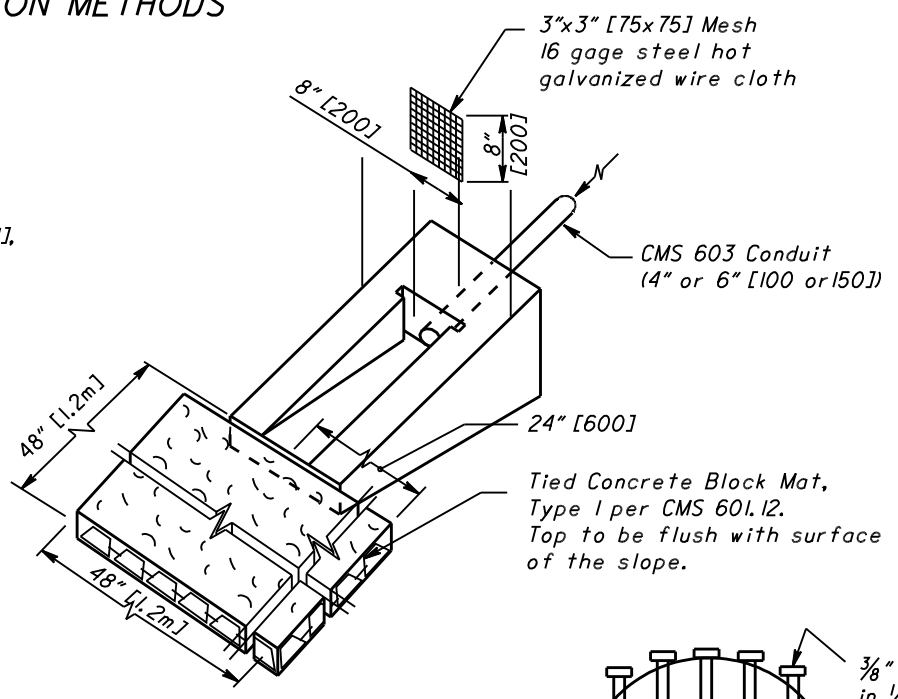
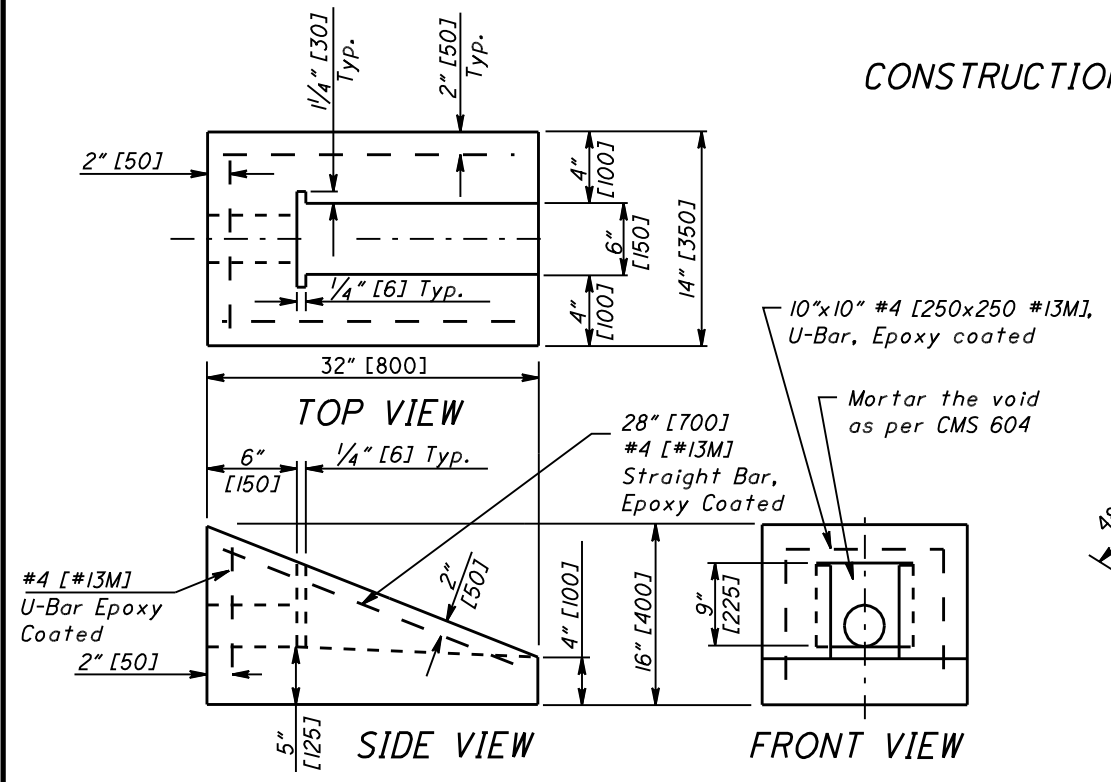
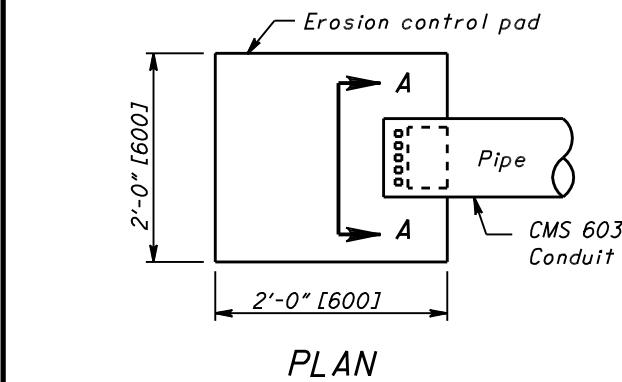
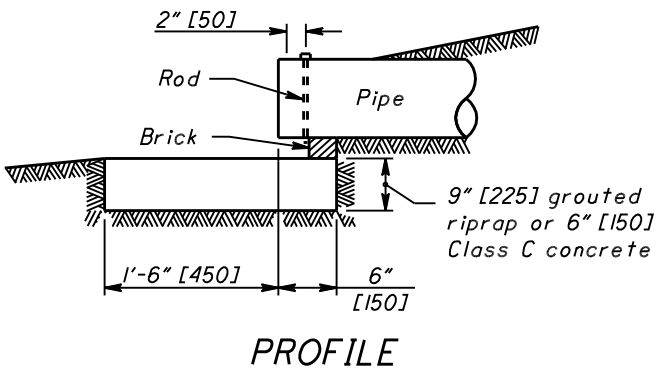


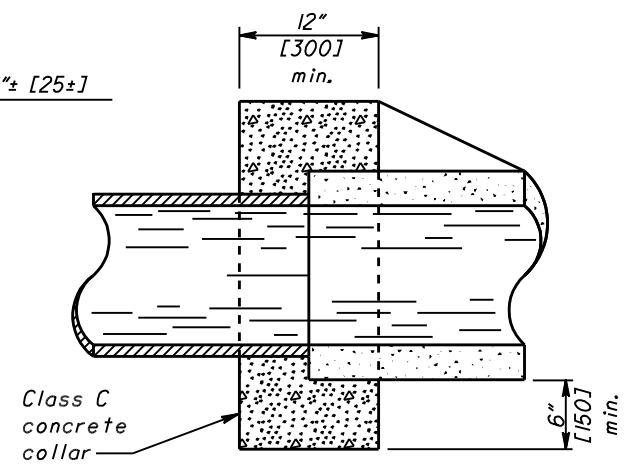
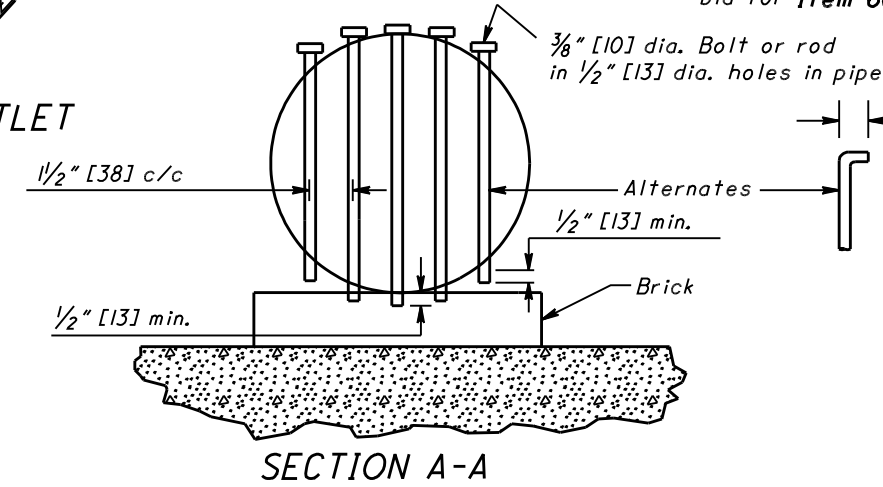
### CONSTRUCTION METHODS



### PRECAST REINFORCED CONCRETE OUTLET



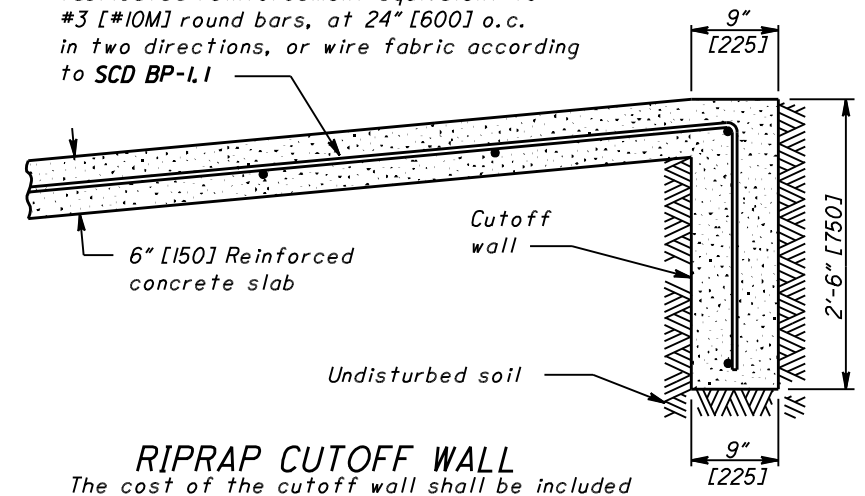
### EROSION CONTROL PAD AND ANIMAL GUARD FOR OUTLET PIPE



### MASONRY COLLAR

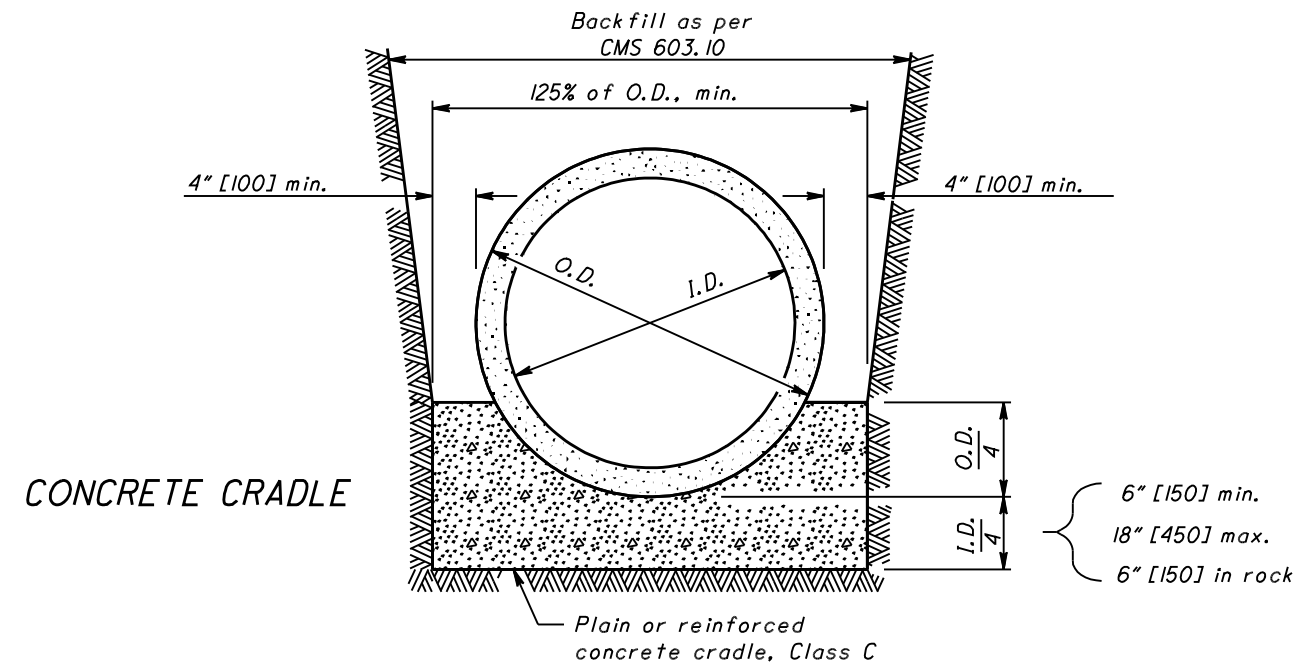
CONDUIT SIZE	4" [100]	6" [150]	8" [200]	10" [250]	12" [300]	15" [375]	18" [450]
No. of Bolts	2	3	5	6	7	9	11

As per CMS 601.04.D, reinforce the slab approximately midway between the top and bottom of the slab, with steel bars or fabricated reinforcement equivalent to #3 [#10M] round bars, at 24" [600] o.c. in two directions, or wire fabric according to SCD BP-1.1



### RIPRAP CUTOFF WALL

The cost of the cutoff wall shall be included in the unit price bid for Item 601 Riprap using 6" [150] reinforced concrete slab.



### CONCRETE CRADLE

### NOTES

**MASONRY COLLARS:** A masonry collar shall be provided where plans require that a pipe extension be joined to the end of an existing pipe with a butt joint. The cost shall be included in the unit price bid for the new conduit.

**EROSION CONTROL PAD AND ANIMAL GUARDS:** These items shall be provided at the outlet end of all farm drains except where they outlet into a drainage structure. The steel bolts or rods for the animal guard shall be galvanized per CMS 710.06. In lieu of drilling or punching the 1/2" [13] diameter holes into the pipe, a metal collar meeting all of the above requirements may be clamped onto the pipe if approved by the Engineer.

**PAYMENT:** Erosion control pads, masonry collars, and animal guards shall be included in the unit price bid for Item 603 - -- inch [mm] Conduit, Type -- .

**PRECAST REINFORCED CONCRETE OUTLET:** The concrete outlet shall meet the requirements of CMS 604.

**PAYMENT:** The precast reinforced concrete outlet shall be paid at the contract unit price bid for Item 604 - Precast Reinforced Concrete Outlet. The Mortar; Tied Concrete Block Mat, Type I, and Wire Mesh shall be included in the unit price bid for Item 601 - Tied Concrete Block Mat, Type I.

### NOTES

**SPRING DRAIN:** Aggregates, stone or paper, wire cloth burlap, or geotextile fabric backfill and necessary excavation for spring drains shall be included for payment in the unit price bid per Foot [Meter] for **Item 605 - Aggregate Drains for Springs.**

**PAYMENT:** The pipe shall be included in the unit price bid per Foot [Meter] for **Item 605 - 6" [150] Unclassified Pipe Underdrains for Springs.**

**PRECAST REINFORCED CONCRETE OUTLET:** The concrete outlet shall meet the requirement of **CMS 604.**

**PAYMENT:** The precast reinforced concrete outlet shall be paid at the contract unit price bid for **Item 604 - Precast Reinforced Concrete Outlet.**

The Mortar, Tied Concrete Block Mat, Type 1, and Wire Mesh shall be included in the unit price bid for **Item 601 - Tied Concrete Block Mat, Type 1.**

Precast reinforced concrete outlet

3' [900] min.  
Pay length

4" [100] min.

A

A

3' [900]

4" [100] min. Pipe Underdrain

Tied Concrete Block Mat, Type 1, 48"x48" [1.2m x 1.2m]

### PLAN

Tanned paper, stone or burlap or Type B Geotextile fabric per CMS 712.09.

Finished Grade

No. 8 Aggregate

Granular filter as per CMS 605.03.C

Backfill as per CMS 603.10

6" [150]

Precast reinforced concrete outlet

No. 57 or No. 467 Aggregate

2'-6" [750]

Tied Concrete Block Mat, Type 1, 48"x48" [1.2m x 1.2m]

Item 605, 6" [150] Unclassified Pipe Underdrains for Springs

6" [150]

18" [450]

### SECTION A-A

### SPRING DRAIN DETAIL