
 - 1) Preinstallation Verification (PIV) Testing. Use the same tools for PIV testing that will be used during the installation.
 - 2) In the presence of the MDT Inspector, verify each structural connection within 72 hours of completing installation and tightening of bolts as described below.
 - a) Access. Provide arms-length access to the connection for the MDT Inspector so that they can observe or perform verification.
 - b) Bolt selection and marking. The MDT Inspector will select and circle ten percent (two minimum) of the bolts in each flange, web, and plate of each connection.
 - c) Pretension Verification.
 - (1) For verification of a completed joint, use a metal feeler gauge to inspect DTI washers on the bolts selected by the MDT Inspector. Connection fastener tension is acceptable if the selected fasteners meet the feeler gage refusal/acceptance requirements listed in the Bolting Handbook and manufacturer recommendations/instructions. The MDT inspector will mark the connection, indicating acceptance.
 - (2) If any fastener checked does not meet the requirements, inspect each bolt in the connection with the feeler gage, continue/complete tightening each as necessary, and resubmit the connection for inspection.
- C. Method of Measurement. Work associated with this provision is not measured for payment.
- D. Basis of Payment. Include all costs associated with the requirements of this provision in the lump sum bid for Structural Steel - Girder.

43. INTERSTATE ON-RAMP RESTORATION

- A. Description. The construction of Pier No. 4 foundation for the new I-90 structure over the Clark Fork River is likely to damage portions of the interstate eastbound Exit 70 on-

ramp. Construction activities may impact up to 100 feet of the on-ramp pavement, aggregate base and guardrail.

B. Construction Requirements. Maintain continuous temporary barrier rail at all times after any removal(s) of the existing guardrail.

Restore the on-ramp to the original alignment, grade and typical section, or as directed by the Project Manager. Restore the existing pavement using material equal to or better than the in-place pavement. Restoration includes replacing and compacting the excavated aggregate base with materials equal to those in the existing roadway and placing new bituminous surfacing equal to the existing, but not less than 0.50 feet in thickness. Place and compact the replacement bituminous surfacing to match the adjacent pavement providing a smooth riding surface, including the joints.

C. Measurement and Basis of Payment. Measurement and payment for removal and replacement of the guardrail and terminal sections will be made in accordance with Section 606.

Interstate On-Ramp Restoration is not measured, include all costs for providing and maintaining temporary barrier rail, and replacing and compacting the bituminous surfacing and aggregate base, including furnishing all tools, materials, labor, and equipment necessary to complete the work according to this provision in other items.

44. TEMPORARY SHORING

A. Description. Provide temporary retaining systems and shoring to facilitate construction of the bridge over the Clark Fork River, miscellaneous embankments and structures, temporary roadways, and incidentals elements.

B. Submittals. Submit four copies of an embankment protection and shoring support proposal to the Project Manager for approval before the work begins. Include in the proposal drawings and details showing the shoring system and layout, and two copies of design calculations, all stamped and signed by a Professional Engineer licensed to practice in Montana. Do not order materials or start work until MDT approval of the submittal. Allow 20 working days for each review of the submittal.

C. Construction Requirements. Install temporary retaining systems and shoring as necessary to construct bridge elements or structures, construct embankments, and accomplish construction.

D. Basis of Payment. Include all costs associated with providing, designing, installing, maintaining and removal of temporary shoring and excavation, in the Lump Sum bid for Temporary Shoring.

45. EXCAVATION STABILITY

A. Description. This provision revises Subsection 558.03.8 Excavation Stability.

B. Delete the first sentence in its entirety.

C. Replace Subsection 558.03.8 with the following:

Use casing to facilitate shaft construction and prevent sloughing and caving of the shaft sidewalls. The contract may specify temporary casing minimum elevations. Place the temporary casing deeper if necessary, to prevent material from entering the shaft excavation. Use casing with an outside diameter no less than the specified diameter of the shaft. Limit the excavation in advance of the casing tip to no more than 10 feet unless synthetic slurry is being used.

If wet construction involving drilling fluid is used, maintain a sufficient level of fluid in the casing or the uncased hole to counteract external hydrostatic pressures but no less than 5 feet, plus allowance for surge and fluctuations, above that of the static hydraulic head level at all times during construction until the concrete level exceeds the static head level or until concrete has reached initial set. Maintain an adequate level of concrete within the casing to ensure that fluid trapped behind the casing is displaced upward and discharged at the ground surface without contaminating or displacing the shaft concrete. Temporary casings that have become

bound or fouled during shaft construction and cannot be removed are considered to be a defect in the drilled shaft. Correct defective shafts using approved methods at no cost to the Department. Corrective action may consist of, but is not limited to, the following:

- 1) Removing the drilled shaft concrete and extending the drilled shaft deeper to compensate for the loss of frictional capacity to the cased zone.
- 2) Providing straddle drilled shafts to compensate for capacity loss.
- 3) Providing a replacement drilled shaft.
- D. Measurement and Payment. Compliance with this special provision is not measured or paid separately. Compliance is incidental to and included in the contract price of other Drilled Shaft items.

46. DRILLED SHAFTS CONSTRUCTION REQUIREMENTS

- A. Description. This provision revises Subsection 558.03.10 Cleaning.
- B. Change the second paragraph to read, "For wet shafts founded in rock, use an air lift to clean the base of the excavation. Use an air-lift system meeting the following requirements:"
- C. Add the following to Subsection 558.03.10:
For concrete placement in the dry, use visual inspection combined with weighted tape measurements at the base of the excavation to verify compliance with the above requirement for 1-inch or less of loose or disturbed material.
For concrete placement under wet conditions, inspect the bottom of the rock socket utilizing a Shaft Inspection Device (SID) of type MiniSID, produced by GPE, Inc. of Gainesville, Florida, or approved equal. Carry out inspection as follows:
 - 1) Conduct SID tests with the SID camera pointing down, aligned parallel to the axis of the drilled shaft. Place the SID on the bottom of the rock socket in a way that the bell of the SID can be sufficiently purged of water so the bottom of the shaft is fully visible. Place a minimum of three measuring devices at the bottom of the inside of the bell to measure sediment depth, spaced equally around the bell perimeter and with gradations at ½ in and 1 ½ inch from the bottom of the bell which shall be easily visible to the camera.
 - 2) Inspect the shaft at center, north, east, south, and west locations within the rock socket with the inspector present for all inspections.
 - 3) Estimate sediment thickness at the bottom of the shaft in terms of percent of view with sediment thicknesses greater than ½ inch and percent of view with sediment thickness greater than 1 ½ inch at each location. If the average percent of view of sediment thickness greater than ½ inch between all five locations is greater than 50%, or if the sediment thickness at any point is greater than 1 ½ inch, the SID test shall be considered failed. Air lift the shaft per this specification. Repeat the SID test after the Contractor has completed air lifting.
 - 4) Record all SID tests on DVD with audio commentary by the operator, identifying the shaft being tested, the test location within the shaft, and the percent of view with sediment thickness greater than ½ inch and 1 ½ inch. Provide recordings to the Engineer of Record upon completion of drilled shaft installation.
- D. Measurement and Payment. Compliance with this special provision is not measured or paid separately. Compliance is incidental to and included in the contract price of other Drilled Shaft items.

47. THERMAL INTEGRITY PROFILER (TIP) TEST METHOD FOR DRILLED SHAFTS (WIRE METHOD)

- A. Description. This work includes testing cast-in-place drilled shafts using the Thermal Integrity Profiler (TIP) testing method. Use testing procedures and equipment in accordance with the embedded wire method. The TIP probe method shall not be used. This method assesses the quality of cast in place concrete drilled shafts using thermal probes in wires cast into the shaft.

B. Materials. Furnish all materials and equipment necessary to perform this work.

C. Construction Requirements.

1) Qualification. Use a TIP testing consultant with documented experience in TIP testing of cast-in-place drilled shafts. Use a technician with documented TIP testing experience for onsite management of thermal wire placement on the reinforcement cage and for data collection. Use a Professional Engineer, licensed in Montana, to supervise the testing and interpret the TIP data.

2) Equipment. Use equipment with the following minimum requirements:

a) A computer based TIP data acquisition system to monitor temperature versus time after casting.

b) Wires with multiple embedded thermal sensors. Use a minimum of 4 wires per shaft or one wire for each 12 inches of shaft diameter, whichever is greater. Shaft diameter shall be rounded up to the next greatest whole number.

c) TIP wires shall extend from within 1 inch of the bottom of the reinforcing cage to at least the top of concrete, with an additional 10 ft of slack wire above the top of concrete. The bottom TIP sensor shall be within 6 inches of the base of the drilled shaft, even if the shaft is overexcavated.

d) TIP wires shall be evenly spaced around the circumference of the reinforcing cage. The TIP wires shall be installed parallel to the longitudinal axis of the reinforcing cage. TIP wires shall be affixed to the shaft reinforcing cage using plastic cable ties, with at least one tie per temperature sensor. Cable ties shall not be placed directly on the temperature sensors, except for the bottommost sensor of each wire. The TIP wires shall be affixed to the cage tautly but with sufficient slack to prevent damage during lifting of the reinforcing cage.

e) After the reinforcing cage has been placed in the shaft but prior to the placement of concrete, each TIP wire shall be checked to ensure temperature data can be read and recorded for each sensor. Any defective TIP wires shall be replaced prior to placement of concrete.

3) Submittals. Submit four copies of the following information to the Project Manager a minimum of thirty calendar days before start of drilling operations.

a) TIP consultant qualifications.

b) TIP equipment specifications.

c) Written narrative from the TIP Consultant outlining their procedure, recommendations, requirements, test timing, and schedule for testing the designated shafts.

4) Notification. Notify the Project Manager a minimum of 5 business days prior to the beginning of the testing so the Geotechnical Representative can observe the test.

5) Timing. Coordinate with the TIP Consultant to be on site to manage the placement of thermal wires. The TIP consultant shall instruct the Contractor responsible for installing the drilled shafts on the required procedure for installing all necessary TIP devices to the satisfaction of the Engineer. Recording of temperature data from all TIP wires in a shaft shall start prior to concrete placement for the shaft. Recording of temperature data shall continue until at least 24 hours after the peak temperature has been observed. Peak temperature is defined as the maximum temperature at any depth for the average temperature profile (i.e. the profile defined by averaging results from each of the wires). Temperature measurements shall be recorded for each sensor every 15 minutes during the recording period.

6) Testing. Perform Thermal Integrity Profiler (TIP) testing on each drilled shaft constructed.

7) TIP results, evaluation, reporting, and recommendation. Submit four copies of the results in a written report from the TIP Consultant within five working days of completion of testing. The TIP consultant's engineer will stamp all four copies. Include the following within the report:

a) TIP reports shall include for each shaft at least two temperature profile plots. Each temperature profile plot shall present temperatures on the horizontal axis versus depth or

elevation on the vertical axis. On each temperature profile plot, one line shall be included for each TIP wire, and an additional line shall be included for the average of all TIP wires. One temperature profile plot shall present temperatures at the time of peak temperature development, and another temperature profile plot shall present temperatures at approximately half of the time to peak temperature development. Depths corresponding to the top of shaft, bottom of shaft, and any of the following features shall be indicated on the temperature profile plots: top of temporary casing, bottom of temporary casing, top of permanent casing, bottom of permanent casing, shaft diameter change, and any other installation details deemed relevant to the TIP analysis (e.g. depth of tremie breach). The date and time of analysis and the time elapsed since the completion of concrete pouring shall be noted on each temperature profile plot. Each temperature profile plot shall also include a legend noting the location of each TIP wire with respect to North.

b) TIP reports shall also include a plot of effective radius versus depth or elevation based on temperatures at approximately half of the time to peak temperature development. The effective radius values at the top and bottom of the shaft shall include roll-off corrections. Average temperature parameters for the top and bottom shall be based on measurements from nearby depths at the time of analysis. The soil temperature shall be based on TIP measurements just prior to placement of concrete. The bottom scale factor in feet shall be estimated as 0.3 times the square root of the elapsed time in hours since concrete placement. The top scale factor shall be 0.3 feet less than the bottom scale factor. Effective radius profiles shall not be used as a means for evaluating the data or for inferring specific values of concrete cover.

c) TIP reports shall also include plots of temperature versus time for the bottom two levels of sensors and for depths of any suspected defects. Suspected defect depths shall be identified from shaft installation records (e.g. depth of tremie breach, potential soft bottom conditions) or from the temperature profile plots (e.g. depth of low observed temperatures). The temperature versus time plots shall include at least three lines: (1) a line representing temperatures for the depth of the suspected defect, (2) a line representing temperatures for a nearby depth that appears to be uninfluenced by the potential defect, and (3) a line representing the temperature difference between (1) and (2). The line for (3) shall be plotted on a secondary axis. Alternatively, the line for (3) may be plotted on a separate plot.

d) Indication of variations in temperature between wires at each depth which in turn could correspond to variations in cage alignment. The potential cage misalignment or offset from center should be noted.

e) Evaluation of TIP data shall consider all available records of drilled shaft installation, including detailed and accurate concrete yield plots. TIP report conclusions regarding the interpretation of TIP results shall consider observations from drilled shaft construction records.

f) Written summary of the engineer's analysis of the data, conclusions, and recommendations, including a conclusion stating either that no imperfections were indicated in TIP records or listing specific locations and characteristics of potential imperfections. If imperfections are suspected, the depth of each suspected defect shall be indicated in the report. If possible, the cross-sectional location of each suspected defect shall also be indicated in the report in terms of cardinal directions (e.g. northwest quadrant of the shaft). Tip reports shall include a recommendation to accept the shaft as-is, a recommendation for further review, a recommendation for further investigation, or a recommendation for repair. The Engineer of Record shall consider the recommendation from the TIP Consultant when making the final acceptance decision. Final acceptance by the Engineer of Record shall be based on review of the shaft installation records, concrete integrity test results, and any subsequent analysis, investigation, and repair of the shaft.

8) In the event test results indicate potential imperfect region(s) in the shaft, the Engineer of Record may direct additional investigation. If the Engineer determines that the shaft is defective, submit a repair plan per 558.03.15.B.

D. Method of Measurement. TIP testing is measured by the each. Include all costs associated with procurement, preparation and installation, conducting tests, and subsequent reporting of results in the unit bid price for Thermal Integrity Profiler.

E. Basis of Payment. Payment for each completed test is at the unit price bid for Thermal Integrity Profiler. Performance of TIP testing and submittal of TIP results according to this Special Provision constitutes a completed test. If the Engineer determines that the shaft is defective, the contractor is responsible for all costs associated with the additional investigation work, costs associated with design and implementation of repairs, delays, and construction delay costs. The Department will pay the cost of directed additional investigations that do not result in a determination by the Engineer that the shaft is defective.

48. DRILLED SHAFT MASS CONCRETE PLACEMENTS

A. Description. These provisions apply to drilled shaft concrete placements for shafts greater than 6 feet in diameter. The provisions apply to concrete from the base of the shaft to the top of the permanent casing.

B. Default Thermal Control. If the requirements of this section are met, no thermal analysis, thermal control plan, or thermal monitoring are required.

1) Concrete. Design and produce a concrete mixture that meets the requirements of Section 551 and the following:

a) Maximum cementitious materials content of 700 lbs./yd³.

b) Partially replace hydraulic cement with supplementary cementitious material(s) meeting the requirements of 551.02 and satisfying at least one of the following:

(1) Class F fly ash comprising at least 25% of the total cementitious content.

(2) Class C fly ash comprising at least 35% of the total cementitious content.

(3) Slag cement comprising at least 35% of the total cementitious content.

2) Trial Batching. Meet the requirements of MT 100. Perform a trial batch to evaluate workability, workability retention, and stability of the concrete mixture. Perform slump (AASHTO T 119) or slump flow (AASHTO T 347) measurements every 30 minutes for a duration 2 hours longer than the anticipated concrete placement time for the largest volume drilled shaft. Perform a Visual Stability Index (VSI; AASHTO T 351) evaluation on the trial batch.

a) Concrete Placement Temperature. Limit the temperature of fresh concrete to a maximum of 80 °F at the time of placement. Measure and record placement temperature from each concrete delivery truck. Make placement temperature measurements no more than 15 minutes prior to emptying concrete from the concrete delivery truck. Include all recorded placement temperatures in the drilled shaft installation record.

C. Alternative Thermal Control. If any of the Default Thermal Control provisions above cannot be satisfied, the provisions of this section apply.

1) Allowable Temperature Differential. Temperature differential limits do not apply to drilled shafts.

2) Allowable Maximum Temperature. Limit the maximum temperature within the drilled shaft to 177 °F for drilled shafts constructed with concrete mixtures with at least 25% Class F fly ash, 35% Class C fly ash, or 35% slag cement. For shafts constructed with any other concrete mixture, limit the internal temperature to 160 °F.

3) Thermal Control Plan. The Thermal Control Plan must be approved by the Department prior to installation of any drilled shaft designated as mass concrete. Revisions to the concrete mixture design will require submittal and approval of a revised Thermal Control Plan.

a) Concrete Mixture Design. Submit a concrete mix design in accordance with MT 100.

b) Thermal Analysis. Develop a thermal model to predict drilled shaft temperatures. The model should account for the concrete mixture design as well as the drilled shaft geometry and boundary conditions.

c) Placement Temperature Limit. Establish a placement temperature limit that, based on the thermal analysis, will prevent drilled shaft temperatures from exceeding the allowable maximum temperature limit above.

d) Temperature Monitoring Requirements. Include the required temperature sensor specifications, sensor locations, sensor installation requirements, and monitoring frequency and duration requirements.

4) Trial Batching. Perform a trial batch to evaluate workability, workability retention, and stability of the concrete mixture. Perform slump (AASHTO T 119) or slump flow (AASHTO T 347) measurements every 30 minutes for a duration 2 hours longer than the anticipated concrete placement time for the largest volume drilled shaft. Perform Visual Stability Index (VSI; AASHTO T 351) evaluation on the trial batch.

5) Temperature Monitoring. Provide a temperature monitoring system capable of measuring time and internal concrete temperatures at a minimum of 30-minute intervals or less for a minimum of 24 hours after the peak temperature is observed. Provide readings from the sensors to Department daily and when requested by the Project Manager. Monitor temperatures in the center of the drilled shaft cross section at a depth of at least 1.5 shaft diameters below the top of concrete. Provide at least two sensors at the monitoring location. Use templates to ensure centrality and verticality of any "wet set" reinforcing bars used for sensor placement.

D. Acceptance.

1) Halt the placement of the mass concrete if the measured temperatures exceed the allowable maximum temperature limit. Revise the Thermal Control Plan and submit the revised plan for approval. Placement of drilled shaft mass concrete will not be permitted to resume until the revised plan is approved.

2) Drilled shafts with temperatures that exceed the limits established in ACI 201 (185 °F for shafts constructed with 25% Class F fly ash, 35% Class C fly ash, or 35% slag cement; 160 °F for all other mass concrete shafts) will be rejected.

E. Method of Measurement. Mass Concrete Placement provisions will not be measured separately for payment.

F. Basis of Payment. Include all costs associated with drilled shaft mass concrete in the unit price bid per cubic yard for drilled shaft concrete that is subject to the provisions described herein. Revise Thermal Control Plan and any changes to schedule at no additional cost to the Department.

49. MODULAR EXPANSION JOINT SYSTEM

A. Description. This item of work consists of furnishing materials, services, labor, tools, equipment and incidentals necessary to design, fabricate, inspect, test and install the expansion joint system as specified. Provide an expansion joint assembly consisting of a modular, multiple seal joint system that will allow movements as shown and noted in the plans. Configure the expansion joint system to consist of preformed neoprene strip seals mechanically held in place by steel edge and separation beams. Support each separation beam by an independent support bar which is welded to the separation beam. Suspend the support bars over the joint opening by sliding elastomeric bearings. Incorporate an equidistant control system which develops its maximum compressive force when the joint is at its maximum opening. Do not incorporate any bolted connections between the separator beams and support bars. Provide an expansion joint system that is continuous across the full width of the clear opening and continues into the bridge rail curb as shown on the plans.

Use a joint system designed to withstand an HL - 93 truck loading and impact in accordance with AASHTO Specifications. Design the expansion joint system to accommodate all expected longitudinal movements (i.e. thermal, etc.) as well as vertical and horizontal

rotations. Incorporate strip seal glands with a maximum movement range of 3 inches per seal in the design. Design the springs and bearings to be removable and replaceable.

B. Materials. Use materials conforming to the following:

Use steel members meeting the requirements of AASHTO M270 Grade 50. Use stainless steel meeting the requirements of ASTM A240, Type 304. Do not use aluminum members. Use PTFE that is made from pure virgin resin. Use a flexible, non-reinforced, extruded neoprene compound for the elastomeric seals.

C. Submittals. Furnish five sets of shop drawings, design calculations and written installation instructions to the Project Manager. Show all material specifications and dimensions of the individual parts of the fabricated joint assembly on the shop drawings. Shop drawings submitted without written installation instructions will be rejected. Show the total anticipated movements for the joint and the required setting width for the joint assembly at various temperatures. Submit shop drawings on 11" x 17" sheets or in Adobe Acrobat Reader (.pdf) format in lieu of hard copies. Show all joint setting data on the drawings. Meet all other requirements of sub-section 556.03.2. Do not begin fabrication of the joint until the Department has approved all of the information contained on the shop drawings.

D. Construction Requirements.

1) Galvanize all steel in accordance with the AASHTO M 111. Use a fabricator meeting the requirements of Section 556.03.1. All splice welds must develop full strength. Grind smooth all welds in contact with the elastomeric strip seals. Provide factory attached lifting devices and brackets to facilitate installation. Protect the joint system from damage during handling, transporting, storage and installation. Replace the joint if damaged by handling, transporting, storage, and installation at no cost to the Department.

2) Provide a manufacturer's installation technician on-site during the entire installation process. Install the modular expansion joint system in strict accordance to the written installation instructions and recommendations made by the joint manufacturer's installation technician. The manufacturer's installation technician will provide written certification that all installation instructions were followed. Install the joint to conform to the roadway cross-section. Clean any foreign material from the elastomeric strip seals and edge members prior to installation.

3) Use an assembly with provision for final field adjustment at the time of installation. Perform final adjustment of the assembly as directed. Adjust assembly as required to account for thermal movements immediately prior to casting concrete around the assembly. Flood the joint system for a minimum of one hour after installation is complete. Repair the joint system as recommended by the manufacturer and approved by the Project Manager if leaking is observed.

E. Method of Measurement. This work will be measured in linear feet along the centerline of the joint, parallel to the plane of the finished joint surface.

F. Basis of Payment. Payment will be made at the contract unit price bid per linear feet for Modular Expansion Joint. Include material, labor, tools, equipment, and incidentals necessary.

50. GIRDER TEMPERATURE REQUIREMENTS FOR BEARING WELDING

A. Description. Weld the sole plates as specified.

B. Construction Requirements. Weld each girder bearing only when the average temperature of each girder has been determined to be between 15 and 60 degrees Fahrenheit. Complete the welding for each bridge so that the temperature of the girder, as measured by the method provided herein, does not change more than 10°F between the times the welds are placed. Place bearing in proper alignment and position as shown on plans and shop drawings for corresponding temperature. Correct girder or plate location as necessary. The instantaneous temperatures of the sole plates and girders must not exceed 300°F when field welding the sole plate to the girder bottom flange.

C. Temperature Measurements. Measure girder temperature by surface thermometer, non-contact infrared or other method approved by the Project Manager. Pacific Transducer Corp., 2301 Federal Avenue, Los Angeles, CA 90064-1482, manufactures such thermometers. Calculate the average temperature from two or more readings taken near the bents at each end of the spans. Take the readings on shaded portions of the members and follow the recommendations of the thermometer manufacturer.

D. Basis of Payment. Consider all costs associated with this provision incidental to the construction of the bridge. Include the cost in the cost of other items.

51. SELF-CONSOLIDATING CONCRETE (SCC)

A. Description. This provision revises the slump-flow target value in Subsection 551.03.2.G.2. from "within the range of 20 to 26 inches," to "19 inches."

52. MASS CONCRETE PLACEMENTS 15511 (2017)

A. Description. Develop and obtain approval for a heat control plan for monolithic placements at all columns and all pier caps to ensure the following during the heat dissipation period:

- 1) The temperature differential between the central core of the placement and the exposed concrete surface does not exceed 35 °F (19.4 °C) and
- 2) The temperature at the central core of the placement does not exceed 160°F (71 °C).

B. General. Produce a structure free of cracks caused by the thermal gradients resulting from uneven dissipation of the heat of hydration which occurs during the curing of large concrete sections. Control maximum concrete temperatures to avoid damaging concrete.

1) Provide temperature control for mass concrete in accordance with ACI 207.1R, "Guide to Mass Concrete", ACI 207.2R "Report on Thermal and Volume Change Effects on Cracking of Mass Concrete", and ACI 207.4R "Cooling and Insulating Systems of Mass Concrete". Develop the heat control plan using historical temperature ranges for the anticipated time of the mass placement. Re-create the plan if the work schedule shifts by more than one month.

2) Various options are available to the Contractor in limiting the differential temperatures and the maximum concrete temperatures. Choose methods which are consistent with the required schedule and construction sequence. The heat control plan may include a combination of the following elements:

- a) The selection of concrete ingredients including aggregates, gradation, and cement types, to minimize heat of hydration;
- b) The use of Type II or Type IV cement.
- c) The use of fly ash (Class F) or ground granulated blast furnace slag to reduce internal heat generation during curing. The maximum limits for fly ash and ground granulated blast furnace slag limits defined in Section 551.03.2.A.4 of the Standard Specifications may be increased for mass concrete;
- d) Use of ice or other concrete cooling ingredients;
- e) Use of liquid nitrogen dosing systems;
- f) Controlling rate or time of concrete placement;
- g) Use of insulation or supplemental external heat to control heat loss;
- h) Use of supplementary cementing materials;
- i) Use of a cooling system to control the core temperature; or
- j) Vary the duration formwork remains in place.

3) Furnish and install 2 pairs of temperature recording devices, maturity meters, or other approved equivalent devices. Install devices to measure the surface temperature no more than 3 inches (75 mm) from the surface. Install devices to measure the core temperature a distance of half the least dimension from the nearest surface near the point of maximum

predicted heat. Use these devices to simultaneously measure the temperature of the concrete at the core and the surface. Submit temperature recordings to the Project Manager for all mass concrete locations until all temperatures within the concrete are decreasing. Do not use maturity meters to predict strength of mass concrete. Revise the heat control plan as necessary to maintain the temperature limitations shown above.

4) Should the Project Manager determine during the course of the work that the procedures being followed by the Contractor are not producing an acceptable product that meets the intent of this specification, the Project Manager will:

a) Direct the Contractor to halt the placement of the mass concrete.
b) Direct the Contractor to revise the crack control plan to remedy the conditions being achieved in the field and submit the revised plan for approval. Placement of large concrete sections will not be permitted to resume until the revised plan is approved.

c) Inspect the previously placed concrete and determine the areas that require repair.

d) Direct the Contractor to repair the designated areas. Submit a repair plan to the Project Manager for approval prior to performing the repair operations.

5) Seal cracks in mass concrete that exceed 0.01 inches (0.254 mm) in width, as determined by the Project Manager. The Project Manager will make a visual inspection of the mass concrete elements and will mark all cracks greater than 0.01 inches (0.254 mm) wide appearing on the concrete surface. Seal all cracks that are between 0.01 inches and 0.02 inches wide (0.254 to 0.508 mm) with an approved epoxy crack sealant. Seal all cracks greater than 0.02 inches (0.508 mm) wide using epoxy injection methods and materials. Use epoxy injection operation that is in accordance with the manufacturer's recommendations, except where otherwise directed by the Project Manager.

C. Method of Measurement. Mass Concrete Placements will not be measured for payment.

D. Basis of Payment. Include all cost associated with mass concrete in the unit price bid per cubic yard for each type and class of concrete representing the mass placement. Revise crack control plan, any changes to schedule, and crack filling at no additional cost to the Department. The contract unit price for the volume of concrete representing the mass placement may be adjusted in accordance with the following Tables:

Maximum Measured Temperature Differential

Max Measured Temp Differential in excess of Maximum Allowable	Pay Factor
< 4 degrees Fahrenheit	1.00
> 4 to <7 degrees Fahrenheit	0.95
> 7 to < 11 degrees Fahrenheit	0.80
> 11 degrees Fahrenheit	Remove and Replace

Maximum Allowable Temperature

Max Measured Temp in excess of Maximum Allowable	Pay Factor
< 4 degrees Fahrenheit	1.00
> 4 to <7 degrees Fahrenheit	0.95
> 7 to < 11 degrees Fahrenheit	0.80
> 11 degrees Fahrenheit	Remove and Replace

53. CROSSOVER CONSTRUCT, MAINTAIN, AND CLOSE [618]

A. Description. This work is the construction, maintenance, and closure of one new single-lane crossover at RP 69.5 as specified in the contract.

B. Materials. Vacant.

- C. Construction Requirements.
 - 1) Prior to initiating any work on this crossover, coordinate with the Project Manager of the adjacent Clark Fork / Old Hwy 10 Bridges project.
 - 2) Construct crossover and include necessary culvert at the location shown on the plans. Provide traffic control meeting the requirements of Section 618.
 - 3) Remove topsoil from the construction area in accordance with Subsection 203.03.6. Store the topsoil in a manner that does not pose a hazard or impede drainage.
 - 4) Perform grading operations in accordance with Section 203.
 - 5) Place the crushed aggregate course and plant mix surfacing to the limits and thicknesses specified in the contract. Perform work associated with crushed aggregate course placement in accordance with Section 301. Perform plant mix surfacing operations as specified elsewhere in the contract.
 - 6) Sign, stripe, and place traffic control devices necessary for crossover operation as specified in the contract.
 - 7) Maintain crossover in a manner that provides the traveling public with a safe and smooth riding surface. Failure to maintain crossover in a manner that provide the traveling public a safe and smooth riding surface is cause for the Project Manager to stop work until corrective actions take place. All costs associated with delay in the stopped work is solely the Contractor's responsibility.
 - 8) Remove all temporary striping and traffic control devices upon completion of construction activities. Provide and install cable guardrail to meet MASH Test Level 3 criteria for high tension cable rail system and terminals that meet MASH Test Level 3 or NCHRP 350 criteria for use in medians for both temporary and permanent applications across the crossover.
 - 9) Within 5 days of completing the crossover construction, place salvaged topsoil on disturbed areas in accordance with Subsection 203.03.6. Do not overly compact the replaced soils. Reclaim the area in accordance with the Crossover Reclamation requirements.
- D. Measurement and Payment. Estimated quantities are shown on the crossover detail sheets for information only. Crossover is paid at the unit bid price for Crossover Construct, Maintain, and Close. This payment includes materials, labor, equipment, and all costs necessary to construct, sign, maintain, and close the crossover, including the high-tension cable rail, terminal sections, and appurtenances.

54. CROSSOVER TRAFFIC CONTROL [618] (REVISED 12-4-25 M)

- A. Description. This work includes furnishing, installing, maintaining, and removing traffic signs, barricades, lights, signals, pavement markings, and other specified traffic control devices on contracts utilizing crossovers.
- B. Materials. Furnish materials that meet Subsection 618.02.
- C. Construction Requirements. Provide traffic control in accordance with Section 618. Furnish a traffic control plan in accordance with Subsection 618.03.2.
 - 1) Traffic Control – Crossover. Construct and sign crossovers as specified in the contract, including plan details and Detailed Drawing 618-30. Remove existing striping, re-stripe, and sign for first phase of the cross-over. Upon completion of that phase of work, remove striping, re-stripe and sign for the opposite phase.
 - 2) Traffic Control – Two-Way Traffic. Install signage and striping and divide traffic between crossovers in accordance with contract requirements. Furnish and install surfaced mounted, hinged flexible guideposts for two-way traffic operations. Install 36-inch tall flexible, self-erecting delineators capable of withstanding numerous impacts from any direction without splitting, breaking, or detaching from the base or the surface to which the base is attached. Replace and reset any flexible delineator(s) that fail to meet these performance requirements.
 - 3) Traffic Control. Install all other traffic control devices required for work not performed under crossover conditions, and for any additional traffic control or signage not shown in the plans, in accordance with the contract requirements.

4) Sequencing. Complete all work within the closed section of roadway during crossover operations. This includes but is not limited to bridge work, plant mix paving, milling, guardrail installation, pavement markings, rumble strips, and signing. Complete all work to the satisfaction of the Project Manager prior to switching traffic. Return traffic to its normal traffic configuration within 24 hours of completing work.

The Department will deduct \$5,000 per calendar day for any crossover left in place without active work occurring within the closed section of roadway.

Traffic control installed to reduce traffic to a single lane for facilitating work in areas where a crossover was utilized will not be measured for payment.

After completing all phases of work, ensure all striping and pavement markings for the crossover configuration have been removed and apply epoxy traffic paint to all mainline pavement markings in their final configuration. Ensure pavement markings are completed to the satisfaction of the Project Manager.

D. Method of Measurement.

1) Traffic Control – Crossover. Each phase of crossover traffic control is measured as one Traffic Control – Crossover unit and includes the furnishing, installing, maintaining and removal of traffic control devices, pavement markings, striping, and the replacement of all damaged devices.

2) Traffic Control – Two-Way Traffic. Two-way traffic control is measured by the mile (kilometer) along the double yellow striping and includes the furnishing, installing, maintaining and removal of traffic control devices, pavement markings, striping, and all replacement of damaged devices.

3) Traffic Control. Traffic control required for work performed while traffic is not on crossovers (except as noted above) or for additional work not shown in the contract will be measured by the unit used and accepted according to the value shown in the “Traffic Control Rate Schedule.”

Epoxy traffic paint will be measured and paid for in accordance with Section 620.

E. Basis of Payment. Payment for the completed and accepted quantities is made under the following:

Pay Item	Pay Unit
Traffic Control – Crossover	Each
Traffic Control – Two-Way Traffic	Mile (kilometer)
Traffic Control	Unit

55. CROSSOVER MEDIAN BARRIER RAIL

A. Description. Construct Temporary Undivided Median Crossover as shown on the plans at RP 71.7 to divert I-90 traffic to a two-lane, two-way operation.

B. Construction. Construct the median crossover as shown on the plans. This crossover will involve removing existing concrete barrier rail, temporary attenuators, striping, and placement of temporary traffic control devices.

1) Remove concrete median barrier rail where necessary and install temporary impact attenuators as shown on the plans. A quantity of plant mix may be necessary to patch beneath the existing median rail to provide a smooth transition surface. Sign, stripe, and place traffic control devices in accordance with the Detailed Drawings, Manual of Uniform Traffic Control Devices, and Standard Specifications.

2) Maintain surfacing, striping, signing, drainage, concrete barrier rail, attenuators, erosion control, and all traffic control associated with the crossover. Maintain the crossover in a manner that in the judgment of the Project Manager will provide the traveling public with a safe and smooth riding surface.

3) Removal of the crossover includes, removing temporary attenuators, reinstalling existing concrete median barrier rail and removing all temporary striping and traffic control

devices upon completion of construction activities. Chip seal across the crossover zones to obliterate any conflicting pavement markings.

C. Measurement and Payment. Estimated quantities are shown on the crossover detail sheets for information only. Crossover is paid at the unit bid price for Crossover-Median Barrier Rail. This payment includes materials, labor, equipment, and all costs necessary to construct, sign, maintain, and remove the crossover.

56. LONG TERM VARIABLE MESSAGE BOARDS [618] (ADDED 3-09-23 M)

A. Description. Furnish, install, maintain, and remove 3 portable variable message boards (VMS).

B. General.

1) Install VMS at the following locations or as approved by the Project Manager.

Location
To be placed at locations determined by the project manager, near the work zone.

2) Install VMS 7 working days prior to the start of initial traffic control setup and construction operations. Provide traffic a warning message as approved by the Project Manager and shown in the Contractor's Traffic Control Plan. This message will alert traffic to the upcoming project limits and suggest alternate route(s).

3) At the start of construction operations, provide a message warning traffic of the anticipated project delays and suggest alternate route(s) as approved by the Project Manager.

4) Remove VMS as directed by the Project Manager. VMS not removed within 12 hours of notification will be subject to a 15% deduction in the unit bid price for each instance.

5) Furnish VMS that meet MUTCD requirements.

6) VMS must be capable of providing 2 phases with 3 lines and 8 characters per line. Characters must be a minimum of 18 inch in height.

7) If a safe and visible installation location cannot be found, construct a pad that provides a safe, level location to install the message board adjacent to traffic.

C. Method of Measurement. Portable variable message boards will be measured by each.

Construction of pad(s) will be measured and paid for in accordance with Subsection 109.04.

D. Basis of Payment. Portable variable message sign will be paid by each and includes all costs associated with installing, maintaining, and removing the boards. This item will be paid under bid item 618 100 005 Portable Variable Message Sign.

57. RSFO REMOVAL [619] (ADDED 8-06-2026)

Include the cost of removal in the cost to replace the sign face only.

58. WIDE LOAD AND SUPERLOAD ACCOMMODATION [618] (REVISED 12-7-23 M)

Coordinate with the Project Manager to accommodate wide loads and superloads during construction.

A. Wide Loads. Provide passage of loads greater than 12-feet wide through the project area at least 5 consecutive days/ week and two hours/day. Wide load passage must begin no earlier than 9 P.M. and be completed by 6 A.M. Coordinate with the Project Manager to facilitate passage of wide loads on other projects on the same route or in proximity.

Place wide load information signs at the following locations or as directed by the Project Manager. Furnish and install signs shown on the following detail, meeting Detailed Drawing 618-01. The *Route* will specify the route number, *Dir* will specify the direction of the

construction, and *Mp* will specify the milepost(s) of the work. Remove signs within 24 hours of removing the wideload restriction.



Sign information, if known:

14' Width Restriction

I-90 EB/WB MP 69.5 - 71.7

Additional Information

Sign Location	Location Description
I-90 WB Desmet Interchange	TBD by Project Manager
I-90 EB MT/ID Border	
MT HWY 135/I-90 Interchange	

B. Superloads. Loads greater than 18'0" wide, 150'0" long, or 17'0" high must contact the Prime Contractor Monday – Friday, 8:00 AM to 5:00 PM, before traveling to make special arrangements to be escorted through the project site on a case-by-case basis. Notify the Project Manager and provide justification before denying carriers access to the project.

C. Measurement and Payment.

1) Wide Loads. Traffic control necessary for wide load staging areas including wide load staging signs, staging information signs, arrow boards, lane closures, cameras, and wide load passage/marshaling will be included in the traffic control bid item Wide Load Marshaling - L.S.

Devices damaged by wide load passage will be replaced by the Contractor and paid for in accordance with contract's Traffic Control Rate Schedule.

2) Superloads. Traffic control necessary for marshaling superloads that require an escort outside of the contract required marshaling times is paid for by the Department. Pilot cars, flaggers, damaged devices, and Category #2-Adjustments will be paid for in accordance with the contract's Traffic Control Rate Schedule.

3) Super Load Administration. A flat fee of \$275 will be paid to cover administration cost for each permitted superload that necessitates an escort. The \$275 fee will be paid for superloads that require an escort outside of the contract required marshaling times. To receive payment for superload administration provide written documentation to the Project Manager 24 hours prior to the superload's arrival on project. This fee is paid under Miscellaneous Work.

4) Wide load information signs will be paid for as Single Use Signs (SQ FT). Cover the signs during the winter suspension if necessary. No separate payment will be made to cover wide load detour signs during winter suspension.

59. REVEGETATION

A. Description. This work consists of providing the necessary equipment and materials to accomplish revegetation of all areas disturbed by construction activities, and/or as directed by the project manager.

B. Materials.

1) Hydraulic mulch. Furnish 100% wood mulch containing tackifier from the Department's QPL.

2) Furnish the seed mix from the Crossover Reclamation Special provision.

C. Construction Requirements.

1) Salvage sufficient quantities of topsoil to place 4 inches over disturbed areas.

2) Drill Seed in accordance with Subsection 610.03.2

3) Areas that are too steep, narrow or otherwise inaccessible to drill seeding equipment can be dry broadcast seeded at double the drill seeding rates. Following broadcast seeding, scarify the areas to incorporate the seed into the upper $\frac{1}{4}$ to $\frac{1}{2}$ inch of soil.

4) Following broadcast seeding and scarification, install hydraulic erosion control mulch on slopes greater than 3:1 and all other broadcast seeded areas.

5) Apply mulch and tackifier in accordance with the manufacturer's requirements and Subsection 610.03.2.F.

D. Method of Measurement and Basis of Payment. Topsoil salvage, replacement, and seeding and mulch are paid for as REVEGETATION at the Contract unit price per lump sum.

END OF SECTION I

MDT NONDISCRIMINATION AND DISABILITY ACCOMMODATION NOTICE

Montana Department of Transportation (“MDT”) is committed to conducting all of its business in an environment free from discrimination, harassment, and retaliation. In accordance with State and Federal law MDT prohibits any and all discrimination and protections are all inclusive (hereafter “protected classes”) by its employees or anyone with whom MDT does business:

Federal protected classes

Race, color, religion, national origin, sex, age, disability, and genetic information.

State protected classes

Race; color; national origin; familial or marital status; pregnancy, childbirth, or medical conditions related to pregnancy or childbirth; creed; social origin or condition; genetic information; sex, sexual orientation, gender identification or expression; ancestry; age; mental or physical disability; political or religious affiliations or ideas; military service or veteran status; vaccination status or possession of immunity passport.

For the duration of this contract/agreement, the PARTY agrees as follows:

(1) Compliance with Regulations: The PARTY (hereinafter includes consultant) will comply with all Acts and Regulations of the United States and the State of Montana relative to Non-Discrimination in Federally and State-assisted programs of the U.S. Department of Transportation and the State of Montana, as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.

(2) Non-discrimination:

- a. The PARTY, with regard to the work performed by it during the contract, will not discriminate, directly or indirectly, on the grounds of any of the protected classes in the selection and retention of subcontractors, including procurements of materials and leases of equipment, employment, and all other activities being performed under this contract/agreement.
- b. PARTY will provide notice to its employees and the members of the public that it serves that will include the following:
 - i. Statement that PARTY does not discriminate on the grounds of any protected classes.
 - ii. Statement that PARTY will provide employees and members of the public that it serves with reasonable accommodations for any known disability, upon request, pursuant to the Americans with Disabilities Act as Amended (ADA).

- iii. Contact information for PARTY's representative tasked with handling non-discrimination complaints and providing reasonable accommodations under the ADA.
- iv. Information on how to request information in alternative accessible formats.
- c. In accordance with Mont. Code Ann. § 49-3-207, PARTY will include a provision, in all of its hiring/subcontracting notices, that all hiring/subcontracting will be on the basis of merit and qualifications and that PARTY does not discriminate on the grounds of any protected class.

(3) Participation by Disadvantaged Business Enterprises (DBEs):

- a. If the PARTY receives federal financial assistance as part of this contract/agreement, the PARTY must comply with applicable federal and state laws regarding the DBEs, including but not limited to 49 CFR Part 26.
- b. By signing this agreement the PARTY assures that:
The contractor, sub recipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate.
- c. PARTY must include the above assurance in each contract/agreement the PARTY enters.

(4) Solicitation for Subcontracts, Including Procurement of Materials and Equipment:

In all solicitations, either by competitive bidding, or negotiation, made by the PARTY for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier will be notified by the PARTY of the PARTY's obligation under this contract/agreement and all Acts and Regulations of the United States and the State of Montana related to Non-Discrimination.

(5) Information and Reports: The PARTY will provide all information and reports required by the Acts, Regulations, and directives issued pursuant thereto and will permit access to its books, records, accounts, other sources of information and its facilities as may be determined by MDT or relevant US DOT Administration to be pertinent to ascertain compliance with such Acts, Regulations, and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish the information, the PARTY will so certify to MDT or relevant US DOT Administration, as appropriate, and will set forth what efforts it has made to obtain the information.

(6) Sanctions for Noncompliance: In the event of a PARTY's noncompliance with the Non-discrimination provisions of this contract/agreement, MDT will impose such sanctions as it

or the relevant US DOT Administration may determine to be appropriate, including, but not limited to:

- a. Withholding payments to the PARTY under the contract/agreement until the PARTY complies; and/or
- b. Cancelling, terminating, or suspending the contract/agreement, in whole or in part.

(7) Pertinent Non-Discrimination Authorities:

During the performance of this contract/agreement, the PARTY, for itself, its assignees, and successor in interest, agrees to comply with the following non-discrimination statutes and authorities; including but not limited to:

Federal

- Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d *et seq.*, 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin); and 49 CFR Part 21;
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601 *et seq.*), (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- Sections 162 and 301(g) of the Federal-Aid Highway Act of 1973, (Public Law No. 93-87, 87 Stat. 250, codified at 23 U.S.C. § 324), (prohibits discrimination on the basis of sex);
- Section 504 of the Rehabilitation Act of 1973, (29 U.S.C. § 794 *et seq.*), (prohibits discrimination on the basis of disability); and 49 CFR Part 27;
- The Age Discrimination Act of 1975, (42 U.S.C. § 6101 *et seq.*), (prohibits discrimination on the basis of age);
- Section 520 of the Airport and Airways Improvement Act of 1982, (49 U.S.C. § 47123), (prohibits discrimination based on race, creed, color, national origin, or sex);
- The Civil Rights Restoration Act of 1987, (Public Law No. 100-259), (broadened the scope, coverage, and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975, and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms “programs or activities” to include all of the programs or activities of the Federal-aid recipients, sub-recipients, and contractors, whether such programs or activities are Federally funded or not);
- Titles II and III of the Americans with Disabilities Act, (42 U.S.C. §§ 12131 through 12189), which prohibits discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and

certain testing entities as implemented by Department of Transportation regulations at 49 CFR parts 37 and 38;

- Title IX of the Education Amendments of 1972, as amended, which prohibits discrimination on the basis of sex in education programs or activities (20 U.S.C. § 1681 *et seq.*).

State

- Mont. Code Ann. § 49-3-205 Governmental services;
- Mont. Code Ann. § 49-3-206 Distribution of governmental funds;
- Mont. Code Ann. § 49-3-207 Nondiscrimination provision in all public contracts.

(8) Incorporation of Provisions: The PARTY will include the provisions of paragraphs one through seven in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations and/or directives cited therein. The PARTY will take action with respect to any subcontract or procurement as MDT or the relevant US DOT Administration may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the PARTY becomes involved in, or is threatened with litigation by a subcontractor, or supplier because of such direction, the PARTY may request MDT to enter into any litigation to protect the interests of MDT. In addition, the PARTY may request the United States to enter into the litigation to protect the interests of the United States.

SK Geotechnical Boring Log Descriptive Terminology

Key to Soil Symbols and Terms

12/06/12



SOIL CLASSIFICATION CHART

MAJOR DIVISIONS			SYMBOLS		TYPICAL DESCRIPTIONS
			GRAPH	LETTER	
COARSE GRAINED SOILS	GRAVEL AND GRAVELLY SOILS	CLEAN GRAVELS (LITTLE OR NO FINES)		GW	Well-graded gravels, gravel sand mixtures, little or no fines.
				GP	Poorly graded gravels, gravel-sand mixtures, little or no fines.
				GM	Silty gravels, gravel-sand-silt mixtures.
				GC	Clayey gravels, gravel-sand-clay mixtures.
	SAND AND SANDY SOILS	CLEAN SANDS (LITTLE OR NO FINES)		SW	Well-graded sands, gravelly sands, little or no fines.
				SP	Poorly graded sands, gravelly sands, little or no fines.
				SM	Silty sands, sand-silt mixtures.
				SC	Clayey sands, sand-clay mixtures.
FINE GRAINED SOILS	SILTS AND CLAYS	LIQUID LIMIT LESS THAN 50		ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity.
				CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays.
				OL	Organic silts and organic silty clays of low plasticity.
	SILTS AND CLAYS	LIQUID LIMIT GREATER THAN 50		MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts.
				CH	Inorganic clays of high plasticity, fat clays.
				OH	Organic clays of medium to high plasticity, organic silts.
			HIGHLY ORGANIC SOILS		

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS

Notes

See Soil Boring Information Special Provision.

SPT (Standard Penetration Test-ASTM D1586):

The number of blows of a 140 lb (63.6 kg) hammer falling 2.5 ft (750 mm) used to drive a 2 in (50 mm)

O.D. Split Spoon sampler for a total of 1.5 ft (0.45 m) of penetration.

Written as follows:

first 0.5 ft (0.15 m) - second 0.5 ft (0.15 m) - third 0.5 ft (0.15 m)

(ex: 1-3-9)

Note: if the number of blows exceeds 50 before 0.5 ft (0.15 m) of penetration is achieved, the actual penetration rounded to the nearest 0.1 ft (0.03 m) follows the number of blows in parentheses (ex: 12-24-50 (0.09 m),

34-50 (0.4 ft), or 100 (0.3 ft)). WR denotes a zero blow count with the weight of the rods only.

WH denotes a zero blow count with the weight of the rods plus the weight of the hammer.

MC=Moisture Content, LL=Liquid limit, PL=Plastic Limit
-200%=percent soil passing 200 sieve, DD=Dry Density

Soil Classifications are Based on the Unified Soil Classification System, ASTM D2487 and D2488.
Also included are the AASHTO group classifications (M145).
Descriptions are based on visual observation, except where they have been modified to reflect results of laboratory tests as deemed appropriate.

Example soil description: Sandy FAT CLAY (CH), soft, wet, brown. (A-7)

Order of Descriptors

- Group Name
- Consistency or Relative Density
- Moisture Condition
- Color
- Particle size descriptor(s) (coarse grained soils only)
- Angularity of coarse grained soils
- Other relevant notes

Criteria For Descriptors

Consistency of Fine Grained Soils

Consistency	N-Value (uncorrected)
Very Soft	< 2
Soft	2 - 4
Medium Stiff	5 - 8
Stiff	9 - 15
Very Stiff	16 - 30
Hard	> 30

Apparent Density of Coarse Grained Soils

Relative Density	N-Value (uncorrected)
Very Loose	< 4
Loose	4 - 10
Medium Dense	11 - 30
Dense	31 - 50
Very Dense	> 50

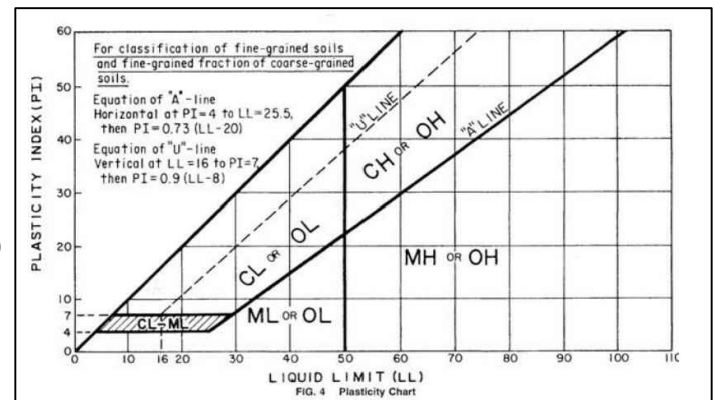
Moisture Condition

- Dry
Moist
Wet
- Absence of moisture, dusty, dry to the touch.
 - Damp, but no visible water.
 - Visible free water.

Definition of Particle Size Ranges

Soil Component	Size Range
Boulder	> 12 in (300 mm)
Cobble	3 in (75 mm) - 12 in (300 mm)
Gravel	No. 4 Sieve (4.75 mm) to 3 in (75 mm)
Sand	No. 200 (0.075 mm) to No. 4 Sieves (4.75 mm)
Silt	< No. 200 Sieve (0.075 mm)*
Clay	< No. 200 Sieve (0.075 mm)*

*Atterberg limits and chart below to differentiate between silt and clay.



Angularity of Coarse-Grained Particles

- Angular -Particles have sharp edges and relative plane sides with unpolished surfaces.
 Subangular -Particles are similar to angular description, but have rounded edges.
 Subrounded -Particles have nearly plane sides, but have no edges.
 Rounded -Particles have smoothly curved sides and well-rounded corners and edges.

SK Geotechnical Boring Log Descriptive Terminology

Key to Rock Symbols and Terms

12/06/12



Rock Type	Symbol	Rock Type	Symbol	Rock Type	Symbol
Argillite		Dolomite		Quartzite	
Basalt		Gneiss		Rhyolite	
Bedrock (other)		Granitic		Sandstone	
Breccia		Limestone		Schist	
Claystone		Siltstone		Shale	
		Conglomerate			

Order of Descriptors

- Rock Type
- Color
- Grain size (if applicable)
- Stratification/Foliation (as applicable)
- Field Hardness
- Other relevant notes

Criteria For Descriptors

Grain Size

Description	Characteristic
Coarse Grained	-Individual grains can be easily distinguished by eye
Fine Grained	-Individual grains can be distinguished with difficulty

Stratum Thickness

Thickly Bedded	3-10 ft (1-3 m)
Medium Bedded	1-3 ft (300 mm - 1 m)
Thinly Bedded	2-12 in (50-300 mm)
Very Thinly Bedded	< 2 in (50 mm)

Rock Field Hardness

Very Soft	-Can be carved with knife. Can be excavated readily with point of rock hammer. Can be scratched readily by fingernail.
Soft	-Can be grooved or gouged readily by knife or point of rock hammer. Can be excavated in fragments from chips to several inches in size by moderate blows of the point of a rock hammer.
Medium	-Can be grooved or gouged 0.05 in (2 mm) deep by firm pressure of knife or rock hammer point. Can be excavated in small chips to pieces about 1 in (25 mm) maximum size by hard blows of the point of a rock hammer.
Moderately hard	-Can be scratched with knife or pick. Gouges or grooves to 0.25 in (6 mm) can be excavated by hard blow of rock hammer. Hand specimen can be detached by moderate blows.
Hard	-Can be scratched with knife or pick only with difficulty. Hard hammer blows required to detach hand specimen.
Very Hard	-Cannot be scratched with knife or sharp rock hammer point. Breaking of hand specimens requires several hard blows of a rock hammer.

Notes:

UCS = Unconfined Compressive Strength obtained from laboratory testing at the given depth.

See Soil Boring Information Special Provision.

Miscellaneous Soil/Rock Symbols and Terms

	Concrete
	Asphalt
	Water
	Boulders and Cobbles
	Coal
	Fill
	Millings
	Topsoil

Explanation of Text Fields in Boring Logs:

Material Description: Lithologic Description of soil or rock encountered.

Remarks: Comments on drilling, including method, bit type, and problems encountered.

Unless stated on logs as being surveyed by district survey, all locations are considered approximate.

General Notes

- Descriptions on these boring logs apply only at the specific boring, and at the time the time the borings were made. These logs are not warranted to be representative of subsurface conditions at other locations or times.
- Water level observations apply only at the specific boring, and at the time the borings were made. Due to the variability of groundwater measurements given the type of drilling used, and the stratification of the soil in the boring, these logs are not warranted to be representative of groundwater conditions at other locations or times.
- Other terms may be used as descriptors, as defined by the profession.

Operation Types:

	Auger
	Casing Advancer
	Core Barrel
	Drive Casing

Sample Types:

	Split Spoon
	Shelby
	Bulk Sample
	Grab Sample
	Cone Penetrometer
	Vane Shear
	Special Samplers
	Testpit

-Soil and Rock descriptions are based on visual observation, except where they have been modified to reflect results of laboratory tests as deemed appropriate.

Example Rock Log

SANDSTONE, gray, fine grained, thickly bedded, hard field hardness.



LOG OF BORING

Boring 9786002-ST-9

Sheet 1 of 1

Project: I-90 Structures - West of Alberton		Rig: Geoprobe8150	Boring Location N: 1045203.6 ft E: 702474.9 ft	Station: 598 + 74 Offset: 8 ft L
Project Number: 20-3919S	UPN: 9786002	Boring Diameter: 5 7/8"	System: MT S.P. (E) Datum: NAD83	Top of Boring Elevation: 3005.1 ft
Date Started: 11/3/20	Date Finished: 11/3/20	Drilling Fluid: Water	Location Source: MMI Survey	Elevation Source: MMI Survey
Driller: Larry Phillips (O'Keefe) Logger: C. Hopkins		Abandonment Method: Backfilled with Cuttings	Township, Range, and Section: 14N 24W 1 - BAC	

Depth (ft) Elev. (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft) Elev. (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
5 3000.1			89		25 - 15 - 11		Existing Asphalt Pavement 0-9 3/4".	0.8 3004.3				NP	7	Sonic Core 0-15' BB: 2 1/2'-5'
							BASE COURSE, Poorly-Graded GRAVEL with silt and sand (GP-GM), medium dense, brown, moist, fine to coarse grained, subangular to subrounded, [A-1].	2.5 3002.6	10					
							FILL, Silty SAND with gravel (SM), medium dense, brown, moist, fine grained, subangular, [A-4].		13	16	14	40		MDD: 129.8 pcf OMC: 7.7%
			33		14 - 11 - 12			6.3 2998.8	13					
							FILL, Clayey SAND (SC), medium dense, dark brown, moist, fine grained, subangular, [A-2].	6.6 2998.5						
			67		33 - 38 - 28		FILL, Sandy SILT (ML), very dense, light brown to pink, moist, fine grained, [A-4].	7.2 2997.9	3					
10 2995.1							FILL, Poorly-Graded GRAVEL with sand, silt, and cobbles (GP-GM), very dense, light brown, moist, fine grained, subangular, [A-1].	10.2 2994.9						
			55		50 - 50 - 23		FILL, Sandy SILT with gravel (ML), hard, brown, moist, [A-4].		3					
			100		50/0.3ft			12.5 2992.6	1					Cobble layer from 12 1/2'-13'
15 2990.1							FILL, Silty GRAVEL with sand and cobbles (GM), very dense to dense, brown, moist, fine to coarse grained, subangular, [A-2].							
			55		14 - 23 - 20			16.5 2988.6	2					
Boring Depth: 16.5 ft, Elevation: 2988.6 ft														

(2) MDT LOG OF BORING - MDT, REVISED 2009+(CPT IMPORT). GDT - 4/2/25 09:47 - Z:\GINT\GINT\PROJECTS\3901-4000\3919- CYR STRUCTURE - 130 REPORT.GPJ

Water Level Observations		During Drilling: Not Encountered	Remarks:
After Drilling: Not Encountered, Casing In	After Drilling: Not Encountered, Casing Out		



LOG OF BORING

Boring 9786002-ST-10

Sheet 1 of 5

Project: I-90 Structures - West of Alberton		Rig: Geoprobe8150	Boring Location N: 1045192.4 ft E: 702794.8 ft	Station: 601 + 94 Offset: 19 ft L
Project Number: 20-3919S	UPN: 9786002	Boring Diameter: 5 7/8"	System: MT S.P. (E) Datum: NAD83	Top of Boring Elevation: 2940.4 ft
Date Started: 12/2/20	Date Finished: 12/4/20	Drilling Fluid: Water	Location Source: MMI Survey	Elevation Source: MMI Survey
Driller: Larry Phillips (O'Keefe) Logger: C. Binstock		Abandonment Method: Backfilled with Cuttings	Township, Range, and Section: 14N 24W 1 - BAC	

Depth (ft) Elev. (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft) Elev. (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
5 2935.4			100		50/0.4ft		Existing Asphalt Pavement 0-5". BASE COURSE, Well-Graded GRAVEL with sand (GW), brown, fine to coarse grained, rounded, [A-1]. Frozen.	0.4 2939.9						Sonic Core 0-110' BB: 1½'-5'
							BASE COURSE, Poorly-Graded GRAVEL with sand (GP), brown, moist, fine to coarse grained, rounded, [A-1]. Frozen.	0.8 2939.6						
							Lean CLAY with sand (CL), medium stiff, pinkish brown, moist, [A-6]. (Glacial Lake).	1.5 2938.9	6	32	18	84		
10 2930.4			100		3 - 3 - 4			30						MDD: 111.1 pcf OMC: 15.5%
								29						
15 2925.4			100		1 - 2 - 4			33						See triaxial shear test results.
								28						
20 2920.4			100		2 - 3 - 4			14.5 2925.9	29	34	18			See triaxial shear test results.
25 2915.4			100		2 - 4 - 6				32	27	25	98	92	See triaxial shear test results.

Water Level Observations		During Drilling: 52.0 ft (2888.4 ft)	Remarks:
After Drilling: Not Encountered, Casing In	After Drilling: Not Encountered, Casing Out		

(2) MDT LOG OF BORING - MDT, REVISED 2009+(CPT IMPORT). GDT - 4/2/25 09:47 - Z:\GINT\GINT\PROJECTS\3901-4000\3919- CYR STRUCTURE - 130 REPORT.GPJ



LOG OF BORING

Boring 9786002-ST-10

Sheet 2 of 5

Project: I-90 Structures - West of Alberton		Rig: Geoprobe8150	Boring Location N: 1045192.4 ft E: 702794.8 ft	Station: 601 + 94 Offset: 19 ft L
Project Number: 20-3919S	UPN: 9786002	Boring Diameter: 5 7/8"	System: MT S.P. (E) Datum: NAD83	Top of Boring Elevation: 2940.4 ft
Date Started: 12/2/20	Date Finished: 12/4/20	Drilling Fluid: Water	Location Source: MMI Survey	Elevation Source: MMI Survey
Driller: Larry Phillips (O'Keefe) Logger: C. Binstock		Abandonment Method: Backfilled with Cuttings	Township, Range, and Section: 14N 24W 1 - BAC	

Depth (ft) Elev. (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft) Elev. (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
30 2910.4					3 - 5 - 6		Silt Continued...		32	33	24	99		
35 2905.4									31 32 31 34	39 40	23 26	100	92	See triaxial shear test results.
40 2900.4					4 - 4 - 7				34					
45 2895.4					45 - 50/0.1ft		SILT with gravel and cobbles (ML), brown, moist, [A-4]. (Glacial Flood). Silty GRAVEL with clay, sand, and cobbles (GC-GM), dense to very dense, brown, moist to wet, fine to coarse grained, angular to rounded, [A-4]. (Glacial Flood).	43.0 2897.4 44.0 2896.4						
50 2890.4					11 - 38 - 24				13					
55 2885.4					13 - 50/0.2ft					28	21	49		

2) MDT LOG	Water Level Observations	During Drilling: 52.0 ft (2888.4 ft)	Remarks:
	After Drilling: Not Encountered, Casing In	After Drilling: Not Encountered, Casing Out	

(2) MDT LOG OF BORING - MDT, REVISED 2009+(CPT IMPORT). GDT - 4/2/25 09:47 - Z:\GINT\GINT\PROJECTS\3901-4000\3919- CYR STRUCTURE - 130 REPORT.GPJ



LOG OF BORING

Boring 9786002-ST-10

Sheet 3 of 5

Project: I-90 Structures - West of Alberton				Rig: Geoprobe8150		Boring Location N: 1045192.4 ft				Station: 601 + 94																																																																																																							
Project Number: 20-3919S				UPN: 9786002		Hammer: Auto				Coordinates E: 702794.8 ft																																																																																																							
Date Started: 12/2/20				Date Finished: 12/4/20		Boring Diameter: 5 7/8"				System: MT S.P. (E)																																																																																																							
Date Started: 12/2/20				Date Finished: 12/4/20		Datum: NAD83				Top of Boring Elevation: 2940.4 ft																																																																																																							
Driller: Larry Phillips (O'Keefe)				Abandonment Method: Backfilled with Cuttings				Location Source: MMI Survey																																																																																																									
Logger: C. Binstock				Backfilled with Cuttings				Township, Range, and Section: 14N 24W 1 - BAC																																																																																																									
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Depth (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests																																																																																																			
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(2) MDT LOG OF BORING - MDT, REVISED 2009+(CPT IMPORT).GDT - 4/2/25 09:47 - Z:\GINTGINT\PROJECTS\3901-4000\3919- CYR STRUCTURE - 130 REPORT.GPJ



LOG OF BORING

Boring 9786002-ST-10

Sheet 4 of 5

Project: I-90 Structures - West of Alberton				Rig: Geoprobe8150		Boring Location N: 1045192.4 ft				Station: 601 + 94																									
Project Number: 20-3919S				UPN: 9786002		Hammer: Auto				Coordinates E: 702794.8 ft																									
Date Started: 12/2/20				Date Finished: 12/4/20		Boring Diameter: 5 7/8"				System: MT S.P. (E)																									
Date Started: 12/2/20				Date Finished: 12/4/20		Datum: NAD83				Top of Boring Elevation: 2940.4 ft																									
Driller: Larry Phillips (O'Keefe)				Abandonment Method: Backfilled with Cuttings				Location Source: MMI Survey																											
Logger: C. Binstock				Backfilled with Cuttings				Township, Range, and Section: 14N 24W 1 - BAC																											
Depth (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests																					
85 2855.4			15		13 - 10 - 13		Clayey Gravel with Sand and Cobbles Continued...		27	17	42																								
90 2850.4			22		12 - 15 - 27																														
95 2845.4			33		14 - 13 - 19																														
100 2840.4			65		30 - 44 - 50/0.2ft																														
105 2835.4			33		50/0.4ft																														
110 2830.4			90		50/0.3ft									Switch to HQ-Core below 110.0'																					
<table border="1"> <tr> <td colspan="6">Water Level Observations</td> <td colspan="2"> During Drilling: 52.0 ft (2888.4 ft) </td> <td colspan="5" rowspan="2">Remarks:</td> </tr> <tr> <td colspan="6"> After Drilling: Not Encountered, Casing In </td> <td colspan="2"> After Drilling: Not Encountered, Casing Out </td> </tr> </table>															Water Level Observations						During Drilling: 52.0 ft (2888.4 ft)		Remarks:					After Drilling: Not Encountered, Casing In						After Drilling: Not Encountered, Casing Out	
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(2) MDT LOG OF BORING - MDT, REVISED 2009+(CPT, IMPORT), GDT - 4/2/25 09:47 - Z:\GINTGINT\PROJECTS\3901-4000\3919- CYR STRUCTURE - 130 REPORT.GPJ



LOG OF BORING

Boring 9786002-ST-10

Sheet 5 of 5

Project: I-90 Structures - West of Alberton				Rig: Geoprobe8150		Boring Location N: 1045192.4 ft				Station: 601 + 94	
Project Number: 20-3919S				UPN: 9786002		Hammer: Auto				Coordinates E: 702794.8 ft	
Date Started: 12/2/20				Date Finished: 12/4/20		Boring Diameter: 5 7/8"				System: MT S.P. (E)	
Drilling Fluid: Water				Location Source: MMI Survey				Datum: NAD83			
Driller: Larry Phillips (O'Keefe)				Abandonment Method: Backfilled with Cuttings				Township, Range, and Section: 14N 24W 1 - BAC			
Logger: C. Binstock											

Depth (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
Elev. (ft)								Elev. (ft)						
115			5	0			Clayey Gravel with Sand and Cobbles Continued...	114.5						
2825.4							ARGILLITE, gray, fine grained, medium bedded, very soft to hard field hardness.	2825.9						Clay filled seams and layers.
			100	57									162	UCS: 1,253 psi
120								120.0					170	UCS: 1,905 psi
2820.4								2820.4						

Boring Depth: 120.0 ft, Elevation: 2820.4 ft

Water Level Observations		☐ During Drilling: 52.0 ft (2888.4 ft)	Remarks:
☒ After Drilling: Not Encountered, Casing In	☒ After Drilling: Not Encountered, Casing Out		

(2) MDT LOG OF BORING - MDT, REVISED 2009+(CPT IMPORT) GDT - 4/2/25 09:47 - Z:\GINT\GINT\PROJECTS\3901-4000\3919- CYR STRUCTURE - 130 REPORT.GPJ



LOG OF BORING

Boring 9786002-ST-11

Sheet 1 of 6

Project: I-90 Structures - West of Alberton		Rig: Geoprobe8150	Boring Location N: 1045107.1 ft E: 703322.0 ft	Station: 607 + 26 Offset: 30 ft R
Project Number: 20-3919S	UPN: 9786002	Boring Diameter: 5 7/8"	System: MT S.P. (E) Datum: NAD83	Top of Boring Elevation: 2973.8 ft
Date Started: 11/18/20	Date Finished: 11/18/20	Drilling Fluid: Water	Location Source: MMI Survey	Elevation Source: MMI Survey
Driller: Larry Phillips (O'Keefe) Logger: C. Binstock		Abandonment Method: Backfilled with Cuttings	Township, Range, and Section: 14N 24W 1 - BAD	

Depth (ft) Elev. (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft) Elev. (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
5 2968.8			60		4 - 7 - 8		Poorly-Graded GRAVEL with sand (GP), medium dense, gray, rather dry to moist, fine to coarse grained, angular, [A-1]. (Glacial Flood). Silty SAND with gravel, cobbles, and boulders (SM), medium dense to very dense, brown, moist, fine to coarse grained, subangular to angular, [A-4]. (Glacial Flood).	0.5 2973.3	4					Sonic Core 0-125'
10 2963.8			60		17 - 27 - 19				3					
15 2958.8			50		12 - 37 - 28				2	16	14	36		
20 2953.8			66		2 - 6 - 7				28					
25 2948.8			99		3 - 2 - 3		SILT (ML), medium stiff, brown, moist, [A-4]. (Glacial Lake).	22.0 2951.8	34					

2) MDT LO	Water Level Observations	During Drilling: 59.0 ft (2914.8 ft)	Remarks:
	After Drilling: 0, Casing In	After Drilling: 0, Casing Out	

(2) MDT LOG OF BORING - MDT, REVISED 2009+(CPT IMPORT). GDT - 4/2/25 09:47 - Z:\GINT\GINT\PROJECTS\3901-4000\3919- CYR STRUCTURE - 130 REPORT.GPJ



LOG OF BORING

Boring 9786002-ST-11

Sheet 2 of 6

Project: I-90 Structures - West of Alberton		Rig: Geoprobe8150	Boring Location N: 1045107.1 ft E: 703322.0 ft	Station: 607 + 26 Offset: 30 ft R
Project Number: 20-3919S	UPN: 9786002	Boring Diameter: 5 7/8"	System: MT S.P. (E) Datum: NAD83	Top of Boring Elevation: 2973.8 ft
Date Started: 11/18/20	Date Finished: 11/18/20	Drilling Fluid: Water	Location Source: MMI Survey	Elevation Source: MMI Survey
Driller: Larry Phillips (O'Keefe) Logger: C. Binstock		Abandonment Method: Backfilled with Cuttings	Township, Range, and Section: 14N 24W 1 - BAD	

Depth (ft) Elev. (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft) Elev. (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
30 2943.8			100		2 - 3 - 4		Silt Continued...	29.0 2944.8	36					
35 2938.8			100		5 - 3 - 4		Silty SAND (SM), loose, brown, wet, fine grained, rounded, [A-2].	33.5 2940.3	29					
40 2933.8			100				SILT (ML), medium stiff to stiff, brown, moist to wet, [A-4]. Some layers of lean clay. (Glacial Lake).	30						California Sample
45 2928.8			100		2 - 3 - 4			35	40	30	100			
50 2923.8			100					30 32 35	39 37	24 21	100		92	See triaxial shear test results
55 2918.8			100		4 - 4 - 7									

2) MDT LOG	Water Level Observations	During Drilling: 59.0 ft (2914.8 ft)	Remarks:
	After Drilling: 0, Casing In	After Drilling: 0, Casing Out	



LOG OF BORING

Boring 9786002-ST-11

Sheet 3 of 6

Project: I-90 Structures - West of Alberton				Rig: Geoprobe8150		Boring Location N: 1045107.1 ft				Station: 607 + 26					
Project Number: 20-3919S				UPN: 9786002		Hammer: Auto				Coordinates E: 703322.0 ft					
Date Started: 11/18/20				Date Finished: 11/18/20		Boring Diameter: 5 7/8"				System: MT S.P. (E)					
Date Started: 11/18/20				Date Finished: 11/18/20		Datum: NAD83				Top of Boring Elevation: 2973.8 ft					
Driller: Larry Phillips (O'Keefe)				Abandonment Method: Backfilled with Cuttings				Location Source: MMI Survey				Elevation Source: MMI Survey			
Logger: C. Binstock				Township, Range, and Section: 14N 24W 1 - BAD											

Depth (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
Elev. (ft)								Elev. (ft)						
60							Silt Continued...		35					
2913.8			100		1 - 3 - 6			32						
65								29	36	26				See triaxial shear test results
2908.8			100				32	34	25	NP100	93			
70								30						
2903.8			100		2 - 4 - 6									
75								30						
2898.8			100		3 - 5 - 9									
80								32	41	26	100	90		See triaxial shear test results
2893.8			100				31	43	23					
								36						

Water Level Observations		During Drilling: 59.0 ft (2914.8 ft) After Drilling: 0, Casing In	Remarks:
After Drilling: 0, Casing Out			

(2) MDT LOG OF BORING - MDT, REVISED 2009+(CPT IMPORT).GDT - 4/2/25 09:47 - Z:\GINTGINT\PROJECTS\3901-4000\3919- CYR STRUCTURE - 130 REPORT.GPJ



LOG OF BORING

Boring 9786002-ST-11

Sheet 4 of 6

Project: I-90 Structures - West of Alberton				Rig: Geoprobe8150		Boring Location N: 1045107.1 ft				Station: 607 + 26																																																																																																																									
Project Number: 20-3919S				UPN: 9786002		Hammer: Auto				Coordinates E: 703322.0 ft																																																																																																																									
Date Started: 11/18/20				Date Finished: 11/18/20		Boring Diameter: 5 7/8"				System: MT S.P. (E)																																																																																																																									
Date Started: 11/18/20				Date Finished: 11/18/20		Datum: NAD83				Top of Boring Elevation: 2973.8 ft																																																																																																																									
Driller: Larry Phillips (O'Keefe)				Abandonment Method: Backfilled with Cuttings				Location Source: MMI Survey																																																																																																																											
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Depth (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests																																																																																																																					
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110 2863.8			100		4 - 4 - 5				33																																																																																																																										
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LOG OF BORING

Boring 9786002-ST-11

Sheet 5 of 6

Project: I-90 Structures - West of Alberton		Rig: Geoprobe8150	Boring Location N: 1045107.1 ft E: 703322.0 ft	Station: 607 + 26 Offset: 30 ft R
Project Number: 20-3919S	UPN: 9786002	Boring Diameter: 5 7/8"	System: MT S.P. (E) Datum: NAD83	Top of Boring Elevation: 2973.8 ft
Date Started: 11/18/20	Date Finished: 11/18/20	Drilling Fluid: Water	Location Source: MMI Survey	Elevation Source: MMI Survey
Driller: Larry Phillips (O'Keefe) Logger: C. Binstock		Abandonment Method: Backfilled with Cuttings	Township, Range, and Section: 14N 24W 1 - BAD	

Depth (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft)	Elev. (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
115 2858.8			100		30 - 35 - 30		Silt with Sand Continued...	113.5 2860.3		9					
							Poorly-Graded GRAVEL with silt, sand, and cobbles (GP-GM), very dense, brown, wet, fine to coarse grained, angular, [A-1]. (Glacial Flood).	116.5 2857.3							
120 2853.8			100		5 - 8 - 15		SILT with sand (ML), very stiff, brown, wet, [A-4]. (Glacial Lake).	125.0 2848.8		29	NP	85			
125 2848.8			95		50/0.2ft		ARGILLITE, gray, fine grained, medium bedded, hard to very hard field hardness.	125.0 2848.8		13					Switch to HQ-Core below 125.0'
130 2843.8			95	68										168	UCS: 15,230 psi
135 2838.8			97	88										155 177	UCS: 13,357 psi UCS: 11,257 psi
140 2833.8			100	100										170 176	UCS: 20,680 psi UCS: 10,161 psi

Water Level Observations		During Drilling: 59.0 ft (2914.8 ft)	Remarks:
After Drilling: 0, Casing In	After Drilling: 0, Casing Out		



LOG OF BORING

Boring 9786002-ST-11

Sheet 6 of 6

Project: I-90 Structures - West of Alberton		Rig: Geoprobe8150	Boring Location N: 1045107.1 ft E: 703322.0 ft	Station: 607 + 26 Offset: 30 ft R
Project Number: 20-3919S	UPN: 9786002	Boring Diameter: 5 7/8"	System: MT S.P. (E) Datum: NAD83	Top of Boring Elevation: 2973.8 ft
Date Started: 11/18/20	Date Finished: 11/18/20	Drilling Fluid: Water	Location Source: MMI Survey	Elevation Source: MMI Survey
Driller: Larry Phillips (O'Keefe) Logger: C. Binstock		Abandonment Method: Backfilled with Cuttings	Township, Range, and Section: 14N 24W 1 - BAD	

Depth (ft) Elev. (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft) Elev. (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
145 2828.8			100	0			Argillite Continued...							Dip angle 20°
150 2823.8			18	0			Highly fractured to very highly fractured from 145'-151'.							
155 2818.8			60	53									172	Dip angle 15° UCS: 11,181 psi
160 2813.8			60	82									171	18° vertical fracture UCS: 8,103 psi UCS: 8,683 psi
Boring Depth: 160.0 ft, Elevation: 2813.8 ft								160.0 2813.8						

(2) MDT LOG OF BORING - MDT, REVISED 2009+(CPT, IMPORT), GDT - 4/2/25 09:47 - Z:\GINT\GINT\PROJECTS\3901-4000\3919- CYR STRUCTURE - 130 REPORT.GPJ

Water Level Observations		During Drilling: 59.0 ft (2914.8 ft)	Remarks:
After Drilling: (), Casing In	After Drilling: (), Casing Out		



LOG OF BORING

Boring 9786002-ST-12

Sheet 1 of 1

Project: I-90 Structures - West of Alberton		Rig: Geoprobe8150	Boring Location N: 1045131.3 ft E: 703548.6 ft	Station: 609 + 50 Offset: 10 ft L
Project Number: 20-3919S	UPN: 9786002	Boring Diameter: 5 7/8"	System: MT S.P. (E) Datum: NAD83	Top of Boring Elevation: 2992.6 ft
Date Started: 11/2/20	Date Finished: 11/2/20	Drilling Fluid: Water	Location Source: MMI Survey	Elevation Source: MMI Survey
Driller: Larry Phillips (O'Keefe) Logger: C. Hopkins		Abandonment Method: Backfilled with Cuttings	Township, Range, and Section: 14N 24W 1 - ABC	

Depth (ft) Elev. (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft) Elev. (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
							Existing Asphalt Pavement 0-8 3/4".	0.8 2991.8	3		NP	7		Sonic Core 0-15' BB: 1'-5' MDD: 143.3 pcf OMC: 6.0%
			89		21 - 35 - 32		BASE COURSE, Poorly-Graded GRAVEL with silt and sand (GP-GM), very dense, light brown to brown, moist, fine to coarse grained, subangular to subrounded, [A-1].	1.2 2991.4						
			61		17 - 20 - 24		FILL, Silty GRAVEL with sand (GM), dense, light brown to brown, moist, fine to coarse grained, subangular, [A-1].	3.0 2989.6	2		NP	19		
5 2987.6			56		17 - 10 - 10		FILL, Silty GRAVEL with sand (GM), medium dense, light brown, moist, fine to coarse grained, subangular to subrounded, [A-2].		2					
			56		11 - 9 - 8		FILL, Poorly-Graded GRAVEL with sand (GP), medium dense, light brown, moist, fine to coarse grained, subangular, [A-1]. (Glacial Flood).	8.0 2984.6	3					
10 2982.6			56		5 - 5 - 4		Poorly-Graded SAND with silt (SP-SM), loose, brown to light brown, moist, fine to coarse grained, subangular, [A-2]. (Glacial Flood).	10.0 2982.6	5					
			61		2 - 2 - 1		Silty CLAY (CL-ML), soft, pink to brown, moist to wet, [A-4]. (Glacial Lake).	12.0 2980.6	35					
15 2977.6			56		11 - 2 - 3		SILT (ML), medium stiff, brown, moist, [A-4]. (Glacial Lake).	14.5 2978.1						
							Boring Depth: 16.5 ft, Elevation: 2976.1 ft	16.5 2976.1						

(2) MDT LOG OF BORING - MDT, REVISED 2009+(CPT IMPORT) GDT - 4/2/25 09:47 - Z:\GINT\GINT\PROJECTS\3901-4000\3919- CYR STRUCTURE - 130 REPORT.GPJ

Water Level Observations		During Drilling: Not Encountered	Remarks:
After Drilling: Not Encountered, Casing In	After Drilling: Not Encountered, Casing Out		



LOG OF BORING

Boring 9786002-ST-20

Sheet 1 of 5

Project: I-90 Structures - West of Alberton		Rig: Geoprobe8150	Boring Location N: 1045175.9 ft E: 702645.9 ft	Station: 600 + 46 Offset: 7 ft R
Project Number: 20-3919S	UPN: 9786002	Boring Diameter: 6"	System: MT S.P. (E) Datum: NAD83	Top of Boring Elevation: 3002.9 ft
Date Started: 8/23/23	Date Finished: 8/25/23	Drilling Fluid: Water	Location Source: MMI Survey	Elevation Source: MMI Survey
Driller: Larry Phillips (O'Keefe) Logger: J. Miller		Abandonment Method: Backfilled with Cuttings	Township, Range, and Section: 14N 24W 1 - BAC	

Depth (ft) Elev. (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft) Elev. (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
5 2997.9			56		4 - 10 - 15		FILL, Poorly-Graded SAND with silt and gravel (SP-SM), medium dense, brown, moist, fine to coarse grained, subangular, [A-2].	5.5 2997.4	21					Sonic core 0'-26.5'
10 2992.9			72		12 - 12 - 12		FILL, Silty SAND with gravel (SM), medium dense, brown, moist, fine grained, [A-2].	9.0 2993.9	6					
15 2987.9			6		50/0.3ft		FILL, Silty GRAVEL with sand and cobbles (GM), dense to very dense, light brown, moist, fine to coarse grained, subangular to subrounded, [A-1].	8						
20 2982.9			31		17 - 17 - 47			8		NP	13			
25 2977.9			44		11 - 18 - 14			24.0 2978.9	6					2' boulder HQ-Core 26.5'-36.5'
30 2972.9			100		50/0.3ft		Poorly-Graded GRAVEL with sand, cobbles, and boulders (GP), medium dense to very dense, moist, fine to coarse grained, angular to subrounded, [A-1]. (Glacial Flood).							
			58											

Water Level Observations		During Drilling: ()	Remarks: Boring 15' S and 3.5' W of painted boring location
After Drilling: (), Casing In	After Drilling: (), Casing Out		

(2) MDT LOG OF BORING - MDT, REVISED 2009+(CPT IMPORT) GDT - 4/2/25 09:47 - Z:\GINTGINT\PROJECTS\3901-4000\3919- CYR STRUCTURE - 130 REPORT.GPJ



LOG OF BORING

Boring 9786002-ST-20

Sheet 2 of 5

Project: I-90 Structures - West of Alberton		Rig: Geoprobe8150	Boring Location N: 1045175.9 ft E: 702645.9 ft	Station: 600 + 46 Offset: 7 ft R
Project Number: 20-3919S	UPN: 9786002	Boring Diameter: 6"	System: MT S.P. (E) Datum: NAD83	Top of Boring Elevation: 3002.9 ft
Date Started: 8/23/23	Date Finished: 8/25/23	Drilling Fluid: Water	Location Source: MMI Survey	Elevation Source: MMI Survey
Driller: Larry Phillips (O'Keefe) Logger: J. Miller		Abandonment Method: Backfilled with Cuttings	Township, Range, and Section: 14N 24W 1 - BAC	

Depth (ft) Elev. (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft) Elev. (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
35 2967.9							Poorly Graded Gravel with Sand, Cobbles and Boulders Continued...							
40 2962.9					5 - 13 - 13		Silty GRAVEL with sand and cobbles (GP), medium dense to very dense, brown, moist to wet, fine to coarse grained, subangular to rounded, [A-1]. (Glacial Flood).	36.5 2966.4	17					Sonic core 36.5'-110'
45 2957.9					11 - 12 - 14				8					
50 2952.9					7 - 7 - 7				7					
55 2947.9					6 - 7 - 10				15					
60 2942.9					25 - 31 - 35				6					
									10, 17, 14, 21					

2942.9			
Water Level Observations		During Drilling: ()	Remarks: Boring 15' S and 3.5' W of painted boring location
After Drilling: (), Casing In	After Drilling: (), Casing Out		



LOG OF BORING

Boring 9786002-ST-20

Sheet 3 of 5

Project: I-90 Structures - West of Alberton		Rig: Geoprobe8150	Boring Location N: 1045175.9 ft		Station: 600 + 46
		Hammer: Auto	Coordinates E: 702645.9 ft		Offset: 7 ft R
Project Number: 20-3919S		UPN: 9786002	Boring Diameter: 6"		System: MT S.P. (E)
			Datum: NAD83		Top of Boring Elevation: 3002.9 ft
Date Started: 8/23/23	Date Finished: 8/25/23		Drilling Fluid: Water	Location Source: MMI Survey	Elevation Source: MMI Survey
Driller: Larry Phillips (O'Keefe)			Abandonment Method:		Township, Range, and Section: 14N 24W 1 - BAC
Logger: J. Miller			Backfilled with Cuttings		

Depth (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
Elev. (ft)								Elev. (ft)						
65			28		50/0.3ft		Silty Gravel with Sand Continued...							
2937.9								65.0	22					
70			100		1 - 4 - 10		SILT (ML), stiff, brown, wet, [A-4]. (Glacial Lake).	2937.9						
75									33	NP	99			
2932.9									27					
75			100		5 - 7 - 9				38					
2927.9			100		5 - 5 - 7									
80									35					
2922.9			100		5 - 5 - 8		Lean CLAY (CL), stiff to very stiff, gray, wet, [A-7]. (Glacial Lake).	80.0						
85									31					
2917.9			100		3 - 5 - 6									
90									35					
2912.9														

(2) MDT LOG OF BORING - MDT, REVISED 2009+(CPT IMPORT).GDT - 4/2/25 09:47 - Z:\GINTGINT\PROJECTS\3901-4000\3919- CYR STRUCTURE - 130 REPORT.GPJ

Water Level Observations		During Drilling: ()	Remarks: Boring 15' S and 3.5' W of painted boring location
After Drilling: (), Casing In	After Drilling: (), Casing Out		



LOG OF BORING

Boring 9786002-ST-20

Sheet 4 of 5

Project: I-90 Structures - West of Alberton		Rig: Geoprobe8150	Boring Location N: 1045175.9 ft E: 702645.9 ft	Station: 600 + 46 Offset: 7 ft R
Project Number: 20-3919S	UPN: 9786002	Boring Diameter: 6"	System: MT S.P. (E) Datum: NAD83	Top of Boring Elevation: 3002.9 ft
Date Started: 8/23/23	Date Finished: 8/25/23	Drilling Fluid: Water	Location Source: MMI Survey	Elevation Source: MMI Survey
Driller: Larry Phillips (O'Keefe) Logger: J. Miller		Abandonment Method: Backfilled with Cuttings	Township, Range, and Section: 14N 24W 1 - BAC	

Depth (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
Elev. (ft)								Elev. (ft)						
95			100		3 - 5 - 9		Lean Clay Continued...							
2907.9			100						34	41	19	100	94	See triaxial shear test results
			100		6 - 8 - 9				32					
100			100						36					
2902.9			100		4 - 5 - 6				36					
105			100		6 - 8 - 9				38					
2897.9			100											
110			100		50/0.1ft		ARGILLITE, green, fine grained, thinly bedded, medium field hardness.	110.0						Switch to HQ-Core below 110.0'
2892.9			74	24			-highly fractured.							165 UCS: 6,494 psi
			92	28			-sub-horizontal joints.							158 UCS: 4,747 psi
115			88	20										
2887.9														
120														
2882.9														

Water Level Observations		During Drilling: ()	Remarks: Boring 15' S and 3.5' W of painted boring location
After Drilling: (), Casing In		After Drilling: (), Casing Out	



LOG OF BORING

Boring 9786002-ST-20

Sheet 5 of 5

Project: I-90 Structures - West of Alberton		Rig: Geoprobe8150	Boring Location N: 1045175.9 ft		Station: 600 + 46
		Hammer: Auto	Coordinates E: 702645.9 ft		Offset: 7 ft R
Project Number: 20-3919S		UPN: 9786002	Boring Diameter: 6"		System: MT S.P. (E)
			Datum: NAD83		Top of Boring Elevation: 3002.9 ft
Date Started: 8/23/23	Date Finished: 8/25/23		Drilling Fluid: Water	Location Source: MMI Survey	
					Elevation Source: MMI Survey
Driller: Larry Phillips (O'Keefe)			Abandonment Method: Backfilled with Cuttings		Township, Range, and Section: 14N 24W 1 - BAC
Logger: J. Miller					

Depth (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
Elev. (ft)								Elev. (ft)						
							Argillite Continued...							
								121.8						
							Boring Depth: 121.8 ft, Elevation: 2881.1 ft	2881.1						

(2) MDT LOG OF BORING - MDT, REVISED 2009+(CPT IMPORT) GDT - 4/2/25 09:47 - Z:\GINTGINT\PROJECTS\3901-4000\3919- CYR STRUCTURE - 130 REPORT.GPJ

Water Level Observations		During Drilling: () After Drilling: (), Casing In	Remarks: Boring 15' S and 3.5' W of painted boring location
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LOG OF BORING

Boring 9786002-ST-21

Sheet 1 of 4

Project: I-90 Structures - West of Alberton		Rig: E106-6000 Hammer: Auto	Boring Location N: 1045185.3 ft Coordinates E: 702891.1 ft		Station: 602 + 90 Offset: 19 ft L
Project Number: 20-3919S		UPN: 9786002	Boring Diameter: 4.5/3.8"	System: MT S.P. (E) Datum: NAD83	Top of Boring Elevation: 2911.2 ft
Date Started: 8/29/23	Date Finished: 9/6/23		Drilling Fluid: Mud	Location Source: MMI Survey	
Driller: Ty Washington Logger: C. Binstock			Abandonment Method: Grout		Elevation Source: MMI Survey
			Township, Range, and Section: 14N 24W 1 - BAD		

Depth (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
Elev. (ft)								Elev. (ft)						
5							Poorly-Graded GRAVEL with silt, sand, cobbles and boulders (GP-GM), loose, brown, moist, fine to coarse grained, angular to subrounded, [A-1]. (Alluvium).							Mud rotary 0'-43'
2906.2			11		2 - 5 - 5									
10							Lean CLAY with sand (CL), medium stiff to stiff, brown, wet, [A-6]. (Glacial Lake).	9.0	32					
2901.2			89		3 - 3 - 4			2902.2						
15									35					
2896.2			100		2 - 4 - 5									
20									36	38	18			
2891.2			56		4 - 5 - 7									
25									31					
2886.2			100		3 - 3 - 5									
30									32					
2881.2														

2) MDT LOG	Water Level Observations		During Drilling: ()	Remarks:
	After Drilling: (), Augers In	After Drilling: (), Augers Out		

(2) MDT LOG OF BORING - MDT, REVISED 2009+(CPT, IMPORT), GDT - 4/2/25 09:47 - Z:\GINTGINT\PROJECTS\3901-4000\3919- CYR STRUCTURE - 130 REPORT.GPJ



LOG OF BORING

Boring 9786002-ST-21

Sheet 2 of 4

Project: I-90 Structures - West of Alberton		Rig: E106-6000	Boring Location N: 1045185.3 ft	Station: 602 + 90
Project Number: 20-3919S		Hammer: Auto	Coordinates E: 702891.1 ft	Offset: 19 ft L
UPN: 9786002		Boring Diameter: 4.5/3.8"	System: MT S.P. (E)	Top of Boring Elevation: 2911.2 ft
Date Started: 8/29/23	Date Finished: 9/6/23	Drilling Fluid: Mud	Datum: NAD83	Elevation Source: MMI Survey
Driller: Ty Washington		Abandonment Method: Grout		Township, Range, and Section: 14N 24W 1 - BAD
Logger: C. Binstock				

Depth (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
Elev. (ft)								Elev. (ft)						
			100		3 - 5 - 5		Lean Clay with Sand Continued....	31.0						
							Silty GRAVEL with sand, cobbles, and boulders (GM), brown, wet, fine to coarse grained, angular to subrounded, [A-1]. (Glacial Flood).	2880.2						
35			22		25 - 27 - 19				14	22	21	22		
2876.2														
40			28		38 - 21 - 29									
2871.2														
45			25		50/0.4ft									HQ-Core 43'-72'
2866.2														3' boulder
50			41											
2861.2														
55			85											
2856.2														
60			88											1' boulder
2851.2														

2) MDT L	Water Level Observations	During Drilling: ()	Remarks:
	After Drilling: (), Augers In	After Drilling: (), Augers Out	

(2) MDT LOG OF BORING - MDT, REVISED 2009+(CPT IMPORT).GDT - 4/2/25 09:47 - Z:\GINTGINT\PROJECTS\3901-4000\3919- CYR STRUCTURE - 130 REPORT.GPJ



LOG OF BORING

Boring 9786002-ST-21

Sheet 3 of 4

Project: I-90 Structures - West of Alberton		Rig: E106-6000 Hammer: Auto	Boring Location N: 1045185.3 ft Coordinates E: 702891.1 ft	Station: 602 + 90 Offset: 19 ft L
Project Number: 20-3919S	UPN: 9786002	Boring Diameter: 4.5/3.8"	System: MT S.P. (E) Datum: NAD83	Top of Boring Elevation: 2911.2 ft
Date Started: 8/29/23	Date Finished: 9/6/23	Drilling Fluid: Mud	Location Source: MMI Survey	Elevation Source: MMI Survey
Driller: Ty Washington Logger: C. Binstock		Abandonment Method: Grout		Township, Range, and Section: 14N 24W 1 - BAD

Depth (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
Elev. (ft)								Elev. (ft)						
61							Silty Gravel with Sand, Cobbles and Boulders Continued...							
65														
2846.2														
63														
67														
70														
2841.2														
12														
56					20 - 40 - 39				8					
75							ARGILLITE, gray, fine grained, thinly to medium bedded, moderately hard to very hard field hardness.	73.4						HQ-Core 73.5'-110'
2836.2							-moderately fractured.	2837.8						
100							-sub-horizontal joints with some sub-vertical fractures.		8					
100					50/0.3ft									
16														
80														
2831.2														
100														
85														
2826.2														
100														
90														
2821.2														

2) MDT L	Water Level Observations	During Drilling: ()	Remarks:
	After Drilling: (), Augers In	After Drilling: (), Augers Out	

(2) MDT LOG OF BORING - MDT, REVISED 2009+(CPT, IMPORT), GDT - 4/2/25 09:47 - Z:\GINT\GINT\PROJECTS\3901-4000\3919- CYR STRUCTURE - 130 REPORT.GPJ



LOG OF BORING

Boring 9786002-ST-21

Sheet 4 of 4

Project: I-90 Structures - West of Alberton		Rig: E106-6000 Hammer: Auto	Boring Location N: 1045185.3 ft Coordinates E: 702891.1 ft	Station: 602 + 90 Offset: 19 ft L
Project Number: 20-3919S	UPN: 9786002	Boring Diameter: 4.5/3.8"	System: MT S.P. (E) Datum: NAD83	Top of Boring Elevation: 2911.2 ft
Date Started: 8/29/23	Date Finished: 9/6/23	Drilling Fluid: Mud	Location Source: MMI Survey	Elevation Source: MMI Survey
Driller: Ty Washington Logger: C. Binstock		Abandonment Method: Grout		Township, Range, and Section: 14N 24W 1 - BAD

2) MDT LOG OF BORING - MDT, REVISED, 2009+(CPT_IMPORT), GDT - 4/2/25 09:47 - Z:\GINT\GINT\PROJECTS\3901-4000\3919 - CYR STRUCTURE - 130 REPORT.GPJ														
Depth (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
Elev. (ft)								Elev. (ft)						
			100	93			Argillite Continued...							
95														
2816.2			100	100									165	UCS: 5,792 psi
100														
2811.2			100	52			-highly to moderatley fractured below 100'.						160	UCS: 888 psi
105														
2806.2			100	60										
110			100	40										
2801.2							Boring Depth: 110.0 ft, Elevation: 2801.2 ft	110.0 2801.2						



LOG OF BORING

Boring 9786002-ST-22

Sheet 1 of 4

Project: I-90 Structures - West of Alberton		Rig: E106-6000	Boring Location N: 1045156.6 ft	Station: 602 + 94
Project Number: 20-3919S		Hammer: Auto	Coordinates E: 702892.3 ft	Offset: 10 ft R
UPN: 9786002		Boring Diameter: 4.5/3.8"	System: MT S.P. (E)	Top of Boring Elevation: 2908.0 ft
Date Started: 9/7/23	Date Finished: 9/9/23	Drilling Fluid: Mud	Datum: NAD83	Elevation Source: MMI Survey
Driller: Ty Washington		Abandonment Method: Grout		Township, Range, and Section: 14N 24W 1 - BAD
Logger: C. Binstock				

Depth (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
Elev. (ft)								Elev. (ft)						
5			0		50/0.1ft		Silty GRAVEL with cobbles and boulders (GM), very dense, light brown, moist, fine to coarse grained, angular to subrounded, [A-1]. (Alluvium).							Mud rotary 0'-33'
2903.0														
10			100		2 - 3 - 4		Lean CLAY (CL), medium stiff to stiff, light brown, wet, [A-6]. (Glacial Lake).	6.5	32					
2898.0								2901.5						
15			100						29	42	22	98	92	See triaxial shear test results
2893.0														
20			100		2 - 4 - 5				33	33	20			
2888.0														
25			92						28	41	20	99	91	See triaxial shear test results
2883.0														
30			100		3 - 3 - 6				35					
2878.0														

2) MDT L	Water Level Observations	During Drilling: 0	Remarks:
	After Drilling: 0	After Drilling: 0	

(2) MDT LOG OF BORING - MDT, REVISED 2009+(CPT IMPORT) GDT - 4/2/25 09:47 - Z:\GINTGINT\PROJECTS\3901-4000\3919- CYR STRUCTURE - 130 REPORT.GPJ



LOG OF BORING

Boring 9786002-ST-22

Sheet 2 of 4

Project: I-90 Structures - West of Alberton		Rig: E106-6000	Boring Location N: 1045156.6 ft	Station: 602 + 94
Project Number: 20-3919S		Hammer: Auto	Coordinates E: 702892.3 ft	Offset: 10 ft R
UPN: 9786002		Boring Diameter: 4.5/3.8"	System: MT S.P. (E)	Top of Boring Elevation: 2908.0 ft
Date Started: 9/7/23	Date Finished: 9/9/23	Drilling Fluid: Mud	Datum: NAD83	Elevation Source: MMI Survey
Driller: Ty Washington		Abandonment Method: Grout		Township, Range, and Section: 14N 24W 1 - BAD
Logger: C. Binstock				

Depth (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
Elev. (ft)								Elev. (ft)						
							Lean Clay with Sand Continued...							
							Silty, Clayey GRAVEL with cobbles and boulders (GC-GM), dense to very dense, brown, wet, fine to coarse grained, angular to subangular, [A-1]. (Alluvium).	31.2 2876.8	12					
35 2873.0			39		36 - 7 - 34									
40 2868.0			33		39 - 22 - 21				11					8" cobble
45 2863.0			0		50/0.4ft									1.2' boulder
50 2858.0					15 - 29 - 41				13	20	16	19		
55 2853.0			28		10 - 17 - 27				13					11" cobble
60 2848.0			44		11 - 18 - 14				16					1.0' boulder

(2) MDT LOG OF BORING - MDT, REVISED 2009+(CPT, IMPORT), GDT - 4/2/25 09:47 - Z:\GINT\GINT\PROJECTS\3901-4000\3919- CYR STRUCTURE - 130 REPORT.GPJ

Water Level Observations		During Drilling: 0	Remarks:
After Drilling: 0	After Drilling: 0		



LOG OF BORING

Boring 9786002-ST-22

Sheet 3 of 4

Project: I-90 Structures - West of Alberton		Rig: E106-6000	Boring Location N: 1045156.6 ft		Station: 602 + 94
		Hammer: Auto	Coordinates E: 702892.3 ft		Offset: 10 ft R
Project Number: 20-3919S		UPN: 9786002	Boring Diameter: 4.5/3.8"		System: MT S.P. (E)
			Datum: NAD83		Top of Boring Elevation: 2908.0 ft
Date Started: 9/7/23	Date Finished: 9/9/23	Drilling Fluid: Mud	Location Source: MMI Survey		Elevation Source: MMI Survey
Driller: Ty Washington		Abandonment Method:		Township, Range, and Section:	
Logger: C. Binstock		Grout		14N 24W 1 - BAD	

Depth (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
Elev. (ft)								Elev. (ft)						
65 2843.0		X	39		19 - 41 - 35		Clayey Gravel with Cobbles and Boulders Continued...		12					2.0' boulder
70 2838.0		X			21 - 22 - 20			19						
75 2833.0			100		50/0.1ft		ARGILLITE, gray, fine grained, thinly to thickly bedded, moderately hard to hard field hardness. -sub-horizontal to sub-vertical fractures.	70.7 2837.3	23				170	UCS: 7,309 psi HQ-Core 71.5'-110'
80 2828.0			100	63			-rubbelized from 77.5' to 77.8'.							
85 2823.0			100	67			-intensely fractured below 87'.						169	UCS: 9,512 psi
90 2818.0			100	55									159	UCS: 1,625 psi

(2) MDT LOG OF BORING - MDT, REVISED 2009+(CPT IMPORT). GDT - 4/2/25 09:47 - Z:\GINTGINT\PROJECTS\3901-4000\3919- CYR STRUCTURE - 130 REPORT.GPJ

Water Level Observations		During Drilling: ()	Remarks:
After Drilling: ()	After Drilling: ()		



LOG OF BORING

Boring 9786002-ST-22

Sheet 4 of 4

Project: I-90 Structures - West of Alberton		Rig: E106-6000	Boring Location N: 1045156.6 ft		Station: 602 + 94
		Hammer: Auto	Coordinates E: 702892.3 ft		Offset: 10 ft R
Project Number: 20-3919S		UPN: 9786002	Boring Diameter: 4.5/3.8"		System: MT S.P. (E)
			Datum: NAD83		Top of Boring Elevation: 2908.0 ft
Date Started: 9/7/23	Date Finished: 9/9/23	Drilling Fluid: Mud	Location Source: MMI Survey		Elevation Source: MMI Survey
Driller: Ty Washington		Abandonment Method:		Township, Range, and Section:	
Logger: C. Binstock		Grout		14N 24W 1 - BAD	

Depth (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
Elev. (ft)								Elev. (ft)						
95				94	0		Argillite Continued...							
2813.0							-rubbelized from 92' to 92.3'.							
100				100	18								165	UCS: 3,750 psi
2808.0														
105				100	38								169	UCS: 2,956 psi
2803.0														
110				100	0		-rubbelized from 106.2' to 106.5'.							
2798.0				100	0		-rubbelized from 108.1' to 108.6'.							
								110.0						
							Boring Depth: 110.0 ft, Elevation: 2798.0 ft	2798.0						

(2) MDT LOG OF BORING - MDT, REVISED 2009+(CPT IMPORT) GDT - 4/2/25 09:47 - Z:\GINTGINT\PROJECTS\3901-4000\3919- CYR STRUCTURE - 130 REPORT.GPJ

Water Level Observations		During Drilling: ()	Remarks:
After Drilling: ()	After Drilling: ()		



LOG OF BORING

Boring 9786002-ST-23

Sheet 1 of 3

Project: I-90 Structures - West of Alberton		Rig: E106-6000	Boring Location N: 1045163.2 ft	Station: 605 + 41
Project Number: 20-3919S		Hammer: Auto	Coordinates E: 703141.1 ft	Offset: 14 ft L
UPN: 9786002		Boring Diameter: 4.5/3.8"	System: MT S.P. (E)	Top of Boring Elevation: 2896.8 ft
Date Started: 9/11/23	Date Finished: 9/13/23	Drilling Fluid: Mud	Datum: NAD83	Elevation Source: MMI Survey
Driller: Ty Washington		Abandonment Method: Grout	Township, Range, and Section: 14N 24W 1 - BAD	
Logger: C. Binstock				

Depth (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
Elev. (ft)								Elev. (ft)						
5							Poorly-Graded GRAVEL with sand, cobbles, and boulders (GP), very dense, gray, wet, fine to coarse grained, angular to subrounded, [A-1]. (Alluvium).							Mud rotary 0'-26.5'
2891.8					50/0.1ft									2.5' boulder
10							Lean CLAY with sand (CL), medium stiff, light brown, wet, [A-6]. (Glacial Lake).	8.5						
2886.8					2 - 2 - 4			2888.3	35	41	19			
15				100			Silty GRAVEL with sand, cobbles, and boulders (GM), medium dense to very dense, light brown, wet, fine to coarse grained, angular to subrounded, [A-1]. (Glacial Flood).	15.2						
2881.8					34 - 10 - 18			2881.6						1.5' boulder
20				2.8										
2876.8					50/0.2ft				10					
25				25										
2871.8					50/0.4ft				22					Switch to HQ-Core below 26.5'
30				25										
2866.8														

2) MDT LLO	Water Level Observations	During Drilling: ()	Remarks:
	After Drilling: 0.0 ft (2896.8 ft)	After Drilling: 0.0 ft (2896.8 ft)	

(2) MDT LOG OF BORING - MDT, REVISED 2009+(CPT IMPORT) GDT - 4/2/25 09:47 - Z:\GINT\GINT\PROJECTS\3901-4000\3919- CYR STRUCTURE - 130 REPORT.GPJ



LOG OF BORING

Boring 9786002-ST-23

Sheet 2 of 3

Project: I-90 Structures - West of Alberton		Rig: E106-6000 Hammer: Auto	Boring Location N: 1045163.2 ft Coordinates E: 703141.1 ft		Station: 605 + 41 Offset: 14 ft L
Project Number: 20-3919S		UPN: 9786002	Boring Diameter: 4.5/3.8"	System: MT S.P. (E) Datum: NAD83	Top of Boring Elevation: 2896.8 ft
Date Started: 9/11/23	Date Finished: 9/13/23		Drilling Fluid: Mud	Location Source: MMI Survey	Elevation Source: MMI Survey
Driller: Ty Washington Logger: C. Binstock			Abandonment Method: Grout		Township, Range, and Section: 14N 24W 1 - BAD

Depth (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
Elev. (ft)								Elev. (ft)						
35 2861.8		X	28		18 - 50/0.2ft		Silty Gravel with Sand, Cobbles and Boulders Continued...		13		NP			
40 2856.8		X	33		19 - 23 - 19			13						3' boulder
45 2851.8		X	22		35 - 31 - 40			27						
50 2846.8			22		50/0.2ft		ARGILLITE, gray, fine grained, thinly to medium bedded, moderately hard to hard field hardness.	43.9 2852.9	18					HQ-Core 46'-86'
55 2841.8			100	15			-sub-horizontal joints with some sub-vertical fractures.						165	UCS: 4,568 psi
60 2836.8			100	83									167	UCS: 12,413 psi
			100	75										

(2) MDT LOG OF BORING - MDT, REVISED 2009+(CPT, IMPORT), GDT - 4/2/25 09:47 - Z:\GINT\GINT\PROJECTS\3901-4000\3919 - CYR STRUCTURE - 130 REPORT.GPJ

Water Level Observations		During Drilling: ()	Remarks:
After Drilling: 0.0 ft (2896.8 ft)	After Drilling: 0.0 ft (2896.8 ft)		

Boring 9786002-ST-23

[illegible]
$$\frac{86.2}{2810.6}$$

Water Level Observations	During Drilling: ()	Remarks:
After Drilling: 0.0 ft (2896.8 ft)	After Drilling: 0.0 ft (2896.8 ft)	



LOG OF BORING

Boring 9786002-ST-24

Sheet 1 of 3

Project: I-90 Structures - West of Alberton		Rig: E106-6000	Boring Location N: 1045140.1 ft	Station: 605 + 42
Project Number: 20-3919S		Hammer: Auto	Coordinates E: 703140.0 ft	Offset: 9 ft R
UPN: 9786002		Boring Diameter: 4.5/3.8"	System: MT S.P. (E)	Top of Boring Elevation: 2897.8 ft
Date Started: 9/13/23	Date Finished: 9/15/23	Drilling Fluid: Mud	Datum: NAD83	Elevation Source: MMI Survey
Driller: Ty Washington		Abandonment Method: Grout		Township, Range, and Section: 14N 24W 1 - BAD
Logger: C. Binstock				

Depth (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
Elev. (ft)								Elev. (ft)						
							WATER.							
							Poorly-Graded GRAVEL with silt, cobbles and boulders (GP), loose to medium dense, gray to brown, wet, fine to coarse grained, angular to subrounded, [A-1]. (Alluvium).	1.0 2896.8						6" cobble
									22					1.2' boulder
5 2892.8		X	11		6 - 4 - 10									
									10					
10 2887.8		X	33		14 - 7 - 6									
15 2882.8				83			Clayey SAND (SC), loose, light brown, wet, fine grained, angular, [A-4]. (Alluvium).	13.0 2884.8	18	33	20	45	96	See triaxial shear test results (2)
				100			Lean CLAY (CL), medium stiff, light brown, wet, [A-4]. (Glacial Lake).	14.5 2883.3	27	34	22	100		
									33	30	25			
20 2877.8		X	100		4 - 3 - 4									
25 2872.8		X	3		8 - 7 - 6		Silty GRAVEL with sand (GM), medium dense to very dense, light brown, wet, fine to coarse grained, angular to subrounded, [A-1]. (Glacial Flood).	21.0 2876.8	19					
30 2867.8		X	22		9 - 10 - 10				20	25	25	40		

2) MDT LLO	Water Level Observations	During Drilling: 0.0 ft (2897.8 ft)	Remarks:
	After Drilling: 0.0 ft (2897.8 ft)	After Drilling: 0.0 ft (2897.8 ft)	



LOG OF BORING

Boring 9786002-ST-24

Sheet 2 of 3

Project: I-90 Structures - West of Alberton		Rig: E106-6000	Boring Location N: 1045140.1 ft E: 703140.0 ft	Station: 605 + 42 Offset: 9 ft R
Project Number: 20-3919S	UPN: 9786002	Boring Diameter: 4.5/3.8"	System: MT S.P. (E) Datum: NAD83	Top of Boring Elevation: 2897.8 ft
Date Started: 9/13/23	Date Finished: 9/15/23	Drilling Fluid: Mud	Location Source: MMI Survey	Elevation Source: MMI Survey
Driller: Ty Washington Logger: C. Binstock		Abandonment Method: Grout	Township, Range, and Section: 14N 24W 1 - BAD	

Depth (ft) Elev. (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft) Elev. (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
35 2862.8			100		50/0.4ft		Silty Gravel with Sand Continued...	24						
40 2857.8			73		9 - 9 - 19			20						6" cobble
45 2852.8			22		19 - 23 - 27			10						
50 2847.8			81		50/0.1ft		ARGILLITE, gray, fine grained, medium to thickly bedded, moderately hard to hard field hardness. -sub-horizontal to near-horizontal joints. -some sub-vertical fractures.	45.5 2852.3	21					HQ-Core 46.5'-86.5'
55 2842.8			16				-rubbelized layer 50.8' to 51'.							170 UCS: 9,033 psi
60 2837.8			100				1/2" soil filled seams at 56' to 56.3'.							

Water Level Observations		During Drilling: 0.0 ft (2897.8 ft)	Remarks:
After Drilling: 0.0 ft (2897.8 ft)	After Drilling: 0.0 ft (2897.8 ft)		

(2) MDT LOG OF BORING - MDT, REVISED 2009+(CPT -IMPORT). GDT - 4/2/25 09:47 - Z:\GINT\GINT\PROJECTS\3901-4000\3919 - CYR STRUCTURE - 130 REPORT.GPJ



LOG OF BORING

Boring 9786002-ST-24

Sheet 3 of 3

Project: I-90 Structures - West of Alberton		Rig: E106-6000 Hammer: Auto	Boring Location N: 1045140.1 ft Coordinates E: 703140.0 ft		Station: 605 + 42 Offset: 9 ft R
Project Number: 20-3919S		UPN: 9786002	Boring Diameter: 4.5/3.8"	System: MT S.P. (E) Datum: NAD83	Top of Boring Elevation: 2897.8 ft
Date Started: 9/13/23	Date Finished: 9/15/23		Drilling Fluid: Mud	Location Source: MMI Survey	Elevation Source: MMI Survey
Driller: Ty Washington Logger: C. Binstock			Abandonment Method: Grout	Township, Range, and Section: 14N 24W 1 - BAD	

Depth (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
Elev. (ft)								Elev. (ft)						
65			100	63			Argillite Continued...							
2832.8														165 UCS: 5,943 psi
70			100	100										167 UCS: 5,657 psi
2827.8														
75			100	88										170 UCS: 10,770 psi
2822.8														
80			100	95										169 UCS: 8,782 psi
2817.8														
85			100	85										
2812.8														
Boring Depth: 86.5 ft, Elevation: 2811.3 ft								86.5						
								2811.3						

(2) MDT LOG OF BORING - MDT_REVISED 2009+(CPT_IMPORT).GDT - 4/2/25 09:47 - Z:\GINTGINT\PROJECTS\3901-4000\3919- CYR STRUCTURE - 130 REPORT.GPJ

Water Level Observations		During Drilling: 0.0 ft (2897.8 ft)	Remarks:
After Drilling: 0.0 ft (2897.8 ft)	After Drilling: 0.0 ft (2897.8 ft)		



LOG OF BORING

Boring 9786002-ST-25

Sheet 1 of 6

Project: I-90 Structures - West of Alberton		Rig: Geoprobe8150	Boring Location N: 1045168.2 ft E: 703441.6 ft	Station: 608 + 41 Offset: 39 ft L
Project Number: 20-3919S	UPN: 9786002	Boring Diameter: 6"	System: MT S.P. (E) Datum: NAD83	Top of Boring Elevation: 2992.1 ft
Date Started: 8/16/23	Date Finished: 8/22/23	Drilling Fluid: Water	Location Source: MMI Survey	Elevation Source: MMI Survey
Driller: Larry Phillips (O'Keefe) Logger: J. Miller		Abandonment Method: Backfilled with Cuttings	Township, Range, and Section: 14N 24W 1 - BAD	

Depth (ft) Elev. (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft) Elev. (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
5 2987.1			66		4 - 7 - 8		FILL, Poorly-Graded SAND with silt and gravel (SP-SM), medium dense to dense, brown, moist, medium grained, subrounded, [A-2].							Sonic core 0'-135.5'
10 2982.7			58		9 - 20 - 17									
15 2977.1			56		12 - 50/0.5ft		Poorly-Graded GRAVEL with sand (GP), very dense, gray, moist, fine to coarse grained, angular, [A-1]. (Glacial Flood).	10.5 2981.6						
20 2972.7			50		22 - 20 - 33		Clayey SAND with gravel (SC), very dense, brown to gray, moist, [A-2]. (Glacial Flood).	14.0 2978.1	8					
25 2967.1			39		50 - 50/0.4ft		Silty GRAVEL with sand and cobbles (GM), dense to very dense, brown, moist, fine grained, angular, [A-1]. (Glacial Flood).	16.0 2976.1						
30 2962.1									24					Pen: 1 1/2 tsf

Water Level Observations		During Drilling: 70.0 ft (2922.1 ft)	Remarks: Moved 14.5' N and 3.5' E of staked SB location
After Drilling: 0, Casing In	After Drilling: 0, Casing Out		

(2) MDT LOG OF BORING - MDT, REVISED 2009+(CPT IMPORT) GDT - 4/2/25 09:47 - Z:\GINTGINT\PROJECTS\3901-4000\3919- CYR STRUCTURE - 130 REPORT.GPJ



LOG OF BORING

Boring 9786002-ST-25

Sheet 2 of 6

Project: I-90 Structures - West of Alberton		Rig: Geoprobe8150	Boring Location N: 1045168.2 ft E: 703441.6 ft	Station: 608 + 41 Offset: 39 ft L
Project Number: 20-3919S	UPN: 9786002	Boring Diameter: 6"	System: MT S.P. (E) Datum: NAD83	Top of Boring Elevation: 2992.1 ft
Date Started: 8/16/23	Date Finished: 8/22/23	Drilling Fluid: Water	Location Source: MMI Survey	Elevation Source: MMI Survey
Driller: Larry Phillips (O'Keefe) Logger: J. Miller		Abandonment Method: Backfilled with Cuttings	Township, Range, and Section: 14N 24W 1 - BAD	

Depth (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft)	Elev. (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
			61		2 - 32 - 8		Silty Gravel with Sand and Cobbles Continued...	31.0	2961.1						
							Lean CLAY (CL), very stiff, brown, moist, [A-6]. (Glacial Lake).	34.0	2958.1	24					
35			94		4 - 6 - 9		SILT with sand (ML), medium stiff to very stiff, brown, moist to wet, [A-4]. (Glacial Lake).								
40			100		5 - 4 - 7			34							
45			100					26		NP100	101				See triaxial shear test results
50			100		3 - 2 - 5			32							
55			50		4 - 5 - 11			30							
60							Poorly-Graded GRAVEL with sand (GP), very dense, brown, moist, coarse grained, angular, [A-1]. (Glacial Flood).	52.5	2939.6	5					
					39 - 50 - 50/0.4ft		Lean CLAY (CL), medium stiff to very stiff, gray to brown, wet, [A-7]. (Glacial Lake).	56.0	2936.1						
								31							

2932.1			
Water Level Observations		During Drilling: 70.0 ft (2922.1 ft)	Remarks: Moved 14.5' N and 3.5' E of staked SB location
After Drilling: 0, Casing In		After Drilling: 0, Casing Out	



LOG OF BORING

Boring 9786002-ST-25

Sheet 3 of 6

Project: I-90 Structures - West of Alberton		Rig: Geoprobe8150	Boring Location N: 1045168.2 ft		Station: 608 + 41
		Hammer: Auto	Coordinates E: 703441.6 ft		Offset: 39 ft L
Project Number: 20-3919S		UPN: 9786002	Boring Diameter: 6"		System: MT S.P. (E)
			Datum: NAD83		Top of Boring Elevation: 2992.1 ft
Date Started: 8/16/23	Date Finished: 8/22/23		Drilling Fluid: Water	Location Source: MMI Survey	Elevation Source: MMI Survey
Driller: Larry Phillips (O'Keefe)			Abandonment Method:		Township, Range, and Section:
Logger: J. Miller			Backfilled with Cuttings		
					14N 24W 1 - BAD

Depth (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
Elev. (ft)								Elev. (ft)						
		X	100		3 - 4 - 5		Lean Clay Continued...							
65 2927.1		X	100		4 - 3 - 6			30						
70 2922.1		X	100		4 - 4 - 4			32						
75 2917.1		X	100		4 - 5 - 6			28						
80 2912.1		X	100		4 - 4 - 6			31						
85 2907.1		X	100		4 - 5 - 6			32						
90 2902.1								37						

Water Level Observations		During Drilling: 70.0 ft (2922.1 ft)	Remarks: Moved 14.5' N and 3.5' E of staked SB location
After Drilling: 0, Casing In	After Drilling: 0, Casing Out		



LOG OF BORING

Boring 9786002-ST-25

Sheet 4 of 6

Project: I-90 Structures - West of Alberton		Rig: Geoprobe8150	Boring Location N: 1045168.2 ft	Station: 608 + 41
		Hammer: Auto	Coordinates E: 703441.6 ft	Offset: 39 ft L
Project Number: 20-3919S	UPN: 9786002	Boring Diameter: 6"	System: MT S.P. (E)	Top of Boring
		Datum: NAD83		Elevation: 2992.1 ft
Date Started: 8/16/23	Date Finished: 8/22/23	Drilling Fluid: Water	Location Source: MMI Survey	Elevation Source: MMI Survey
Driller: Larry Phillips (O'Keefe)		Abandonment Method:		Township, Range, and Section:
Logger: J. Miller		Backfilled with Cuttings		14N 24W 1 - BAD

Depth (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
Elev. (ft)								Elev. (ft)						
95			100		4 - 5 - 6		Lean Clay Continued...							
2897.1									40	43	19	100		
97									32					
100			100		6 - 8 - 11				32					
2892.1														
100			100		4 - 6 - 6									
105														
2887.1									31					
105			100		4 - 5 - 6									
110														
2882.1									32					
110			100		4 - 7 - 9									
115														
2877.1									31					
115			100		6 - 7 - 10									
120														
2872.1														

2) MDT LLO	Water Level Observations	During Drilling: 70.0 ft (2922.1 ft)	Remarks: Moved 14.5' N and 3.5' E of staked SB location
	After Drilling: 0, Casing In	After Drilling: 0, Casing Out	



LOG OF BORING

Boring 9786002-ST-25

Sheet 5 of 6

Project: I-90 Structures - West of Alberton		Rig: Geoprobe8150	Boring Location N: 1045168.2 ft		Station: 608 + 41
		Hammer: Auto	Coordinates E: 703441.6 ft		Offset: 39 ft L
Project Number: 20-3919S		UPN: 9786002	Boring Diameter: 6"		System: MT S.P. (E)
			Datum: NAD83		Top of Boring Elevation: 2992.1 ft
Date Started: 8/16/23		Date Finished: 8/22/23	Drilling Fluid: Water		Location Source: MMI Survey
					Elevation Source: MMI Survey
Driller: Larry Phillips (O'Keefe)		Abandonment Method:		Township, Range, and Section:	
Logger: J. Miller		Backfilled with Cuttings		14N 24W 1 - BAD	

Depth (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
Elev. (ft)								Elev. (ft)						
			93				Lean Clay Continued...		35	29	19	100		
125					4 - 7 - 10			35						
2867.1			100											
130			0		50/0.1ft		Clayey GRAVEL with sand, cobbles, and boulders (GC), medium dense to very dense, gray, wet, fine to coarse grained, subangular to subrounded, [A-2]. layers of lean clay. (Glacial Flood).	128.0						
2862.7								2864.1						
135			100		3 - 7 - 7		Lean CLAY with sand (CL), stiff, brown, wet. (Glacial Flood).	132.0						
2857.1								2860.1						
140			94	100			-bouldery layer from 139.5' to 141.5'.	35						
2852.7			80											
145			100		10 - 17 - 28									
2847.1														
150			48	27			ARGILLITE, green, fine grained, thinly bedded, medium field hardness.	148.0	29	28	26			
2842.1								2844.1						

Water Level Observations		During Drilling: 70.0 ft (2922.1 ft)	Remarks: Moved 14.5' N and 3.5' E of staked SB location
After Drilling: (), Casing In	After Drilling: (), Casing Out		



LOG OF BORING

Boring 9786002-ST-25

Sheet 6 of 6

Project: I-90 Structures - West of Alberton		Rig: Geoprobe8150	Boring Location N: 1045168.2 ft E: 703441.6 ft	Station: 608 + 41 Offset: 39 ft L
Project Number: 20-3919S	UPN: 9786002	Boring Diameter: 6"	System: MT S.P. (E) Datum: NAD83	Top of Boring Elevation: 2992.1 ft
Date Started: 8/16/23	Date Finished: 8/22/23	Drilling Fluid: Water	Location Source: MMI Survey	Elevation Source: MMI Survey
Driller: Larry Phillips (O'Keefe) Logger: J. Miller		Abandonment Method: Backfilled with Cuttings	Township, Range, and Section: 14N 24W 1 - BAD	

Depth (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
Elev. (ft)								Elev. (ft)						
155			82	17			Argillite Continued...							
2837.1							-highly fractured.							
							-sub-horizontal joints.							
160			97	18									170	UCS: 5,853 psi
2832.1								160.0						
								2832.1						

Boring Depth: 160.0 ft, Elevation: 2832.1 ft

(2) MDT LOG OF BORING - MDT_REVISED_2009+(CPT_IMPORT).GDT - 4/2/25 09:47 - Z:\GINT\GINT\PROJECTS\3901-4000\3919- CYR STRUCTURE - 130 REPORT.GPJ

Water Level Observations		During Drilling: 70.0 ft (2922.1 ft)	Remarks: Moved 14.5' N and 3.5' E of staked SB location
After Drilling: 0, Casing In		After Drilling: 0, Casing Out	



LOG OF BORING

Boring 9786002-ST-29

Sheet 1 of 1

Project: I-90 Structures - West of Alberton		Rig: Mobile B57	Boring Location N: 1045303.1 ft	Station: 601 + 27
Project Number: 20-3919S		Hammer: Auto	Coordinates E: 702735.3 ft	Offset: 126 ft
UPN: 9786002		Boring Diameter: 8"	System: MT S.P. (E)	Top of Boring Elevation: 2946.6 ft
Date Started: 8/9/23	Date Finished: 8/9/23	Drilling Fluid: None	Datum: NAD83	Elevation Source: MMI Survey
Driller: E. Hollibaugh		Abandonment Method: Backfilled with Cuttings		Township, Range, and Section: 14N 24W 1 - BAC
Logger: J. Wells				

Depth (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
Elev. (ft)								Elev. (ft)						
			50		1 - 3 - 4		TOPSOIL.		5					
			36		2 - 1 - 2			3						
			61		2 - 8 - 9		Silty SAND with gravel (SM), medium dense, brown, moist, fine to coarse grained, [A-2]. (Glacial Flood).	3.0 2943.6	7					
5 2941.6			57		16 - 50/0.1ft		Poorly-Graded GRAVEL with sand and cobbles (GP), very dense, reddish brown, moist, fine to coarse grained, subangular to subrounded, [A-1]. (Glacial Flood) - Auger Refusal.	4.5 2942.1	2					
								7.1 2939.5						

Boring Depth: 7.1 ft, Elevation: 2939.5 ft

(2) MDT LOG OF BORING - MDT, REVISED 2009+(CPT IMPORT) GDT - 4/2/25 09:47 - Z:\GINT\GINT\PROJECTS\3901-4000\3919- CYR STRUCTURE - 130 REPORT.GPJ

Water Level Observations		During Drilling: Not Encountered	Remarks: Groundwater not encountered to dry cave-in depth of 2.6' immediately after withdrawal of auger.
After Drilling: Not Encountered, Augers In	 After Drilling: Not Encountered, Augers Out		



LOG OF BORING

Boring 9786002-ST-29A

Sheet 1 of 1

Project: I-90 Structures - West of Alberton		Rig: Mobile B57 Hammer: Auto	Boring Location N: 1045297.3 ft Coordinates E: 702765.7 ft		Station: 601 + 58 Offset: 122 ft L
Project Number: 20-3919S		UPN: 9786002	Boring Diameter: 8"	System: MT S.P. (E) Datum: NAD83	Top of Boring Elevation: 2945.7 ft
Date Started: 8/9/23	Date Finished: 8/9/23		Drilling Fluid: None	Location Source: MMI Survey	Elevation Source: MMI Survey
Driller: E. Hollibaugh Logger: J. Wells			Abandonment Method: Backfilled with Cuttings		Township, Range, and Section: 14N 24W 1 - BAC

Depth (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
Elev. (ft)								Elev. (ft)						
5							TOPSOIL.	3.0						Refer to ST-29 for soil descriptions above 9.0'
2940.7								2942.7						
							Silty SAND.	4.5						
							Poorly-Graded GRAVEL.	2941.2						
10					23 - 23 - 8			9.0						
2935.7			78				Poorly-Graded GRAVEL with sand and cobbles (GP), very dense to dense, reddish brown, moist, fine to coarse grained, subangular to subrounded, [A-1]. (Glacial Flood).	2936.7						
					4 - 5 - 7		Lean CLAY (CL), stiff, light brown, moist, [A-7]. (Glacial Lake).	11.0	21					See consolidation test
			83					2934.7						
15								16.0	30					
2930.7			100		2 - 3 - 4		Lean CLAY (CL), medium stiff, gray to brown, moist, [A-6]. (Glacial Lake).	2929.7						Pen: 1½ tsf
					2 - 3 - 5			32						Pen: 1¼ tsf
20								31	32	19	100	88		UCS: 2,756 psf
2925.7			78											See consolidation test
			96		1 - 2 - 3			39						Pen: ¾ tsf
25								26.5	9					
2920.7			100		50/0.2ft		Clayey GRAVEL with sand and cobbles (GC), very dense, gray to brown, moist, fine to coarse grained, subangular to subrounded, [A-2]. (Glacial Flood).	2919.2						
								27.2						
								2918.5						

Boring Depth: 27.2 ft, Elevation: 2918.5 ft

2) MDT LLO	Water Level Observations	 During Drilling: Not Encountered	Remarks: Groundwater not encountered to dry cave-in depth of 18.2' immediately after withdrawal of auger.
	 After Drilling: Not Encountered, Augers In	 After Drilling: Not Encountered, Augers Out	

(2) MDT LOG OF BORING - MDT, REVISED 2009+(CPT IMPORT). GDT - 4/2/25 09:47 - Z:\GINT\GINT\PROJECTS\3901-4000\3919- CYR STRUCTURE - 130 REPORT.GPJ



LOG OF BORING

Boring 9786002-ST-30

Sheet 1 of 1

Project: I-90 Structures - West of Alberton		Rig: Mobile B57	Boring Location N: 1045190.9 ft	Station: 607 + 65
Project Number: 20-3919S		Hammer: Auto	Coordinates E: 703366.9 ft	Offset: 57 ft L
UPN: 9786002	Boring Diameter: 8"	System: MT S.P. (E)	Top of Boring Elevation: 2975.1 ft	
Date Started: 8/10/23	Date Finished: 8/10/23	Datum: NAD83	Elevation Source: MMI Survey	
Driller: E. Hollibaugh		Drilling Fluid: None	Location Source: MMI Survey	
Logger: J. Wells		Abandonment Method: Backfilled with Cuttings	Township, Range, and Section: 14N 24W 1 - BAD	

Depth (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft)	Elev. (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
							Existing PMS: (5½").			4					MDD: 140.7 pcf OMC: 5.8%
2			83		9 - 16 - 21		BASE COURSE, Poorly-Graded GRAVEL with sand (GP), dense, brown, moist, fine to coarse grained, subangular to subrounded, [A-1].	0.5	2974.6	3					
2973.1							Poorly-Graded GRAVEL with silt and trace sand (GP-GM), dense, brown, moist, fine to coarse grained, subangular to subrounded, [A-1].	1.5	2973.6	5			11		
			89		12 - 17 - 22		(Subbase).	1.8	2973.3	2					
4							Poorly-Graded GRAVEL with silt, sand and cobbles (GP-GM), dense to very dense, brown, moist, fine to coarse grained, angular to subrounded, [A-1]. (Glacial Flood).			10					
2971.1			78		22 - 24 - 50/0.4ft										
			0		50/0.1ft				5.2						

(2) MDT LOG OF BORING - MDT, REVISED 2009+(CPT IMPORT) GDT - 4/2/25 09:47 - Z:\GINT\GINT\PROJECTS\3901-4000\3919- CYR STRUCTURE - 130 REPORT.GPJ

Water Level Observations		 During Drilling: Not Encountered	Remarks: Groundwater not encountered to dry cave-in depth of 2.1' immediately after withdrawal of auger.
 After Drilling: Not Encountered, Augers In		 After Drilling: Not Encountered, Augers Out	



LOG OF BORING

Boring 9786002-ST-31

Sheet 1 of 1

Project: I-90 Structures - West of Alberton		Rig: Mobile B57	Boring Location N: 1044910.7 ft	Station: 608 + 40
Project Number: 20-3919S		Hammer: Auto	Coordinates E: 703423.4 ft	Offset: 219 ft R
UPN: 9786002		Boring Diameter: 8"	System: MT S.P. (E)	Top of Boring Elevation: 2974.9 ft
Date Started: 8/10/23	Date Finished: 8/10/23	Drilling Fluid: None	Datum: NAD83	Elevation Source: MMI Survey
Driller: E. Hollibaugh		Abandonment Method: Backfilled with Cuttings		Township, Range, and Section: 14N 24W 1 - BAD
Logger: J. Wells				

Depth (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
Elev. (ft)								Elev. (ft)						
5							Existing PMS: (6 1/4").	0.5	2					MDD: 126 pcf OMC: 10.5%
2969.9			78		8 - 19 - 17		BASE COURSE, Poorly-Graded GRAVEL with sand (GP), dense, brown, moist, fine to coarse grained, subangular to subrounded, [A-1].	2974.4	3					
			17		10 - 16 - 9		Poorly-Graded GRAVEL with trace sand (GP), dense, brown, moist, fine to coarse grained, subangular to rounded, [A-1]. (Subbase).	1.0						
			97		5 - 5 - 4		Poorly-Graded GRAVEL with silt and sand (GP), dense, dark brown, moist, fine to coarse grained, subangular to subrounded, [A-1]. (Glacial Flood).	2973.9	5					
			81		11 - 16 - 29		Silty, Clayey SAND with gravel (SC-SM), loose, brown, moist, fine to coarse grained, subangular to subrounded, [A-2]. (Glacial Flood).	2.0						
			78		16 - 25 - 21		Silty GRAVEL with sand (GM), dense, brown, moist, fine to coarse grained, angular to subrounded, [A-1]. (Glacial Flood).	2972.9	9	19	13	34		
10								3.5	5					
2964.9								2971.4						
								6.5	2					
								2968.4	6					
								10.5						
								2964.4						

Boring Depth: 10.5 ft, Elevation: 2964.4 ft

Water Level Observations



During Drilling: Not Encountered

After Drilling:

Not Encountered, Augers In



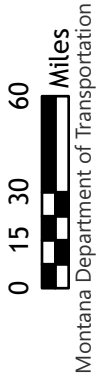
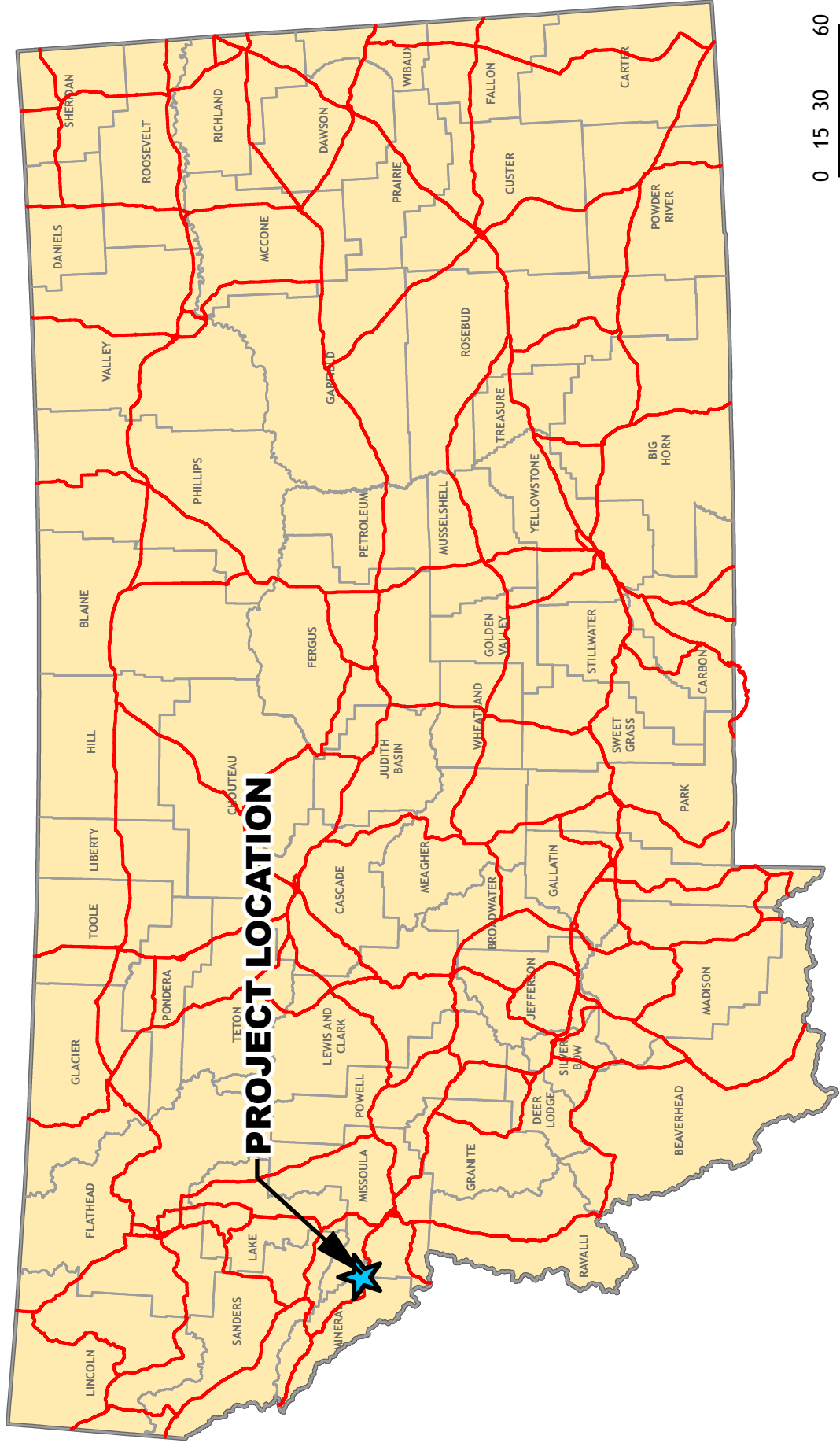
After Drilling: Not Encountered, Augers Out

Remarks: Groundwater not encountered to dry cave-in depth of 3.1' immediately after withdrawal of auger.

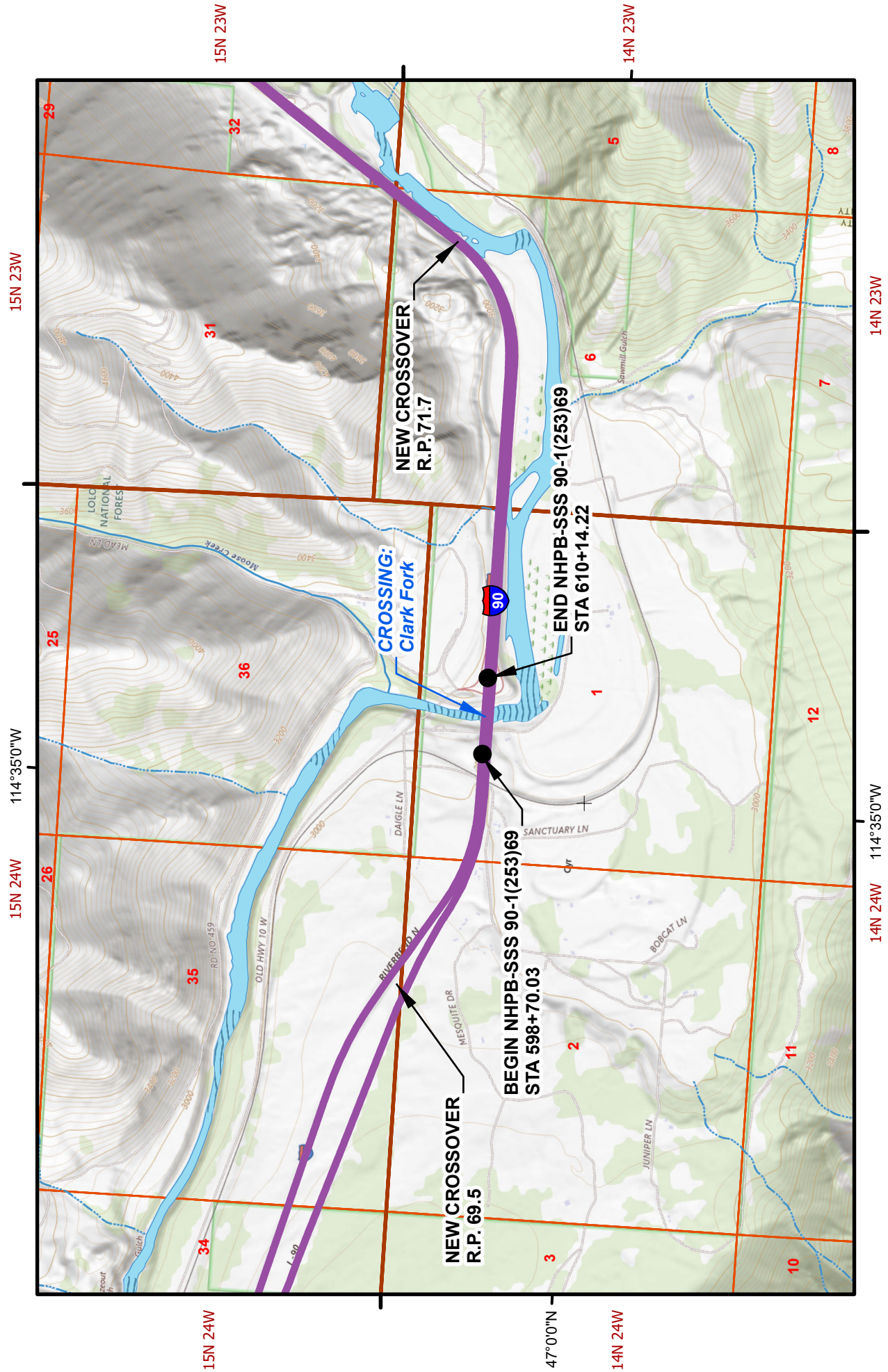
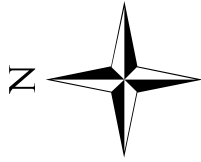
(2) MDT LOG OF BORING - MDT, REVISED 2009+(CPT IMPORT) GDT - 4/2/25 09:47 - Z:\GINT\GINT\PROJECTS\3901-4000\3919- CYR STRUCTURE - 130 REPORT.GPJ



FEDERAL AID PROJECT NHPB-SSS 90-1(253)69
BRIDGE REPLACEMENT
CYR INTERCHANGE STRUCTURE
CONTROL NUMBER 9786002
PROJECT LOCATION STATE MAP - MONTANA



FEDERAL AID PROJECT NHPB-SSS 90-1(253)69
BRIDGE REPLACEMENT
CYR INTERCHANGE STRUCTURE
CONTROL NUMBER 9786002
PROJECT LOCATION QUAD MAP - MINERAL COUNTY



STANDARD PROVISIONS INDEX

<u>FEDERAL AID PROJECTS</u>	<u>CONTAINS</u>
Federal Wage Rates (Rev. 6-04-2026)	8 Pages
Requirements & Acknowledgement for Working on Railroad R/W	1 Page
Required Contract Provisions Federal-Aid Const. Contracts (FORM FHWA-1273) [Rev.10-23-2023]	14 Pages
Supplemental Revisions for Required Contract Provisions Federal-Aid Const. Contracts (FORM FHWA-1273) [Added 2-4-2016]	1 Page
EEO Affirmative Action Req. on Federal-Aid Construction	1 Page

General Decision Number: MT 20260080 06042026

State: Montana

Construction Type: Highway

Counties: Montana Statewide.

HIGHWAY CONSTRUCTION PROJECTS

Modification Number Publication Date

1	01/30/2026
2	05/18/2026
3	06/04/2026

SAMT2025-001 01/11/2025

	Rates	Fringes
CARPENTER		
Carpenter.....	\$ 43.78	17.07
Millwright.....	\$ 49.79	20.79
CEMENT MASON/CONCRETE FINISHER...\$ 44.98 20.50		
DIVER		
Diver Tender.....	\$ 59.66	20.22
Diving.....	\$ 121.53	20.22
Standy-By.....	\$ 60.76	20.22

The Tender shall receive 2 hours at the straight time pay rate per shift for dressing and/or undressing when work is done under hyperbaric conditions.

Depth Pay (Surface Diving):

0-20 ft.: Free zone

>20-100 ft.: \$2.00 per ft.

>100-150 ft.: \$3.00 per ft.

>150-220 ft.: \$4.00 per ft.

>220 ft.: \$5.00 per ft.

Diving in Enclosures (Diver Only):

0-25 ft.: Free zone

>25-300 ft.: \$1.00 per ft.

ELECTRICIAN.....\$ 48.31 22.00

All Areas

IRONWORKER

Reinforcing Iron and Rebar Workers.....\$ 42.70 28.92

Structural Iron and Steel Workers.....\$ 38.31 27.91

LABORER

Group 1.....\$ 30.48 13.60

Group 2.....\$ 33.96 13.60

Group 3.....\$ 34.21 13.60

Group 4.....\$ 35.33 13.60

GROUP 1: Flag Person for Traffic Control

GROUP 2: General Labor; Asbestos Removal; Burning Bar; Bucket Man; Carpenter Tender; Caisson Worker; Cement Mason Tender; Cement Handler (dry); Chuck Tender; Choker Setter; Concrete Worker; Curb Machine-Lay Down; Crusher and Batch Worker; Heater Tender; Fence Erector; Landscape Laborer; Landscaper; Lawn Sprinkler Installer; Pipe Wrapper; Pot Tender; Powderman Tender; Rail and Truck Loaders and Unloaders; Riprapper; Sign Erection; Guardrail and Jersey Rail; Spike Driver; Stake Jumper; Signalman: Tail Hoseman; Tool Checker and Houseman and Traffic Control Worker

GROUP 3: Concrete Vibrator; Dumpman (Grademan); Equipment Handler; Geotextile and Liners; High-Pressure Nozzleman; Jackhammer (Pavement Breaker) Non-Riding Rollers; Pipelayer; Posthole Digger (power); Power Driven Wheelbarrow; Rigger; Sandblaster; Sod-Cutter-power and Tampers

GROUP 4: Hod Carrier; Water Well Laborer; Blaster; Wagon Driller; Asphalt Raker; Cutting Torch; Grade Setter; High- Scaler; Power Saws (Faller & Concrete); Powderman; Rock & Core Drill; Track or Truck Mounted Wagon Drill and Welder incl. Air Arc

LINE CONSTRUCTION

Equipment Operator.....\$ 55.14 23.37

Groundman.....\$ 37.43 21.85

Lineman.....\$ 62.60 24.46

PAINTER.....	\$ 39.60	14.12
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PILE BUCKS.....	\$ 43.78	17.07
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POWER EQUIPMENT OPERATOR:

Group 1.....	\$ 35.72	14.05
Group 2.....	\$ 38.00	14.05
Group 3.....	\$ 39.27	14.05
Group 4.....	\$ 40.60	14.05
Group 5.....	\$ 41.85	14.05
Group 6.....	\$ 43.20	14.05
Group 7.....	\$ 46.15	14.05

GROUP 1: Air Compressor; Auto Fine Graders; Belt Finishing; Boring Machine (small); Cement Silo; Crane, A-Frame Truck Crane; Crusher Conveyor; DW-10, 15, and 20 Tractor Roller; Farm Tractor; Forklift; Form Grader; Front End Loader Under 1 CU Yard; Heavy Duty Drills; Herman Nelson Heater; Mulching Machine; Oiler, All Except Cranes & Shovels; Pumpman

GROUP 2: Air Doctor; Backhoe/Excavator/Shovel up to and including 3 CU Yard; Bit Grinder; Bituminous Paving Travel Plant; Boring Machine Large; Broom, Self-Propelled; Concrete Travel Batchers; Concrete Float & Spreader; Concrete Bucket Dispatcher; Concrete Finish Machine; Concrete Conveyor; Distributor; Dozer; Rubber-Tired, Push & Side Boom; Elevating Grader/Gradall; Field Equipment Serviceman; Front End Loader 1 CU Yard to including 5 CU Yard; Grade Setter; Heavy Duty Drills, All Types; Hoist/Tugger, All; Hydra lift Forklifts & Similar; Industrial Locomotive; Motor Patrol (except finish); Mountain Skidder; Oiler, Cranes\Shovels; Pavement Breaker, EMSCO; Power Saw, Self-Propelled; Pugmill; Pumpcrete\Grout Machine; Punch Truck; Roller, Other Than Asphalt; Roller, Sheepfoot (Self-Propelled); Roller, 25 Tons and Over; Ross Carrier; Rotomill Under 6 Ft; Trenching Machine; Washing/Screening Plant

GROUP 3: Asphalt Paving Machine; Asphalt Screed; Backhoe/Excavator/Shovel Over 3 CU Yard; Cableway Highline; Concrete Batch Plant; Concrete Curing Machine; Concrete Pump; Cranes; Creter; Cranes, Electric Overhead; Cranes 24 Tons and Under; Curb Machine/Slip Form Paver; Finish Dozer; Front End Loader Over 5 CU Yard; Mechanic/Welder; Pioneer Dozer; Roller Asphalt (Breakdown & Finish); Rotomill, Over 6 FT; Scraper, Single, Twin or Pulling Belly Dump; Yo-Yo Cat Haul Truck, Articulating Trucks, Vac Truck

GROUP 4: Asphalt/Hot Plant Operator, Cranes, 25 Tons up to and incl. 44 Tons; Crusher Operator; Finish Motor Patrol; Finish Scraper

GROUP 5: Cranes, 45 Tons up to and incl. 74 Tons

GROUP 6: Cranes, 75 Tons up to and incl. 149 Tons; Crane, Whirley (All)

GROUP 7: Cranes, 150 Tons up to and incl. 250 Tons; Cranes, over 250 tons-add \$1.00 for every 100 tons over 250 tons; Crane, Tower (All); Crane Stiff-Leg or Derrick; Helicopter Hoist

TRUCK DRIVER

Group 1.....\$ 31.03 13.83

Group 2.....\$ 39.31 13.83

Group 1: Pilot Car

Group 2: Combination Truck and Concrete Mixer and Transit Mixer; Dry Batch Trucks; Distributor Driver; Dumpman; Dump Trucks and Similar Equipment; Dumpster; Flat Trucks; Lumber Carriers; Lowboys; Pickup; Powder Truck Driver; Power Boom; Serviceman; Service Truck/Fuel Truck/Tireperson; Truck Mechanic; Trucks with Power Equipment; Warehouseman, Partsman, Cardex and Warehouse Expeditor; Water Trucks

WELDERS - Receive rate prescribed for craft performing
operation to which welding is incidental.

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors, applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at: <https://www.dol.gov/agencies/whd/government-contracts>.

Note: Executive Order 13658 generally applies to contracts subject to the Davis-Bacon Act that were awarded on or between January 1, 2015 and January 29, 2022, and that have not been renewed or extended on or after January 30, 2022. Executive Order 13658 does not apply to contracts subject only to the Davis-Bacon Related Acts regardless of when they were awarded.

If a contract is subject to Executive Order 13658, the contractor must pay all covered workers at least \$13.65 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract from May 11, 2026, through December 31, 2026. The applicable Executive Order minimum wage rate will be adjusted annually. Additional information on contractor requirements and worker protections under Executive Order 13658 is available at www.dol.gov/whd/govcontracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses

(29CFR 5.5 (a) (1) (iii)).

The body of each wage determination lists the classifications and wage rates that have been found to be prevailing for the type(s) of construction and geographic area covered by the wage determination. The classifications are listed in alphabetical order under rate identifiers indicating whether the particular rate is a union rate (current union negotiated rate), a survey rate, a weighted union average rate, a state adopted rate, or a supplemental classification rate.

Union Rate Identifiers

A four-letter identifier beginning with characters other than ""SU"", ""UAVG"", ?SA?, or ?SC? denotes that a union rate was prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2024. PLUM is an identifier of the union whose collectively bargained rate prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2024 in the example, is the effective date of the most current negotiated rate.

Union prevailing wage rates are updated to reflect all changes over time that are reported to WHD in the rates in the collective bargaining agreement (CBA) governing the classification.

Union Average Rate Identifiers

The UAVG identifier indicates that no single rate prevailed for those classifications, but that 100% of the data reported for the classifications reflected union rates. EXAMPLE: UAVG-OH-0010

01/01/2024. UAVG indicates that the rate is a weighted union average rate. OH indicates the State of Ohio. The next number, 0010 in the example, is an internal number used in producing the wage determination. The date, 01/01/2024 in the example, indicates the date the wage determination was updated to reflect the most current union average rate.

A UAVG rate will be updated once a year, usually in January, to reflect a weighted average of the current rates in the collective bargaining agreements on which the rate is based.

Survey Rate Identifiers

The ""SU"" identifier indicates that either a single non-union rate prevailed (as defined in 29 CFR 1.2) for this classification in the survey or that the rate was derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As a weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SUFL2022-007 6/27/2024. SU indicates the rate is a single non-union prevailing rate or a weighted average of survey data for that classification. FL indicates the State of Florida. 2022 is the year of the survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 6/27/2024 in the example, indicates the survey completion date for the classifications and rates under that identifier. ?SU? wage rates typically remain in effect until a new survey is conducted. However, the Wage and Hour Division (WHD) has the discretion to update such rates under 29 CFR 1.6(c)(1).

State Adopted Rate Identifiers

The ""SA"" identifier indicates that the classifications and prevailing wage rates set by a state (or local) government were adopted under 29 C.F.R 1.3(g)-(h). Example: SAME2023-007 01/03/2024. SA reflects that the rates are state adopted. ME refers to the State of Maine. 2023 is the year during which the state completed the survey on which the listed classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 01/03/2024 in the example, reflects the date on which the classifications and rates under the ?SA? identifier took effect under state law in the state from which the rates were adopted.

WAGE DETERMINATION APPEALS PROCESS

- 1) Has there been an initial decision in the matter? This can be:
 - a) a survey underlying a wage determination
 - b) an existing published wage determination
 - c) an initial WHD letter setting forth a position on a wage determination matter

d) an initial conformance (additional classification and rate) determination

On survey related matters, initial contact, including requests for summaries of surveys, should be directed to the WHD Branch of Wage Surveys. Requests can be submitted via email to:

davisbaconinfo@dol.gov or

by mail to:

Branch of Wage Surveys
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

Regarding any other wage determination matter such as conformance decisions, requests for initial decisions should be directed to the WHD Branch of Construction Wage Determinations. Requests can be submitted via email to:

BCWD-Office@dol.gov or

by mail to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2) If an initial decision has been issued, then any interested party (those affected by the action) that disagrees with the decision can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7).

Requests for review and reconsideration can be submitted via email to:

dba.reconsideration@dol.gov or

by mail to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board).

Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210.

=====

END OF GENERAL DECISION"

**"CONTRACTOR REQUIREMENTS AND
ACKNOWLEDGMENT FOR
WORKING ON RAILROAD RIGHT-OF-WAY"**

This document must be dated and signed by the Contractor and submitted to the State before occupying or working on Railroad right-of-way.

- 1) No change, which has a direct effect on the Railroad, will be made to construction plans without submitting revised plans and receiving approval from the Railroad. Work covered by the plans, that requires flagging, will be covered by the Railroad/Highway Agreement. For work that is a result of the contractor's discretion, flagging protection will be required when equipment crosses or is working within 25 feet (7.62 meters) of center of any live track. When deemed necessary by local Railroad officers, a flagman may be required at all times while working on Railroad right-of-way in high density rail traffic area.
- 2) Crossing of any Railroad tracks must be done at approved locations and must be full depth timber, rubber, etc. Any equipment with steel wheels, lugs or tracks must not cross steel rails without the use of rubber tires or other approved protection. This shall apply specifically to, but not be limited to, access for Contractor furnished gravel, borrow or waste sites. The Contractor will be required to obtain a permit from the Railroad, and comply with any provisions thereof, before using any private Railroad crossings. All track crossing locations must be covered by a Private Roadway and Crossing Agreement. This does not apply to any public crossing.
- 3) Costs of flagging or planking protection of the tracks, which are a direct result of the planned construction, will be paid for by the State. Costs of flagging, planking for protection of the tracks, installation of new crossings or other work caused by the Contractor's discretion, will be paid by the Contractor.
- 4) When work to be performed by the Contractor is not covered in the Railroad/Highway agreement, the Contractor must furnish a plan to the Railroad for approval showing details as to how any work that may affect the Railroad will be accomplished.
- 5) Storing of construction materials or any other material, including dirt, sand, etc., within the Railroad right-of-way, will not be allowed unless covered by an easement, construction permit, or Contractor's permit/lease.
- 6) Construction within 25 feet (7.62 meters) of the center of any track not covered by the Railroad/Highway agreement will require plan approval and authorization by the Railroad Superintendent Maintenance and Engineering. This includes, but is not limited to, any excavation, slope work and driving of sheet piling.
- 7) No vehicles, equipment or machines shall be parked or stored unattended within 25 feet (7.62 meters) of any track, on railroad right-of-way, without specific written approval of the Railroad.
- 8) When any work is to be performed on Railroad property by the Contractor that is not shown in the construction plans, the Contractor must submit a detailed plan of the work to the Railroad for their approval.

CONTRACTOR'S ACKNOWLEDGMENT:

WORK SITE LOCATION:

Company

By: _____
Name

Title

Date

Town

State

Project #

FHWA-1273 – Revised October 23, 2023

REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS

- I. General
- II. Nondiscrimination
- III. Non-segregated Facilities
- IV. Davis-Bacon and Related Act Provisions
- V. Contract Work Hours and Safety Standards Act Provisions
- VI. Subletting or Assigning the Contract
- VII. Safety: Accident Prevention
- VIII. False Statements Concerning Highway Projects
- IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
- X. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion
- XI. Certification Regarding Use of Contract Funds for Lobbying
- XII. Use of United States-Flag Vessels:

ATTACHMENTS

A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under title 23, United States Code, as required in 23 CFR 633.102(b) (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services). 23 CFR 633.102(e).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider. 23 CFR 633.102(e).

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services) in accordance with 23 CFR 633.102. The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in solicitation-for-bids or request-for-proposals documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract). 23 CFR 633.102(b).

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work

performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract. 23 CFR 633.102(d).

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. 23 U.S.C. 114(b). The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors. 23 U.S.C. 101(a).

II. NONDISCRIMINATION (23 CFR 230.107(a); 23 CFR Part 230, Subpart A, Appendix A; EO 11246)

The provisions of this section related to 23 CFR Part 230, Subpart A, Appendix A are applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR Part 60, 29 CFR Parts 1625-1627, 23 U.S.C. 140, Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d et seq.), and related regulations including 49 CFR Parts 21, 26, and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding \$10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR Part 60, and 29 CFR Parts 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with 23 U.S.C. 140, Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), and Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d et seq.), and related regulations including 49 CFR Parts 21, 26, and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR Part 230, Subpart A, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

1. Equal Employment Opportunity: Equal Employment Opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (see 28 CFR Part 35, 29 CFR Part 1630, 29 CFR Parts 1625-1627, 41 CFR Part 60 and 49 CFR Part 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140, shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR Part 35 and 29 CFR Part 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract. 23 CFR 230.409 (g)(4) & (5).

b. The contractor will accept as its operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, sexual orientation, gender identity, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

2. EEO Officer: The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

3. Dissemination of Policy: All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action or are substantially involved in such action, will be made fully cognizant of and will implement the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer or other knowledgeable company official.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

4. Recruitment: When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

5. Personnel Actions: Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to ensure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action

within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

6. Training and Promotion:

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs (i.e., apprenticeship and on-the-job training programs for the geographical area of contract performance). In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

7. Unions: If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. 23 CFR 230.409. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, sexual orientation, gender identity, national origin, age, or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, age, or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide

sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

8. Reasonable Accommodation for Applicants /

Employees with Disabilities: The contractor must be familiar with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established thereunder. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment:

The contractor shall not discriminate on the grounds of race, color, religion, sex, sexual orientation, gender identity, national origin, age, or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors, suppliers, and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

10. Assurances Required:

a. The requirements of 49 CFR Part 26 and the State DOT's FHWA-approved Disadvantaged Business Enterprise (DBE) program are incorporated by reference.

b. The contractor, subrecipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate, which may include, but is not limited to:

- (1) Withholding monthly progress payments;
- (2) Assessing sanctions;
- (3) Liquidated damages; and/or
- (4) Disqualifying the contractor from future bidding as non-responsible.

c. The Title VI and nondiscrimination provisions of U.S. DOT Order 1050.2A at Appendixes A and E are incorporated by reference. 49 CFR Part 21.

11. Records and Reports: The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women.

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on [Form FHWA-1391](#). The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of more than \$10,000. 41 CFR 60-1.5.

As prescribed by 41 CFR 60-1.8, the contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, sexual orientation, gender identity, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location under the contractor's control where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding \$2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size), in accordance with 29 CFR 5.5. The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. 23 U.S.C. 113. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. 23 U.S.C. 101. Where applicable law requires that projects be treated as a project on a Federal-aid highway, the provisions of this subpart will apply regardless of the location of the project. Examples include: Surface Transportation Block Grant Program projects funded under 23 U.S.C. 133 [excluding recreational trails projects], the Nationally Significant Freight and Highway

Projects funded under 23 U.S.C. 117, and National Highway Freight Program projects funded under 23 U.S.C. 167.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 "Contract provisions and related matters" with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

1. Minimum wages (29 CFR 5.5)

a. *Wage rates and fringe benefits.* All laborers and mechanics employed or working upon the site of the work (or otherwise working in construction or development of the project under a development statute), will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act ([29 CFR part 3](#))), the full amount of basic hourly wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics. As provided in paragraphs (d) and (e) of 29 CFR 5.5, the appropriate wage determinations are effective by operation of law even if they have not been attached to the contract. Contributions made or costs reasonably anticipated for bona fide fringe benefits under the Davis-Bacon Act ([40 U.S.C. 3141\(2\)\(B\)](#)) on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.e. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics must be paid the appropriate wage rate and fringe benefits on the wage determination for the classification(s) of work actually performed, without regard to skill, except as provided in paragraph 4. of this section. Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: *Provided*, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classifications and wage rates conformed under paragraph 1.c. of this section) and the Davis-Bacon poster (WH-1321) must be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b. *Frequently recurring classifications.* (1) In addition to wage and fringe benefit rates that have been determined to be prevailing under the procedures set forth in [29 CFR part 1](#), a wage determination may contain, pursuant to § 1.3(f), wage and fringe benefit rates for classifications of laborers and mechanics for which conformance requests are regularly submitted pursuant to paragraph 1.c. of this section, provided that:

(i) The work performed by the classification is not performed by a classification in the wage determination for which a prevailing wage rate has been determined;

(ii) The classification is used in the area by the construction industry; and

(iii) The wage rate for the classification bears a reasonable relationship to the prevailing wage rates contained in the wage determination.

(2) The Administrator will establish wage rates for such classifications in accordance with paragraph 1.c.(1)(iii) of this section. Work performed in such a classification must be paid at no less than the wage and fringe benefit rate listed on the wage determination for such classification.

c. *Conformance.* (1) The contracting officer must require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract be classified in conformance with the wage determination. Conformance of an additional classification and wage rate and fringe benefits is appropriate only when the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(ii) The classification is used in the area by the construction industry; and

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) The conformance process may not be used to split, subdivide, or otherwise avoid application of classifications listed in the wage determination.

(3) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken will be sent by the contracting officer by email to DBAconformance@dol.gov. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(4) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer will, by email to DBAconformance@dol.gov, refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(5) The contracting officer must promptly notify the contractor of the action taken by the Wage and Hour Division

under paragraphs 1.c.(3) and (4) of this section. The contractor must furnish a written copy of such determination to each affected worker or it must be posted as a part of the wage determination. The wage rate (including fringe benefits where appropriate) determined pursuant to paragraph 1.c.(3) or (4) of this section must be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

d. *Fringe benefits not expressed as an hourly rate.* Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor may either pay the benefit as stated in the wage determination or may pay another bona fide fringe benefit or an hourly cash equivalent thereof.

e. *Unfunded plans.* If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, *Provided*, That the Secretary of Labor has found, upon the written request of the contractor, in accordance with the criteria set forth in § 5.28, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

f. *Interest.* In the event of a failure to pay all or part of the wages required by the contract, the contractor will be required to pay interest on any underpayment of wages.

2. Withholding (29 CFR 5.5)

a. *Withholding requirements.* The contracting agency may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for the full amount of wages and monetary relief, including interest, required by the clauses set forth in this section for violations of this contract, or to satisfy any such liabilities required by any other Federal contract, or federally assisted contract subject to Davis-Bacon labor standards, that is held by the same prime contractor (as defined in § 5.2). The necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to Davis-Bacon labor standards requirements and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld. In the event of a contractor's failure to pay any laborer or mechanic, including any apprentice or helper working on the site of the work all or part of the wages required by the contract, or upon the contractor's failure to submit the required records as discussed in paragraph 3.d. of this section, the contracting agency may on its own initiative and after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

b. *Priority to withheld funds.* The Department has priority to funds withheld or to be withheld in accordance with paragraph

2.a. of this section or Section V, paragraph 3.a., or both, over claims to those funds by:

- (1) A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;
- (2) A contracting agency for its procurement costs;
- (3) A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;
- (4) A contractor's assignee(s);
- (5) A contractor's successor(s); or
- (6) A claim asserted under the Prompt Payment Act, [31 U.S.C. 3901](#)–3907.

3. Records and certified payrolls (29 CFR 5.5)

a. Basic record requirements (1) Length of record retention. All regular payrolls and other basic records must be maintained by the contractor and any subcontractor during the course of the work and preserved for all laborers and mechanics working at the site of the work (or otherwise working in construction or development of the project under a development statute) for a period of at least 3 years after all the work on the prime contract is completed.

(2) Information required. Such records must contain the name; Social Security number; last known address, telephone number, and email address of each such worker; each worker's correct classification(s) of work actually performed; hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in [40 U.S.C. 3141\(2\)\(B\)](#) of the Davis-Bacon Act); daily and weekly number of hours actually worked in total and on each covered contract; deductions made; and actual wages paid.

(3) Additional records relating to fringe benefits. Whenever the Secretary of Labor has found under paragraph 1.e. of this section that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in [40 U.S.C. 3141\(2\)\(B\)](#) of the Davis-Bacon Act, the contractor must maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits.

(4) Additional records relating to apprenticeship. Contractors with apprentices working under approved programs must maintain written evidence of the registration of apprenticeship programs, the registration of the apprentices, and the ratios and wage rates prescribed in the applicable programs.

b. Certified payroll requirements (1) Frequency and method of submission. The contractor or subcontractor must submit weekly, for each week in which any DBA- or Related Acts-covered work is performed, certified payrolls to the contracting

agency. The prime contractor is responsible for the submission of all certified payrolls by all subcontractors. A contracting agency or prime contractor may permit or require contractors to submit certified payrolls through an electronic system, as long as the electronic system requires a legally valid electronic signature; the system allows the contractor, the contracting agency, and the Department of Labor to access the certified payrolls upon request for at least 3 years after the work on the prime contract has been completed; and the contracting agency or prime contractor permits other methods of submission in situations where the contractor is unable or limited in its ability to use or access the electronic system.

(2) Information required. The certified payrolls submitted must set out accurately and completely all of the information required to be maintained under paragraph 3.a.(2) of this section, except that full Social Security numbers and last known addresses, telephone numbers, and email addresses must not be included on weekly transmittals. Instead, the certified payrolls need only include an individually identifying number for each worker (e.g., the last four digits of the worker's Social Security number). The required weekly certified payroll information may be submitted using Optional Form WH-347 or in any other format desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division website at <https://www.dol.gov/sites/dolgov/files/WHDL/legacy/files/wh347.pdf> or its successor website. It is not a violation of this section for a prime contractor to require a subcontractor to provide full Social Security numbers and last known addresses, telephone numbers, and email addresses to the prime contractor for its own records, without weekly submission by the subcontractor to the contracting agency.

(3) Statement of Compliance. Each certified payroll submitted must be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor, or the contractor's or subcontractor's agent who pays or supervises the payment of the persons working on the contract, and must certify the following:

(i) That the certified payroll for the payroll period contains the information required to be provided under paragraph 3.b. of this section, the appropriate information and basic records are being maintained under paragraph 3.a. of this section, and such information and records are correct and complete;

(ii) That each laborer or mechanic (including each helper and apprentice) working on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in [29 CFR part 3](#); and

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification(s) of work actually performed, as specified in the applicable wage determination incorporated into the contract.

(4) Use of Optional Form WH-347. The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 will satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(3) of this section.

(5) *Signature.* The signature by the contractor, subcontractor, or the contractor's or subcontractor's agent must be an original handwritten signature or a legally valid electronic signature.

(6) *Falsification.* The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under [18 U.S.C. 1001](#) and [31 U.S.C. 3729](#).

(7) *Length of certified payroll retention.* The contractor or subcontractor must preserve all certified payrolls during the course of the work and for a period of 3 years after all the work on the prime contract is completed.

c. *Contracts, subcontracts, and related documents.* The contractor or subcontractor must maintain this contract or subcontract and related documents including, without limitation, bids, proposals, amendments, modifications, and extensions. The contractor or subcontractor must preserve these contracts, subcontracts, and related documents during the course of the work and for a period of 3 years after all the work on the prime contract is completed.

d. *Required disclosures and access* (1) *Required record disclosures and access to workers.* The contractor or subcontractor must make the records required under paragraphs 3.a. through 3.c. of this section, and any other documents that the contracting agency, the State DOT, the FHWA, or the Department of Labor deems necessary to determine compliance with the labor standards provisions of any of the applicable statutes referenced by § 5.1, available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and must permit such representatives to interview workers during working hours on the job.

(2) *Sanctions for non-compliance with records and worker access requirements.* If the contractor or subcontractor fails to submit the required records or to make them available, or refuses to permit worker interviews during working hours on the job, the Federal agency may, after written notice to the contractor, sponsor, applicant, owner, or other entity, as the case may be, that maintains such records or that employs such workers, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available, or to permit worker interviews during working hours on the job, may be grounds for debarment action pursuant to § 5.12. In addition, any contractor or other person that fails to submit the required records or make those records available to WHD within the time WHD requests that the records be produced will be precluded from introducing as evidence in an administrative proceeding under [29 CFR part 6](#) any of the required records that were not provided or made available to WHD. WHD will take into consideration a reasonable request from the contractor or person for an extension of the time for submission of records. WHD will determine the reasonableness of the request and may consider, among other things, the location of the records and the volume of production.

(3) *Required information disclosures.* Contractors and subcontractors must maintain the full Social Security number and last known address, telephone number, and email address

of each covered worker, and must provide them upon request to the contracting agency, the State DOT, the FHWA, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or other compliance action.

4. Apprentices and equal employment opportunity (29 CFR 5.5)

a. *Apprentices (1) Rate of pay.* Apprentices will be permitted to work at less than the predetermined rate for the work they perform when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship (OA), or with a State Apprenticeship Agency recognized by the OA. A person who is not individually registered in the program, but who has been certified by the OA or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice, will be permitted to work at less than the predetermined rate for the work they perform in the first 90 days of probationary employment as an apprentice in such a program. In the event the OA or a State Apprenticeship Agency recognized by the OA withdraws approval of an apprenticeship program, the contractor will no longer be permitted to use apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(2) *Fringe benefits.* Apprentices must be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringe benefits must be paid in accordance with that determination.

(3) *Apprenticeship ratio.* The allowable ratio of apprentices to journeyworkers on the job site in any craft classification must not be greater than the ratio permitted to the contractor as to the entire work force under the registered program or the ratio applicable to the locality of the project pursuant to paragraph 4.a.(4) of this section. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated in paragraph 4.a.(1) of this section, must be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under this section must be paid not less than the applicable wage rate on the wage determination for the work actually performed.

(4) *Reciprocity of ratios and wage rates.* Where a contractor is performing construction on a project in a locality other than the locality in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyworker's hourly rate) applicable within the locality in which the construction is being performed must be observed. If there is no applicable ratio or wage rate for the locality of the project, the ratio and wage rate specified in the contractor's registered program must be observed.

b. *Equal employment opportunity.* The use of apprentices and journeyworkers under this part must be in conformity with

the equal employment opportunity requirements of Executive Order 11246, as amended, and [29 CFR part 30](#).

c. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. 23 CFR 230.111(e)(2). The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeyworkers shall not be greater than permitted by the terms of the particular program.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract as provided in 29 CFR 5.5.

6. Subcontracts. The contractor or subcontractor must insert FHWA-1273 in any subcontracts, along with the applicable wage determination(s) and such other clauses or contract modifications as the contracting agency may by appropriate instructions require, and a clause requiring the subcontractors to include these clauses and wage determination(s) in any lower tier subcontracts. The prime contractor is responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in this section. In the event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier subcontractors, and may be subject to debarment, as appropriate. 29 CFR 5.5.

7. Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract as provided in 29 CFR 5.5.

9. Disputes concerning labor standards. As provided in 29 CFR 5.5, disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of eligibility. a. By entering into this contract, the contractor certifies that neither it nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of [40 U.S.C. 3144\(b\)](#) or § 5.12(a).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of [40 U.S.C. 3144\(b\)](#) or § 5.12(a).

c. The penalty for making false statements is prescribed in the U.S. Code, Title 18 Crimes and Criminal Procedure, [18 U.S.C. 1001](#).

11. Anti-retaliation. It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

a. Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the DBA, Related Acts, this part, or [29 CFR part 1](#) or [3](#);

b. Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under the DBA, Related Acts, this part, or [29 CFR part 1](#) or [3](#);

c. Cooperating in any investigation or other compliance action, or testifying in any proceeding under the DBA, Related Acts, this part, or [29 CFR part 1](#) or [3](#); or

d. Informing any other person about their rights under the DBA, Related Acts, this part, or [29 CFR part 1](#) or [3](#).

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

Pursuant to 29 CFR 5.5(b), the following clauses apply to any Federal-aid construction contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchpersons and guards.

1. Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek. 29 CFR 5.5.

2. Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph 1. of this section the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages and interest from the date of the underpayment. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or

mechanic, including watchpersons and guards, employed in violation of the clause set forth in paragraph 1. of this section, in the sum currently provided in 29 CFR 5.5(b)(2)* for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph 1. of this section.

* \$31 as of January 15, 2023 (See 88 FR 88 FR 2210) as may be adjusted annually by the Department of Labor, pursuant to the Federal Civil Penalties Inflation Adjustment Act of 1990.

3. Withholding for unpaid wages and liquidated damages

a. *Withholding process.* The FHWA or the contracting agency may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for any unpaid wages; monetary relief, including interest; and liquidated damages required by the clauses set forth in this section on this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract subject to the Contract Work Hours and Safety Standards Act that is held by the same prime contractor (as defined in § 5.2). The necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to the Contract Work Hours and Safety Standards Act and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld.

b. *Priority to withheld funds.* The Department has priority to funds withheld or to be withheld in accordance with Section IV paragraph 2.a. or paragraph 3.a. of this section, or both, over claims to those funds by:

- (1) A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;
- (2) A contracting agency for its procurement costs;
- (3) A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;
- (4) A contractor's assignee(s);
- (5) A contractor's successor(s); or
- (6) A claim asserted under the Prompt Payment Act, [31 U.S.C. 3901](#)–3907.

4. Subcontracts. The contractor or subcontractor must insert in any subcontracts the clauses set forth in paragraphs 1. through 5. of this section and a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor is responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs 1. through 5. In the

event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier subcontractors, and associated liquidated damages and may be subject to debarment, as appropriate.

5. Anti-retaliation. It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

- a. Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the Contract Work Hours and Safety Standards Act (CWHSSA) or its implementing regulations in this part;
- b. Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under CWHSSA or this part;
- c. Cooperating in any investigation or other compliance action, or testifying in any proceeding under CWHSSA or this part; or
- d. Informing any other person about their rights under CWHSSA or this part.

VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System pursuant to 23 CFR 635.116.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term "perform work with its own organization" in paragraph 1 of Section VI refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions: (based on longstanding interpretation)

- (1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;
- (2) the prime contractor remains responsible for the quality of the work of the leased employees;

(3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and
 (4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract. 23 CFR 635.102.

2. Pursuant to 23 CFR 635.116(a), the contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. Pursuant to 23 CFR 635.116(c), the contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract. (based on long-standing interpretation of 23 CFR 635.116).

5. The 30-percent self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements. 23 CFR 635.116(d).

VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR Part 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract. 23 CFR 635.108.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and

health standards (29 CFR Part 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704). 29 CFR 1926.10.

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR Part 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 11, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT (42 U.S.C. 7606; 2 CFR 200.88; EO 11738)

This provision is applicable to all Federal-aid construction contracts in excess of \$150,000 and to all related subcontracts. 48 CFR 2.101; 2 CFR 200.327.

By submission of this bid/proposal or the execution of this contract or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, subcontractor, supplier, or vendor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401-7671q) and the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251-1387). Violations must be reported to the Federal Highway Administration and the Regional Office of the Environmental Protection Agency. 2 CFR Part 200, Appendix II.

The contractor agrees to include or cause to be included the requirements of this Section in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements. 2 CFR 200.327.

X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost \$25,000 or more – as defined in 2 CFR Parts 180 and 1200. 2 CFR 180.220 and 1200.220.

1. Instructions for Certification – First Tier Participants:

a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction. 2 CFR 180.320.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default. 2 CFR 180.325.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances. 2 CFR 180.345 and 180.350.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180, Subpart I, 180.900-180.1020, and 1200. "First Tier Covered Transactions" refers to any covered transaction between a recipient or subrecipient of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a recipient or subrecipient of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction. 2 CFR 180.330.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold. 2 CFR 180.220 and 180.300.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. 2 CFR 180.300; 180.320, and 180.325. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. 2 CFR 180.335. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the System for Award Management website (<https://www.sam.gov/>). 2 CFR 180.300, 180.320, and 180.325.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default. 2 CFR 180.325.

2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency, 2 CFR 180.335;.

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property, 2 CFR 180.800;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification, 2 CFR 180.700 and 180.800; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default. 2 CFR 180.335(d).

(5) Are not a corporation that has been convicted of a felony violation under any Federal law within the two-year period preceding this proposal (USDOT Order 4200.6 implementing appropriations act requirements); and

(6) Are not a corporation with any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability (USDOT Order 4200.6 implementing appropriations act requirements).

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant should attach an explanation to this proposal. 2 CFR 180.335 and 180.340.

3. Instructions for Certification - Lower Tier Participants:

(Applicable to all subcontracts, purchase orders, and other lower tier transactions requiring prior FHWA approval or estimated to cost \$25,000 or more - 2 CFR Parts 180 and 1200). 2 CFR 180.220 and 1200.220.

a. By signing and submitting this proposal, the prospective lower tier participant is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which

this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances. 2 CFR 180.365.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180, Subpart I, 180.900 – 180.1020, and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. "First Tier Covered Transactions" refers to any covered transaction between a recipient or subrecipient of Federal funds and a participant (such as the prime or general contractor). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a recipient or subrecipient of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated. 2 CFR 1200.220 and 1200.332.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold. 2 CFR 180.220 and 1200.220.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the System for Award Management website (<https://www.sam.gov/>), which is compiled by the General Services Administration. 2 CFR 180.300, 180.320, 180.330, and 180.335.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily

excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment. 2 CFR 180.325.

* * * * *

4. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:

a. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals:

(1) is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency, 2 CFR 180.355;

(2) is a corporation that has been convicted of a felony violation under any Federal law within the two-year period preceding this proposal (USDOT Order 4200.6 implementing appropriations act requirements); and

(3) is a corporation with any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability. (USDOT Order 4200.6 implementing appropriations act requirements)

b. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant should attach an explanation to this proposal.

* * * * *

XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000. 49 CFR Part 20, App. A.

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or

cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such recipients shall certify and disclose accordingly.

XII. USE OF UNITED STATES-FLAG VESSELS:

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, or any other covered transaction. 46 CFR Part 381.

This requirement applies to material or equipment that is acquired for a specific Federal-aid highway project. 46 CFR 381.7. It is not applicable to goods or materials that come into inventories independent of an FHWA funded-contract.

When oceanic shipments (or shipments across the Great Lakes) are necessary for materials or equipment acquired for a specific Federal-aid construction project, the bidder, proposer, contractor, subcontractor, or vendor agrees:

1. To utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels. 46 CFR 381.7.

2. To furnish within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, 'on-board' commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph (b)(1) of this section to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Office of Cargo and Commercial Sealift (MAR-620), Maritime Administration, Washington, DC 20590. (MARAD requires copies of the ocean carrier's (master) bills of lading, certified onboard, dated, with rates and charges. These bills of lading may contain business sensitive information and therefore may be submitted directly to MARAD by the Ocean Transportation Intermediary on behalf of the contractor). 46 CFR 381.7.

**ATTACHMENT A - EMPLOYMENT AND MATERIALS
PREFERENCE FOR APPALACHIAN DEVELOPMENT
HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS
ROAD CONTRACTS (23 CFR 633, Subpart B, Appendix B)**

This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

a. To the extent that qualified persons regularly residing in the area are not available.

b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.

c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 23 CFR 633.207(e) allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.

6. The contractor shall include the provisions of Sections 1 through 4 of this Attachment A in every subcontract for work which is, or reasonably may be, done as on-site work.

Supplemental Revisions for FHWA Form-1273 (Dated May 1, 2012)
Required Contract Provisions
Federal-Aid Construction Contracts

The following are supplementary or amendatory to the May 1, 2012, FHWA Form-1273 insofar as they apply to this contract:

Add the following provisions in accordance with the FHWA memo dated December 11, 2015:

Utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels.

Furnish within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, 'on-board' commercial ocean bill-of-lading in English for each shipment of cargo described in above paragraph to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590.

SPECIAL PROVISIONS**EEO AFFIRMATIVE ACTION REQUIREMENTS ON FEDERAL & FEDERAL-AID CONSTRUCTION CONTRACTS**

Federal-aid contractors are hereby notified they are subject to the OFCCP goals and economic areas for minority and female participation expressed below. Compliance with the goals and OFCCP affirmative action efforts for contracts and subcontracts consisting of \$10,000 or more will be determined by OFCCP officials.

Notice of Requirement for Affirmative Action to Ensure Equal Employment Opportunity (Executive Order 11246)

1. The Offeror's or Bidder's attention is called to the Equal Opportunity Clause and "Standard Federal Equal Employment Opportunity Construction Contract Specifications" set forth herein.
2. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

GOALS FOR FEMALE PARTICIPATION (statewide) 6.9%

GOALS FOR MINORITY PARTICIPATION IN EACH TRADE**Economic Areas:**

152	Non-SMSA (Standard Metropolitan Statistical Area) Counties Daniels, Richland, Roosevelt, Sheridan	4.4%
153	Great Falls, MT SMSA Counties 3040 Great Falls, MT Cascade	3.2%
	Non-SMSA Counties Blaine, Broadwater, Chouteau, Fergus, Glacier, Hill, Jefferson, Judith Basin, Lewis & Clark, Liberty, Meagher, Petroleum, Phillips, Pondera, Teton, Toole, Valley, Wheatland	4.1%
154	Missoula, MT Non-SMSA Counties Beaverhead, Deer Lodge, Flathead, Granite, Lake, Lincoln, Madison, Mineral, Missoula, Powell, Ravalli, Sanders, Silver Bow	2.7%
155	Billings, MT SMSA Counties 0880 Billings, MT Yellowstone	3.3%
	Non-SMSA Counties Big Horn, Carbon, Carter, Custer, Dawson, Fallon, Gallatin, Garfield, Golden Valley, McCone, Musselshell, Park, Powder River, Prairie, Rosebud, Stillwater, Sweet Grass, Treasure, Wibaux, Yellowstone Nat'l Park	3.3%

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally assisted) performed in the covered area. If the contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the contractor also is subject to the goals for both its federally involved and non-federally involved construction.

The Contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a), and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within 10 working days of award of any construction subcontract in excess of \$10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address and telephone number of the subcontractor; employer identification number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed.