

Section 310

1 Payment will be made under:

Pay Item

___" Drainage Pipe
___" Drainage Pipe Elbows

Pay Unit

Linear Foot
Each

2

**SECTION 310
PIPE CULVERTS**

3

4 **310-1 DESCRIPTION**

5 Furnish and install drainage pipe at locations and size called for in the contract documents.
6 The work includes construction of joints and connections to other pipes, endwalls and
7 drainage structures.

8 **310-2 MATERIALS**

9 Refer to Division 10.

Item

Concrete Pipe Tees and Elbows
Corrugated Aluminum Alloy Pipe Culvert
Corrugated Aluminum Alloy Pipe Tees and Elbows
Corrugated Steel Culvert Pipe and Pipe Arch
Corrugated Steel Eccentric Reducers
Corrugated Steel Pipe Tees and Elbows
HDPE Smooth Lined Corrugated Plastic Pipe
Precast Concrete Pipe End Sections
Prefabricated Corrugated Steel Pipe End Sections
PVC Pipe
Reinforced Concrete Culvert Pipe

Section

1032-6(D)
1032-2(A)
1032-2(B)
1032-3(A)
1032-3(D)
1032-3(C)
1032-7
1032-6(C)
1032-3(B)
1032-8
1032-6(B)

10 Use suppliers of metal pipe culverts, fittings and all other accessories covered by this section
11 that meet the Department’s Brand Certification program requirements for metal pipe culverts
12 and are listed on the Materials and Tests Unit’s pre-approved list for suppliers of metal pipe
13 culvert. The pre-approved list is available on the Department’s website.

14 Do not use plain galvanized or aluminized corrugated steel pipe in the following counties:

15 Beaufort, Bertie, Bladen, Brunswick, Camden, Carteret, Chowan, Columbus,
16 Craven, Currituck, Dare, Gates, Hertford, Hyde, Jones, Martin, New Hanover,
17 Onslow, Pamlico, Pasquotank, Pender, Perquimans, Tyrell and Washington.

18 **310-3 PIPE INSTALLATION**

19 Install pipe, pipe tees and elbows according to Section 300.

20 **310-4 SIDE DRAIN PIPE**

21 Define “side drain pipe” as storm drain pipe running parallel to the roadway to include pipe in
22 medians, outside ditches, driveways and under shoulder berm gutter along outside shoulders
23 greater than 4 feet wide.

24 Where shown in the plans, side drain pipe may be Class II reinforced concrete pipe,
25 aluminized corrugated steel pipe, corrugated aluminum alloy pipe, HDPE pipe or PVC pipe.
26 Use of corrugated steel pipe is restricted in the counties listed in Article 310-2. Install side
27 drain pipe in accordance to Section 300. Cover for side drain pipe shall be at least one foot.

1 **310-5 PIPE END SECTIONS**

2 Choose which material to use for the required end sections. Both corrugated steel and
 3 concrete pipe end sections will work on concrete pipe, corrugated steel pipe and HDPE
 4 smooth lined corrugated plastic pipe.

5 **310-6 MEASUREMENT AND PAYMENT**

6 *Pipe* will be measured and paid as the actual number of linear feet of pipe that has been
 7 incorporated into the completed and accepted work. Measurement of pipe will be made by
 8 counting the number of joints used and multiplying by the length of the joint to obtain the
 9 number of linear feet of pipe installed and accepted. Measurements of partial joints will be
 10 made along the longest length of the partial joint to the nearest 0.1 feet. Select bedding and
 11 backfill material will be included in the cost of the installed pipe.

12 *Pipe End Sections, Tees, Elbows and Eccentric Reducers* will be measured and paid as the
 13 actual number of each of these items incorporated into the completed and accepted work.

14 Payment will be made under:

Pay Item	Pay Unit
___" R.C. Pipe Culverts, Class _____	Linear Foot
___" x ___" x ___" R.C. Pipe Tees, Class _____	Each
___" R.C. Pipe Elbows, Class _____	Each
___" C.A.A. Pipe Culvert, ___" Thick	Linear Foot
___" x ___" x ___" C.A.A. Pipe Tees, ___" Thick	Each
___" C.A.A. Pipe Elbows, ___" Thick	Each
___" C.S. Pipe Culverts, ___" Thick	Linear Foot
___" x ___" C.S. Pipe Arch Culverts, ___" Thick	Linear Foot
___" x ___" x ___" C.S. Pipe Tees, ___" Thick	Each
___" C.S. Pipe Elbows, ___" Thick	Each
___" x ___" C.S. Eccentric Reducers, ___" Thick	Each
___" HDPE Pipe Culverts	Linear Foot
___" PVC Pipe Culverts	Linear Foot
___" Side Drain Pipe	Linear Foot
___" Side Drain Pipe Elbows	Each
___" Pipe End Section	Each

15

SECTION 330

16

WELDED STEEL PIPE17 **330-1 DESCRIPTION**

18 This work shall consist of furnishing and installing welded steel pipe by trenchless methods as
 19 shown in the contract and as directed.

20 **330-2 MATERIALS**

21 Refer to Division 10.

Item	Section
Welded Steel Pipe	1032-5

22 Use suppliers of metal pipe culverts, fittings and all other accessories covered by this section
 23 that meet the Department's Brand Certification program requirements for metal pipe culverts
 24 and are listed on Department's pre-approved list for suppliers of metal pipe culvert. The pre-
 25 approved list is available on the Department's website.