

## Item C605 – Underdrains

- C605.1 Description**
- C605.2 Material and Construction**
- C605.3 Restoration**
- C605.4 Method of Measurement**
- C605.5 Basis of Payment**

**C605.1 Description.** This work shall consist of constructing pipe underdrains with granular filter material, filter fabric sock, and pipe in accordance with these specifications and in conformity with lines, grades and locations shown on the plans or established by the Engineer. This item shall include all necessary excavations and backfill, furnishing and placing pipe; furnishing and installing all necessary pipe bends, tees, reducers, branches, and caps of a type at least equal to the pipe of which they become a part; granular filter material; filter fabric sock; restoration with topsoil, seed and mulch in accordance with Item C659; and all other necessary materials to complete the designated drains; and the removal and disposal of all surplus excavation and discarded materials in accordance with Item 203.

The work done shall conform to ODOT Item 605, Underdrains, of the Construction and Materials Manual, latest edition, and shall include the following supplemental specifications.

**C605.2 Material and Construction.** Pipe to be installed back of curb in the grass area and through driveways shall be trench underdrain per ODOT Item 707.31. Yard drains and roof drains shall not be connected directly to the underdrain. They shall be connected to the gravel trench via a "showerhead". A City representative shall be notified as to the locations of all such connections and the location of each connection shall be marked on the curb. The trench excavation shall be a minimum of 18 inches wide so as not to cause damage to the adjacent curb, and 30 inches deep.

In locations where underdrain is installed through a concrete driveway approach, the concrete shall be saw-cut to the first joint, or as directed by Engineer. At the completion of the underdrain installation, the driveway shall be repaired according to Item C452 for Concrete Driveway.

In locations where underdrain is installed through an asphalt driveway approach, the asphalt shall be saw-cut 2 feet back of and parallel to the curb, or as directed by Engineer. Repair of the asphalt drive shall be done according to Item C441 (448), Asphalt Driveway.

The bedding material shall be Size No. 8 - washed stone, unless otherwise directed by the Engineer.

All underdrains shall originate and outlet as directed by the Engineer. Typically the outlet will be into a catch basin with the pipe mortared in place through the catch basin

wall. Connection shall be stucco sealed on the inside and the outside of the catch basin.

**C605.3 Restoration.** Restoration of asphalt or concrete driveways shall be done in accordance with Item C441 (448) or C452, respectively. Restoration of the grassed areas shall be done with topsoil, seed and mulch in accordance with Item C659 or C660.

**C605.4 Method of Measurement.** The quantity to be paid for shall be the actual number of linear feet of underdrain, complete and in place. All measurements will be made from end to end of each run of pipe.

**C605.5 Basis of Payment.** The price bid for this item shall include all labor, equipment and material necessary for the excavation per Item 203; granular backfill placement; pipe installation with filter fabric sock, including bends and connections to existing sump pump outlets, etc.; connections into catch basins; and placement of topsoil, as directed by the Engineer. All driveway apron removal and restoration back of and parallel to the curb shall be paid for under Item C441 (448) or C452. All backfill, placement of topsoil shall be included in this item.

Payment will be based on the unit price bid:

<b>Item</b>	<b>Unit</b>	<b>Description</b>
C605	Linear Foot	___" Shallow Pipe Underdrain