YELLOWSTONE WMA
10,000 GALLON WATER STORAGE TANK
Specifications

Description of Upper Wildlife Water System at Yellowstone WMA:

The existing upper wildlife watering system primarily consists of a solar well that can either pump into a 10,000-gallon storage tank that transfers water to three downstream wildlife drinking stations or fills one of those drinking stations located beside the well. These stations are two (2) old concrete vaults that were initially installed to water cattle. Additionally, existing downstream piping, which is planned to be reactivated summer 2023, consists of a gravity 1-1/2" PVC & HDPE piping system and appurtenances that provides water to a new 300-gallon wildlife drinker that is specifically designed to accommodate all forms of wildlife 1.32 miles away. The selected site for the new drinker is much more protected and conducive to use by wildlife.

The Loffler Well and solar pump is in the Southeast Quarter of Section 8 and the 1.32 miles of gravity water line transfers water to the new wildlife drinker in the westerly half of Section 15. See Sheets 1 & 2 of the Plans attached hereto that show the locations of these facilities. See Sheet 3 of the Plans which shows the overall upper wildlife watering system. All facilities herein described are within the Yellowstone Wildlife Management Area near Pompeys Pillar, Montana.

The two primary purposes of the 10,000 Gallon Water Storage Tank are to:

1) Provide water for fire protection in the more remote areas of the WMA
2) Transfer on demand & continuous water source to the three (3) wildlife drinkers

Description of Problem with 10,000 Gallon Water Tank:

The tank is old and rusted out in locations and no longer holds water.

Scope of work for 10,000 Gallon Water Tank Replacement:

Under the proposed scope of work for this item the Contractor shall furnish and install one (1) 10,000 gallon capacity below ground water storage reservoir being comprised of one (1) 10,000 gallon water storage tank, with two (2) 24" manholes. Tank(s) shall meet NSF 61 potable water standards. In addition, the contractor shall furnish all work and water system facilities shown on the **Plans** attached hereto and construct the items listed as **Products** within this specification. More specifically, the contractor shall, plumb, re-tie all water and electrical appurtenances and bury the tank per the manufacture's recommendations at the job site.

Specific items of interest and required shop drawing submittals:

A. Name of supplier, product data, and installation recommendations of proposed water storage tank. Shop drawings shall be submitted for this item.
B. Tank construction recommendations shall ensure that the tank and fittings will not freeze as much as possible in Montana's cold winter conditions. Fish Wildlife and Parks staff has been able to operate the existing tank and well site water system during cold weather conditions successfully. It is anticipated that the new construction will be installed in a manner that will provide cold weather protection equal to or better than existing construction.

C. Shop drawings showing how the tank watertight inlet/outlet bottom connections are made.
D. Shop drawings showing how the valve manifold and 48" ø HDPE manhole shown on Sheet 5 of the plans and associated connections are to be constructed.

Products: The following items and accessories shall be included in the scope of work to be performed by the Contractor:

A. One 10,000-gallon water storage tanks. The tanks can be constructed of fiberglass or high-density polyethylene and have a minimum burial depth of one (1) foot.

B. Two (2) 24" diameter I.D. shell manholes/risers with lids and rings.

C. Overflow pipe to be installed and tied into existing wildlife concrete drinking station.

D. One (1) 1/2" diameter or larger PVC inlet/outlet connection in tank bottom with watertight connection fittings

E. A new valve manifold along with a 48" ø HDPE manhole shown on Sheet 5 of the Plans.

F. Existing piping is 1 ½ inch diameter Schedule 40 PVC. All new HDPE piping called for on the Plans shall have a minimum burial depth of six (6) feet and be heat fused butt-welded HDPE SDR 11, 1 ½ inch diameter pipe. All new PVC piping, valves, couplings, tees, bends and appurtenances shall have a pressure rating of Schedule 40 or better.

G. Contractor work also includes site improvement work, fence removal and replacement as necessary to an in-kind condition, all piping, valves, and fittings, electrical; and all other items not listed above to provide for a working potable water storage tank. The tank shell will be tested hydrostatically in accordance with AWWA D120, 5.2.3.1 as follows. Attach a 4" standpipe that extends 4 feet above the top of the tank. Fill the tanks and standpipe with water and let it stand for 24 hours. Examine for leakage or drop in water elevation within the standpipe. The tank shall have no visible signs of leakage, and the water level shall not fall more than 0.1-inches within the 24-hour test period. The Contractor shall conduct the test and coordinate the testing time. Testing shall be witnessed by the Engineer.

Delivery: From the notice to award the tank needs to be delivered to the job site within six (6) months.

Acceptable Manufactures: Tanks shall be High Density Polyethylene (HDPE) tanks made by Norwesco Inc, Snyder Industries Inc, or Thermosetting Fiberglass-Reinforced Plastic (FRP) Tanks made by Fiberglass Structures in Laurel Mt, Fiberglass Tank Solutions, Montana Fiberglass in Lewistown Mt; or approved equal.

Exhibits: See attached exhibits A,B,C,D&E which are being provided for informational purposes.

Plans: The Plans attached hereto entitled "Yellowstone WMA 10,000 Gallon Water Tank Replacement – 2023 FWP Project # 7215250" and dated February 10, 2023, will be made part of the contract between the selected Contractor and Fish Wildlife and Parks.

Payment: The payment for all work shall be lump sum

Exhibit A

High Density Polyethylene Water Tank

Exhibit B
Fiberglass Tank

Exhibit C

Existing Tank

Looking North

EXHIBIT D

Existing Tank
Looking East

Exhibit E
Loffler Well Site