

PART 4 MEASUREMENT AND PAYMENT

4.1 GENERAL

Delete this section and add the following:

- A. Cast-in-Place Concrete Boat Ramp will be measured and paid for by the square foot (SF) in place including all labor, equipment, materials, and incidentals required for the completion of the work.
- B. Cast-in-Place Concrete ADA Parking Slab will be measured and paid for by the square foot (SF) in place including all labor, equipment, materials, and incidental required for the completion of the work.
- C. Cast-in-Place Concrete Sidewalk will be measured and paid for by the square foot (SF) in place including all labor, equipment, materials, and incidental required for the completion of the work.

END OF SECTION 03310

SECTION 03311
PUSH-IN-SLAB CONCRETE BOAT RAMP

Added Section.

PART 1 GENERAL

1.1 DESCRIPTION

- A. This work consists of furnishing and installing a submerged concrete push-in-slab boat ramp surface.

PART 2 PRODUCTS

2.1 GENERAL

- A. Refer to Section 03310 for structural concrete materials and ramp surface finish.
- B. Refer to Section 03210 for reinforcing steel materials.
- C. Rail System
 - 1. Furnish new material consisting of W6x20 steel beams or approved equal to support push-in slab during installation.

PART 3 EXECUTION

3.1 INSTALLATION

- A. Casting
 - 1. Push-in-slab shall be placed on approximately a matching grade to that of the final grade of the ramp. Imported embankment material may be necessary to construct the push-in slab at the matching ramp grade, as well as provide a cushion for mechanical pushing equipment.
 - 2. Push-in-slabs shall be placed on a layer of compacted aggregate (6 inch minimum thickness) and shall be allowed to cure for a minimum of 14 days prior to movement. Provide a smooth surface to reduce friction forces during push-in slab movement (i.e. plastic sheeting).
 - 3. Push-in-slabs shall be built to a size that can be handled by the Contractor's equipment, preferably one slab per site. Each slab shall be constructed to a length that can be controlled and placed in the desired position.
 - 4. Remove all imported embankment from the ramp surface after the push-in slab is in place. Cleanliness of the ramp surface must be approved by the Project Representative, prior to final acceptance.

B. Rail System

1. Rails shall be placed at the grade specified in the plans. Space steel beams longitudinally as shown on the project drawings. Beams shall have adequate cross braces to insure beams remain parallel as slab is pushed over beams.
2. Six inches (6") of clean, screened crushed $\frac{3}{4}$ " gravel leveling course shall be placed around the railing system and screeded to top of rail system prior to push-in slab installation. See Section 02235.

PART 4 MEASUREMENT AND PAYMENT

4.1 GENERAL

- A. Push-In-Slab Concrete Boat Ramp including excavation, preparation, rail system installation will be measured and paid for by the square foot (SF) in place including all labor, equipment, materials, and incidental required for the completion of the work.

END OF SECTION 03311

SECTION 06310
WOOD RETAINING WALL

Added Section.

PART 1 GENERAL

1.1 DESCRIPTION

- A. This work consists of furnishing and placement of a wood retaining wall as shown on the project drawings or as directed by the Engineer. This work also consists of complete installation of drill concrete footings appurtenant to wall support system.

PART 2 PRODUCTS

2.1 WOOD POSTS

- A. Furnish posts from dry no. 1 grade Douglas fir conforming to AASHTO M 168. Treat the posts with water-borne preservative ACA, ACZA, or CCA according to AWWA Standard C14 except the minimum preservative retention is 0.40 pounds per cubic foot. Minimum post size shall be 4"x4" of variable length. See plans for length requirements.

2.2 WOOD LAGGING

- A. Furnish lagging from dry no. 1 grade Douglas fir conforming to AASHTO M 168. Treat the posts with water-borne preservative ACA, ACZA, or CCA according to AWWA Standard C14 except the minimum preservative retention is 0.40 pounds per cubic foot. Minimum lagging size shall be 2"x6" of variable length. Lagging shall terminate

2.3 HARDWARE

- A. Furnish galvanized steel bridge spikes or d16 nails for fasteners.

PART 3 EXECUTION

3.1 GENERAL

- A. The retaining wall location may be changed to fit field conditions as approved by the Engineer. Determine post lengths based on required embedment depth plus retained soil height plus six inches at the specified locations as shown on the Plans.

PART 4 MEASUREMENT AND PAYMENT

4.1 PAYMENT

- A. Wood retaining wall installation will be measured and paid for on a per lineal foot basis.

END OF SECTION 06310

SECTION 99999
PRE-CAST CONCRETE VAULT LATRINE

Added Section.

PART 1 GENERAL

1.1 DESCRIPTION

- A. This work consists of site preparation (excavation and leveling), backfilling and compaction, and landscaping for Fishing Access Site (FAS) pre-cast concrete vault latrines at designated areas on the project drawings or as directed by the Project Representative.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Pre-Cast Concrete Vault Latrine.
1. Montana Department of Fish, Wildlife and Parks will supply the latrine through Missoula Concrete Products, Missoula, MT. The contractor shall coordinate the delivery with Missoula Concrete Products. The contractor is advised to contact **Dale Clouse @ Missoula Concrete Products (406)-549-9682**, as soon as a schedule is established to insure delivery in a timely manner.
- B. Gravel Bedding for Latrine.
1. The Contractor shall use ¾" minus Crushed Base Course Material as specified in Section 02235 - Crushed Base Course for gravel bedding for the latrine.

PART 3 EXECUTION

3.1 GENERAL

Each latrine location shall be staked in the field by the Project Representative. Refer to the project drawings for pre-cast concrete vault toilet installation locations, details, and dimensions.

3.2 EXCAVATION

Excavate for the installation of the toilet vault to a depth that will allow the structure site to be free draining after installation is completed. Salvage conserved topsoil.

3.3 FINISH FLOOR ELEVATION

Finish floor elevation shall be a minimum of 12 to 24 inches above natural grade measured at the front entrance.

3.4 COMPACTION OF EARTH UNDER TOILET VAULTS

Prior to installation of the toilet building, compact the natural ground underlying the vault with a minimum of three passes with a whacker-type mechanical tamper or equivalent approved by the Project Representative.

3.5 INSTALLATION OF GRAVEL BEDDING UNDER TOILET VAULTS

Install 12 inches of compacted gravel bedding material for leveling course. Compact leveling course with one pass with a whacker-type mechanical tamper or equivalent approved by the Project Representative. Grade level course so there will be no high spots in middle of vault bottom. Finished leveling course shall not vary more than 0.01 foot for the four corners of the vault.

3.6 BACKFILL AND DISPOSAL OF DEBRIS

Backfill around structures, including under exterior slab. Use excavated material for backfill except that rocks larger than six inches in maximum dimension shall not be placed within six inches of exterior of vault walls. Stumps, roots, brush, and other vegetation shall be removed from the site and disposed of in a legal manner by the contractor.

3.7 COMPACTION UNDER ENTRANCE SLAB

Fill under entrance slab shall have excavated material placed in six-inch loose lifts, and compacted with a minimum of two passes with a whacker-type mechanical compactor or equivalent approved by the Project Representative.

3.8 FILL AROUND LATRINES AND SLAB

Spread excess excavated material from vault around structure. Final backfill surface shall be flush with the top of the front slab. Allowance shall be made for the depth of the topsoil. Grade backfill away from structure at maximum slope of five percent unless otherwise noted in the plans or specs or approved by the Project Representative.

3.9 LANDSCAPING

Spread conserved topsoil as final 2" layer after rough grading is completed. Areas disturbed by excavation, backfilling, and stockpiling of excavated materials shall be hand raked to removed exposed rocks over one-inch in maximum dimension. Oversize rocks removed from the surface shall be disposed of off-site or with the approval of the Project Representative used as fill in other items in the contract.

3.10 HIDDEN GROUND CONDITION

If the contractor uncovers bedrock, boulders too big to remove, ground water or other unexpected conditions, he shall immediately contact the Project Representative for instructions.

3.11 TEMPORARY FENCING

A. All excavations left open overnight shall be fenced with polyethylene plastic safety fence, orange color, 48" high, and 4" maximum mesh openings. Fencing shall be secured to steel posts on the side away from the excavation unless otherwise approved in advance by the Project Representative.

1. The bottom of the fence shall generally follow the contour of the ground.

2. Maximum spacing of the steel posts shall be ten feet.

B. No excavations will be left open more than seven days unless otherwise approved by the Project Representative.

3.12 PATHWAYS

A. Construct a pathway between each latrine installation and the adjacent roadway or parking area. Requirements of each pathway are as follows:

1. Use ¾" minus Crushed Base gravel per Subsection 02235 for all pathway surfaces.

2. Construct pathways that follow existing ground contours as much as possible. Limit excessive excavation and embankment.

3. Cross slopes on the pathway shall be 1%.

4. The running slope of the pathway shall not exceed 5%.

5. Slopes will be checked using a 3' level.

6. Ridges or other sudden changes in slope shall not exceed of 1/2". The top surface of the path shall match the top surface of the Vault Latrine Slab within 1/2".

PART 4 MEASUREMENT AND PAYMENT

4.1 GENERAL

- A. FAS Latrine Installations will be measured and paid for by the Lump Sum (LPSM) including all labor, equipment, materials, and incidentals required for the completion of the work.

END OF SECTION 99999