

SPECIFICATIONS

SPECIFICATIONS FOR WORK

SPECIAL PROVISIONS

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1. PROJECT DESCRIPTION

The Project involves construction work associated with construction of chainlink fencing and bird screening at the Big Springs Hatchery Upper station, Fish, Wildlife & Parks (FWP) project # FWP 3905P, located in Fergus County, MT as identified in the project drawings.

2. PROJECT RELATED CONTACTS

Project contacts are designated as follows:

Owner:	Montana FWP 1420 E. Sixth Ave. PO Box 200701 Helena, MT 59620-0701	Project Representative:	Paul Valle FWP Project Manager 600 N. Park Ave. Helena, MT 59620-0701 406-841-4013 (wk) 406-431-3755 (cell) 406-841-4004 (fax)
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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 investigation 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 Contractor 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 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.

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, manpower, 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. All buried work items shall be inspected by the Project Representative prior to backfilling, or may not be considered for payment.

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

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 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 which shall conform to the provisions of the Contract Documents. Any material condemned or rejected shall be removed at once from the project site. 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.

The Project Representative will have the authority to reject work which does not conform to the Contract Documents and will provide the Owner with a list of defective work and nonconforming materials or equipment. The Owner will then promptly provide the Contractor with the list of defective work on nonconforming materials or equipment.

8. UTILITIES

The exact locations of existing underground 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**

- 8.1 Notification. The Contractor shall contact, in writing, all public and private utility companies that may have utilities that may be 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 utilities 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.
- 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 Specifications, 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 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.

The Contract Plans 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.

9. CONSTRUCTION SAFETY

The Contractor shall be solely and completely responsible for conditions of the jobsite, including safety of all persons (including employees) 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 him 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 Plan Drawings, limit the construction disturbance to 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 road ripping 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 subject to Repair and Replacement Quality as specified in the General Conditions. This includes areas selected by the Contractor outside the defined construction limits for mobilization, offices, equipment, or material storage.

11. PROTECTION OF ADJACENT IMPROVEMENTS

Retain and protect all adjacent improvements not called for removal on the drawings. Restore all damaged items to pre-existing condition.

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, in the opinion of the Project Representative, significantly damage the trees root system or hinder it's chances for survival. Reasonable variations from the plans, as determined by the Project Representative, may be employed to ensure the survival of trees.

13. CONSTRUCTION SURVEYS

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.

14. MATERIALS SALVAGE AND DISPOSAL

If the Owner requests to salvage material removed from the project, notify the Owner within 24 hours prior to delivery at a specific location approved by the Owner.

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

15. STORED MATERIALS

Contractor shall use an approved storage area for materials. Materials and/or equipment purchased by the Contractor may be paid for on a monthly basis providing invoices for said materials and equipment are presented to the Project Representative, and such materials have been approved through the submittal process are stored and insured.

16. STAGING AND STOCKPILING AREA

Contractor shall use staging and stockpiling sites for temporary traffic control devices and equipment as approved by the Owner. Contract drawings 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.

17. 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.

18. 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 shut down construction activities.

19. ACCESS DURING CONSTRUCTION

Provide access to all public and private roadways and approaches along the project throughout the construction period.

20. 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.

21. SANITARY FACILITIES

On-site toilet facilities for employees of Contractor and Subcontractors shall be provided and maintained in a sanitary condition.

22. PROPOSAL ITEM DESCRIPTIONS AND ESTIMATED QUANTITIES

1. Fence:

- * Description: This bid item includes all equipment, labor, materials and associated work for the installation of chain link fencing and bird screening wire. As defined in the specifications and drawings.
- * Estimated Quantity:
 - 1 lump sum

SECTION 02244

CHAIN LINK FENCE

PART 1: GENERAL

1.1 DESCRIPTION

- A. This section covers the construction of chain link fence and gates in accordance with these specifications and in reasonably close conformity with the lines and grades shown on the Plans or established by the Engineer.

1.2 SUBMITTALS

- A. The Contractor shall provide shop drawings and submittals of all chain link fence material and installation details.

PART 2: MATERIALS

2.1 GENERAL

- A. All material used in the construction shall meet the requirements of AASHTO M181, except as specified. The fence shall be Type 1 Zinc-Coated Steel. Zinc coating for Type 1 fabric shall be Class A.
- B. Posts, rails, gate frames, expansion sleeves, wire ties, fabric ties, hog rings, tension wire, miscellaneous fittings, and hardware furnished for use in conjunction with fabric shall be zinc-coated steel.

2.2 FENCING FABRIC

- A. The chain link fence fabric shall be made from wire helically wound and interwoven to form a continuous mesh with approximately uniform, 2" square openings having parallel sides and horizontal and vertical diagonals. Fabric shall be woven from 9-gauge wire.
- B. The height of the fabric shall be as indicated on the drawings. Fabric shall be twisted and barbed at both selvages.

2.3 POSTS, RAILS AND BRACES

- A. Minimum sizes and weights of posts, rails, and braces shall be as shown in the Construction Drawings. Steel posts shall be galvanized. All posts shall be fitted with an approved top designed to fit securely over the post and carry the top rail.

The post top shall fit over the outside of posts and shall exclude moisture from tubular posts.

2.4 TRUSS RODS

- A. Steel truss rods shall be galvanized, 3/8" diameter rods with drop-forged turnbuckles or other approved type of adjustment.

2.5 FABRIC BANDS AND STRETCHER BARS

- A. Steel fabric bands shall be not less than 1/8" thick by 3/4 wide. Aluminum fabric bands shall be not less than 1/8" thick by 7/8" wide.
- B. Steel stretch bars shall be not less than 1/4" thick by 3/4" wide and shall not be shorter than 2" less than the full height of the fabric with which they are being used.

2.6 TIE WIRE

- A. Steel tie wire shall be nine-gauge galvanized wire meeting the requirements of ASTM A116. Steel hog ring fasteners shall be 11- gauge galvanized wire meeting the requirements of ASTM A116. Galvanizing shall be Class 1.

2.7 TENSION WIRE

- A. Steel tension wire shall be seven-gauge galvanized coiled spring tension wire. Galvanizing shall be Class 1 meeting the requirements of ASTM A116.

2.8 GATES

- A. Gates shall be furnished complete with necessary hinges, latch, drop-bar locking device designed for the type of gate and gate posts used on the project, and padlock device. All welding for the assembly of gate frames shall meet the requirements of the AASHTO Specifications, the American Welding Society Specifications, and the Plans and Special Provisions.
- B. Gate frames shall be constructed from steel sections of the shapes and sizes shown in the Table of Fence Supports & Framing. The corners of the gate frame shall be fastened together and reinforced with galvanized malleable-iron fittings designed for the purpose, or they may be welded.
 - 1. Chain link fabric for filling the gate frame shall meet the requirements of Part 2.2 and shall be the same type as used in the fence construction.

PART 3: EXECUTION

3.1 POSTS AND BRACES

- A. Posts shall be spaced at not more than 10' intervals. All intervals shall be measured center-to-center of posts. In determining the post spacing, measurement shall be made parallel to the slope of the existing ground. All posts shall be placed in a vertical position except where designated otherwise.
- B. Unless otherwise indicated in the Drawings, all posts shall be set in concrete. Footing dimensions shall be three feet deep with a diameter of 10-inches on posts in straight runs and 12-inches at corner posts. All concrete footings shall be crowned to shed water.
- C. Where solid rock is encountered without an overburden of soil or loose rock, the posts shall be set at a minimum depth of 14" and end, corner, gate, and pull posts a minimum of 20" into solid rock. The hole shall have a minimum width or diameter of 1" greater than the largest dimension of the post section to be set. The posts shall be cut before installation to lengths that will give the required length of post above ground, or if the contractor so elects, he may use an even length of post set at a greater depth into the solid rock. Not more than two successive shortened posts shall be set. The third must be full length.
- D. Metal posts placed into holes that have been bored into rock or similarly consolidated soils shall be set and plumbed and the hole filled with grout consisting of one part portland cement and three parts clean, uniformly graded sand. The grout shall be thoroughly worked into the holes so as to leave no voids. Where posts are set in the above manner, concrete footings will not be required.
- E. Where solid rock is covered by an overburden of soil or loose rock, the posts shall be set to the full depth shown on the standard drawing unless the penetration into solid rock reaches the minimum depth specified above, in which case the depth of penetration may be terminated. Grouting will be required on the portion of the posts in solid rock.
- F. All posts shall remain solidly in place after backfilling, driving, and until concreting is completed.
- G. Irregularities in the ground line upon which the fence is being built shall be corrected as directed by use of a bulldozer or other equipment that will perform a satisfactory job.
- H. All fencing panels for this project shall include a single 1-5/8" diameter horizontal brace pipe, centered vertically in the panel.

3.2 FENCE FABRIC

- A. Chain link fabric shall be placed on the face of the posts away from the enclosed facility. On curves the fabric on all heights of fence shall be placed on the face of the posts that are on the outside of the curve.
- B. The chain link fabric shall be placed approximately 1" above the ground and on a straight grade between posts by excavating high points of the ground. Filling of depressions will be permitted only upon approval of the Engineer. The fabric shall be stretched taut and securely fastened to the posts. Stretching by motor vehicle will not be permitted. Fastening to end, gate, corner, and pull posts shall be with stretch bars and fabric bands spaced at 1' intervals. The fabric shall be cut, and each span attached independently at all pull and corner posts. Fastening of fabric to line posts shall be at 14" intervals with tie wire, metal bands, or other approved method. The top edge of the fabric shall be fastened to the top rail with tie wires spaced at 18" intervals.
- C. Rolls of wire fabric shall be joined by weaving a single strand into the ends of the rolls to form a continuous mesh.

3.3 TENSION WIRE

- A. A tension wire shall be attached to the bottom of the chain link fabric by means of ring fasteners at a maximum of 24" intervals and secured at the terminal posts or pull posts by means of brace bands.

3.4 GATES

- A. The height of the gate frames shall be equal to the height of fabric used on the fence. Chain link fabric shall be fastened to the end bars of the gate frame by stretcher bars and fabric bands and to the top and bottom of the bars of the gate frames by tie wires in the same manner as specified herein before for the chain link fence fabric or by other approved standard methods.
- B. Welded connections on steel gate frames where the spelter coating has been burned shall be thoroughly cleaned by wire brushing, and all traces of the welding flux and loose or cracked spelter removed. The cleaned areas shall then be painted with two coats of zinc oxide-zinc dust paint compound in a suitable vehicle in the ratio by weight of one part zinc oxide to four parts zinc dust.
- C. The drop-bar locking device for the double metal gates shall be provided with a 12" diameter by 18" deep footing of concrete crowned at the top and provided with a hole to receive the locking bar. The depth of the penetration of the locking bar into the footing shall be as specified by the manufacturer of the locking device.

- D. Keepers shall be provided for each gate, set in concrete, to hold the gate open.

END OF SECTION 02244