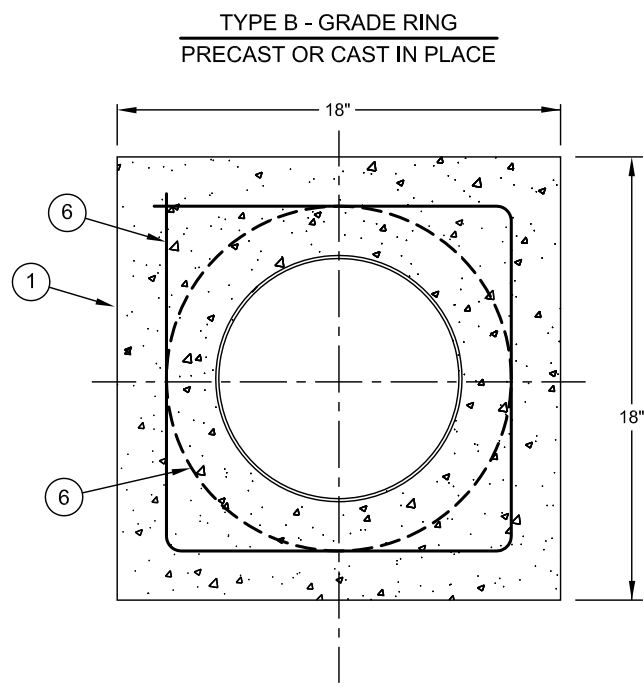
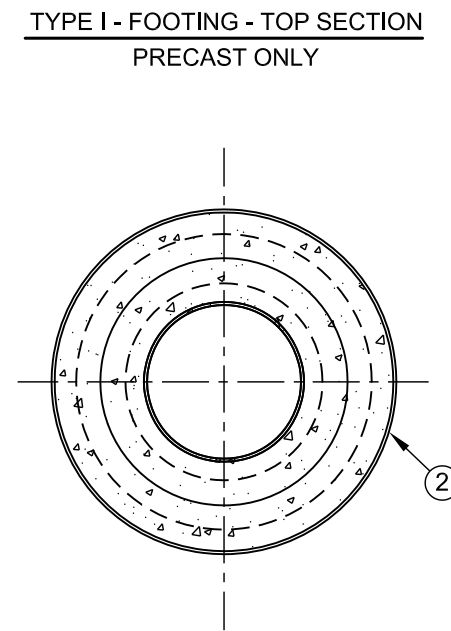


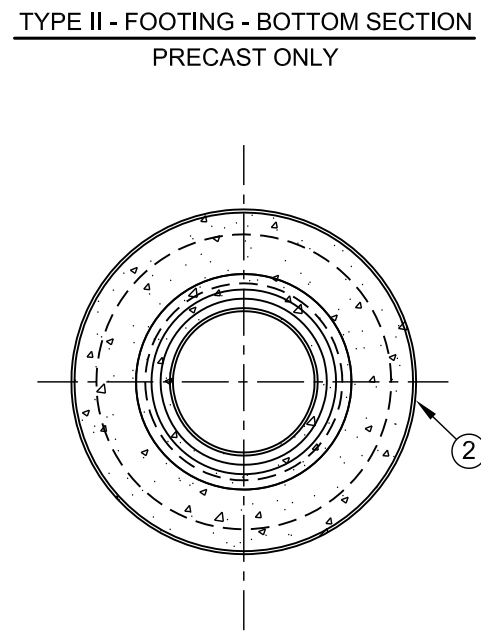
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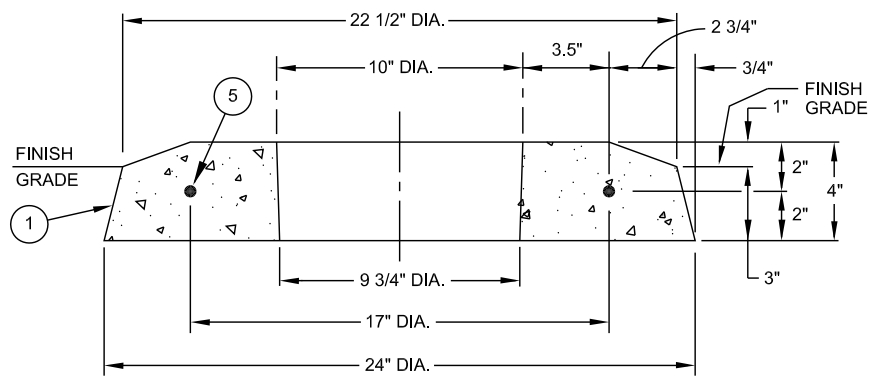
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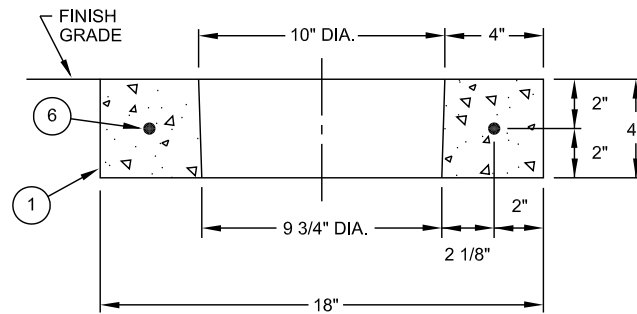
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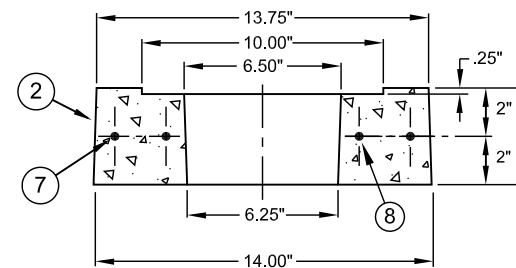
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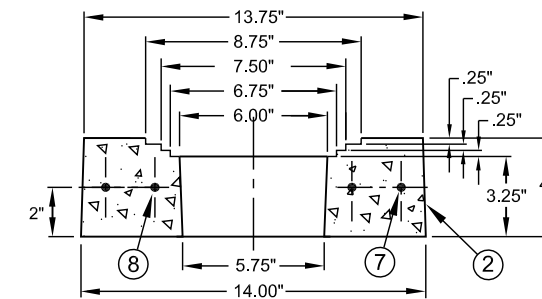
SECTION



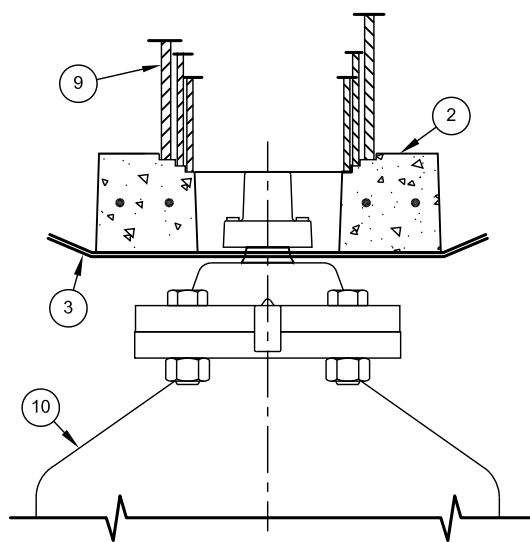
SECTION



SECTION VIEW



SECTION VIEW



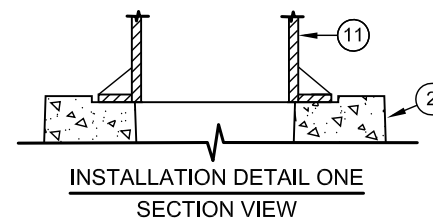
INSTALLATION DETAIL TWO  
SECTION VIEW

**NO. DESCRIPTION**

1. CONCRETE GRADE RING.
2. CONCRETE FOOTING.
3. NON WOVEN GEOTEXTILE FABRIC X 2 EACH.
4. SLIT IN FABRIC - 6 INCHES LONG, ROTATE 90 DEGREES IN SECOND LAYER OF FABRIC.
5. #4 REBAR - 17-INCH DIAMETER.
6. #4 REBAR - LENGTH = 56 INCHES, OR (ALTERNATE - 14-INCH DIAMETER).
7. #4 REBAR - 12-INCH DIAMETER.
8. #4 REBAR - 8-INCH DIAMETER.
9. VALVE BOX ASSEMBLY - (SHOWN LEFT TO RIGHT) - VALVE BOX BOTTOM SECTION, OR 6-INCH DIAMETER C900 PVC PIPE, OR 6-INCH DIAMETER SDR 26 PVC PIPE.
10. VALVE - 12-INCH OR SMALLER.
11. TOP SECTION OF VALVE BOX.

**DESIGN REQUIREMENTS**

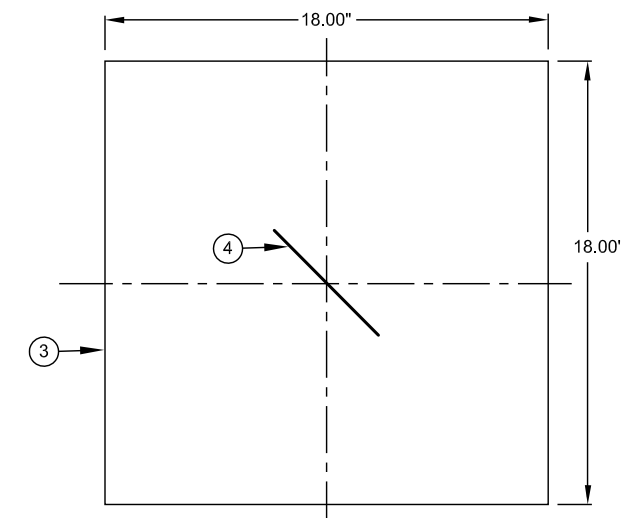
- a. CONCRETE -  $f'c = 4000$  PSI (PRECAST), OR 3600 PSI (CAST-IN-PLACE).
- b. STEEL REINFORCEMENT - REBARS - GRADE 60 (60,000 PSI) - ASTM A-615, OR WELDED WIRE FABRIC - ASTM A-185.
- c. NON WOVEN GEOTEXTILE FABRIC - CARTHAGE MILLS #FX-40HS, MIRAFI #140N, OR APPROVED EQUAL.



INSTALLATION DETAIL ONE  
SECTION VIEW

**NOTES:**

- A. FOR PRECAST GRADE RINGS - FILL VOID BETWEEN GRADE RING AND CAST IRON VALVE BOX TOP SECTION WITH NON-SHRINK GROUT.
- B. FOR CAST-IN-PLACE GRADE RINGS - TOP SECTION OF CAST IRON VALVE BOX SHALL BE CAST IN THE CONCRETE.
- C. TYPE A GRADE RINGS SHALL BE REQUIRED ON ROAD SHOULDERS WITHOUT CURB.
- D. TYPE I FOOTINGS SHALL BE REQUIRED IN NEW CONSTRUCTION WHEN THE CAST IRON VALVE BOX IS LOCATED DIRECTLY IN THE ASPHALT.
- E. TYPE II FOOTINGS SHALL BE REQUIRED AT ALL VALVE INSTALLATIONS.
- F. FOR INSTALLATION DETAIL TWO - ONLY ONE VALVE BOX ASSEMBLY (PART #9) SHALL BE REQUIRED. FOOTINGS SHALL NOT REST ON THE VALVE, AND SHALL BE CENTERED ON THE VALVE OPERATING NUT AS SHOWN.



NON WOVEN GEOTEXTILE FABRIC x 2 EACH

NO SCALE

STANDARD NO.

MM

VERSION NO. V1.0

VERSION DATE 11.2.2010

VALVE BOX - CONCRETE GRADE RINGS AND FOOTINGS ( 12" AND SMALLER VALVES - ONLY )

CHARLOTTE-MECKLENBURG UTILITIES

STANDARD DETAILS WATER/SEWER/RECLAIM/CP

