CONSTRUCTION METHODS

PRECAST REINFORCED CONCRETE OUTLET

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 ½" [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 1, Grouted; and Wire Mesh shall be included in the unit price bid for **Item 601 - Tied Concrete Block Mat, Type 1.**

EROSION CONTROL PAD AND ANIMAL GUARD FOR OUTLET PIPE

SECTION A-A

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

MASONRY COLLAR

CONCRETE CRADLE

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.

OHIO DEPARTMENT OF TRANSPORTATION
STATE HYDRAULIC ENGINEER

DATE
7-20-01
7-19-02
7-18-03
1-21-05

HYDRAULIC ENGINEER
J. Syar

All metric dimensions (in brackets [ ]) are in millimeters unless otherwise noted.

OFFICE OF STRUCTURAL ENGINEERING

STANDARD HYDRAULIC CONSTRUCTION DRAWING
OUTLETS, DRAINS AND SEWERS

NUMBER
DM-1.1

PLAN

NOTES

SPRING DRAIN: Aggregates, tarred paper, tarred 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 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, Grouted; and Wire Mesh shall be included in the unit price bid for **Item 601 - Tied Concrete Block Mat, Type I.**

SECTION A-A

SPRING DRAIN DETAIL

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