
Special Specification 4062

Trench Drain System



1. DESCRIPTION

This Item governs for furnishing and installing precast polymer concrete trench drains. The approved system must be in accordance with these specifications, the details shown on the plans and as directed by the Engineer. The work must include the installation of the precast drains and associated items as indicated in the contract plans.

2. MATERIALS

The precast trench drain must be manufactured using polyester polymer concrete. The dimensions of the trench drain units must have an outside width of 6.1 in., an inside width of 4 in. with a radius bottom, have a minimum wall thickness of 0.4 in., and a nominal length of 3.28 ft. The trench drains must consist of either pre-sloped channels with a minimum invert slope of 0.6% or be non-sloping, as shown on the plans. The maximum channel depths must be as shown in the plans. The channels must have tongue and groove joints and be capable of being interlocked with adjoining channels.

Channels must have available a vertical cut out capable of adapting to a 6 in. discharge pipe. Trench drain connections to outlet pipes must be constructed according to the plans. All outfall pipes and fittings must be as listed in Item 481, "PVC Pipe for Bridge Drains."

Fabricate trench drain grates must be cast Ductile Iron in accordance with ASTM A 536, Grade 65-45-12 and meet an AASHTO proof load rating of AASHTO M 306, unless otherwise noted in the plans. Grates must have a 66% (minimum) open area. Grates must be galvanized in accordance with ASTM A 123 and have a device to lock the grate snugly to the channel.

3. CONSTRUCTION

The trench drain system must be installed in a drainage swale behind a cast-in-place retaining wall, as shown on the plans. The precast channels must be placed to the specified alignment and grade shown on the plans. The concrete encasement adjacent to and beneath the trench drain system must be cast-in-place concrete with a minimum thickness of 4 in., as shown in the plans.

4. MEASUREMENT

Trench Drains will be measured by the linear foot of drain (including precast polymer concrete channels and associated items), complete in. No payment will be made for Trench Drain system installed in excess of the length specified in the plans.

5. PAYMENT

The work performed and materials furnished in accordance with this item and measured as provided under "Measurement" will be paid for at the unit price bid for "Trench Drains" of the size specified.

This price will be full compensation for furnishing all materials (including channels, grates, support bars, tie-down bolts, end plates, and outlet plates), tools, equipment, and incidentals and for doing all the work involved in installing the trench drain system, complete in place.

All riprap required by the plans will be measured and paid for in accordance with the provisions of Item 432, "Riprap," or Item 420, "Concrete Structures."

All outfall pipes required by the plans will be measured and paid for in accordance with the provisions of Item 481, "PVC Pipe for Bridge Drains."