

PART 1 - GENERAL

1.1 Work

- .1 The *Work* of this section shall include all labour, materials, equipment and services for the supply and installation of the subsurface drainage system for conditions on grade as indicated on the *Contract Drawings* and as noted in the specifications.

1.2 Related work in other sections:

- .1 Grade preparation

PART 2 - MATERIALS

2.1 Pipe

- .1 Perforated 76 OD PVC Rigid Drain Pipe as specified and as indicated on *Contract Drawings*.

2.2 Slab Drains and Grates

Slab Drains and Grates: (CB)

Spec. 6 O.D., FD300-4

CI Collar & Grate Assembly

Code [5021812]

+

B4 – 3 CI DRN

Body MJ[5021057]

+

FC2 Hdwe Pack

F/roof DRNS [5022436]

+

3MJ CPLG W/GSKT

[0425656]

Source: Contact local supplier.

2.3 Granular filter material to following requirements

- .1 Screened washed drain rock consisting of hard durable particles free from clay lumps, cementation, organic material, frozen material and other deleterious materials.
- .2 Gradations to be within limits specified when tested to ASTM C136. Sieve sizes to CAN/CGSB-8.1.

| <u>Sieve Designation</u> | <u>Percent Passing</u> |
|--------------------------|------------------------|
| 25mm | 100 |
| 19mm | 0-100 |
| 9.5mm | 0-5 |
| 4.75mm | 0 |

- 2.4 Conformance
 - .1 Drawings for location
- 2.5 References
 - .1 ASTM C136-84a, Method for Sieve Analysis of Fine and Coarse Aggregates.
 - .2 CAN/CSA-B182.1-M87, Plastic Drain and Sewer Pipe and Pipe Fittings.
- 2.6 Samples
 - .1 Inform *Contract Administrator* prior to commencing *Work*, of proposed source of bedding and filter materials and provide access for sampling if required.
- 2.7 Material Certification
 - .1 Submit manufacturer's test data and certification that drain pipe materials meet requirements of this section prior to commencing *Work*.
 - .2 Certification to be marked on pipe.
 - .3 Drainage pipes to be 76 ϕ PVC, for de-watering: perforated with filter cloth (see Spec below) and 29mm crushed granular as indicated. For under-slab drainage from slab drains, manholes, CB's: use 76 ϕ PVC solid.
 - .4 Filter Fabric: around drain rock at footing drains shall be heat bonded woven polypropylene fabric: Mirafi P-150, as supplied by Dominion Textile, Terrafix 270R as supplied by Steel Industrial Products, Nilex 6-14 filter fabric or approved equivalent.

PART 3 - EXECUTION

- 3.1 Inspection
 - .1 Ensure graded sub-grade conforms with required drainage pattern before placing filter bed material.
 - .2 Report to the *Contract Administrator* improper slopes, unstable areas, areas requiring addition compaction or other unsatisfactory conditions.
- 3.2 Installation
 - .1 Pipe Bedding:
 - .2 Cut trenches in compacted sub-base and set grade to drain into existing storm sewer system as noted on all grading plans.
 - .3 Place drain rock fill and any specified filter cloth after pipe installation is approved.

3.3 Pipe Bedding Insert

- .1 Cut trenches as indicated in detail
- .2 Ensure pipe interior and coupling surfaces are clean before joining.
- .3 Lay to slope of 1:100 minimum, from perforated pipe to disposal source. Make joints watertight.
- .4 Do not use shims to establish pipe slope.
- .5 Use fittings recommended by manufacturer except where indicated otherwise.
- .6 Protect pipe ends from damage and ingress of foreign material.

3.4 Filter Bed Backfill

- .1 Place drain rock fill after pipe installation is approved.

3.5 Piping

- .1 Piping shall be neatly and securely installed to a good standard of workmanship. Pipe inverts as constructed shall be within 15mm of the design alignment.