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107-26	WORK IN BEAR HABITAT [107] (ADDED 11-14-13)
402-2	EMULSIFIED ASPHALT [402] (REVISED 3-26-20)
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409-2	FOG SEAL OVER SEAL & COVER [409] (REVISED 12-8-16)
603-7	REINFORCED CONCRETE PIPES, BOXES, INLETS AND MANHOLES [603] (ADDED 12-13-18)

**SPECIAL PROVISIONS
FEDERAL AID PROJECT NO(S). IM 90-3(134)167**

1. PROJECT DESCRIPTION

The closed Gold Creek eastbound and westbound rest areas will be converted to truck parking areas. This existing rest rooms, picnic shelters, picnic tables, exhibit cases, trash racks, benches, historical markers, and respective concrete slabs and foundations will be removed, and disturbed areas reclaimed. The existing waste treatment system will be filled/crushed and abandoned in place.

At each location, the following features will be installed: the existing water system will be upgraded with a new well pump, new water system line, and a new pressure tank installed inside a buried vault, new sidewalk adjacent to parking area, new sidewalk loop around rest area with access to new picnic tables and new historical signs, new curb and gutter and pin down curb, new double vaulted toilet with maintenance closet, new trash receptacle, and new and enhanced lighting. In addition, the parking area and Interstate on and off-ramps will receive a crack seal, seal and cover, and fog seal, new striping. Signing will be upgraded in the parking area and along the Interstate.

The project is located along Interstate 90 (I-90) in Powell County, about five miles west of Garrison Junction. The westbound rest area is located at RP 167+0.4 and eastbound is located at RP 169+0.4.

2. CONTRACT TIME [108] (REVISED 1-21-16)

The work begins on the effective date stated in the Notice to Proceed (NTP) and is to be completed in **NUMBER OF DAYS** Working Days. The NTP will be issued with an effective date of **DATE**.

3. VAULTED TOILETS

A. Description. Provide and install double vaulted toilet structures with a maintenance closet at the locations and elevations shown in the plans. Each toilet and the maintenance closet will have its own exterior door and will be separated from each other by permanent concrete walls.

B. Design Criteria.

1) Floor Plan. Provide access to both toilets in the front of the structure and to the maintenance closet from the front or back of the structure in a layout similar to the structure shown in the plans. Minimum inside dimensions for the maintenance closet are 3 feet by 5 feet. Provide a structure such that the inside dimensions of the toilets meet or exceed the minimum requirements of the American with Disabilities Act Accessibility Guidelines (ADAAG) and provide adequate access to the toilet.

Submit a structure floor plan showing the location and dimensions of key design components such as the toilet riser, doors, windows, clean-outs, grab bars, etc. to the Project Manager for approval a minimum of 20 business days prior to the anticipated structure fabrication.

2) Structural Criteria. Perform the structure design under the supervision of a professional engineer registered in the state of Montana. At least 20 business days before structure fabrication, submit calculations and stamped drawings to the Project Manager for

approval. Unless site specific design loadings are provided in submitted engineering calculations, design the vaulted toilets to meet the following criteria:

- a) Site class D, design category D seismic loading.
- b) Resist a snow load of **250** pounds per square foot of roof.
- c) Resist a dead load of 60 pounds per square foot of roof.
- d) Resist a sustained wind load of 120 MPH and a 3 second gust of 180 MPH (with wind exposure group "C").
- e) Resist all dead loads and a 250 pound per square foot live load on the building floor.

Slope the roof from front to back or from the middle to the sides so that the roof drainage is directed away from the front of the building. Provide a minimum eave of 12 inches around the entire building perimeter.

Provide separate vaults for each toilet with separate exterior clean outs.

C. Materials and Products.

1) Vaults. Provide separate vaults for each toilet and construct in one piece from precast reinforced concrete. Provide vaults holding a minimum of 1200 gallons and coated with XYPEX or approved equal treatment. Apply the coating in accordance with manufacturer's recommendations and assure it is free of Volatile Organic Compounds. Construct concrete vaults of sufficient wall thickness and strength to resist loads from the vaulted toilet superstructure, hydrostatic forces, lateral soil loads, and uplift from groundwater.

Provide an exterior clean-out of a minimum size of 24 inches by 18 inches, located in an exterior slab for each toilet vault. Fabricate the exterior vault clean out cover from a minimum of 1/4 inch thick steel. Provide a hinged lid and configuration so that it can be locked with a standard pad lock. Paint the cover, hinges, and locking device in accordance with the finishes section of this specification. Provide a neoprene gasket around the entire perimeter of the lid to provide an airtight seal. Secure the gasket to either the steel cover or concrete vault to prevent it from being displaced. Provide a standard pad lock and key(s) to the Project Manager for each clean-out.

2) Odor Elimination. Follow U.S. Forest Service Sweet Smelling Technology – Publication Number 9123 1601 in developing the building design. Provide exhaust pipes made from Polyethylene (PE) plastic pipe, 12 inch nominal size diameter with a minimum wall thickness of 0.392 inch. Provide black UV stabilized exhaust pipes with a minimum of 2% carbon black. Provide a screen at the top of the exhaust pipes using screens from the Teton Raptor Center, or an approved equal.

Seal the exhaust pipes with silicone caulk at all openings through the concrete vault, floor, and roof. Extend the exhaust pipes at least 12 inches above the roof of the building.

3) Finishes. Construct the walls, roof, and floor of the structure from concrete. Coat the interior walls and ceiling with a white-colored, modified acrylic, water repellent, penetrating stain. Provide a non-slip floor surface that will accommodate standard custodial practices. Construct the non-slip surface by adding silica sand to the paint or having a textured finish on the concrete.

Apply a low gloss clear sealer to the exterior slab surfaces and roof using Fosroc Preco, **Nitocote RS 560**, or an approved equal. Apply a transparent, non-yellowing methyl methacrylate resin sealer, minimum 20% solids, for weatherproofing the exterior walls. Provide a sealer with a low luster finish consisting of two coats of Fosroc Preco, Mitocote AR 500, or an approved equal.

Provide a paint system for interior and exterior metal surfaces, including doors, consisting of one coat of primer and two coats of semi-gloss alkyd enamel applied in accordance with the manufacturer's recommendations. An approved powder coating may be used as an alternative to painting the window frames, doors, door frames, and clean-out covers.

Submit a plan for all finishes to the Project Manager for approval at least 20 business days prior to structure fabrication.

4) Toilet Riser and Floor Construction. Provide a toilet riser with a seamless design using a cross-linked polyethylene material, complete with molded plastic heavy duty open front seat and cover assembly. Provide a riser white in color with an airtight stable fit in the concrete floor slab. Fabricate the toilet riser so the height of the top of the closed riser, seat and cover is between 17 and 19 inches from the floor without the use of shims, spacers or other devices. Size the floor opening for the riser with a minimum gap and provide a snug fit to prevent rocking or other movement of the riser. Apply silicone caulk between the riser and concrete floor slab before it is installed. Apply a bead of silicone caulk to the joint between the riser and floor after the riser is placed in the floor slab.

Slope the floor to provide drainage toward and through the door opening to facilitate cleaning and maintenance. If possible, provide a desirable maximum floor slope of 1.5%. In any case, do not exceed 2% floor slope in any direction. Form and pour the floor monolithically in order to achieve this slope. Provide a grouted, curved transition between the floor and the wall to facilitate cleaning and maintenance.

Provide an opening in the maintenance closet floor for the non-freeze post hydrant. Grout the hole in the floor after installation of the hydrant.

5) Grab Bars. Provide stainless steel grab bars with a 1-1/2 inch outside diameter and a 1-1/2 inch clearance between the bar and wall when mounted. Do not deviate from this clearance by more than 1/8 of an inch along the length of the grab bar. Provide grab bars and mountings that withstand a minimum of 300 pounds force of top loading and 300 pounds of horizontal pull out load. Use cast-in-place inserts to mount and anchor grab bars. Conceal mounting screws to prevent removal and vandalism. Provide grab bar lengths and locations in accordance with the ADAAG standards based on the toilet riser configuration.

6) Toilet Paper Dispensers. Install a minimum of two toilet paper dispensers in each toilet. Construct each dispenser from at least 1/4 inch steel with a rust proof finish. Construct each dispenser to hold three standard rolls of toilet paper and be equipped with a friction device to reduce waste. Provide dispensers consisting of a slide bar type device where the bar can be easily removed to install a paper roll and having a 3/8 inch diameter hole to accommodate a standard pad lock. Provide dispensers that withstand a minimum of 300 pounds force of top loading and 300 pounds of horizontal pull out load. Use cast-in-place inserts to mount and anchor the dispensers. Conceal mounting screws to prevent removal and vandalism. Locate the dispenser a minimum of 19 inches above the floor at an accessible location near the toilet. Provide standard pad locks and key(s) to the Project Manager for each dispenser.

7) Doors. Provide standard 36 inch wide exterior doors for the toilets and maintenance closet. Provide flush panel type doors, 1-3/4 inches thick and a minimum of 18 gauge prime coated steel panels and a minimum of 16 gauge internal bracing channels with a fiberglass insulation core. Provide knockdown or welded type door frames, single rabbet, minimum 16 gauge prime coated steel, width to be compatible with wall thickness. Provide rubber door silencers on the latch side of door frame.

Provide three door hinges per door, with adjustable tension, 4-1/2 inches by 4-1/2 inches in size with an automatic closing feature. Provide a door design that requires a maximum opening and closing force of 5 pounds force. Provide hinges with a finish compatible with the door handles.

For the two toilet doors, provide a passage type lockset with both levers always unlocked. The inside and outside handles shall meet ADAAG specifications and be 5 inches in length, with a U.S. 26D or 32D finish. Provide Best locksets for the two toilet doors. To lock the toilet doors, provide a National 151-118 Series B-832 slide bar with a 3/8 inch hole drilled in the bar for a standard pad lock. Mount the slide bar on the exterior with 1/4 inch steel pop rivets approximately 6 feet above finished floor.

For the maintenance closet, provide a Best deadbolt lockset. Provide all hardware and installation of the lockset and provide three sets of keys to the Project Manager.

Provide door louvers on the toilet doors in each structure. Provide a 16 gauge cold rolled steel security grille to protect the louvers from vandalism. Provide louvers with a fixed, inverted split Y, non-vision design fabricated from 18 gauge cold rolled steel with a factory prime coat. Install an insect screen between louvers. Place the bottom of the louver 9 inches above the bottom of the door. Paint doors in accordance with the finishes section of this specification.

Provide door stops on all doors in each structure. Place door stops consisting of a durable bumper on the wall or door to prevent damage to the siding. Provide door stops with a metal base and concave shape. Do not use ground mounted stops due to the potential for tripping hazards. Provide an adjustable brush type door sweep at the bottom of all doors.

8) Windows. Construct window frames from steel and paint per the finishes section of these specifications. Provide window glazing that is 1/4 inch thick clear polycarbonate pebble finish and is secured to the window frame with tamper proof bolts.

9) Signage. Fabricate and place an interior sign in each toilet stating: "Please do not place trash in the toilet. It is extremely difficult and expensive to remove. Thank you." Fabricate the sign with 1-1/2 inch high letters. Locate the sign on a recessed wall area with beveled edges and mount the sign with tamper proof mechanical fasteners to resist vandalism.

Exterior signage is required to denote a Unisex facility and Handicapped Accessibility. Locate the signs in a recessed wall area with beveled edges and mount the signs with tamper proof mechanical fasteners to resist vandalism.

Place an interior sign stating the following in the maintenance closet: "NON-POTABLE WATER DO NOT DRINK". Additional details for this sign are included in the water system plans.

Locate a sign stating the following on the exterior of the maintenance closet door: "AUTHORIZED PERSONNEL ONLY". Fabricate the sign with 1-1/2 inch high letters. Mount the sign with tamper proof mechanical fasteners to resist vandalism.

Alternative methods for mounting all signs may be proposed, and will be evaluated based on resistance to tampering, theft and vandalism.

10) Electrical. Comply with the National Electrical Code, State of Montana Electrical Code, National Electrical Safety Code; and all local, county, state, and federal codes, regulations, and ordinances.

Provide interior lighting fixtures and motion activated switches in both toilets and the maintenance closet. Provide fixtures and switches in the toilets that are water resistant and resistant to vandalism. Provide fixtures and switches in the maintenance closet that are water resistant. Provide two specification grade, heavy duty, duplex 20 amp, 125 volt GFI receptacles with weather resistant cover plates in the maintenance closet.

Complete all electrical work during building fabrication and on-site under the direction of a licensed electrician.

11) Suppliers. Known suppliers of vaulted toilets include, but are not limited to, the following companies:

Flathead Concrete Products Inc.
Attention: Ric Reed
2940 Highway 2 East
KalisPELL, MT 59901
406-752-4259

Missoula Concrete Construction
Attention: Dale Clouse
8012 Deschamps Ln
Missoula, MT 59808
406-549-9682

D. Construction Requirements. Install vaulted toilet structures at the locations and elevations shown in the plans. Prepare foundations and backfill excavations per the manufacturer's specifications and meeting the approval of the Engineer. Complete the fabrication and final structure assembly to produce walls, ceilings, floors and joints that are flush and do not have grooves, niches, gaps or major voids. The entire finished structure - including doors, windows, and all other openings, must prohibit access to insects with openings no greater than 1/16 inch.

Submit the appropriate Materials Bureau Form 406 to document compliance with the Buy America specifications and other contract requirements for steel and other miscellaneous items incorporated into the vaulted toilets. Provide the Project Manager with the applicable completed Form 406 a minimum of 20 business days prior to beginning fabrication. Attach all required documentation to the form.

Field inspection of many precast concrete products and prefabricated steel products will take place at the point of manufacture. The District Lab, Helena Materials Bureau, or Department Representative will inspect the manufacture of these items and collect and maintain supporting documentation. Submittal of Form 406 is not required when inspection of the manufactured/fabricated product is made at the point of production and documented by the Department with a Form 19A (precast concrete products) or fabricated steel product inspection report. Manufacturer is to provide all supporting documentation at the point of production.

E. Method of Measurement. The entire Vaulted Toilet structure as described above is measured per Unit.

F. Basis of Payment. Include the cost of all resources necessary to complete the work, including fabrication, transportation, vault excavation and disposal of excavated material, foundation preparation and excavation backfill, and all structural assembly including electrical work, in the contract unit price for Miscellaneous Items-Unit.

4. TRASH RECEPTACLES

A. Description. Provide and install precast trash receptacles as shown in the plans and manufactured as specified below. Coordinate with the receptacle manufacturer to allow timely delivery and installation.

B. Materials and Design Criteria.

1) Basic Design. Provide trash receptacles following the basic design shown in the plans and described within this provision. Provide receptacles with exposed aggregate surfaces that are free of defects and gouges and that have been sealed with a minimum of two coats of non-yellowing acrylic sealer. Complete all grinding and repairs before applying the sealer. Use 1/2 inch minus pea gravel for the exposed aggregate.

Fabricate the receptacles in accordance with the MDT Standard Specifications for Precast Concrete Products (Section 554).

Provide finished receptacles that are straight and true to size and shape. Produce receptacles with sharp, straight edges, and make flat surfaces in a true plane. Reject warped, cracked, broken, spalled, stained, and otherwise defective receptacles.

2) Concrete. Design the mix and proportion the concrete to attain a minimum compressive strength of 3000 pounds per square inch when cured and tested at 28 days. Provide precast receptacles that are constructed with the appropriate steel reinforcing, air entrained concrete, and fiber reinforcing additives, as required by the manufacturer, to provide strength and durability. Form cure the receptacles for a minimum of 20 hours. After removing from the forms, keep the receptacles continuously wet for a minimum of 6 days. Following the curing period, allow the receptacles to air dry for a minimum of 4 days before being transported and placed.

3) Metal Components. Provide hardened steel for all bolts and appropriate hardware. Powder coat all exposed metal surfaces including the interior of the lid and cover.

Fabricate a lid and cover system that attaches to the precast receptacle base and allows locking with a standard heavy duty exterior padlock. Furnish the padlock and key(s) to the Project Manager following installation.

4) Submittals. Submit shop drawings to the Project Manager for approval a minimum of 20 business days prior to the anticipated fabrication. Include all details involved in the fabrication including mix design, cure periods, finishes, fasteners, covers, hinges, locks, etc.

5) Structural Criteria. Assure that the trash receptacles meet the basic design and will withstand additional stresses incurred during fabrication, transportation, and placement. Place and secure all anchors, clips, bolts, inserts, lifting devices, shear bars and other devices required for handling and installing the receptacles.

6) Suppliers. A known supplier of precast concrete trash receptacles include, but is not limited to, the following company:

Salmon River Precast
Attention: Ron Jaeger
2787 Salubria Road
Cambridge, Idaho 83610
208-257-3243

C. Construction Requirements. Install trash receptacles at the locations shown in the plans. Complete the fabrication and final assembly to produce receptacles that are functional and free from grooves, niches, gaps or major voids.

Submit the appropriate Materials Bureau Form 406 to document compliance with the Buy America specifications and other contract requirements for steel and other miscellaneous items incorporated into the trash receptacles. Provide the Project Manager with the applicable completed Form 406 a minimum of 20 business days prior to beginning fabrication. Attach all required documentation to the form.

Field inspection of many precast concrete products and prefabricated steel products will take place at the point of manufacture. The District Lab, Helena Materials Bureau, or Department Representative will inspect the manufacture of these items and collect and maintain supporting documentation. Submittal of Form 406 is not required when inspection of the manufactured/fabricated product is made at the point of production and documented by the Department with a Form 19A (precast concrete products) or fabricated steel product inspection report. Manufacturer is to provide all supporting documentation at the point of production.

D. Method of Measurement. The Trash Receptacle as described above is measured per Each.

E. Basis of Payment. Include the cost of all resources necessary to complete the work, including fabrication, transportation, installation, and all assembly in the contract unit price for Miscellaneous Items-Each paid per Each.

5. SAFETY

In accordance with generally accepted construction practices and the requirements of the Occupational Safety and Health Administration Standards, the Contractor is solely and completely responsible for conditions of the job site, including safety of all persons and property affected directly or indirectly by his operations during the performance of the work. Do not limit this requirement to normal working hours, but apply this requirement continuously 24 hours per day until final acceptance of the work by the Project Manager. The Project Manager's construction review is not intended to include review of the adequacy of the safety measures in, on, or near the construction site.

No separate measurement or payment will be made for this work, as it is incidental to the project work.

6. INSPECTION FEES

Provide payment to the appropriate inspecting agency for completing inspections for the work associated with this project. State, county, and local inspections are required for the vaulted toilets, electrical work, and other project work. Retain a receipt from the inspecting agency for reimbursement through the project manager. Reimbursement will be paid through miscellaneous work on the actual permit cost basis. No additional compensation will be allowed for complying with this provision.

7. WATER SYSTEM

A. Description. This work consists of all items necessary to complete the remaining installation of the water system at the eastbound and westbound Gold Creek Rest Areas (sites) as shown on the plans. A portion of the water system has been installed previously by others and is designated as such in the plans. The water supply will come from the existing well which has had the associated electrical and water connections installed by others.

1) Qualifications of Installer: Provide at least one person who will be present at all times during execution of this portion of the work and who has a minimum of 2-years' experience with the type of materials being installed and material manufacturer's recommended methods of installation and who directs all work performed under this section.

2) Codes and Standards: In addition to complying with all pertinent codes and regulations comply with the latest rules of the National Electrical Code for all electrical work and materials. Complete all electrical work associated with the water system under the direction of a licensed electrician.

B. Materials and Equipment.

1) Materials List. Before all water system materials and equipment are delivered to the job site, submit to the Project Manager a complete list of all materials proposed to be furnished and installed. Where materials proposed differ from those specified, furnish complete shop drawings and design calculations to demonstrate equivalent performance of the proposed installation. Show manufacturer's name and catalog number for each substituted item and furnish complete catalog cuts and technical data; and furnish the manufacturer's recommendations as to method of installation.

2) Product Handling. Use all means necessary to protect water system materials from sunlight and damage before, during, and after installation and to protect the installed work and materials of all other trades. In the event of any damage, immediately make all repairs and replacements necessary to the approval of the Project Manager and at no additional cost to the Department.

3) Water Service Line. Provide 1 inch diameter AWWA C901 Polyethylene Pipe, Pressure Class 160 (psi), as shown in the plans. Additional guidance for the water service line is found elsewhere in the Water Service Line Special Provision.

4) Electrical Items.

Pump Control Cable. Provide and install one pump control cable at each site as described in the Electrical Plans.

Pump Control Panel. Provide and install one pump control panel in the vault at each site as shown in the plans. Install new conduit and wiring from the control box to the well.

Additional guidance for the wiring and conduit is found elsewhere in the electrical plans.

Electrical Outlet and Heat Lamp. Provide one thermostatically controlled electrical outlet in the vault for the 200 watt heat lamp at each site. Provide one 200 watt heat lamp fixture and 200 watt bulb in the vault at each site.

Additional guidance on the pump control cable and electrical outlet can be found in the electrical plans and electrical special provisions.

5) Well Pump. Provide one of the following, or an approved equal at each site:
Gould's 10GS05 submersible well pump and motor-pump inlet, Flint & Walling 431152
submersible well pump motor, or a Franklin Electric 2145049004GS submersible well pump and

motor. Install the well pump and motor-pump inlet at a depth meeting the manufacturer's specifications and site constraints.

- 6) Frost Free Hydrant. Provide one frost free hydrant at each site with a 6 foot burial depth.
- 7) Vault. Provide one standard 48 inch diameter sanitary manhole with a monolithic base and barrel, cover, frame, lid, and stairs constructed as shown in the plans at each site. Insulate the vault as shown in the plans.
- 8) Pressure Tank. Provide one of the following, or an approved equal at each site:
- 9) Goulds Hydropro V60 pressure tank; Well-X-Trol WX 202 pressure tank, or a Flotec FP7110T pressure tank.
- 10) Pressure Switch. Provide one of the following, or an approved equal at each site:
 - 11) Square D Pressure Switch (40-60 psi); Dayton 12T086 pressure switch (40-60 psi); or a Mamco LF16 pressure switch (40-60 psi).
 - 12) Ball Valve. Provide two - 1 inch diameter ball valves as shown in the plans at each site.
 - 13) Vent Pipe. Provide one steel vent pipe and screen for the vault as shown in the plans at each site.
 - 14) Drain Aggregate. Provide 0.35 cubic yards of Drain Aggregate to construct a free draining base under the frost free hydrant as shown in the plans at each site.
 - 15) Crushed Aggregate Course. Provide 1.5 cubic yards of Crushed Aggregate Course to construct a stable base under the vault as shown in the plans at each site.

C. Construction Requirements.

- 1) Inspection. Carefully inspect the installed work, including other trades, and verify that all work is complete. Install the water system in strict accordance with all pertinent codes and regulations, the original design, the referenced standards, and the manufacturer's recommendations.
- 2) Discrepancies. In the event of any discrepancy, immediately notify the Project Manager. Do not proceed with installation in areas of discrepancy until all discrepancies have been fully resolved.
- 3) Field Measurements. Make all necessary measurements in the field to ensure precise fit of items in accordance with the original design.
- 4) Installation of Pipe and Fittings. Layout the water piping system in accordance with the plans. Carefully inspect all pipe and fittings before installation, removing all dirt, scale, and burrs and reaming as required. Install all pipes with all markings up for visual inspection and verification.
- 5) Trench Bedding. Provide trench bedding as shown in the plans and as further directed in the Water Service Line Special Provision.
- 6) Trenching. Perform all trenching required for the installation of the water pipe and other items. Follow OSHA Requirements with sufficient width to provide free working space on both sides of the trench and around the installed item as required for joining, backfilling, and compacting while minimizing width of trenches. Trench to sufficient depth to give a minimum of 6 feet of fill above the top of the pipe measured from the finished grade. Additional guidance is given in the Water Service Line Special Provision.
- 7) Grading and Stockpiling Trenched Material. Control the stockpiling of trenched material in a manner to prevent water running into the excavations. Do not obstruct surface drainage but provide means whereby storm and wastewaters are diverted into existing gutters, other surface drains, or temporary drains. Additional guidance is given in the Water Service Line Special Provision.
- 8) Backfill Over Pipe. Select backfill material consisting of sand, fine gravel or select earth, free of large lumps or rocks larger than 6 inches and use in the backfill over the installed Select Type 1 Pipe Bedding, which is placed over the pipe. Obtain the material from the

excavation material removed from the trench and process by screening, sifting, or selective sorting, so as to produce the type of backfill herein specified. The Contractor may at his option and expense provide an acceptable imported material. Deposit this backfill material over the pipe in layers not more than 6 inches thick, loose measurement and compacted to at least 95 percent of the maximum density as determined by AASHTO T-180.

9) Testing and Inspection: Do not allow or cause the work in this section to be covered up or enclosed until it has been inspected, tested, and approved by the Project Manager.

Prior to placing the Select Type I Bedding, make all necessary provisions for completely bleeding the water lines of air and debris. Before testing, fill the entire water system, including water lines, tanks, valves, hydrants, etc. with water for a period of at least 24 hours, allowing all trenches and excavations to dry so leaks can be quickly located during testing. Provide equipment to test the water system, including all fittings, tanks, switches, hydrants, and water lines for leaks at a pressure of 60 psi for a period of two hours, with all couplings exposed and with all pipe sections uncovered. Furnish all necessary testing equipment and personnel. Repair all leaks and re-test the system if the pressure drops more than 5 psi in the two hour test period. Obtain the Project Manager's approval prior to placing the Select Type I bedding over the pipe and backfilling the trench.

10) Maintenance. The Contractor must maintain and repair all trench settlement and make suitable repairs at no cost to the Department until final project acceptance.

11) Final Grading and Revegetation. Upon completion of the work, clear the entire site of all debris and finish top soiled surfaces to smooth, uniform slopes to present a neat and workmanlike appearance and as further directed in the Water Service Line Special Provision.

12) Final Inspection and Testing. After all water system work is completed, including trench backfilling and final grading operations, provide equipment to perform a final test of the water system, including all fittings, tanks, switches, hydrants, and water lines for leaks at a pressure of 60 psi for a period of two hours. Furnish all necessary testing equipment and personnel. Repair all leaks and re-test the system if the pressure drops more than 5 psi in the two hour test period. Obtain the Project Manager's approval for repairs that require any excavation. Follow the previously described procedures for water system installation should any waterlines need to be excavated for repairs. Perform repair work at no cost to the Department. Obtain written Project Manager approval when the water system is accepted under the criteria presented in this and any other pertinent special provisions.

D. Method of Measurement. The entire Water System bid item as described above is measured as lump sum under **Water Control Structure** and includes the items shown in the plans and specified herein including ball valves, fittings, and all appurtenances to create a complete in-place system including the costs of all materials, tools, and labor. The Water Service Line, including the pipe, trenching, bedding, and backfill is measured and paid separately. The Pump Control Cable and Electrical Outlet in the vault are measured and paid separately in the electrical plans. Revegetation is measured and paid separately.

E. Basis of Payment. Payment for the completed and accepted system is at the lump sum bid price for Water System under Miscellaneous Work and includes all resources necessary to complete the work, including materials and equipment, as described above.

8. WATER SERVICE LINE

A. Description. This work consists of providing and installing the water service line and bedding materials and includes trenching, bedding, and backfilling associated with the water line installation.

B. Materials.

1) Water Service Line. Provide 1 inch diameter, AWWA C901 Polyethylene Pipe, Pressure Class 160 (psi).

2) Bedding Materials. Provide Type I Pipe Bedding as well as Select Type I Pipe Bedding. Provide Type 2 Pipe Bedding for soft or unstable conditions, if encountered. Refer to the Montana Public Works Standard Specifications for Materials Specifications and the Montana Public Works Standard Specification Special Provision for additional information on these bedding materials.

C. Construction Requirements.

1) Water Service Line. Install the water service line at the locations and elevations shown in the plans. Additional requirements are covered in the Water System and Montana Public Works Standard Specifications Special Provisions.

2) Trenching and Bedding. Trench and bed the water line as shown in the plans. Provide a minimum of 6 feet of cover over the installed waterline measured from the finished surface. Provide bedding as shown in the plans and specified above. Follow Montana Public Works Standard Specifications for bedding construction requirements. Additional requirements are covered in the Water System and Montana Public Works Standard Specifications Special Provisions.

3) Backfill. Salvage any excavated topsoil prior to the trenching operation for placement in the top of the backfilled trench. Provide additional topsoil from other excavations or from an off-site source, as approved by the Project Manager, to a total depth of 4 inches over the disturbed trench area. Revegetation of this area will be paid separately.

4) Detectable Warning Tape. Furnish and install detectable warning tape a maximum of 18 inches below the finished surface directly above the constructed water line. Provide warning tape a minimum of 5 mils thick, 3 inches wide, and conforming to the American Public Works Association (APWA) color scheme.

D. Method of Measurement. The Water Service Line is measured per lineal foot along the centerline of the installed pipe. No additional measurement or payment will be made for bedding, topsoil salvage, additional topsoil, or detectable warning tape.

E. Basis of Payment. Include the cost of all resources, tools, and labor necessary to complete the work as described above, including all trenching, topsoil, and backfill operations, bedding, and detectable warning tape in the unit cost bid for lineal foot of Water Service 1 inch.

9. UTILITY INVOLVEMENT AND COORDINATION

A. Description. Coordinate construction activities near existing utilities with the affected utility companies. Use extreme caution when working near, above, or below existing power, gas, water, sanitary sewer, and telephone utilities.

Contact the Yellowstone Pipeline four weeks in advance of any construction activities for the eastbound rest area at RP 169+0.39 on I-90 to coordinate activities and work-place safety.

1) Clearly identify in the field the existing gas transmission facility in the eastbound rest area. Mark the existing facility with three-dimensional device to avoid storage or equipment impacts for the entire construction phase. Remain a two-foot buffer from this three-dimensional device to avoid load frequency impacts during construction.

Contact Yellowstone Pipeline 48 hours prior to any construction activities changes that may occur from original coordination meeting. The project manager has the authority to shut down the construction activities in the area if the situation is deemed an emergency by the Yellowstone Pipeline inspector.

Yellowstone Pipeline

Dustin Rogers

Work: (406)-523-4160 | Mobile: (406) 544-7870

3330 Raser Drive

Missoula, MT 59808

Accomplish excavation and embankment activities over and near the gas facility in such a manner as to avoid any disturbance to the facility. Do not operate construction equipment over any gas facility before approval of the utility's inspector.

Should unforeseen conditions arise which substantially delay the utility relocation work, and this directly results in a delay to the project work, make a written request to the department for a time extension (see sub-section 108.07.4).

10. MONTANA PUBLIC WORKS STANDARD SPECIFICATIONS AND STANDARD DRAWINGS (MPWSS)

These contract documents include sections and standard drawings of the Montana Public Works Standard Specifications Sixth Edition, dated April 2010. References to the standards are abbreviated MPWSS. MPWSS sections and standard drawings referenced herein are changed or supplemented as described within these contract drawings and specifications. The Owner or Project Manager will not furnish copies of the MPWSS to bidders and/or Contractors.

11. REVEGETATION

A. Description. This work consists of providing the necessary equipment and materials to accomplish revegetation of all areas disturbed by construction.

B. Construction Requirements.

- 1) Salvage sufficient quantities of topsoil meeting Std Spec 713.05 to place 4 inches over all disturbed areas.
- 2) Drill seed in accordance with Subsection 610.03.2 with the following seed mix and equivalent rates.

Reclamation Seed Mixture			Drill Seeding Rate		
Scientific Name	Common Name	Variety	PLS / sq. ft.	% of Mix	Pounds PLS/ acre
<i>Elymus trachycaulus</i>	Slender wheatgrass	Pryor, Revenue or First Strike	6	8	2.0
<i>Elymus lanceolatus</i>	Thickspike wheatgrass	Critana	11	13	3.0
<i>Pascopyrum smithii</i>	Western wheatgrass	Rosana	11	14	5.0
<i>Bouteloua gracilis</i>	Blue grama	Alma or Bad River	19	25	1.0
<i>Pseudoroegneria spicata</i>	Bluebunch wheatgrass	Anatone, P7 or Goldar	10	13	3.0
<i>Poa secunda</i>	Big bluegrass	Sherman	20	27	1.0
GRAND TOTAL			77	100	15.0

3) Areas too steep, narrow, or inaccessible with drill equipment can be broadcast seeded, at double the 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) Seed during the seeding window, Oct 1st – May 15th.

C. Basis of Payment. Topsoil salvage, replacement, soil conditioning and seeding are paid for as REVEGETATION at the contract unit price per lump sum.

12. HISTORICAL SIGNS AND INTERPRETIVE MARKERS

A. Description. Coordinate with the appropriate resource agencies to obtain the historical signs and interpretive markers for installation at both sites of the Gold Creek Rest Areas.

a) Historical signs: the two historical signs that are proposed at each site are state furnished items. Coordinate with Jon Axline to acquire the four signs and four sign stands. Contact Jon Axline a minimum of two weeks prior to installation to coordinate the pick-up of the signs and sign stands. Install the signs on the state-furnished stands at the location shown in the plans.

Contact:

Jon Axline, Historian
Montana Department of Transportation
406-444-6258
jaxline@mt.gov



Example image of the historical sign and stand shown above

b) Interpretive markers: the one interpretive marker that is proposed at each site are furnished by Glacial Lake Missoula Chapter. These markers are large boulders that will be used as Glacial Lake Missoula high water markers. Coordinate with Sherry McLauchlan to acquire the two interpretive markers. Contact Sherry McLauchlan a minimum of two weeks prior to installation to coordinate the pick-up of the interpretive markers. Install the markers at the locations shown in the plans.

Contact:

Sherry McLauchlan
Glacial Lake Missoula Chapter
Cell: 406-207-7760
Home: 406-493-0162
srmclauchlan@gmail.com



Image of the interpretive markers shown above

13. CRUSH AND ABANDON SEPTIC TANK

A. Description. Septic tanks to be abandoned will be pumped out by a licensed pumping professional as needed. Pumper and the contents hauled to a licensed facility to handle this waste.

B. Construction. Remove the tops to the tanks and then backfill with clean fill or collapse the septic tank walls in place and bury with clean fill. If the septic tank is removed, then the tank material needs to be hauled to a Class II or III landfill, ensuring that any biological contaminates remain in a controlled environment. Compact the fill to a minimum of 95% of the maximum dry density in accordance with AASHTO Method of test T99 (Standard Proctor). Cap the pipe connections and abandon it in-place.

C. Method of Measurement and Basis of Payment. All costs for this work to be included in the unit price bid, each for Abandon Sanitary Service.

14. PLUG AND ABANDON SANITARY LIFT SYSTEM

A. Description. Sanitary Lift System to be abandoned after decommissioning Sanitary Lift System by a licensed professional.

B. Construction. Remove pump, motor, couplings, valves, vent, and all appurtenances. Plug all the pipes connections inside the manhole. Backfill with crushed aggregate course. Ensure that all voids are filled inside the manhole with crushed aggregate course. Apply 4" of topsoil over the metal manhole lid after soldering the metal cover then re-vegetate.

C. Method of Measurement and Basis of Payment. All costs for this work to be included in the unit price bid, each for Plug and Abandon Sanitary Lift System.

15. CONSULTANT ENGINEERING AND INSPECTION (CEI) ADMINISTERED PROJECTS

This project will use CEI services to administer the project. The CEI will be the authorized representative for the department as the Project Manager and Inspectors.

16. CEI SERVICES ADDITIONAL REQUIREMENTS

Provide the Consultant with a furnished mobile office trailer meeting a minimum length of 24 feet. Provide a level parking area, the required blocking, and electrical power service for the office trailer. Transport, set-up, and make the trailer fully operational 2 calendar days prior to the Consultants scheduled work activities.

Coordinate with the Consultant and Department Project Manager on the location to park the trailer. Park, block, level, re-block, re-level and unblock the trailer as directed. Supply electrical power 24 hours a day, 7 days a week.

Include all costs associated within this provision in the unit bid price for Miscellaneous Items – Lump Sum.