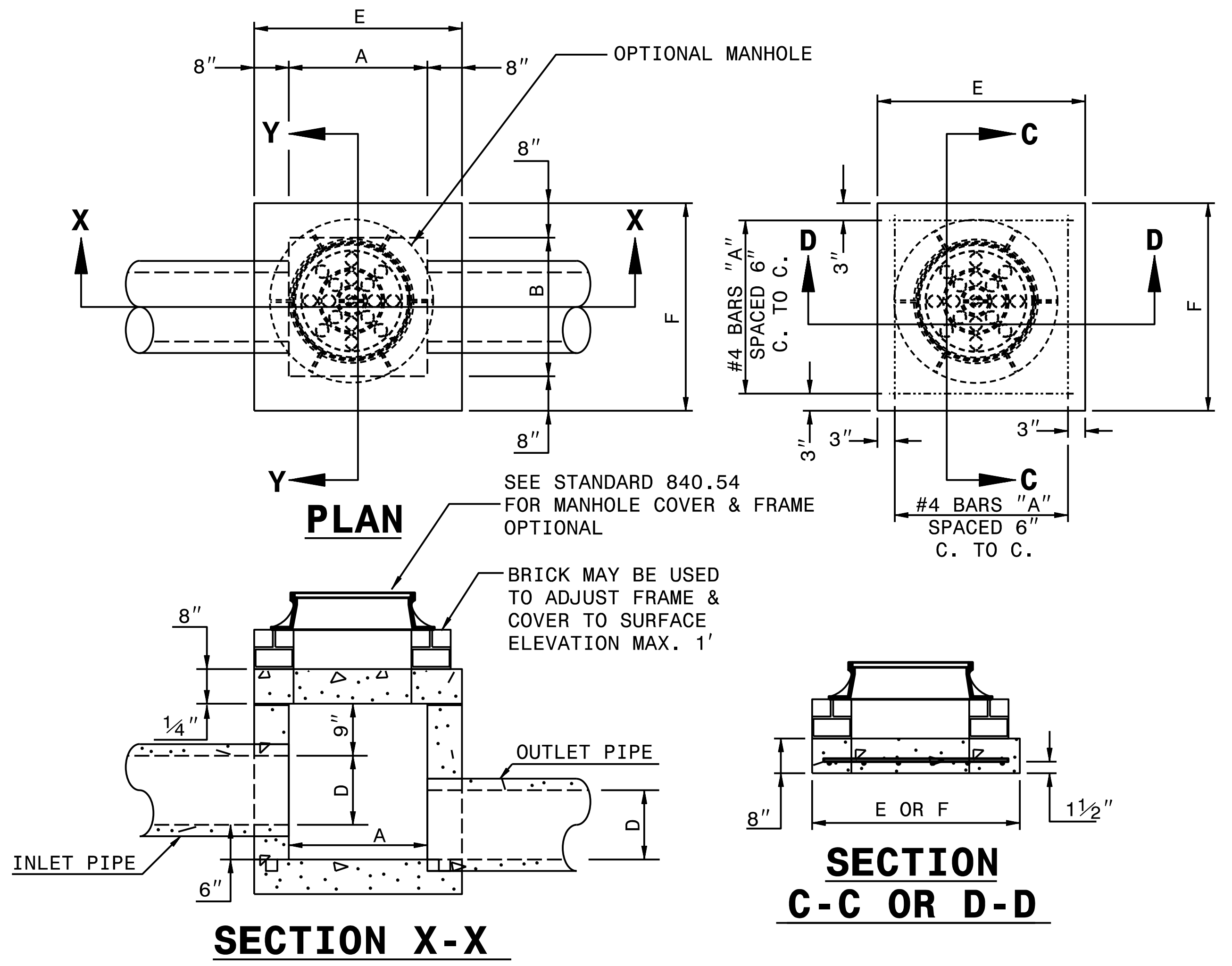


STATE OF NORTH CAROLINA  
DEPT. OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
RALEIGH, N.C.

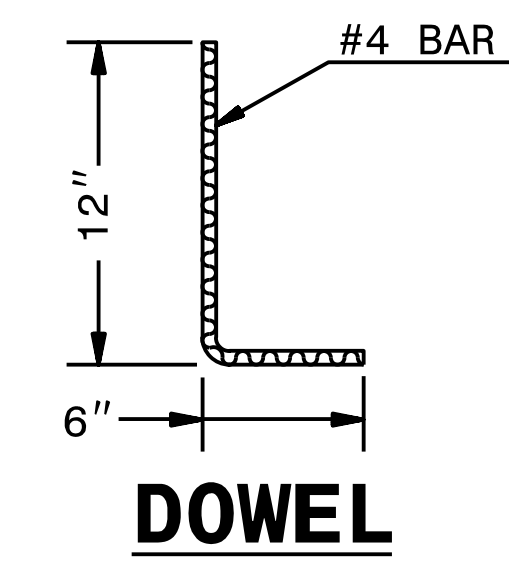
ROADWAY DETAIL DRAWING FOR  
**CONCRETE JUNCTION BOX**  
(WITH OPTIONAL MANHOLE)  
UP TO 30' IN HEIGHT

STATE OF NORTH CAROLINA  
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ROADWAY DETAIL DRAWING FOR  
**CONCRETE JUNCTION BOX**  
(WITH OPTIONAL MANHOLE)  
UP TO 30' IN HEIGHT



GENERAL NOTES:  
CHAMFER ALL EXPOSED CORNERS 1".  
USE CLASS "B" CONCRETE THROUGHOUT.  
OPTIONAL CONSTRUCTION - MONOLITHIC POUR, 2" KEYWAY, OR #4 BAR DOWELS AT 12" CENTERS AS DIRECTED BY THE ENGINEER.  
USE FORMS TO CONSTRUCT THE BOTTOM SLAB.  
IF REINFORCED CONCRETE PIPE IS SET IN BASE SLAB OF BOX, ADD TO BASE AS SHOWN ON STANDARD NO. 840.00.  
PROVIDE ALL JUNCTION BOXES OVER 3'-6" IN DEPTH WITH STEPS 12" ON CENTERS IN ACCORDANCE WITH STD. NO. 840.66.  
ADJUST THE STEEL, CONCRETE AND BRICK MASONRY QUANTITIES TO INCLUDE THE ADDITION OF THE MANHOLE (I.E. DIAGONAL BARS SHORTENED AROUND OPENING IN TOP SLAB, ADDITIONAL VARIABLE HEIGHT BRICK MASONRY, OPENING IN TOP SLAB.)  
MAX. DEPTH OF THIS STRUCTURE FROM TOP OF BOTTOM SLAB TO TOP ELEVATION IS 25 FEET.

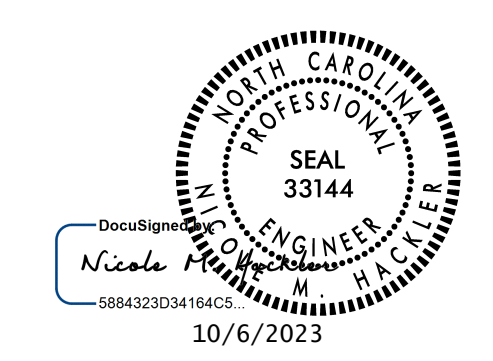


| DIMENSIONS AND QUANTITIES FOR CONCRETE JUNCTION BOXES |        |        |        |                        |        |                     |        |                    |             |                  |                                |                   |                                 |       |
|---|--------|--------|--------|------------------------|--------|---------------------|--------|--------------------|-------------|------------------|--------------------------------|-------------------|---------------------------------|-------|
| DIMENSIONS OF BOX AND PIPE                            |        |        |        | REINFORCEMENT BARS "A" |        | TOP SLAB DIMENSIONS |        | CUBIC YARDS IN BOX |             |                  | TOTAL QUANTITIES BOX AND SLABS |                   | DEDUCTIONS FOR ONE PIPE CU.YDS. |       |
| PIPE  | SPAN   | WIDTH  | HEIGHT | NO.                    | LENGTH | E                   | F      | TOP SLAB           | BOTTOM SLAB | WALL/ FT. OF HT. | LBS. REINF.                    | CU. YDS. MIN. "H" | C.S.                            | R.C.  |
| 12"   | 2'-0"  | 2'-0"  | 2'-3"  | 12                     | 2'-9"  | 3'-0"               | 3'-0"  | 0.222              | 0.222       | 0.246            | 22                             | 0.998             | 0.015                           | 0.024 |
| 15"   | 2'-3"  | 2'-3"  | 2'-6"  | 12                     | 3'-0"  | 3'-3"               | 3'-3"  | 0.261              | 0.261       | 0.271            | 24                             | 1.200             | 0.023                           | 0.036 |
| 18"   | 2'-6"  | 2'-6"  | 2'-9"  | 14                     | 3'-3"  | 3'-6"               | 3'-6"  | 0.302              | 0.302       | 0.295            | 30                             | 1.416             | 0.033                           | 0.049 |
| 24"   | 3'-0"  | 3'-0"  | 3'-3"  | 16                     | 3'-9"  | 4'-0"               | 4'-0"  | 0.394              | 0.394       | 0.344            | 40                             | 1.907             | 0.059                           | 0.085 |
| 30"   | 3'-6"  | 3'-6"  | 3'-9"  | 18                     | 4'-3"  | 4'-6"               | 4'-6"  | 0.499              | 0.499       | 0.394            | 51                             | 2.474             | 0.092                           | 0.127 |
| 36"   | 4'-0"  | 4'-0"  | 4'-3"  | 20                     | 4'-9"  | 5'-0"               | 5'-0"  | 0.616              | 0.616       | 0.443            | 64                             | 3.114             | 0.132                           | 0.178 |
| 42"   | 4'-6"  | 4'-6"  | 4'-9"  | 22                     | 5'-3"  | 5'-6"               | 5'-6"  | 0.745              | 0.745       | 0.492            | 77                             | 3.828             | 0.180                           | 0.243 |
| 48"   | 5'-4"  | 5'-4"  | 5'-3"  | 26                     | 6'-3"  | 6'-4"               | 6'-4"  | 0.988              | 0.988       | 0.541            | 111                            | 4.819             | 0.235                           | 0.317 |
| 54"   | 5'-10" | 5'-10" | 5'-9"  | 28                     | 6'-7"  | 6'-10"              | 6'-10" | 1.150              | 1.150       | 0.591            | 126                            | 5.696             | 0.297                           | 0.401 |
| 60"   | 6'-6"  | 6'-6"  | 6'-3"  | 30                     | 7'-3"  | 7'-6"               | 7'-6"  | 1.386              | 1.386       | 0.640            | 145                            | 6.770             | 0.367                           | 0.495 |
| 66"   | 7'-1"  | 7'-1"  | 6'-9"  | 32                     | 7'-10" | 8'-1"               | 8'-1"  | 1.609              | 1.609       | 0.689            | 169                            | 7.870             | 0.444                           | 0.589 |

SHEET 1 OF 1  
**840D31**

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CONTRACT STANDARDS AND DEVELOPMENT UNIT  
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