

# Montana Fish, Wildlife and Parks

## SPECIFICATIONS FOR WORK SPECIAL PROVISIONS

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## 1. PROJECT DESCRIPTION

The Project involves construction work associated with:

**Lewis and Clark Caverns State Park Bike/Hike Campsite Development**  
**Project # 21-06**  
**Located in Jefferson County, MT**

The project generally includes construction of a bike/hike campsite, including timber framed shade shelter and picnic table with electrical outlets, gravel paths and tent pads, fire ring, potable water hydrant, food storage locker, trash receptacles and associated earthwork, concrete footings and incidentals.

## 2. PROJECT RELATED CONTACTS

Project contacts are designated as follows:

**Owner:** Montana Fish, Wildlife and Parks  
PO Box 200701  
Helena, MT 59620-0701

**Project Representative:** Bardell Mangum, PLA  
Landscape Architect  
Design and Construction  
Montana Fish, Wildlife and Parks  
406-841-4012

**Structural Design Consultant:** Martin Drivdahl, PE  
6401 Lone Pine Road  
Helena, MT 59602-8712  
406-442-2783

## 3. SITE INSPECTION

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

## 4. SOILS INFORMATION

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

## 5. PROJECT REPRESENTATIVE, INSPECTIONS, AND TESTING

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

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

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

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

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

- a. Any field surveys to establish locations, elevations, and alignments as stipulated on the Contract Documents. The Owner reserves the right to set preliminary construction staking for the project. The Contractor is responsible to notify the Owner for any construction staking discrepancies.
- b. Preparation and certification of all required shop drawings and submittals as described in the General Conditions, Article 3.
- c. All testing requiring the services of a laboratory to determine compliance with the Contract Documents shall be performed by an independent commercial testing laboratory acceptable to the Project Representative. The laboratory shall be staffed with experienced technicians properly equipped, and fully qualified to perform the

tests in accordance with the specified standards.

- d. Preparation and submittal of a construction schedule, including submittals, see General Conditions, Article 3. The schedule shall be updated as required, as defined in the Contract Documents.
- e. All Quality Control testing as required by the Contractor's internal policies.
- f. All Quality Assurance testing and/or re-testing as stated in the Contract Documents, see General Conditions, Article 13.

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

- a. The Project Representative may check compaction of backfill and surfacing courses using laboratory testing submittal information supplied by the Contractor. These tests are to determine if compaction requirements are being fulfilled in accordance with the Contract Documents. It is ultimately the responsibility of the Contractor to ensure that this level of compaction is constant and met in all locations.
- b. Any additional Quality Assurance testing deemed appropriate by the Owner, at the Owner's expense.

## 6. ENGINEERING INTERPRETATIONS

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

## 7. REJECTED WORK

Any defective work or nonconforming materials or equipment that may be discovered at any time prior to the expiration of the warranty period, shall be removed and replaced with work or materials conforming to the provisions of the Contract Documents, see General Conditions, Article 12. Failure on the part of the Project Representative to condemn or reject bad or inferior work, or to note nonconforming materials or equipment on the Contractor's 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 bury depths that may in any way affect the intent of construction as scoped in these specifications.

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

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

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

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

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

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

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

- a. "QUALITY LEVEL A" – (QLA): LOCATING THROUGH EXCAVATION. QLA data are highly accurate and are obtained by surveying an exposed utility. As such, both horizontal and vertical data are recorded. Survey accuracies are typically set at 15mm (1/2-inch) vertically, and to project survey standards horizontally (typically the same as for topography features), although these survey accuracies and precisions are generally left to the owner to specify in a scope of work. In addition to the applicable standard of care and any other additional standards imposed by commercial indemnity clauses, the accuracy of these location data is also typically guaranteed. Other data typically characterized include material type, surface elevation, utility size/capacity, outside dimensions, and configurations, soil type, and utility condition.
- b. "QUALITY LEVEL B" – (QLB): DESIGNATING. QLB information is obtained through the application of appropriate surface geophysical methods to identify the existence and approximate horizontal location of utilities (a utility's "designation") within the project limits, followed by survey, mapping, and professional review of that designation. Underground utilities are identified by interpretation of received signals generated either actively or passively, and through correlating these received signals with visible objects (QLC) and record data (QLD) to determine function. Designated utilities that can't be identified are labeled as "unknowns." Although approximate has no accuracy associated with it, generally the locations are within inches rather than feet. The more utility congested the area or the deeper the utilities, the less likely it is that the designations will achieve that accuracy. These designations are then surveyed to project accuracies and precisions, typically third-order accuracy similar to other topography features. Note that surveying existing one-call marks does not lead to QLB data, since the genesis of the marks was not under the direct responsible charge of the professional certifying the QLB depictions, and one-call generally does not address unknown utilities, privately owned utilities, utilities without records, abandoned utilities, and so on. Nor does the professional have knowledge of the field technician's qualifications, training, and level of effort.
- c. "QUALITY LEVEL C" – (QLC): SURFACE VISIBLE FEATURE SURVEY. QLC builds upon the QLD information by adding an independent detailed topography site survey for surface-visible appurtenances of subsurface utilities including but not limited to fire

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

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

- 8.3 Removal or Relocation of Utilities. All electric power, street lighting, gas, telephone, and television utilities that require relocation will be the responsibility of the utility owner. A request for extending the specified contract time will be considered if utility owners cause delays.
- 8.4 Public Utilities. Water, sewer, storm drainage, and other utilities owned and operated by the public entities shall, unless otherwise specifically requested by the utility owner, be removed, relocated, supported or adjusted as required by the Contractor at the Contractor's expense. All such work shall be in accordance with these Contract Documents, or the Owner's Standard Specifications or written instructions when the work involved is not covered by these Specifications.
- 8.5 Other Utilities. Utilities owned and operated by private individuals, railroads, school districts, associations, or other entities not covered in these Special Provisions shall, unless otherwise specifically requested by the utility owner, be removed, relocated, supported or adjusted as required by the Contractor at the Contractor's expense. All work shall be in accordance with the utility owner's directions, or by methods recognized as being the standard of the industry when directions are not given by the owner of the utility.
- 8.6 Damage to Utilities and Private Property. The Contractor shall protect all utilities and private property and shall be solely responsible for any damage resulting from his construction activities. The Contractor shall hold the Owner and Project Representative harmless from all actions resulting from his failure to properly protect utilities and private property. All damage to utilities shall be repaired at the Contractor's expense to the full satisfaction of the owner of the damaged utility or property. The Contractor shall provide the Owner with a letter from the owner of the damaged utility or property stating that it has been repaired to the utility owner's full satisfaction.

- 8.7 Structures. The Contractor shall exercise every precaution to prevent damage to existing buildings or structures in the vicinity of his work. In the event of such damages, he shall repair them to the satisfaction of the owner of the damaged structure at no cost to the Owner.
- 8.8 Overhead Utilities. The Contractor shall use extreme caution to avoid a conflict, contact, or damage to overhead utilities, such as power lines, streetlights, telephone lines, television lines, poles, or other appurtenances during the course of construction of this project.
- 8.9 Buried Gas Lines. The Contractor shall provide some means of overhead support for buried gas lines exposed during trenching to prevent rupture in case of trench caving.
- 8.10 Pavement Removal. Where trench excavation or structure excavation requires the removal of curb and gutter, concrete sidewalks, or asphalt or concrete pavement, the pavement or concrete shall be cut in a straight line parallel to the edge of the excavation by use of a spade-bitted air hammer, concrete saw, colter wheel, or similar approved equipment to obtain a straight, square clean break. Pavement cuts shall be 2 feet wider than the actual trench opening.
- 8.11 Survey Markers and Monuments. The Contractor shall use every care and precaution to protect and not disturb any survey marker or monuments, such as those that might be located at lot or block corners, property pins, intersection of street monuments or addition line demarcation. Such protection includes markings with flagged high lath and close supervision. No monuments shall be disturbed without prior approval of the Project Representative. Any survey marker or monument disturbed by the Contractor during the construction of the project shall be replaced at no cost to the Owner by a licensed land surveyor.
- 8.12 Temporary Utilities. The Contractor shall provide all temporary electrical, lighting, telephone, heating, cooling, ventilating, water, sanitary, fire protection, and other utilities and services necessary for the performance of the work. All fees, charges, and other costs associated therewith shall be paid for by the Contractor.

## **9. CONSTRUCTION SAFETY**

The Contractor shall be solely and completely responsible for conditions of the jobsite, including safety of all persons (including employees and subcontractors) and property during performance of the work. This requirement shall apply continuously and not be limited to normal working hours. Safety provisions shall conform to U.S. Department of



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

## **10. CONSTRUCTION LIMITS AND AREAS OF DISTURBANCE**

- 10.1 Construction Limits. Where construction easements or property lines, are not specifically called out on the Contract Documents, limit the construction disturbance to ten (10) feet, when measured from the edge of the slope stake grading, or to the adjacent property line, whichever is less. Disturbance and equipment access beyond this limit is not allowed without the written approval of both the Project Representative and the Owner of the affected property. If so approved, disturbance beyond construction limits shall meet all requirements imposed by the landowner; this includes existing roads used and/or improved as well as the construction of new access roads. Special construction, reclamation, or post-construction reclamation or other closure provisions required by the landowner on access roads beyond the construction limits shall be performed by the Contractor at no additional cost to the Owner.
- 10.2 Areas of Disturbances. Approved areas of disturbance are those areas disturbed by construction activities within the construction limits and along designated or approved access routes. Such areas may require reclamation and revegetation operations, including grading to the original contours, top soiling with salvaged or imported topsoil, seeding, fertilizing, and mulching as specified herein. Other areas that are disturbed by the Contractor's activities outside of the limits noted above will be considered as site damage or unapproved areas of disturbance, see General Conditions, Articles 3 and 10. This includes areas selected by the Contractor outside the defined construction limits for mobilization, offices, equipment, or material storage.

## **11. DECONTAMINATE CONSTRUCTION EQUIPMENT**

Power wash all construction equipment entering the project site to prevent the spread of noxious weeds and aquatic invasive species.

## **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.

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 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 and clean-up 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. Waste material may be wasted at a site within the state park at a location identified in advance by the Owner.

## **16. STORED MATERIALS**

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

## **17. STAGING AND STOCKPILING AREA**

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

## **18. SECURITY**

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

## **19. CLEANUP**

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

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.

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

## **21. CONSTRUCTION TRAFFIC CONTROL**

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

## **22. SANITARY FACILITIES**

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

## **23. CONTRACT CLOSEOUT**

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

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

## **SPECIFICATIONS FOR WORK**

### **TECHNICAL PROVISIONS**

#### **Incorporation of Montana Public Works Technical Specifications.**

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

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

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

- SECTION 01050 - Field Engineering
- SECTION 01400 - Contractor Quality Control and Owner Quality Assurance
- SECTION 01450 - Mobilization/Demobilization
- SECTION 01750 - Final Cleanup
- SECTION 11000 - Campsite Equipment
- SECTION 15200 - Plumbing

**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**

Add the following:

1.3 CONSTRUCTION SURVEY

- A. Owner will provide survey control (northing/easting), benchmarks (local datum), and site geometry, as shown on the project drawings.

**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 01400

### CONTRACTOR QUALITY CONTROL AND OWNER QUALITY ASSURANCE

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

#### **PART 3 EXECUTION**

##### 3.1 GENERAL

C. Replace with the following:

The Contractor is responsible for providing all quality assurance testing by an independent testing agency. The Contractor will pay for all quality assurance testing by an independent testing agency.

#### **PART 4 MEASUREMENT AND PAYMENT**

Replace with the following:

##### 4.1 PAYMENT FOR TESTING

The Contractor will pay for all quality control testing. The Contractor will pay for all quality assurance testing by an independent testing agency. The Contractor will pay for all associated re-testing efforts (both quality control and quality assurance).

**END OF SECTION 01400**

**SECTION 01450**

**MOBILIZATION/DEMOBILIZATION**

Added Section.

**PART 1                    GENERAL**

**1.1    DESCRIPTION**

- A. This item shall consist of the preparatory 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**

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

**4.2    PAYMENT**

- A. Mobilization/demobilization will be included in the lump sum bid price.

**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 RESPONSIBILITIES

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 11000

### CAMPSITE EQUIPMENT

#### New Section

#### **PART 1 GENERAL**

##### 1.WORK INCLUDED

- A. This section includes fire rings, bicycle racks, trash receptacles and food storage lockers.

##### 2.SUBMITTALS

- A. The **CONTRACTOR** shall provide the following information for each item specified:

- 1.Provide manufacturers' catalog information, material and component specifications, dimensioned drawings, weight, IGBC certification number where bear resistance is required, and installation instructions.

#### **PART 2 PRODUCTS**

##### 1.STANDARD FIRE RINGS

- A. Fire rings shall be 24-inch inside diameter. Ring shall be constructed of 3/16-inch steel with a formed 1-inch flanged lip around the top of the ring. The ring shall be 7-inches high with 1-inch diameter draft holes spaced around the bottom perimeter.
- B. The 270 square inch grate shall be constructed of 5/8-inch steel bars around the perimeter, 3/4-inch steel bar handles and 1/2-inch steel bars for the grate surface. All steel to be A36.
- C. The grate shall be secured to the fire ring with two 3/4-inch A36 steel vertical bars that allow 7-inches of vertical grate adjustment.
- D. Grate shall be provided with two grate adjustment handles that remains outside the fire ring in all positions.
- E. Rings shall be anchored in two places with 1/2-inch diameter steel "U" anchor pins cast into cast in place concrete footings. The fire rings shall rotate around the anchor pin to allow it to be tipped up for cleaning.
- F. Fire rings shall be finished in high temperature, heat resistant, nontoxic black enamel.
- G. Fire Rings shall be as manufactured by Pilot Rock, model FA-26/7 or approved equal.

##### 2.BICYCLE RACKS

- A. Loop style bicycle racks shall have an installed height of 36-inches from ground surface to the top of the rack and a length of 38-inches. Bicycle racks shall be constructed of 2-3/8-inch diameter schedule 40 steel pipe with 6-inch radius die formed bends creating the "U" shapes. Distance between loops is 12-inches.

- B. The vertical legs of the bike rack shall be embedded 11-1/2-inches into two 12-inch diameter concrete footings. A 9/16-inch diameter hole will be drilled into each leg to provide for the installation of a 1/2-inch diameter steel rod to secure the rack into the footing.
- C. Bicycle racks shall be designed for a maximum of 5 bicycles.
- D. Bicycle racks shall be powder coated in brown color.
- E. Bicycle Racks shall be as manufactured by Pilot Rock, model SRE/G-5 or approved equal.

### 3. TRASH RECEPTACLES

- A. Trash receptacles shall be top loading, high quality, bear resistant, steel construction designed for extended outdoor use in harsh environments.
- B. Trash receptacles shall include a single bag tilt out bag rack access through a door the rear of the container, designed to accommodate a 40-inch x 50-inch bag size.
- C. Trash receptacles shall be certified by the Interagency Grizzly Bear Committee (IGBC) to be bear resistant. Trash receptacles are required to be listed on IGBC certified bear resistant products list.
- D. Trash receptacles shall be treated with a UV resistant powder coating in brown color.
- E. Small hinges, handles and striker plates shall be constructed zinc plated steel.
- F. Door hinges shall be heavy duty piano hinges constructed with stainless steel.
- G. The latch shall be operable with a single hand and automatically secure the door upon closing.
- H. Trash receptacles shall be Bear Saver model BE1-P or approved equal.

### 4. FOOD STORAGE LOCKERS

- A. Food storage lockers shall be high quality, bear resistant, two compartment, steel construction designed for extended outdoor use in harsh environments with a nominal total capacity of 15 cf per compartment. Each compartment will have a separate front facing access door.
- B. Food storage lockers shall be certified by the Interagency Grizzly Bear Committee (IGBC) to be bear resistant. Food storage lockers are required to be listed on IGBC certified bear resistant products list.
- C. Food storage lockers shall be treated with a UV resistant powder coating in a brown color.
- D. Handles and striker plates shall be constructed zinc plated steel.
- E. Door hinges shall be heavy duty piano hinges constructed with stainless steel.
- F. Latches shall be operable with a single hand and automatically secure the door upon closing.

G. Food storage lockers shall be Bear Saver model FS30-DFL or approved equal.

**PART 3 EXECUTION**

1.GENERAL

A. Install all equipment in compliance with manufacturer's recommendation and the project drawings.

**END OF SECTION 11000**

## SECTION 15200

### PLUMBING

New Section:

#### PART 1 GENERAL

##### 1. WORK INCLUDED

- A. This section covers the work necessary to furnish and install piping, fixtures, appliances, equipment, and appurtenances for complete and functional plumbing systems as indicated in the Drawings and specified herein.
- B. Work included in this section is as follows:
  - 1. Piping and valves for both indoor and outdoor buried service.

##### 2. GENERAL

- A. The drawings do not show all details of all piping systems, and instead only portray the functionality required. The **CONTRACTOR** shall provide all accessories, adapters, appurtenances and supports to achieve a complete and functional installation. The **CONTRACTOR** shall verify all piping routings and locating dimensions shown for conflicts with other piping or utilities, and shall provide any offsets required to achieve clearance at no additional cost to the **OWNER**. In the event changes to the locations of equipment or piping shown are necessary, the **CONTRACTOR** shall submit such changes in writing to the **LANDSCAPE ARCHITECT** before proceeding with such changes.
- B. All fixtures and appliances shall be installed in complete accordance with the manufacturer's recommendations and requirements, including structural support and venting.
- C. Manufacturers' references are included herein for reference and to establish the required level of quality; "or equal" products may be proposed subject to the requirements for Submittal review.

##### 3. CODES, PERMITS AND COMPLIANCE

- A. Plumbing under these Specifications shall conform to all requirements of the current editions of the UPC, IBC, UFC, DEQ Circulars and all other codes, standards and ordinances applicable to work. In event of conflicts between these Specifications and applicable codes or standards, the codes and standards shall govern.
- B. All piping, fixtures, and accessories shall be installed in strict accordance with the laws and regulations of the State of Montana and Jefferson County.
- C. Any permits legally required for the work under these Specifications shall be the responsibility of the **CONTRACTOR** to obtain. Costs of such permits and scheduling of any inspections required in conjunction with such permits or associated requirements shall be the responsibility of the **CONTRACTOR**.

- D. Completed piping systems shall be tested by the **CONTRACTOR** in accordance with all applicable codes and standards before charging such piping.

#### 4. SUBMITTALS

- A. The **CONTRACTOR** shall provide the following information:

1. Fixtures and Appliances – Provide manufacturers’ catalog information, photographs, material and component specifications, fully dimensioned drawings, weight, support requirements, storage and installation instructions, and operating manual.
2. Exposed Piping Systems – Provide manufacturers’ catalog information, material specifications, dimensions, and ratings.
3. Pipe Fittings and Appurtenances – Provide manufacturers’ catalog information, material specifications, dimensions and ratings.
4. Buried Piping Systems - Provide manufacturers’ catalog information, material specifications, dimensions, and ratings.
5. Pipe Supports – Provide manufacturers’ catalog information, material specifications, dimensions, load ratings, recommended spacing, and types and arrangement of fasteners, including substrate requirements.

### PART 2 PRODUCTS

#### 1. GENERAL

- A. Like items of material provided under these Specifications shall be the product of one manufacturer.

#### 2. HDPE PIPE AND FITTINGS FOR BURIED SERVICE

- A. High density polyethylene pipe (HDPE) for buried domestic water well supply and yard piping shall be NSF listed. HDPE pipe shall be iron pipe size with 200 psi pressure rating at 73.4 degrees F, with a minimum hydrostatic burst pressure of 630 psi. Pipe shall have an SDR of 9, based on inside diameter-controlled dimensions. Pipe shall meet ASTM D2239 and AWWA C901. HDPE pipe shall be formulated from 3408 polyethylene resin, and extruded. The exterior of HDPE pipe shall be permanently marked with size, SDR, operating pressure, date of manufacture, and NSF logo. Pipe shall have a 25-year warranty from the manufacturer, and shall be *Endot Industries Endopoly PE 3408*, or **LANDSCAPE ARCHITECT** approved equal.
- B. Fittings for buried HDPE piping shall be gray Schedule 80 PVC with insert-by-insert or insert-by-NPT ends. Each insert connection shall each be secured with dual ½” minimum width stainless steel hose clamps meeting pipe and fitting manufacturers’ recommendations.

#### 3. CURB VALVES – WATER SERVICE

- A. Curb valve for buried water service shall be brass ball valves with compression connections suitable for use with HDPE pipe and Minneapolis pattern top threads. Valves shall be rated

300-pound WOG, and shall meet the requirements of AWWA C800. Valves shall be *Mueller B-25211 ball curb valve*, or **LANDSCAPE ARCHITECT** approved equal.

- B. Curb boxes shall be cast iron construction, Minneapolis pattern, and allow height adjustment between 78 and 66-inches. The curb box shall include a lid with plug. Curb boxes shall be *Mueller H-10300* or **LANDSCAPE ARCHITECT** approved equal. Two keys will be provided to the Owner for opening and closing the valves for each State Park.

#### 4. YARD HYDRANTS

- A. Yard hydrants shall be post-type hydrants with operating lever and riser suitable for 6-foot bury depth. The hydrant will include a separate diverter spout and hose connection with a double check backflow preventer. Hydrants shall include a reservoir to store water below the frost line between uses to prevent freezing. Pipe connection shall be 1-inch female NPT. Hydrant shall be rated for a maximum operating pressure of 100 psi. Yard hydrants shall be *Woodford Model S3*, or **LANDSCAPE ARCHITECT** approved equal.

### PART 3 EXECUTION

#### 1. GENERAL

- A. All plumbing and installation of piping, appurtenances, and fixtures shall fully conform to the current edition of the *Uniform Plumbing Code (UPC)*, and all applicable state and local regulations. All work shall be approved by the State Plumbing Inspector.

- B. Drawings do not attempt to show the exact details of all piping. No extra payment will be allowed for fittings, adapters, appurtenances, clearances or offsets required to complete the Work. Changes in locations of equipment or piping, contemplated by the **CONTRACTOR**, must be submitted to the **LANDSCAPE ARCHITECT** in writing, and cannot be executed without the **LANDSCAPE ARCHITECT'S** approval. All work shall be completed to provide a fully functional installation as shown and specified.

## 2. PIPING

- A. All piping intended to carry potable water shall be disinfected before placing into service. Disinfection procedures shall conform to AWWA C651.
- B. All piping systems installed under this section do not require painting or coating.
- C. Buried HDPE yard piping and fittings for domestic water service shall be installed in accordance with AWWA C901 and ASTM D2774. A minimum of 6-inch of pipe bedding shall be placed on all sides of buried HDPE hard piping.

## 3. YARD HYDRANTS

- A. Yard hydrants shall be plumbed and adjusted to 36 ½-inch height above grade. Yard hydrant connections shall utilize insert-by-IPT (male) adapters to connect to HDPE yard piping.

## 4. TESTING

- A. Completed cold water piping, including fixture connections shall be tested and demonstrated to be leak free by the **CONTRACTOR** by charging with water and maintaining 60 psi pressure for one hour, in the presence of the **LANDSCAPE ARCHITECT**. Any leaks or defects shown shall be promptly remedied by the **CONTRACTOR**.
- B. Other tests of completed piping as prescribed by the UPC shall also fully apply, and shall be conducted in the presence of the **LANDSCAPE ARCHITECT**.

**END OF SECTION 15200**



## TECHNICAL SPECIFICATIONS

### SECTION SP - SPECIAL PROJECT REQUIREMENTS

#### SP.01 DESCRIPTION

This section of the Specifications covers project requirements unique to this project or not fully covered elsewhere in the Technical Specifications.

#### SP.02 STANDARD SPECIFICATIONS

This contract will be constructed and administered under the requirements of the Montana Public Works Standard Specifications (MPWSS), current edition, as amended, and all supplemental documents contained herein. The MPWSS are included in their entirety; as applicable, and as modified, amended, supplemented or replaced by the Plans and Technical Specifications.

#### SP.03 SUBMITTALS

The Contractor shall submit the following items to the Owner for review and approval:

No shop drawings need to be submitted, but the contractor will be solely responsible to meet all materials specifications and to fabricate and construct all elements to fit properly.

#### SP.04 MEASUREMENT AND PAYMENT

No items in this project will be measured or paid for on a unit price basis. The lump sum bid prices and payments for the Basic Bid will include all workmanship and materials shown on the drawings or specified herein.

#### SP.OS REFERENCE DRAWINGS AND TECHNICAL SPECIFICATIONS

1. Drawings No. S1 thru S6 of 6.
2. Technical Specifications.  
Sections 1 thru 10.

End of Section

**SECTION 1- DEMOLITION AND REMOVALS****1.01 DESCRIPTION**

This section of the Specifications covers work requirements and details for completing that portion of the project shown on the drawings as described below:

A There are no known items to be demolished or removed from the site to be excavated with the possible exception of tree roots and stones.

**1.02 GENERAL**

All work and disposal methods shall be done in a manner acceptable to the project representatives of the Owner.

**1.03 DISPOSAL**

All removed demolition materials and other disposables generated by site preparation work shall be removed from the job site and transported by the Contractor to a suitable disposal site. Disposal methods shall meet all local ordinances, State codes, and Federal requirements, as applicable. Any and all fees for use of a disposal site shall be born by the Contractor.

**1.04 REFERENCE DRAWINGS**

Site Plan and Drawing S3

End of Section

**SECTION 2 - EXCAVATION**

**2.01 DESCRIPTION**

This section covers excavation, and any associated work shown on the drawings or specified herein for the following:

- A. Removal and disposal of soils to be excavated to pour concrete footings and slab within the neat lines shown on the drawings.

**2.02 EXCAVATION**

- A. Excavations shall be done with care so that excavated depths are correctly done to bottom elevations of footings or gravel beneath slabs and limited to only the space needed for concrete forming and placement of gravel.

**2.03 DISPOSAL OF EXCAVATED SOILS**

- A. All excavated soil and rocks shall be removed from the immediate project area and wasted at a site within the park acceptable to the Owner.

**2.04 REFERENCE DRAWINGS**

Drawings S1 and S3

End of Section

**SECTION 3 - SURVEYING****3.01 DESCRIPTION**

This section of the Specifications covers the Contractor's requirement in providing surveying and staking as necessary for constructing the new bike shelter.

**3.02 SPECIFIC REQUIREMENTS**

The Contractor shall be responsible for surveying and setting right angle and centerline of structure offsets in order to be able to establish neat lines for setting steel base plates and for forming and pouring the concrete footings and slabs. The contractor is also responsible for providing level work to set top of concrete grades as well as grades for all excavations.

**3.03 REFERENCE DRAWINGS**

Drawings S1, S2, and S3.

End of Section

**SECTION 4 - STRUCTURAL CONCRETE**

**4.01 DESCRIPTION**

This section covers all poured-in-place concrete for the following parts of this project.

- A. New concrete footings and slabs for bicycle shade shelter.

**4.02 GENERAL**

Concrete proportioning, mixing, transporting, forming, placing, curing, and other construction methods shall conform to all applicable specifications contained in Section 03310 of the Montana Public Works Standard Specifications, current edition.

**4.03 CONCRETE CLASSIFICATION AND SPECIFICATIONS**

All poured-in-place concrete shall be Class M-4000. Concrete mixes and strengths shall meet the following requirements:

Minimum 7-day lab strength -----	2,800 psi
Minimum 28-day lab strength-----	4,000 psi
Maximum aggregate size-----	3/4"
Maximum water to cement ratio-----	6 gal./sack (.50 by weight)
Slump range -----	1-1/2"to4"maximum
Entrained air content -----	<u>4%</u> to 7%

**4.04 CONCRETE FINISHES AND CURING**

- A. **Foundation Elements** - Float finish tops of concrete footings.
- B. **Concrete Slabs** - Float and broom finish and apply curing compound.

**4.05 CONCRETE SAMPLING AND TESTING**

- A. Concrete sampling and testing will be required. The actual sampling and testing will be done by an independent testing lab.
- B. The following concrete sampling and testing applies for this project:
  - 1. One (1) sample per pour - test for slump and air content.
  - 2. Make five (5) cylinders for lab compressive testing. {4" dia. x 8" cylinders)
  - 3. Break two (2) cylinder at 7 days.
  - 4. Break two (2) cylinders at 28 days. Leave one (1) cylinder as a spare.
  - 5. Send all test reports to Owner within 2 days.
- C. Costs for Concrete Sampling and Testing - The Contractor will be required to pay for concrete sampling and testing as specified above.

**4.06 REFERENCE DRAWINGS**

Drawings S1 and S3.

End of Section

**SECTION 5 - REINFORCING STEEL AND ANCHOR BOLTS AND RODS****5.01 DESCRIPTION**

This section covers furnishing and placing all concrete reinforcing steel of the quantity type, and size shown in the drawings and all requirements as specified herein. It also covers anchor bolts and threaded rods placed in the concrete foundations.

**5.02 GENERAL**

Materials and workmanship for furnishing and placing reinforcing steel shall meet all applicable requirements of Section 03210 of the Montana Public Works Specification, current edition.

**5.03 MATERIALS**

All material used in this work shall be new and shall meet the following requirements:

- A. **Reinforcing Steel** - Reinforcing steel shall be of the deformed type and shall meet the requirements of ASTM A-615, Grade 60 or Grade 40.
- B. **Anchor Bolts** - 36 KSI Minimum yield point steel bolts. Use threaded rods where shown or noted on the drawings. Rods may have a plated metal finish.

**5.04 INSTALLATION REQUIREMENTS**

- A. **Reinforcing Steel** - Reinforcing steel shall be accurately placed as detailed on the project drawings, bent and lapped as shown, and securely tied before concrete is poured. Masonry blocks and steel chairs shall be used if necessary to assure accurate placement and bars shall be wire-tied at all intersections and lapped bar locations.
- B. **Threaded Rods** - Drill holes 1 / 8" larger than rods to depth shown. Blow holes clean and epoxy grout rods. Use a 2-part epoxy such as Fastenal Propoxy 300, or equal. Holes shall be cleaned using high pressure compressed air and a tube that reaches to the bottom of each hole. Use a bottle brush to thoroughly remove all concrete particles and dust. Blow holes out twice, once after each brushing.

**5.05 REFERENCE DRAWINGS**

Drawings S2 and S3.

End of Section

**SECTION 6 - STRUCTURAL STEEL AND BOLTS****6.01 DESCRIPTION**

This section of the specifications covers furnishing and installing structural steel and bolted connections as follows:

- A. Shop fabricated steel splice plates, brackets and associated welded and bolted connections as shown on the drawings and/or specified herein.

The Contractor shall furnish and install all items of steel and metal work required for or incidental to completion of the work. The Contractor alone shall be responsible for all errors of fabrication and/or installation for the correct fitting of all items.

**6.02 MATERIALS SPECIFICATIONS**

Materials shall meet the following standards and specifications:

- A. **Rolled Steel Shapes** - ASTM A-992 having a minimum  $F_y = 36$  KSI.
- B. **Bolts for Steel Connections** - Standard Hex Head Bolts - Minimum 36 KSI yield point strength. Furnish with lock washers and hex head nuts. Furnish carriage bolts with nuts, flat washers and lock washers.
- C. Lag Screws (Bolts) - Furnish and fit with flat washers.
- D. Finish - Plated or black metal.

**6.03 STANDARDS AND CODES**

The following specifications and codes apply to materials, fabrication, and installation of steel and metals for this project.

- A. ASTM Standards as applicable.
- B. AISC Specifications for the Design, Fabrication, and Erection of Structural Steel for Buildings.
- C. AWS Code for Welding in Building Construction.

**6.04 FABRICATION AND INSTALLATION**

Fabrication and installation work shall conform to all applicable requirements of the codes standards and specifications referred to in Article 6.04 of this Section and to the details and notes on the drawings. Work shall be true to detail with clean, straight, sharply defined lines. Metals shall have smooth finished surfaces where exposed. Weld joints of steel framing to make a strong, rigid assembly. Additional welding beyond that detailed on the drawings will be done if necessary to secure all components. Dress exposed faces of welds flush and smooth. All field welding shall be done by competent, qualified welders with proven experience in the trade.

**6.05 INSTALLATION OF LAG SCREWS (Bolts)**

Lag screws shall not be installed without pre-drilling pilot holes for the threaded part of the screws and holes matching the shank diameter to the shank depth only. Pilot holes shall be 1/4" diameter for 3/8" lag screws and 5/16" diameter for 1/2" lag screws. Fit all lag screws with flat washers when installed.

**6.06 SHOP PAINT**

Apply **one (1) shop coat** of zinc oxide oil primer or other approved shop paint to structural steel and welded steel parts before delivery to job site. No shop paint shall be applied to areas to be field welded or encased in concrete. Remove all dirt, rust, and mill scale and other substances before painting.

**6.07 REFERENCE DRAWINGS**

All drawings - S1 thru S6.

End of Section



**SECTION 7 - WOOD PRODUCTS AND CONSTRUCTION****7.01 DESCRIPTION**

This section of the Specifications covers furnishing and installing the following items for the project.

- A. Structural framing lumber for bike shelter roof, columns, bracing and supports.
- B. Boards for roof sheathing and gable ends.
- C. Glued laminated members for table top and bench seats.
- D. Wood fasteners.
- E. Plywood for gusset plates of bracing truss.

**7.02 MATERIALS**

Wood products for the above items shall conform to the following requirements contained in current West Coast Lumber Bureau (WCLB) standards or equivalent local building codes.

- A. **Lumber Grades and Species** - Lumber shall conform to the following requirements for grade, species, and finish.
  - 1. **Lumber for bike shelter framing** - Douglas fir, rough cut to full dimensions shown on the drawings. Quality must meet WCLB requirements for No. 1 or better.
  - 2. **1" Rough lumber for roof, gable ends, and trim** - Rough cut Douglas fir sawed to full dimension. WCLB "construction" grade. All trim - 4" width; Gable ends - 6" width; Roof- Random widths from 6" min. to 10" max.
  - 3. **GLB Members for bench seats and table top** - Architectural Grade Douglas fir commercially laminated members of 2,400 f stress grade, or greater.
- B. **General Requirements for Rough Cut Lumber** - Rough cut lumber for this project may be unseasoned lumber produced by a local sawmill and need not be grade stamped. However, if the quality of any products is questionable, the herein specified grading rules may be applied and defective products will be rejected.
- C. **Plywood For Gussets** - Exterior grade AC to meet current industry standards.

**7.03 STANDARDS**

- A. Lumber Grades shall comply with the current standard grading rules of the West Coast Lumber Inspection Bureau or Western Wood Products Association.

**7.04 WORKMANSHIP**

**General** - Carpentry shall be done in a professional method with all wood members properly cut and joined in the manner shown on the drawings. Lumber shall be furnished slightly over length to allow for field fitting and trimming. Elements shall be constructed to be plumb and true to the alignments and dimensions as planned.

**Fastenings** - Install metal fasteners of the type and at the locations shown on the drawings. Nailed and screwed connections shall be as detailed or specified herein. Where fastenings are not specifically noted on the drawings, install fastenings consistent with normal methods and standards for the trade and meet minimum requirements contained in the International Building Code, current edition.

**7.05 SPECIFIC FASTENING REQUIREMENTS FOR THIS PROJECT**

A. Exterior bronze ceramic coated screws (by Powerpro or equal). These screws shall be used for the following fastenings.

1. 1" Roof lumber to 2"x 6" framing lumber under eaves - 2" screws.
2. 1"x 6" boards to gable end framing - 2" screws.
3. 1"x 4" rough cut trim boards to support members- 2" screws.

B. Sinker Nails - use 10d sinker nails to fasten 1" rough cut roof boards to purlins and blocking. These may also be used to attach plywood gusset plates to framing.

C. Glued joints - Use PL400 construction adhesive or professional grade liquid nails for joining GLB's in table top and for plywood gusset plates. Use exterior grade Elmers glue or equal for installing biscuits in table top.

**7.06 REFERENCE DRAWINGS**

All drawings S1 thru S6.

End of Section

**SECTION 8 - ROOFING****8.01 DESCRIPTION**

This section of the Specifications covers furnishing and installing the following items for the project..

A Cedar shade roofing for the bike shelter roof complete.

**8.02 MATERIALS**

- A. Roofing - No. 1 Blue Label Cedar Shakes - All heartwood vertical grain split Western or Inland Cedar.
- B. Underlayment - 30# asphalt or fiberglass felt to meet all current code and building standards .

**8.03 WORKMANSHIP**

**General** - Roofing methods and workmanship shall be done in a professional manner meeting all current standards of the trade . Ridges shall be capped with mitered cut shakes in the normal manner usual for the trade. Fastenings and exposure dimensions shall meet the shake manufacturer's recommendations and all applicable requirements of the International Building Code.

**8.05 REFERENCE DRAWINGS**

Drawings S1, S2.

End of Section

## SECTION 9 - PAINTING AND FINISHING

### 9.01 DESCRIPTION

- A. This section of the Specifications cover painting and other preparations and wood finishes for the following:
1. Exposed wood and metal surfaces for the main support frames, purlins, blocking, bottom sides of roof boards, secondary framing and both sides of gable ends and trim boards.
  2. Bench seats and table top.
  3. Wood shake roofing.

### 9.02 GENERAL

- A. The intent of finish applications for painting the wood and metal surfaces of the items listed in 9.01 A 1 above is to match the paint mixtures and color schemes used on the park's upper visitor center and lower group use pavilion.
- B. The intent of 9.01 A.2 for finishes on the seating benches and table top is to provide a durable, transparent coating.
- C. The intent of 9.01 A3 is to match the finish used on the Park's other cedar shake roofs.

### 9.03 MATERIALS AND PAINT COLORS FOR 9.02 A

Paint product specifications and color formulas will be as specified below.

**Dark Brown Product** - 2856 Fairfax Brown latex stain.

**Cream Colored Paint**- 716GD #178 Woodtech Sandstone acrylic stain.

**COLOR SCHEME:** All exposed wood and metal portions of the main support frames, gable end framing, trusses and purlins, blocking, and all exposed surfaces of the 1x4" trim boards for the roof shall receive the **dark brown colored product**.

The cream colored paint product shall be applied to the following wood surfaces:

1. Insides, bottom edges, and outsides of 1"x 6" rough cut boards used on the gable ends.
2. Bottom sides of 1" boards used on the roof.
3. Exposed bottom surfaces of the rough cut 2"x 6"s used at the eaves between the bottom purlin and trim boards.

**9.04 MATERIALS FOR 9.02 B**

A Tops and exposed vertical edges of the table top and bench seats shall receive two (2) coats of semigloss clear Aqua Master Varnish by Rodda Paint, or approved equal.

**9.05 MATERIAL FOR 9.02 C**

Cedar shakes will receive one (1) coat of Columbia Woodtech True Cedar 08-700-01 semitransparent oil/alkyd UV stain.

**9.06 PRIME COATINGS**

A Bolt heads, nuts, and washers shall receive a prime coating of red or grey sprayed on primer before finished paint coatings are applied.

B. All steel angle brackets, plates, and other fabricated steel will receive a shop primer as outlined in Sec. 6.06.

C. Wood surfaces will not receive a prime coating.

**9.07 WORKMANSHIP**

All surfaces to receive a coating shall be clean and free of moisture or any other substances that would prevent good adhesion. Indents where recessed screws are placed shall be filled with an exterior caulking that matches the wood color before a transparent finish is applied. Air temperatures shall be within the suitable range recommended for the products to be applied. All work shall be done in a professional manner consistent with the highest standards for the trade.

**9.08 REFERENCE DRAWINGS**

All Drawings S1 thru S6

End of Section

**SECTION 10 - FINAL CLEANUP****10.01 DESCRIPTION**

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

**10.2 EXECUTION****CONTRACTOR RESPONSIBILITIES**

The contractor shall be responsible for final cleanup 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. Reseeding or other resurfacing 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 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-overs ized material. Any new slope or topsoil surfaces shall be hand raked to provide a uniform appearance. All construction related temporary sediment control devices shall be removed as soon as practical.

**10.03 PAYMENT**

All final cleanup work shall be incidental to other work items in the contract and no separate payment shall be made for final cleanup.

End of Section