Montana Fish, Wildlife & Parks

SPECIFICATIONS FOR WORK
SPECIAL PROVISIONS

Contents:

1. PROJECT DESCRIPTION

The Project involves construction work associated with:

Spokane Creek Diversion
Fish, Wildlife & Parks (FWP) project #22-02
Located in Beaverhead County, MT

The project generally includes removal of the existing wooden diversion structure and installation of a new timber headwall with two 81”x 59” polymer coated arch CSP culverts and associated headgates, and incidentals.

2. PROJECT RELATED CONTACTS

Project contacts are designated as follows:

Regional FWP Representative:
Jarrett Payne
Riparian Ecologist
Montana FWP
730 N Montana St
Dillon, MT 59725
406-560-7103 (cell)

FWP Project Representative:
Phil Jagoda, P.E.
FWP Project Manager
1522 9th Avenue
Helena, MT 59620
406-841-4009 (wk)
406-431-3755 (cell)
406-841-4004 (fax)

3. SITE INSPECTION

All Bidders should satisfy themselves as to the construction conditions by personal examination of the site described in this document. Bidders are encouraged to make any - investigations necessary to assess the nature of the construction and the difficulties to be encountered, see General Conditions, Article 3.

4. SOILS INFORMATION

Geotechnical investigation work has not been done for this Project. It is the responsibility of the Bidders to conduct all investigations and determine the soil type and digging conditions that may be encountered with this Project prior to bid preparation, see General Conditions, Article 3.

5. PROJECT REPRESENTATIVE, INSPECTIONS, AND TESTING

The Contractor's work will be periodically tested and observed to insure compliance with the Contract Documents. Complete payment will not be made until the Contractor has demonstrated that the work is complete and has been performed as required. If the Project Representative detects a discrepancy between the work and the requirements of the Contract Documents at any time, up to and including final inspection, such work will not be completely paid for until the Contractor has corrected the deficiency, see General Conditions, Article 9.

The Project Representative will periodically monitor the construction of work to determine if the work is being performed in accordance with the contract requirements. The Project Representative does not have the authority or means to control the Contractor's methods of construction. It is, therefore, the Contractor's responsibility to utilize all methods, equipment, personnel, and other means necessary to assure that the work is installed in compliance with the Drawings and Specifications, and laws and regulations applicable to the work. Any discrepancies noted shall be brought to the Contractor's attention, who shall immediately correct the discrepancy. Failure of the Project Representative to detect a discrepancy will not relieve the Contractor of his ultimate responsibility to perform the work as required, see General Conditions, Article 3.

The Contractor shall inspect the work as it is being performed. Any deviation from the Contract requirements shall be immediately corrected. Prior to any scheduled observation by the Project Representative, the Contractor shall again inspect the work and certify to the Project Representative that he has inspected the work and it meets the requirements of the Contract Documents. The Project Representative may require uncovering of work to verify the work was installed according to the contract documents, see General Conditions, Article 12.

The work will be subject to review by the Project Representative. The results of all such observations, and all contract administration, shall be directed to the Contractor only through the Project Representative.

5.1 Services Required by the Contractor. The Contractor shall provide the following services:

a. Any field surveys to establish locations, elevations, and alignments as stipulated on the Contract Documents. FWP reserves the right to set preliminary construction staking for the project. The Contractor is responsible to notify FWP for any construction staking discrepancies.

b. Preparation and certification of all required shop drawings and submittals as described in the General Conditions, Article 3.

c. All testing requiring the services of a laboratory to determine compliance with the Contract Documents shall be performed by an independent commercial testing laboratory acceptable to the Project Representative. The laboratory shall be staffed with experienced technicians properly equipped, and fully qualified to perform the

tests in accordance with the specified standards.

d. Preparation and submittal of a construction schedule, including submittals, see General Conditions, Article 3. The schedule shall be updated as required, as defined in the Contract Documents.

e. All Quality Control testing as required by the Contractor's internal policies.

f. All Quality Assurance testing and/or re-testing as stated in the Contract Documents, see General Conditions, Article 13.

5.2 Services Provided by the Owner. The Owner shall provide the following services at no cost to the Contractor except as required for retests as defined in the Contract Documents.

a. The Project Representative may check compaction of backfill and surfacing courses using laboratory testing submittal information supplied by the Contractor. These tests are to determine if compaction requirements are being fulfilled in accordance with the Contract Documents. It is ultimately the responsibility of the Contractor to insure that this level of compaction is constant and met in all locations.

b. Any additional Quality Assurance testing deemed appropriate by the Owner, at the Owner's expense.

6. ENGINEERING INTERPRETATIONS

Timely Engineering decisions on construction activities or results have an important bearing on the Contractor's schedule. When engineering interpretation affects a plan design or specifications change, it should be realized that more than 24 hours may be required to gain the necessary Owner participation in the decision process including time for formal work directive, or change order preparation as required.

7. REJECTED WORK

Any defective work or nonconforming materials or equipment that may be discovered at any time prior to the expiration of the warranty period, shall be removed and replaced with work or materials conforming to the provisions of the Contract Documents, see General Conditions, Article 12. Failure on the part of the Project Representative to condemn or reject bad or inferior work, or to note nonconforming materials or equipment on the Contractors submittals, shall not be construed to imply acceptance of such work. The Owner shall reserve and retain all its rights and remedies at law against the Contractor and its Surety for correction of any and all latent defects discovered after the guarantee period (MCA 27-2-208).

Only the Project Representative will have the authority to reject work which does not conform to the Contract Documents.

8. UTILITIES

The exact locations of existing utilities that may conflict with the work are not precisely known. It shall be the Contractor's responsibility to contact the owners of the respective utilities and arrange for field location services. **One Call Locators, 1-800-424-5555**

The Contract Documents may show utility locations based on limited field observation and information provided to the Project Representative by others. **The Project Representative cannot guarantee their accuracy.** The Contractor shall immediately notify the Project Representative of any discrepancies with utility locations as shown on the Contract Drawings and/or their bury depths that may in any way affect the intent of construction as scoped in these specifications.

There will be no separate payment for exploratory excavation required to locate underground utilities.

8.1 Notification. The Contractor shall contact, in writing, all public and private utility companies that may have utilities encountered during excavation. The notification includes the following information:

a. The nature of the work that the Contractor will be performing.
b. The time, date and location that the Contractor will be performing work that may conflict with the utility.
c. The nature of work that the utility will be required to perform such as moving a power pole, supporting a pole or underground cable, etc.
d. Requests for field location and identification of utilities.

A copy of the letter of notification shall be provided to the Project Representative. During the course of construction, the Contractor shall keep the utility companies notified of any change in schedule, or nature of work that differs from the original notification.

8.2 Identification. All utilities that may conflict with the work shall be the Contractor's responsibility to locate before any excavation is performed. Field markings provided by the utility companies shall be preserved by the Contractor until actual excavation commences. All utility locations on the Drawings should be considered approximate and should be verified in the field by the Contractor. The Contractor shall also be responsible for locating all utilities that are not located on the Drawings.

Utilities are depicted on the Contract Documents in accordance with their achieved “Quality Levels,” as defined in the American Society of Civil Engineer’s Document, ASCE 38, “Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data.” Reliance upon these data for risk management purposes during bidding does not relieve the Contractor, or Utility Owner from following all applicable utility damage prevention statutes,

policies, and/or procedures during construction. It is important that the Contractor investigates and understands the scope of work between the project Owner and Engineer regarding scope of limits of the utility investigations leading to these utility depictions. Definitions of Quality Levels are described as follows:

a. "QUALITY LEVEL A" – (QLA): LOCATING THROUGH EXCAVATION. QLA data are highly accurate and are obtained by surveying an exposed utility. As such, both horizontal and vertical data are recorded. Survey accuracies are typically set at 15mm (1/2-inch) vertically, and to project survey standards horizontally (typically the same as for topography features), although these survey accuracies and precisions are generally left to the owner to specify in a scope of work. In addition to the applicable standard of care and any other additional standards imposed by commercial indemnity clauses, the accuracy of these location data is also typically guaranteed. Other data typically characterized include material type, surface elevation, utility size/capacity, outside dimensions, and configurations, soil type, and utility condition.

b. "QUALITY LEVEL B" – (QLB): DESIGNATING. QLB information is obtained through the application of appropriate surface geophysical methods to identify the existence and approximate horizontal location of utilities (a utility's "designation") within the project limits, followed by survey, mapping, and professional review of that designation. Underground utilities are identified by interpretation of received signals generated either actively or passively, and through correlating these received signals with visible objects (QLC) and record data (QLD) to determine function. Designated utilities that can't be identified are labeled as "unknowns." Although approximate has no accuracy associated with it, generally the locations are within inches rather than feet. The more utility congested the area or the deeper the utilities, the less likely it is that the designations will achieve that accuracy. These designations are then surveyed to project accuracies and precisions, typically third-order accuracy similar to other topography features. Note that surveying existing one-call marks does not lead to QLB data, since the genesis of the marks was not under the direct responsible charge of the professional certifying the QLB depictions, and one-call generally does not address unknown utilities, privately owned utilities, utilities without records, abandoned utilities, and so on. Nor does the professional have knowledge of the field technician's qualifications, training, and level of effort.

c. "QUALITY LEVEL C" – (QLC): SURFACE VISIBLE FEATURE SURVEY. QLC builds upon the QLD information by adding an independent detailed topography site survey for surface-visible appurtenances of subsurface utilities including but not limited to fire

hydrants, valves, risers, and manholes. Professional judgment is used to correlate the QLD data to the surveyed features, thus increasing the reliability of both utility location and existence. It is a function of the professional to determine when records and features do not agree and resolve discrepancies. This may be accomplished by depiction of a utility line at quality level D, effectively bypassing or disregarding (but still depicting) a surveyed structure of unknown origin. Additional resolution may result from consultation with utility owners.

d. “QUALITY LEVEL D" – (QLD): EXISTING RECORDS RESEARCH. QLD is the most basic level of information. Information is obtained from the review and documentation of existing utility records, verbal accounts, and/or one-call markings (to determine the existence of major active utilities and their approximate locations).

8.3 Removal or Relocation of Utilities. All electric power, street lighting, gas, telephone, and television utilities that require relocation will be the responsibility of the utility owner. A request for extending the specified contract time will be considered if utility owners cause delays.

8.4 Public Utilities. Water, sewer, storm drainage, and other utilities owned and operated by the public entities shall, unless otherwise specifically requested by the utility owner, be removed, relocated, supported or adjusted as required by the Contractor at the Contractor's expense. All such work shall be in accordance with these Contract Documents, or the Owner's Standard Specifications or written instructions when the work involved is not covered by these Specifications.

8.5 Other Utilities. Utilities owned and operated by private individuals, railroads, school districts, associations, or other entities not covered in these Special Provisions shall, unless otherwise specifically requested by the utility owner, be removed, relocated, supported or adjusted as required by the Contractor at the Contractor's expense. All work shall be in accordance with the utility owner's directions, or by methods recognized as being the standard of the industry when directions are not given by the owner of the utility.

8.6 Damage to Utilities and Private Property. The Contractor shall protect all utilities and private property and shall be solely responsible for any damage resulting from his construction activities. The Contractor shall hold the Owner and Project Representative harmless from all actions resulting from his failure to properly protect utilities and private property. All damage to utilities shall be repaired at the Contractor's expense to the full satisfaction of the owner of the damaged utility or property. The Contractor shall provide the Owner with a letter from the owner of the damaged utility or property stating that it has been repaired to the utility owner's full satisfaction.

8.7 Structures. The Contractor shall exercise every precaution to prevent damage to existing buildings or structures in the vicinity of his work. In the event of such damages, he shall repair them to the satisfaction of the owner of the damaged structure at no cost to the Owner.

8.8 Overhead Utilities. The Contractor shall use extreme caution to avoid a conflict, contact, or damage to overhead utilities, such as power lines, streetlights, telephone lines, television lines, poles, or other appurtenances during the course of construction of this project.

8.9 Buried Gas Lines. The Contractor shall provide some means of overhead support for buried gas lines exposed during trenching to prevent rupture in case of trench caving.

8.10 Pavement Removal. Where trench excavation or structure excavation requires the removal of curb and gutter, concrete sidewalks, or asphalt or concrete pavement, the pavement or concrete shall be cut in a straight line parallel to the edge of the excavation by use of a spade-bitted air hammer, concrete saw, colter wheel, or similar approved equipment to obtain a straight, square clean break. Pavement cuts shall be 2 feet wider than the actual trench opening.

8.11 Survey Markers and Monuments. The Contractor shall use every care and precaution to protect and not disturb any survey marker or monuments, such as those that might be located at lot or block corners, property pins, intersection of street monuments or addition line demarcation. Such protection includes markings with flagged high lath and close supervision. No monuments shall be disturbed without prior approval of the Project Representative. Any survey marker or monument disturbed by the Contractor during the construction of the project shall be replaced at no cost to the Owner by a licensed land surveyor.

8.12 Temporary Utilities. The Contractor shall provide all temporary electrical, lighting, telephone, heating, cooling, ventilating, water, sanitary, fire protection, and other utilities and services necessary for the performance of the work. All fees, charges, and other costs associated therewith shall be paid for by the Contractor.

9. CONSTRUCTION SAFETY

The Contractor shall be solely and completely responsible for conditions of the jobsite, including safety of all persons (including employees and subcontractors) and property during performance of the work. This requirement shall apply continuously and not be

limited to normal working hours. Safety provisions shall conform to U.S. Department of Labor (OSHA), and all other applicable federal, state, county, and local laws, ordinances, codes, and regulations. Where any of these are in conflict, the more stringent requirement shall be followed. The Contractor's failure to thoroughly familiarize himself with the aforementioned safety provisions shall not relieve them from compliance with the obligations and penalties set forth therein, see General Conditions, Article 10.

10. CONSTRUCTION LIMITS AND AREAS OF DISTURBANCE

10.1 Construction Limits. Where construction easements or property lines, are not specifically called out on the Contract Documents, limit the construction disturbance to ten (10) feet, when measured from the edge of the slope stake grading, or to the adjacent property line, whichever is less. Disturbance and equipment access beyond this limit is not allowed without the written approval of both the Project Representative and the Owner of the affected property. If so approved, disturbance beyond construction limits shall meet all requirements imposed by the landowner; this includes existing roads used and/or improved as well as the construction of new access roads. Special construction, reclamation, or post-construction reclamation or other closure provisions required by the landowner on access roads beyond the construction limits shall be performed by the Contractor at no additional cost to the Owner.

10.2 Areas of Disturbances. Approved areas of disturbance are those areas disturbed by construction activities within the construction limits and along designated or approved access routes. Such areas may require reclamation and revegetation operations, including grading to the original contours, top soiling with salvaged or imported topsoil, seeding, fertilizing, and mulching as specified herein. Other areas that are disturbed by the Contractor's activities outside of the limits noted above will be considered as site damage or unapproved areas of disturbance, see General Conditions, Articles 3 and 10. This includes areas selected by the Contractor outside the defined construction limits for mobilization, offices, equipment, or material storage.

11. DECONTAMINATE CONSTRUCTION EQUIPMENT

Power wash all construction equipment entering the project site to prevent the spread of noxious weeds and aquatic invasive species. This applies to all FWP projects, whether or not individual construction permits specifically address cleaning of equipment.

12. TREE PROTECTION AND PRESERVATION

The Contractor and the Owner shall individually inspect all trees within the project construction limits prior to construction. The Owner shall determine which trees are to be removed and which trees are to be preserved. Construction of the grading, utilities and various roadway facilities must not significantly damage the trees root system or hinder it's chances for survival. Reasonable variations from the Contract Documents, as directed by the Project Representative, may be employed to ensure the survival of

trees.

13. CONSTRUCTION SURVEYS

The Contractor will be responsible for all layout and construction staking utilizing the Project Representative's existing control and coordinate data for the project. Dimensions and elevations indicated in layout of work shall be verified by the Contractor. Discrepancies between Drawings, Specifications, and existing conditions shall be referred to the Project Representative for adjustment before work is performed. The Project Representative may set location and grade stakes prior to construction; however, it is ultimately the responsibility of the Contractor to check and verify all construction staking for the project.

Existing survey control (horizontal and vertical) has been set for use in the design and ultimately the construction of these improvements. A listing of the coordinates and vertical elevation for each of these control points may be included in the project drawings.

The Contractor will be responsible for preserving and protecting the survey control until proper referencing by the Contractor has been completed. Any survey control obliterated, removed, or otherwise lost during construction will be replaced at the Contractor's expense.

Contractor shall be aware of property pins and survey monuments. Damage to these pins will require replacement of such by a registered land surveyor at no cost to the owner.

The Contractor shall provide construction staking from the Contractor's layouts and the control points. Contractor's construction staking includes at a minimum:

1. Slope stakes located at critical points as determined by the Project Representative.
2. Blue tops every longitudinally and transversely for subgrade and crushed base to verify finish grading of course.
3. Location and grade stakes for drainage features and retaining walls.
4. Location stakes for roadside safety items, permanent and temporary traffic control, and misc. items as determined by the Project Representative.

Original field notes, computations and other records take by the Contractor for the purpose of quantity and progress surveys shall be furnished promptly to the Project Representative and shall be used to the extent necessary in determining the proper amount of payment due to the Contractor.

14. MATERIAL SOURCES AND CONSTRUCTION WATER

The Contractor shall be responsible for locating all necessary material sources, including aggregates, earthen borrow and water necessary to complete the work. The Contractor

shall be responsible for meeting all transportation and environmental regulations as well as paying any royalties. The Contractor shall provide the Project Representative with written approvals of landowners from whom materials are to be obtained, prior to approval.

The Contractor may use materials from any source, providing the materials have been tested through representative samples and will meet the Specifications.

Water for compaction efforts shall be supplied by the Contractor.

15. MATERIALS SALVAGE AND DISPOSAL

Notify the Owner for any material salvaged from the project site not identified in the Contract Documents. The Owner reserves the right to maintain salvaged material at the project site, compensate the Contractor for relocation of salvaged material, or agreed compensation to Owner for material salvaged by the Contractor.

Haul and waste all waste material to a legal site and obey all state, county, and local disposal restrictions and regulations.

16. STORED MATERIALS

Contractor shall use an approved storage area for materials. Materials and/or equipment purchased by the Contractor may be compensated on a monthly basis. For compensation, provide the Project Representative invoices for said materials, shop drawings and/or submittals for approval, and applicable insurance coverage, see General Conditions, Article 9.

17. STAGING AND STOCKPILING AREA

Contractor shall use staging and stockpiling sites for to facilitate the project as approved by the Owner. Contract Documents may show approved staging and stockpiling locations. Notify Owner within 24 hours for approval of staging and stockpiling sites not shown on the Contract Drawings.

18. SECURITY

The Contractor shall provide all security measures necessary to assure the protection of equipment, materials in storage, completed work, and the project in general.

19. CLEANUP

Cleanup for each item of work shall be fully completed and accepted before the item is considered final. If the Contractor fails to perform cleanup within a timely manner the

Owner reserves the right to withhold final payment.

20. ACCESS DURING CONSTRUCTION

Provide emergency access at all times within the project throughout the construction period.

21. CONSTRUCTION TRAFFIC CONTROL

The Contractor is responsible for providing safe construction and work zones within the project limits by implementing the rules, regulations, and practices of the Manual on Uniform Traffic Control Devices, current edition.

22. SANITARY FACILITIES

Provide on-site toilet facilities for employees of Contractor and Sub-Contractors and maintain in a sanitary condition.

23. CONTRACT CLOSEOUT

The Contractor's Superintendent shall maintain at the project site, a "Record Set of Drawings" showing field changes, as-built elevations, unusual conditions encountered during construction, and such other data as required to provide the Owner with an accurate "as constructed" set of record drawings. The Contractor shall furnish the "Record Set" to the Project Representative following the Final Inspection of the Project.

The Contractor's final payment will not be processed until the "Record Set" of drawings are received and approved by the Project Representative.

24. MEASUREMENT AND PAYMENT

Review these Contract Documents for additional Measurement and Payment specifications for definitions. Quantities are listed on the Bid Proposal for Payment Items. Additional material quantities, volumes, and measurements may be shown on the Contract Document drawings and/or specifications.

Unit Price quantities and measurements shown on the Bid Proposal are for bidding and contract purpose only. Quantities and measurements supplied, completed for the project, and verified by the Project Representative shall determine payment. Each unit price will be deemed to include an amount considered by the Contractor to be adequate to cover Contractor's overhead and profit for each bid item.

The Owner or Contractor may make a Claim for an adjustment in Contract Unit Price if the quantity of any item of Unit Price Work performed by the Contractor differs materially and/or significantly (increase or decrease by 50%) from the estimated quantity indicated on the Bid Proposal.

Lump sum bid item quantities will not be measured. Payment for these lump sum bid proposal items will be paid in full amount listed on the Bid Proposal when accepted by the Project Representative, unless specified otherwise.

SPECIFICATIONS FOR WORK

TECHNICAL PROVISIONS

Incorporation of Montana Public Works Technical Specifications.

The Technical Specifications as found in Montana Public Works Standard Specifications (MPWSS), Sixth Edition, April 2010 Addendum; are hereby incorporated by reference and made a part of this Contract:

Incorporation of Montana Fish, Wildlife & Parks Technical Specifications and Modifications to MPW Technical Specifications.

In addition to the MPWSS Technical Specifications are the following Montana Fish, Wildlife & Parks Technical Specifications (modifications to MPWSS Technical Specifications).

SECTION 01010- Summary of Work
SECTION 01450 - Mobilization/Demobilization
SECTION 01750 - Final Cleanup
SECTION 01800 - Erosion and Sediment Control
SECTION 02112 - Removal of Structures
SECTION 02230 - Street Excavation, Backfill, and Compaction
SECTION 02240 - Rip Rap
SECTION 02910 - Revegetation
SECTION 02995 - Diversion Work Description

SECTION 01010

SUMMARY OF WORK

All applicable portions of this specification section in the MPWSS shall apply with the following additions, deletions and/or modifications.

PART 1 GENERAL

1.4 CONTRACTOR USE OF PREMISES

Add the following:

A. Project site is located on private land with a Landowner Agreement between MT Fish, Wildlife & Parks & the private landowner. Therefore, work timeframe and access will need to be coordinated with private landowner, through the FWP Regional staff. No sanitary or potable water services are available.

END OF SECTION 01010

SECTION 01450

MOBILIZATION/DEMOBILIZATION

Added Section.

PART 1 GENERAL

1.1 DESCRIPTION

A. This item shall consist of the prepatory work and operations necessary performed by the Contractor for the movement of personnel, equipment, supplies, and incidentals to and from the work site. The work includes those actions necessary for obtaining necessary permits required for mobilization; for the establishment of all offices and facilities necessary to work on the project; for premiums on contract bonds; for insurance for the contract; and for other work on the various items on the project site. Mobilization costs for subcontracted work shall be considered to be included.

B. Contractor's cost for administration, bonding, insurance, and site documents shall be included in mobilization and shall not be paid as a separate item.

C. All equipment moved to the project sites shall be in good mechanical condition and free of fuel, oil, lubrication, or other fuel leaks. The Contractor shall immediately remove any equipment potentially or actually discharging environmentally damaging fluids.

D. All equipment moved to the project sites shall be thoroughly cleaned before it is brought to the sites to prevent the introduction of weed seeds. Equipment removed fro the sites may not be returned to the sites again until it is thoroughly cleaned again.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION – NOT USED

PART 4 MEASUREMENT AND PAYMENT

4.1 MEASUREMENT

A. There will be no direct measurement of this item.

4.2 PAYMENT

B. Partial payments for mobilization/demobilization will be made based on the lump sum bid price as follows:

- 25% of the amount bid for mobilization/demobilization when the Contractor has moved on-site and begun construction activities.
- 50% of the amount bid for mobilization/demobilization when 25% of the contract amount (exclusive mobilization/demobilization) has been completed.
- 75% of the amount bid for mobilization/demobilization when 50% of the contract amount (exclusive mobilization/demobilization) has been completed.
- 100% of the amount bid for mobilization/demobilization when 75% of the contract amount (exclusive mobilization/demobilization) has been completed.

END OF SECTION 01450

SECTION 01750

FINAL CLEANUP

Added Section.

PART 1 GENERAL

1.1 DESCRIPTION

A. This work consists of final cleanup of the project site prior to final acceptance.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION

3.1 CONTRACTOR RESPONSIBILITES

The contractor shall be responsible for final clean up at the end of the project to a level satisfactory to the owner. All construction debris, no mater how small, shall be collected and removed from the site. All wheel ruts shall be filled in and be leveled to match the adjacent grade and material. Re-seeding or re-sodding, or other re-surfacing may be necessary to repair any construction related impacts or damage.

All survey markings, stakes, temporary paint marks, flagging and other devices shall be removed regardless of who installed them. All excess pavement, concrete, gravel, soil, or other construction materials not intended for permanent use shall be removed.

All final slopes shall be dressed manually to remove woody debris, accumulated trash and oversized material. Any new slope or topsoil surfaces shall be hand raked to provide a uniform appearance. The contractor shall dress all gravel, pavement and concrete edges to eliminate abrupt edges and provide a smooth transition. All construction related temporary sediment control devices shall be removed as soon as practical.

PART 4 MEASUREMENT AND PAYMENT

4.1 PAYMENT

Unless specifically noted otherwise, all final cleanup work shall be incidental to other work items in the contract and no separate payment shall be made.

END OF SECTION 01750

SECTION 01800

EROSION AND SEDIMENT CONTROL

Added Section.

PART 1 GENERAL

1.1 DESCRIPTION

A. This work consists of furnishing, constructing, and maintaining permanent and temporary erosion control and sediment control measures as shown on the project drawings and/or project related construction permits.

B. The Contractor is responsible for control of surface water, subsurface water, and drainage during the construction period. All temporary fills, crossings, and culverts necessary to promote drainage during construction will be installed and removed at the Contractor's expense prior to acceptance of the work. Any claims arising from upstream or downstream damages as a result of the construction or failure of these temporary works will be the Contractor's responsibility.

C. All dewatering areas or temporary soil cofferdams shall use erosion BMPs as necessary to control offsite sediment turbidity or erosion.

PART 2 PRODUCTS

2.1 GENERAL

A. Temporary and erosion control products utilized include but are not limited to backfill material; berms; brush barriers; erosion control blankets, bales, wattles, logs, rolls; erosion control culvert pipe; detention basins; fertilizer; geotextile; mulch; plastic lining; riprap; sandbags; seed; silt fence; and water.

2.2 EROSION CONTROL WATTLES

A. Where designated, provide a sediment retention product made from straw and coconut fiber reinforced with a 100% bio-degradable netting. Use wood stakes to secure sediment retention product in place, spacing per the manufacturer's recommendations. An acceptable product is *Sediment Stop*, manufactured by *North American Green*, or approved equal.

2.2 EROSION CONTROL BLANKETS

A. Where designated, provide a sediment retention product made from straw and coconut fiber reinforced with a 100% bio-degradable netting. Use wood stakes to secure sediment retention product in place, spacing per the manufacturer's recommendations. An acceptable product is *BioNet® S150BN™*, manufactured by *North American Green*, or approved equal.

PART 3 EXECUTION

3.1 INSTALLATION

A. Provide permanent and temporary erosion control measures to minimize erosion and sedimentation during and after construction according to the contract erosion control plan, environmental permits, and as directed by the Project Representative. These erosion control measures shall be designed, implemented, and maintained by the Contractor in accordance with Best Management Practices (BMPs) to control erosion and sediment release from the work site.

B. Install permanent and temporary erosion control measures according to the Storm Water Pollution Prevention Plan (SWPPP), if applicable, approved construction permits, and erosion control drawings.

C. When erosion control measures are not functioning as intended, immediately take corrective action.

PART 4 MEASUREMENT AND PAYMENT

4.1 MEASUREMENT AND PAYMENT

A. Erosion and sediment control will not be measured for payment, and is considered incidental to other bid items in this contract.

END OF SECTION 01800

SECTION 02112

REMOVAL OF EXISTING PAVEMENT, CONCRETE CURB, SIDEWALK, DRIVEWAY AND/OR STRUCTURES

All applicable portions of this specification section in the MPWSS shall apply with the following additions, deletions and/or modifications.

PART 1 GENERAL

1.1 DESCRIPTION

A. Add the following:

The work also consists of the removal and disposal of existing wooden diversion structure and any associated concrete.

PART 3 EXECUTION

3.1 GENERAL

Add the following:

D. Remove existing wooden diversion structure and concrete as shown in the project drawings or as directed by the Engineer.

Dispose all removed materials off the project site in accordance with all state, county, and local disposal restrictions and regulations.

PART 4 MEASUREMENT AND PAYMENT

Add the following:

4.3A DIVERSION STRUCTURE REMOVAL

A. The existing diversion structure removal will be measured and paid by lump sum (LPSM).

END OF SECTION 02112

SECTION 02230

STREET EXCAVATION, BACKFILL AND COMPACTION

All applicable portions of this specification section in the MPWSS shall apply with the following additions, deletions and/or modifications.

PART 1 GENERAL

1.3 DENSITY CONTROL TESTING

A. FIELD DENSITY TESTING

Delete this section and add the following:

Due to the remote location of the project site and in lieu of field density testing, the following procedures shall be required for compaction of the backfill soils, and compaction around the CSP culverts:

- Soils shall be placed uniformly in layers not to exceed 8 inches thick before compaction. Backfill soils shall be wetted only if material necessitates it for optimum compaction.
- Each layer of soil backfill shall be compacted by a minimum of two passes of a vibratory plate compactor weighing at least 180 pounds (or approved equivalent). The compactor shall have a minimum centrifugal force of 2,450 pounds at a vibrating frequency of no less than 5,000 cycles per minute, or by a minimum of two passes of a vibratory smooth wheeled roller weighing at least 325 pounds with a centrifugal force of 2,250 pounds at a vibrating frequency of no less than 4,500 cycles per minute. Other types of compaction equipment may be used with approval of MT FWP Project Manager or FWP's representative.

- If compacted soils do not exhibit proper characteristics, additional passes of the equipment will be required, or water shall be added to the soil to obtain a more optimum moisture content. In any case, each layer shall be compacted by mechanical means to a density equivalent to that of the surrounding unexcavated material.

- If it is determined by the MT FWP Project Manager or FWP's representative that the compaction of the soils is not meeting the requirements or are not exhibiting the proper characteristics, then in-place field density tests will be required at the Contractor's expense. Additionally, any retesting of failing areas will also be at the expense of the Contractor.

B. LABORATORY MAXIMUM DENSITY and OPTIMUM MOISTURE

Delete this section and add the following:

If it is determined that laboratory testing is needed for field density testing, then Quality assurance tests will be made by the Contractors independent testing laboratory for each on-site natural soil or each source of off-site material, including borrow material, to determine the laboratory maximum density values and optimum compaction moisture content under AASHTO T99 or ASTM D698.

PART 3 EXECUTION

3.1 CLEARING AND GRUBBING

Add the following:

Obtain necessary burning permits if cleared and grubbed material is burned on site. All stumps within construction limits shall be grubbed under this contract.

3.4 EXCAVATION

Add the following:

Sheeting, Shoring, and Bracing: Except where trench banks are cut back on a stable slope, provide and maintain all sheeting, shoring, and bracing necessary to protect workers, and to protect adjoining grades and structures from caving, sliding, erosion or other damage in accordance with Occupational Safety and Health Standards (29 CFR Part 1926 – Construction Standards for Excavations), the Site Specific Health and Safety Plan, and other applicable codes and governing authorities.

PART 4 MEASUREMENT AND PAYMENT

4.1 METHOD OF MEASUREMENT AND PAYMENT

Delete this section and add the following:

A. CLEARING AND GRUBBING
1. Clearing and grubbing will not be measured for payment and is considered incidental to other work items in this Contract.

B. EXCAVATION AND EMBANKMENT
1. Excavation and embankment will not be measured for payment and will be considered incidental to other work items in this contract, or as listed in the proposal bid form.

END OF SECTION 02230

SECTION 02240

RIPRAP

Added Section.

PART 1 GENERAL

1.1 DESCRIPTION

A. This work consists of conserving and/or furnishing, placing, and finishing riprap rock placement at designated areas on the project drawings or as directed by the Project Representative.

PART 2 PRODUCTS – NOT USED

2.1 RIPRAP GRADATION

A. Furnish hard, durable, angular rock that is resistant to weathering and water action and free of organic or other unsuitable material. Do not use shale, rock with shale seams, or other fissle or fissured rock that may break into smaller pieces in the process of handling and placing. The rip rap shall be 18-inch nominal size, with the general gradation for riprap installations as shown in Table 1:

Table 1. Riprap Gradation

Percent of Total Weight that must be smaller than given size	Equivalent Spherical Diameter (feet)
100	2.0
70-90	1.79
40-60	1.32
0-10	0.61

PART 3 EXECUTION

3.1 GENERAL

A. Place riprap to form a well-graded mass to its full thickness in operation to avoid displacing the underlying geotextile or other material. Do not place riprap material by methods that cause segregation or damage to the prepared surface. Place or rearrange individual rocks by mechanical or hand methods to obtain a dense uniform blanket with a reasonably smooth surface.

B. Install conserved and/or imported riprap according to the project drawings or as directed by the Project Representative.

PART 4 MEASUREMENT AND PAYMENT

4.1 GENERAL

A. Riprap placement will be measured and paid for by the cubic yard (CY) of in-place material.

END OF SECTION 02240

SECTION 02910

REVEGETATION

All applicable portions of this specification section in the MPWSS shall apply with the following additions, deletions and/or modifications.

PART 1 GENERAL

1.1 DESCRIPTION

Add following:

This work also includes conserving, placing, and finishing topsoil placement at designated areas on the project drawings or as directed by the Engineer.

PART 2 PRODUCTS

2.1 SEED

Add the following:

Utilize the following seed mix for all areas to be seeded.

Seed Name	% Pure Live Seed	Lbs. Per Acre
Western Wheatgrass	30	*
Bluebunch Wheatgrass	20	*
Hard Fescue	20	*
Slender Wheatgrass	15	*
Smooth Bromegrass	15	*

* Drilled Rate = 8 lbs/acre, Broadcast and Hydroseed Rate = 16 lbs/acre

2.2 TOPSOIL

Add the following:

Utilize all salvaged topsoil conserved from clearing and grubbing operations to cover excavation and embankment slopes prior to fertilizing, seeding, or mulching.

2.4 FERTILIZER

Add the following:

When broadcast seeding, apply the fertilizer separately. When drill seeding, do not apply seed and fertilizer in a single mixture. The fertilizer must be applied separately, either broadcast before seed application, or surface banded during seeding.

PART 4 MEASUREMENT AND PAYMENT

4.1 GENERAL

Delete this section and add the following:

A. Revegetation will be measured and paid by the lump sum (LPSM) including all labor, equipment, materials and incidentals required for the completion of the work.

B. Placing conserved topsoil will not be measured for payment and is considered incidental to other work items in this Contract.

END OF SECTION 02910

SECTION 02995

DIVERSION WORK DESCRIPTION – SPOKANE CREEK

1.0 PROJECT DESCRIPTION

1.1 GENERAL SITE CONDITIONS

The site is accessed from Highway MT-43 through the Erb McDowell Ranch. All access to the project site shall be coordinated with the landowner, through the regional FWP representative. The site is accessed by way of a two-track ranch road that exits MT-43 to the south, for approximately 3 miles. Vehicles and equipment must utilize the two-track road and must not significantly depart from the road during transport of materials and equipment to the work site.

2.0 THE WORK

The individual work items associated with this project include the following:

1. Mobilization and de-mobilization
2. Removal and disposal of the existing wooden diversion structure, including a concrete base
3. Furnish and install arch polymer coated CSP culverts
4. Furnish and install 18" angular rip rap
5. Furnish and install treated lumber headwall.
6. Furnish and install two headgates
7. Reclaim all disturbed areas
8. Repair pin and plank (additive alternate: pins x 8)

2.1 MOBILIZATION AND DE-MOBILIZATION

Mobilization and De-mobilization Shall consist of the movement of all materials, workforce, equipment, and incidentals to and from the project site. The total cost of Mobilization and De-mobilization shall not exceed 10% of the total project price.

2.1.1 Measurement and Payment

Mobilization and De-mobilization shall be paid as a lump sum.

2.2 REMOVAL AND DISPOSAL OF EXISTING WOODEN DIVERSION STRUCTURE

This item includes excavating the existing wooden diversion and all associated foundations, concrete and other subsurface excess or unsuitable materials from the excavation, backfilling to the original ground level, pumping, coffer dams, cribs or other work required to remove the existing structure. The work shall also include excavation and preparation of the foundation to the lines and grades indicated on the plans in order to receive the new structure.

The existing diversion structure is a wooden structure approximately four (4) feet wide by thirty (30) feet long, and about five (5) feet tall, with a concrete base within the flow line. The entire structure shall be removed from the project location and disposed of off-site.

Removal of the old diversion structure might require the installation of a coffer dam in the Big Hole River. The intent of the coffer dam is to limit the flow of water into the work area or canal during performance of the work. Design, installation, and removal of any coffer dams or similar structures, if required, shall be the sole responsibility of CONTRACTOR. The design and installation shall be adequate to complete the work.

2.2.1 Measurement and Payment

Removal and disposal of the existing wooden diversion structure shall be paid as a lump sum.

2.3 FURNISH AND INSTALL CSPA CULVERTS

Two 72” arched polymer coated CSP culverts will be installed to replace the existing diversion structure. The culverts shall have an arched dimension of 81 inches across the span at the haunch and a height of 59 inches. The culverts shall be corrugated steel with a polymer coating. The minimum steel gage thickness shall be 12 (.109"), and the pipe shall have 5" X 1" corrugations. CONTRACTOR shall be responsible for supplying and installing the arched pipes to the lines, grades and specifications indicated in the plans.

The culverts shall be placed on a minimum of 6 inches of bedding. The culvert bedding shall be in accordance with the MT Public Works Standard Specifications (MTPWSS), as shown in the table below. The bedding material shall be relatively loose material that is roughly shaped to the bottom of the pipe arch, and the width of bedding shall extend to the invert of the pipe arch. The material shall be installed in accordance with the culvert manufacturer's recommendations.

Approximately 7 cubic yards of in-place bedding material meeting the following specification will be required.

Class A Bedding - Percentage by Weight Passing Square Mesh Sieves	
Sieve Size	Percent Passing
3/4-inch (19.0 mm)	100
No. 4 (4.75 mm)	24-60
No. 200 (0.075 mm)	12 maximum

Compacted structural backfill shall be used to backfill the culverts up to the haunch zone, as detailed in the project drawings. The structural backfill shall be in accordance with the MT Public Works Standard Specifications (MTPWSS), as shown in the table below. The backfill shall be prepared and compacted in accordance with the culvert manufacturer's specifications. Structural backfill shall be placed and compacted in lifts not to exceed 8 inches.

Approximately 15 cubic yards of in-place compacted structural backfill meeting the following specification will be required.

Class A Bedding - Percentage by Weight Passing Square Mesh Sieves	
Sieve Size	Percent Passing
3/4-inch (19.0 mm)	100
3/8-inch (9.5 mm)	57-81
No. 4 (4.75 mm)	36-60
No. 40 (0.425 mm)	6-25
No. 200 (0.075 mm)	2-8

When backfilling the culverts, CONTRACTOR shall apply down force on the culverts. Sufficient downforce shall be applied to keep the culverts from rising with the compacted fill while maintaining the shape of the culvert without causing deformation of the culvert. Down force shall be applied until the bedding and backfill material has reached an elevation of a minimum of 8 inches above the haunch of the arched culvert.

The top half of the culverts shall be backfilled with pit run borrow excavated from a pre-approved on-site or off-site borrow area. Care should be taken to exclude any rocks in excess of 8" nominal diameter from the fill material. The culverts shall be backfilled to an elevation of 100.0 as indicated on the plans. The fill shall be sloped down and away from the culverts. The slope shall start a distance of 2 feet outside of the outer limit of the culverts and shall have a slope no steeper than 4:1. The total embankment estimated for backfilling the pipes above the bedding is estimated at 110 CY of in-place material.

The following quantities of materials shall be included with installing the culverts:

- Two 24-foot-long arched 72", polymer coated, CSPA culverts
- Approximately 7 CY of in-place Class A pipe bedding
- Approximately 15 CY of in-place compacted structural fill
- Approximately 110 CY (in-place compacted) on-site or off-site pre-approved borrow pit run material

Pumping and discharge of water during the installation of the culverts and the headwall shall be considered incidental to the work and shall not be measured and paid as a separate item.

2.3.1 Measurement and Payment

Measurement and payment for the installation of the culverts shall be lump sum and shall include all materials, labor, equipment, pumping, and compaction to properly install the culverts to the lines and grades indicated in the plans.

2.4 FURNISH AND INSTALL ANGULAR RIP RAP

CONTRACTOR will install 18-inch nominal rip rap as indicated in the plans. The angular rip rap shall act as an apron to resist erosion at the outlets of the culverts. The apron shall extend a minimum of 15 feet beyond the outlets. Additionally, rip rap shall be added to the upstream side of the diversion, for about 10 feet. The rip rap shall be installed in conjunction with back filling so that it provides slope protection at the inlet and outlet ends of the culverts. The rip rap shall have a minimum thickness of 2 feet and be sloped as required and according to the plans. Care shall be taken to ensure that the CSP culverts are not damaged, dented, or deformed during the installation of the rip rap. The rip rap shall be shaped in such a way to smoothly adjoin to the contours of the associated canal dimensions.

CONTRACTOR will supply and install approximately 67 CY of 18" nominal rip rap upstream and downstream of the culverts in order to stabilize and provide scour protection. The rip rap will be installed on either side of the culverts and shall be toed into the river bottom. The rip rap will be installed in such a fashion that it does not hinder the movement of the head gates or restrict the flow of water into the culverts.

The rip rap shall be free of soil and deleterious materials.

2.4.1 Measurement and Payment

Measurement and payment for furnishing and installing angular rip rap will be by the cubic yard. The CONTRACTOR shall supply documentation either by load count or by tonnage of the material installed.

2.5 FURNISH AND INSTALL WOOD TIMBER HEADWALL

CONTRACTOR shall supply all building materials, labor, and equipment to build and install a headwall attached to the two arched CSPA culverts (described in item 2.3 above) and meeting the lines and grades as indicated in the plans. The headwall shall be approximately 30 feet wide and 11 feet tall. The headwall shall be built of treated lumber with a thickness of 3 inches and shall be supported by vertical 6" X 8" bracing on a maximum of 4 foot on center spacing and as shown on the drawings. The headwall shall be planked with treated lumber with a thickness of 3 inches and a minimum width of 6 inches. The planking shall be fastened to the vertical bracing using hot-dipped galvanized 60d rink shanked nails. A minimum of two nails shall be driven into each end at all intersections with the 6" X 8" bracing. Joints in the planking shall be staggered so that no two joint seams are directly adjacent to each other. The minimum length of the planking shall be no less than 8 feet.

Fitted openings for the arched culverts shall be built into the headwall. The maximum gap between the headwall opening and the outer wall of the culvert shall not exceed 1/2-inch and shall be filled with an approved joint filler.

All lumber used in the construction of the headwall shall be pressure treated with Chromated Copper Arsenate (CCA-C) or Copper Azole (CBA-A) or an equivalent approved preservative. All cut ends shall be coated with wood preservative meeting the same specification as the original wood treatment.

2.5.1 Measurement and Payment

Measurement and Payment for building and installing the headwall structure will be by lump sum. Excavation, de-watering, and other on-site work required to install the headwall will be considered incidental to the work and will not be paid as a separate item.

2.6 FURNISH AND INSTALL HEADGATES

CONTRACTOR shall supply and install two headgates, one to each culvert. The gates shall be rectangular. The minimum opening of each headgate shall be 82 inches wide and 60 inches tall.

The headgates shall be Model 5, 81 X 60, FB, GALV, manufactured by TrueNorth Steel® or approved equivalent.

The headgates shall be constructed in a manner that they can be attached to the headwall using lag screw. Attaching lag screws shall be hot-dipped galvanized. The lag screws shall have a diameter of 0.5 inches and be 8 inches long and shall be on 2-foot centers. The upper and lower through lag screw shall be within 6 inches of the top and bottom of each vertical brace. Installation shall include all hardware and labor required to fit the headgate to the headwall.

When closed the headgates shall prevent uncontrolled flow of water into the culverts.

The headgates shall be fitted with a threaded rod and a wheel that allows for opening and closing of the device. The wheel shall have an adequate diameter so that excessive force is not required to operate the device.

Shop drawings of the proposed headgates and their connection to the headgates shall be submitted and approved prior to construction.

2.6.1 Measurement and Payment

Supply and install of headgates will be paid per each headgate as installed.

2.7 RECLAIM ALL DISTURBED AREAS

All areas disturbed as a result of the work or as the result of the movement of equipment onto and off of the project site shall be reclaimed through seeding. Disturbed areas include but are not limited to, temporary roadways, staging areas, fill over the culverts, and the top of ditch banks.

CONTRACTOR shall scarify the surface of the soil by mechanical means prior to FWP broadcasting the seed. The depth of scarification shall be approximately two inches.

Native grass seed, and the labor required to broadcast the seed, shall be supplied by FWP.

2.7.1 Measurement and Payment

Measurement and payment shall be by lump sum.

2.8 REPAIR PIN & PLANK STRUCTURE (ADDITIVE ALTERNATE; PINS x 8)

In addition to the work described above, a bid alternate is included for the overall work. Specifically, the Spokane Pin & Plank structure needs all 8 pins replaced. Presently the pins are missing (lost to icing). These pins are 3' in size. A construction requirement for the pins is the ability for collapsing each pin for winter storage and icing conditions. The pins are to be made from steel. The pins will need to be attached to the existing wood foundation (screwed or bolted), which is presently deemed to be functional and in good condition. The contractor will be required to temporarily divert water flow around each pin during replacement using cofferdams or other approved method. At no time shall the entire river be dammed off or completely diverted for this repair. See the attached plans for pin design details.

3.0 SPECIAL CONDITIONS

In addition to the work described above, CONTRACTOR shall be responsible for the following items. These items shall be considered incidental to the work described above.

3.1 SPILL PROTECTION

All fuel and industrial fluids shall be handled at a distance of no less than 300 feet from open bodies of water. Identified water bodies on the project site include but are not limited to; the Big Hole River, Irrigation ditches and canals, stream crossings, and wetland areas. Fueling areas shall be pre-approved by FWP prior to commencement of the work. If Bulk fuel storage is used on the project site, CONTRACTOR shall provide an approved containment area. The containment shall be capable of holding retaining, without seepage, a quantity of fuel equal to 110% of the capacity of the bulk fuel tank(s). Truck mounted fuel transfer tanks of 150 gallons or less shall not be subject to the containment requirement.

CONTRACTOR shall have on-site at all times an approved spill clean-up and containment kit.

In the event of a fuel spill, industrial fluid spill, or any hazardous substance release, CONTRACTOR shall immediately halt all work, notify FWP of the spill, and direct all available labor to the immediate containment and remedy of the spill.

3.2 EQUIPMENT DE-CONTAMINATION

All equipment shall be decontaminated prior to arrival on the project site. Equipment shall be inspected by FWP or an agent of FWP when the equipment arrives and prior to commencement of work. Vehicles and Equipment shall be clean and free of organic debris, invasive weed species, and deleterious materials. Transport of invasive species onto or off of the project site will not be allowed.

3.3 SITE CLEAN UP

At the conclusion of the project and prior to final payment all equipment and excess materials shall be removed from the site. To the extent possible all impacted areas shall be restored to the pre-work condition. Property damage, such as downed fences or damaged culverts shall be restored to the condition they were in prior to the start of the work.