Montana Fish, Wildlife & Parks

SPECIFICATIONS FOR WORK
SPECIAL PROVISIONS

Contents:

1. PROJECT DESCRIPTION

The Project involves construction work associated with:

Anaconda Stack State Park Parking Lot Improvements
Fish, Wildlife & Parks (FWP) project #7216301
Located in Anaconda, MT

The project includes the removal of existing asphalt installing new base course and repaving. Also includes upgrading existing ramp to current ADA standards, seeding, striping and fencing.

2. PROJECT RELATED CONTACTS

Project contacts are designated as follows:

Owner:
Montana FWP
1420 E. Sixth Ave.
PO Box 200701
Helena, MT 59620-0701

FWP Project Representative:
Kevin Harrington
FWP Project Manager
1522 9th Avenue
Helena, MT 59620
406-841-4002 (wk)
406-439-2876 (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.

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.

5. PROJECT REPRESENTATIVE, INSPECTIONS, AND TESTING

The Contractor's work will be periodically tested and observed to ensure 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.

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.

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.

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. Preparation and submittal of a construction schedule, including submittals. The schedule shall be updated as required, as defined in the Contract Documents.

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

c. All Quality Assurance testing and/or re-testing as stated in the Contract Documents.

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. 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. 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 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.

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. 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 that have been previously operated off of paved or gravel roadways 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.

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.

Review these Contract Documents for additional Final Cleanup specifications for specific measures, associated with Contractor responsibilities and final payment.

20. ACCESS DURING CONSTRUCTION

Provide access to all public and private roadways and approaches 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 the 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.

SECTION 011000 - SUMMARY

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Project information.
2. Work covered by Contract Documents.
3. Access to site.
4. Coordination with occupants.
5. Work restrictions.
6. Specification and drawing conventions.
7. Miscellaneous provisions.

B. Related Requirements:

1. Division 01 Section "Temporary Facilities and Controls" for limitations and procedures governing temporary use of Owner's facilities.

1.2 PROJECT INFORMATION

A. Project Identification: Anaconda Stack State Park Parking Lot Improvements

1. Project Location:

100 Smelter Road
Anaconda, MT 59711
Latitude/Longitude: (46.12319, -112.92143)

B. Owner: State of Montana Fish Wildlife & Parks.

1. Owner's Representative:

Kevin Harrington, Project Manager
State of Montana Fish, Wildlife and Parks
Design & Construction Bureau.
1522 Ninth Avenue
Helena, Montana
Phone: (406) 841-4002
Cell: 406-439-2876

WORK COVERED BY CONTRACT DOCUMENTS

A. The Work of Project is defined by the Contract Documents and consists of the following:

1. Parking lot improvements including but not limited to existing roadway obliteration, new asphalt concrete pavement, new treated 3 rail fencing, pavement marking, and ADA ramp.

B. Type of Contract.

1. Project will be constructed under a single prime contract.

1.4 ACCESS TO SITE

A. General: Contractor shall have limited use of project site for construction operations as indicated by requirements of this Section.

B. Staging Area: Designated area for Contractor parking is located on the east side of the main parking lot, or as otherwise approved by Park Management.

C. Use of Site: Limit use of Project site to work in areas of project. Do not disturb portions of project site beyond areas in which the work is indicated.
1. Material staging areas will be verified with Park Manger prior to the start of construction.

a. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.
b. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities. Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from Owner and approval of authorities having jurisdiction.

1.5 WORK RESTRICTIONS

A. Work Restrictions, General: Comply with restrictions on construction operations.

B. On-Site Work Hours: Project work will be limited to the hours of 7:00 a.m. to 6:00 p.m., Monday through Friday. Additional hours or working days are subject to Owner approval with prior notice. Contractor must give Owner a minimum of two (2) days' notice for working hours outside of those indicated above.

C. Noise, Vibration, and Odors: Coordinate operations that may result in high levels of noise and vibration, odors, or other disruption to Owner occupancy with Owner.

D. Smoking is not permitted on the site due to extreme wildfire conditions in and around the site. Workers may smoke in their vehicles.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 011000

SECTION 01050

FIELD ENGINEERING

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

PART 3 EXECUTION

1.1 CONSTRUCTION SURVEY

A. A topo survey was completed and control for this project is available.

PART 4 MEASUREMENT AND PAYMENT

Add the following:

A. Contractor construction surveying will not be measured for payment and is considered incidental to other bid items in this contract.

END OF SECTION 01050

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 from 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

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

4.2 PAYMENT

C. 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 matter 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 02230

STREET EXCAVATION, BACKFILL AND COMPACTION

1 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:

In-place field density tests for quality assurance are at Contractors expense meeting AASHTO 310 (ASTM D6938), Nuclear Densometer Methods. Quality assurance field density testing frequency is once per compacted lift, or as directed by Engineer.

Retesting of failing areas is at the expense of the Contractor.

B. LABORATORY MAXIMUM DENSITY and OPTIMUM MOISTURE

Delete this section and add the following:

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

3.4 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 be measured and paid by the Square Yard (SY).

END OF SECTION 02230

SECTION 02231

ROADWAY OBLITERATION

PART 4 - Added Subsection:

PART 1 GENERAL

1.1 DESCRIPTION

A. This work consists of obliterating roadways by excavating and/or importing roadbed material, conserved topsoil placement, reshaping, and blending to natural contours as designated on the project drawings or as directed by the Project Representative.

PART 2 EXECUTION

2.1 ROADWAY OBLITERATION

PART 5 - Obliterate the roadway by restoring to approximate original ground contours. Keep excavated material within the original construction limits. Finish slopes to provide gradual transitions in slope adjustments without noticeable breaks.
PART 6 -
PART 7 - Close roads by filling ditches and outsloping the roadbed to drain. Remove and slope embankment material at localized drainages to restore the natual drainage patterns. Elimiate all ruts and low spots that could hold water.

PART 3 MEASUREMENT AND PAYMENT

3.1 METHOD OF MEASUREMENT AND PAYMENT

PART 8 - Roadway obliteration will be measured and paid for by the square yard (SQYD). Roadway obliteration areas will be measured prior to construction as noted in the project drawings.

END OF SECTION 02231

SECTION 02235

CRUSHED BASE COURSE

PART 1: GENERAL

1.1 DESCRIPTION

A. This work is the placing of one or more base courses composed of crushed gravel, stone or other similar materials meeting the gradation and other quality criteria specified herein

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1.2 REFERENCES

AASHTO T11 Amount Finer than No. 200 (0.075 mm) Sieve in Aggregate
AASHTO T27 Sieve Analysis of Fine and Coarse Aggregates
AASHTO T89 Determining Liquid Limit of Soils
AASHTO T90 Determining the Plastic Limit and Plasticity Index of Soils
AASHTO T176 Sand Equivalent Value of Soils and Fine Aggregate
AASHTO T96 Resistance to Degradation By Abrasion and Impact in the Los Angeles Machine
AASHTO T99
(ASTM D698)Moisture-density Relations of Soils and Soil-Aggregate Mixtures Using 5-lb (2.5 kg) Rammer and 12-Inch (305 mm) Drop
ASTM D5821 Determining the Percentage of Fractured Particles in Coarse Aggregate
AASHTO T191(ASTM D1556)Density of Soil In-Place By Sand Cone Method
AASHTO T310(ASTM D6938)In-Place density and water content of the soil and soil aggregate by Nuclear Method (Shallow Depth)

1.3 DENSITY CONTROL TESTING

A. Field Density Testing

1. Meet the quality control and quality assurance testing requirements in section 01400, Contractor Quality Control and Owner Quality Assurance.
2. In-place field density tests for quality assurance are at Owner expense meeting AASHTO T191 (ASTM D1556) Sand Cone method or AASHTOT310 (ASTM (D6938) Nuclear Densometer method. Quality assurance field density testing frequency is at the discretion of the Engineer.
3. Retesting of failing areas is at the expense of the Contractor.

B. Laboratory Maximum Density and Optimum Moisture

1. Moisture density curves will be provided by the Contractor for each base material provided. These will be provided at the expense of the Contractor.

1.4 MATERIALS SUBMITTALS

1. Submit to the Engineer gradations, moisture density curves and other test results for sources to be used for base materials prior to delivery to the site for approval by the Engineer. . If recycled materials are proposed, CBR test data must be submitted to the Engineer to assure consistency with

design requirements.

PART 2: PRODUCTS

2.1 GENERAL

A. Furnish aggregate base material meeting the applicable aggregate quality requirements.

2.2 CRUSHED BASE MATERIAL

A. Consists of both fine and coarse fragments of crushed stone or crushed gravel, and/or natural gravel, and when approved, blended with sand, finely crushed stone, crusher screenings, recycled concrete and/or asphalt or other similar materials.

B. Use crushed stone or gravel consisting of hard, durable particles of fragments of stone, free of excess of flat, elongated, soft or disintegrated pieces, dirt, or other deleterious matter, and having a percent of wear of not exceeding 50 at 500 revolutions when tested under AASHTO T96.

C. Crush material so that the percentage of fractured particles in the finished product is as constant and uniform as practical. Crush to produce material where at least 35 percent of the material retained on the No. 4 sieve has at least one fractured face.

D. Incorporate all material produced in the crushing operation and passing the No. 4 mesh sieve into the base material necessary to meet the gradation requirements.

2.3 GRADATION

A. As determined by AASHTO Methods T11 and T27, furnish material for the grading specified in the contract documents including binder or filler, which may have been added at the plant or at the site, meeting the requirements of that grading in the Table of Gradations below:

TABLE OF GRADATIONS
PERCENTAGES BY WEIGHT PASSING SQUARE MESH SIEVE

Passing	1 ½" Minus	1" Minus	¾" Minus
1 1/2 Inch	100		
1 Inch	—	100	
3/4 Inch	—	—	100
1/2 Inch	—	—	—
No. 4 Sieve	25 - 60	40 - 70	40 - 70
No. 10 Sieve	—	25 - 55	25 - 55
No. 200 Sieve	0 - 8	2 - 10	2 - 10

B. Up to 5% "oversized" material is permitted provided that the "oversized" material passes the screen size immediately larger than the top size specified. The produced material between the maximum screen opening and the No.4 sieve shall be reasonably well graded.

C. Suitability of the aggregate is based on samples obtained during placement in the project within limits allowed in the table for the particular grading specified.

D. That portion of the fine aggregate passing the No. 200 sieve must be less than 60 percent of that portion passing the No. 40 sieve.
E. The liquid limit for that portion of the fine aggregate passing a No. 40 sieve cannot exceed 25, nor the plasticity index exceed 6, as determined by AASHTO T89 and T90.

2.4 WATERING:

A. Use uncontaminated water.

PART 3: EXECUTION

3.1 GENERAL

A. Before placing the base course, smooth and shape the surface of the underlying subgrade, sub-base or base course to the cross section shown on the plans before placing the base course.
B. Do not place base course on a wet or muddy subgrade or sub-base course. Complete at least one area of finished and accepted subgrade, sub-base or underlying base before the placing of any base course.

3.2 PLACEMENT AND SPREADING

A. Mix and place the material in maximum 8 inches (20 centimeters) compacted layers unless otherwise approved. Deposit and spread each load of material on the prepared subgrade, or on a completed sub-base or base course layer continuously without interruption. Discontinue operating haul units over subgrade, or over any sub-base or base course completed if the haul units damage the subgrade, sub-base or base course.
B. Deposit and spread the material in a uniform layer, without segregation, to a loose depth so that when compacted, and making allowance for any filler to be blended on the road, the layer has the specified thickness.
C. Spread material using dump boards, spreader boxes, or vehicles equipped to distribute the material in a uniform layer. The material may be deposited in windrows mixed and spread as described below.
D. Construct each layer meeting these requirements. Blade smooth and thoroughly compact each layer as specified before placing the succeeding layer.
E. If segregation or moisture problems exist, or if the material was placed on the road in windrows, thoroughly blade-mix the material of the affected layer by alternately blading to the center and back to the edges of the street.
F. Uniformly add water, when required, on site and place in amounts required to compact the material as necessary to aid in densification and to limit segregation. Maintain an adequate water supply during the work. Assure the equipment used for watering is of the capacity and design to provide uniform water application.
G. Apply water during the work to control dust and to maintain the base course in a damp condition in accordance with Section 01500 under Dust Control.
H. Water required for compacting base gravel may be obtained from the municipal system if approved by the owner, or from other sources.

3.3 FIELD DENSITY REQUIREMENTS

A. Compact placed material the full width by rolling with suitable tamping equipment or power rollers. Correct all irregularities or depressions that develop during rolling by loosening the material in these places and adding or removing material, as required.

B. Perform blading and compacting alternately as required or directed, to maintain a smooth, even, uniformly compacted surface until the final inspection. Along curbs, headers, manholes, and similar structures, and at all places not accessible to the roller, compact the base course material with suitable mechanical tampers or hand tampers to reach the compaction requirements.

C. Provide the watering and rolling required to obtain a minimum field density of 95 percent of maximum dry density as determined by AASHTO T99. No separate compensation is made for rolling and watering the base course other than the base course bid item or items listed on the contract documents.

3.4 SURFACE TOLERANCES

A. The base course surface when finished and tested with a 10-foot (3.0 meter) straight edge placed on the surface with its center line parallel to the center line of the street, will not have a surface deviation from the straight edge exceeding 3/8-inch (1.0 centimeter). Additionally, the finished grade cannot deviate more than 0.05 feet (1.5 centimeters) at any point from the staked elevation, and further, the sum of the deviations from two points not more than 30 feet (9.0 meters) apart cannot exceed 0.05 feet (1.5 centimeters).

B. For base course receiving asphalt concrete surfacing, the finished grade cannot deviate more than 0.02 feet (0.6 centimeters) at any point from the staked elevations, and the sum of the deviations from two points not more than 30 feet (9.0 meters) apart cannot exceed 0.02 feet (0.6 centimeters).

C. If patching of the base course is necessary to meet the tolerances, perform patching using methods and aggregates approved by the Engineer. Payment for patching aggregate is at the unit price bid for the base course material.

PART 4: MEASUREMENT AND PAYMENT

4. 1 CUBIC YARD BASIS: CRUSHED BASE COURSE.

A. This item is measured and paid for by the cubic yards (cubic meters) of crushed base course of the gradations specified in the Contract documents, complete in place, at the contract unit price bid for “Minus Crushed Base Course”.

Price and payment is full compensation for furnishing, crushing, loading, hauling, spreading, shaping, watering and compacting the base course material, and for all tools, labor and incidentals necessary to complete this item.

B. Payment is made under:

1. ” Minus Crushed Base Course - per cubic yard (cubic meters).

4. 2 SQUARE YARD BASIS: CRUSHED BASE COURSE.

A. This item is measured and paid for by the square yards (square meters) of crushed base course surface area for furnishing crushed base course of the thickness and gradations specified in the Contract documents, complete in place, at the contract unit price bid for ” Thickness of ” Minus Crushed Base Course”. Price

and payment is full compensation for furnishing, crushing, loading, hauling, spreading, shaping, watering and compacting the base course material, and for all tools, labor and incidentals necessary to complete this item.
B. Payment is made under:
1. ” Thickness of ” Minus Crushed Base Course - per square yard square

END OF SECTION 02235

SECTION 02241

BARRIER ROCKS

Added Section.

PART 1 GENERAL

1.1 DESCRIPTION

A. This work consists of placing barrier rocks at designated areas on the project drawings or as directed by the Engineer.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION

3.1 GENERAL

B. Furnish hard, durable, angular barrier 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 fissured rock that may break into smaller pieces in the process of handling and placing.

C. Furnish barrier rocks that approximately measure 8 cubic feet (2.5 – 3.5 feet in nominal diameter as measured on the long axis). Embed barrier rocks 1/3 of the diameter below finished or existing grade. Backfill around embedded barrier rocks by tamping with hand tools and/or mechanical equipment. Space barrier rocks at 5 feet clearance as measured from edge to edge.

D. Install barrier rocks according to the project drawings or as directed by the Engineer.

PART 4 MEASUREMENT AND PAYMENT

4.1 PAYMENT

D. Barrier rock placement will be measured and paid for by the each (EACH).

END OF SECTION 02241

SECTION 02501
HOT PLANT MIX ASPHALT CONCRETE

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Providing all labor, equipment, services, and materials for the application of asphalt materials for use in asphalt surfacing. All asphalt materials used in the completed and accepted work shall meet the requirements for the particular grade specified.

1.2 RELATED SECTIONS

A. Section 2232 - AGGREGATES FOR SURFACING AND ASPHALT PLANT MIXES

PART 2 PRODUCTS

2.1 MATERIALS

All materials used on this project shall conform to current 7th edition of the Montana Public Works Standard Specifications (MPWSS). The source of asphalt material shall be approved by the Project Manager before shipments are made to the project and the source of supply shall not be changed after work is started unless specifically permitted by the Project Manager in writing. The Contractor shall not order delivery of asphalt material without approval of the Project Manager and the Project Manager will not be liable for the quantity shipped.

A. Aggregates: The grading and proportioning of aggregates shall be such that the combined mineral aggregate conforms to the specified requirements. The aggregates shall meet the grading requirements of MPWSS Section 02503 Section 03 Materials, A. Plant Mix Aggregates, for Type A, B, or S-3.

B. Asphalt Materials: The asphalt materials shall be of the type and grade that conforms to MPWSS Section 02503 Section 03 Materials, B. Asphalt Materials.

C. Prime Coat: The prime coat shall consist of low viscosity MC-70 asphalt sprayed on the prepared surface of the nonasphaltic base course prior to any superimposed treatment or construction.

2.2 COMPOSITION OF MIXES:

The Contractor shall submit to the Project Manager for approval a job-mix formula for the mix required on the project. The job-mix formula will be within the limits of gradation given this specification. The job mix submittal shall contain the following information:

1. Gradation of all constituent aggregates.
2. Specific gravity of constituent aggregates and asphalt cement.
3. Source of supply of all materials and grade of A.C.
4. Marshall design curves for stability, unit weight, flow and volumetric requirements at asphalt contents below and above optimum.
5. Rice factor used in voids computations.
6. Composite aggregate grading.
7. Suggested asphalt content.
8. Marshall compactive effort (50 or 75 blows).
9. Date of mix design (job mix formula).

2.3 SAMPLING AND TESTING:

Sampling and testing of aggregates or other constituent materials will be performed by the Project Manager on a random periodic basis. Samples will be used to verify compliance with requirements set forth in these specifications.

PART 3 EXECUTION

3.1 APPLICATION

A. Delivery: Deliver the bituminous concrete to the project site at the weather conditions and temperatures specified in the MPWSS, Section 02503, 11. Construction Methods.

B. Surface Preparation: The area to be paved shall be true to line and grade and shall have a dry and properly prepared surface prior to the start of paving operations.

C. Asphalt Prime Coat: Asphalt prime coat shall be sprayed at a rate of 0.20 to 0.50 gallons per square yard. Immediately before applying the prime coat the surface shall be cleaned of all dirt and loose materials by means of blowers or power and hand brooming. Application shall be made when the surface is dry or slightly damp and, unless otherwise permitted by the Project Manager, when air temperature in the shade is not less than 50 degrees F.

D. Distribution and Spreading: At the time of delivery to the work site, the temperature of the mixture shall not be lower than the temperatures shown in MPWSS Section 02503, 11. Construction Methods.

The asphalt concrete shall be evenly spread upon the base to such a depth that, after rolling, it will be of the specified cross section and grade of the course being constructed.

E. Compaction: Immediately after spreading, striking off and correcting surface irregularities, the Contractor shall compact the bituminous mixture to at least 95 percent of the target density as established by the Project Manager from test specimens made from samples taken from the mixture produced and used on the project or from information submitted with the mix design. Compactive rolling shall be completed before the temperature falls below 175 degrees or the surface begins to check or crack.

Finish rolling shall begin immediately after compactive rolling and shall continue until roller marks are eliminated. Finish rolling shall be completed the same day the mixture is placed.

Any mixture that becomes loose, broken, or mixed with dirt, or is in any defective shall be removed and replaced with fresh, hot mixture and compacted at no expense to the Department.

F. Smoothness: Upon completion the pavement shall be true to grade and cross section. When a 10-foot straight edge is laid on the finished surface, the surface shall not vary from the edge of the straight edge more than 1/2 inch, except at intersections or changes in grade. Any areas that are not within this tolerance shall be brought to grade immediately following the initial rolling. If paving material has been cooled below the lower limits of the spreading temperatures prescribed the surface of the pavement shall be brought to true grade by removing the paving material in the area to be repaired. A layer or 1 inch minimum shall be used for the repair and no feathering of edges shall be allowed.

END OF SECTION 02501

SECTION 2581

PAVEMENT MARKING AND MARKERS.

PART 1: GENERAL

1.1 DESCRIPTION

Add the following:

B. All pavement markings shown on the plans shall be waterbourne paint.

END OF SECTION 02581

SECTION 02910
REVEGETATION

A. 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:

A. 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

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4.1 GENERAL

Delete this section and add the following:

B. 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.

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

END OF SECTION 02910