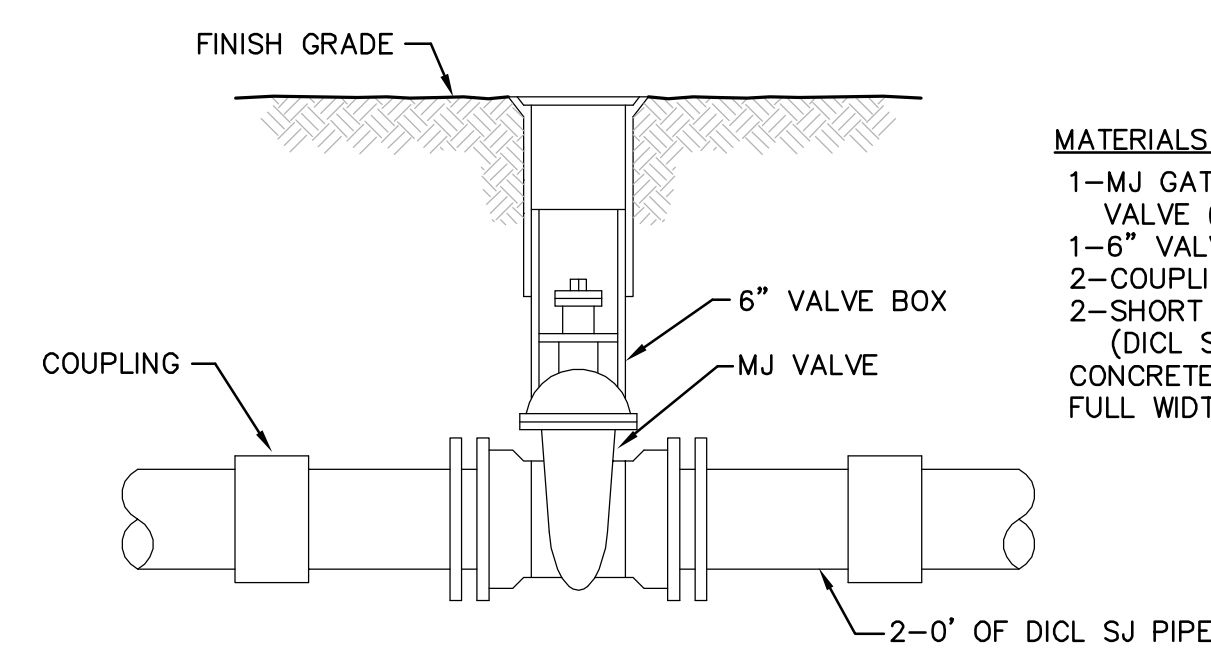
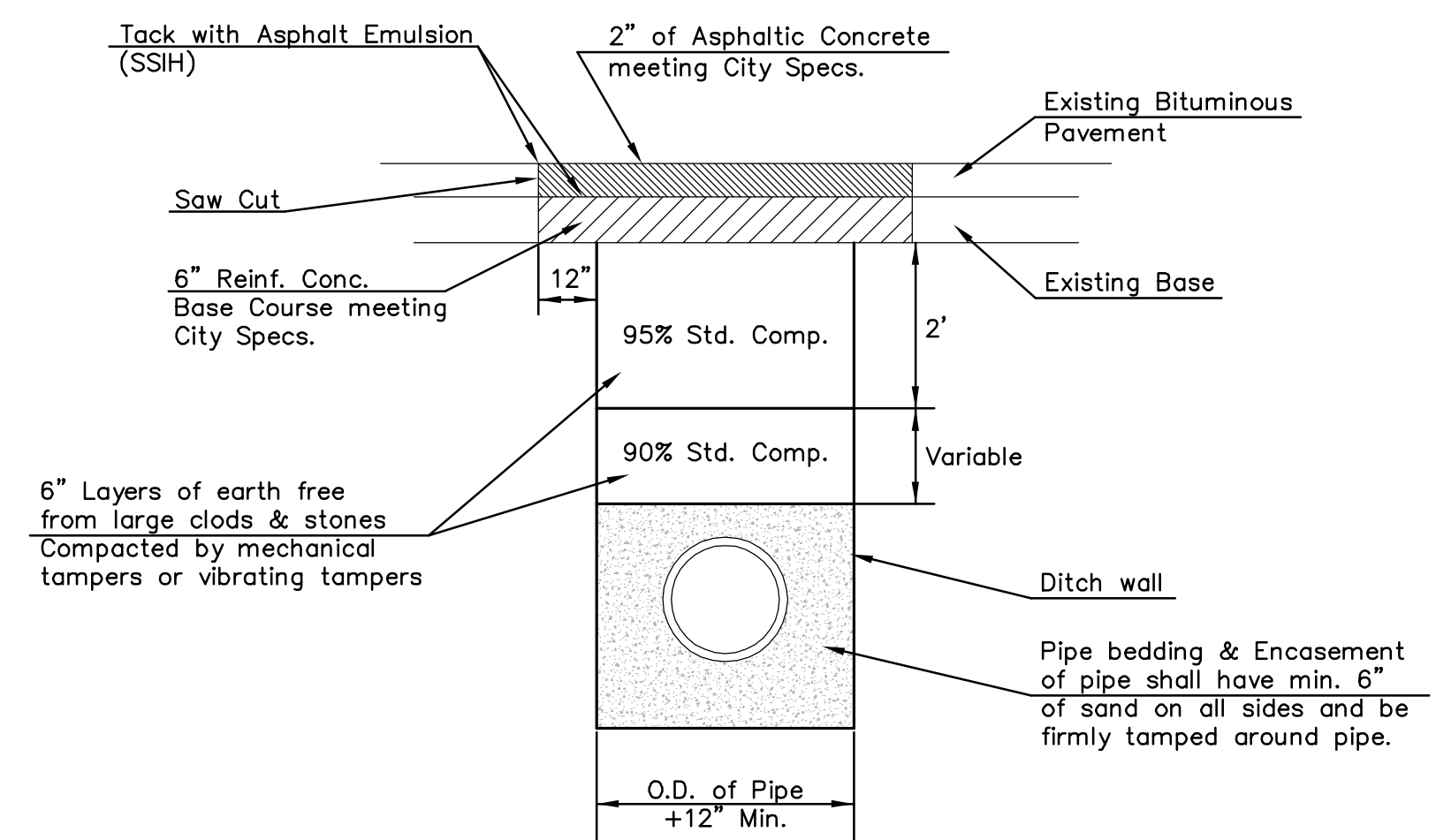


|        |              |             |           |              |
|--------|--------------|-------------|-----------|--------------|
| STATE  | PROJECT NO.  | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
| KANSAS | 87 N-0240-01 | 2004        | 40        | 42           |



**LINE VALVE ASSEMBLY**

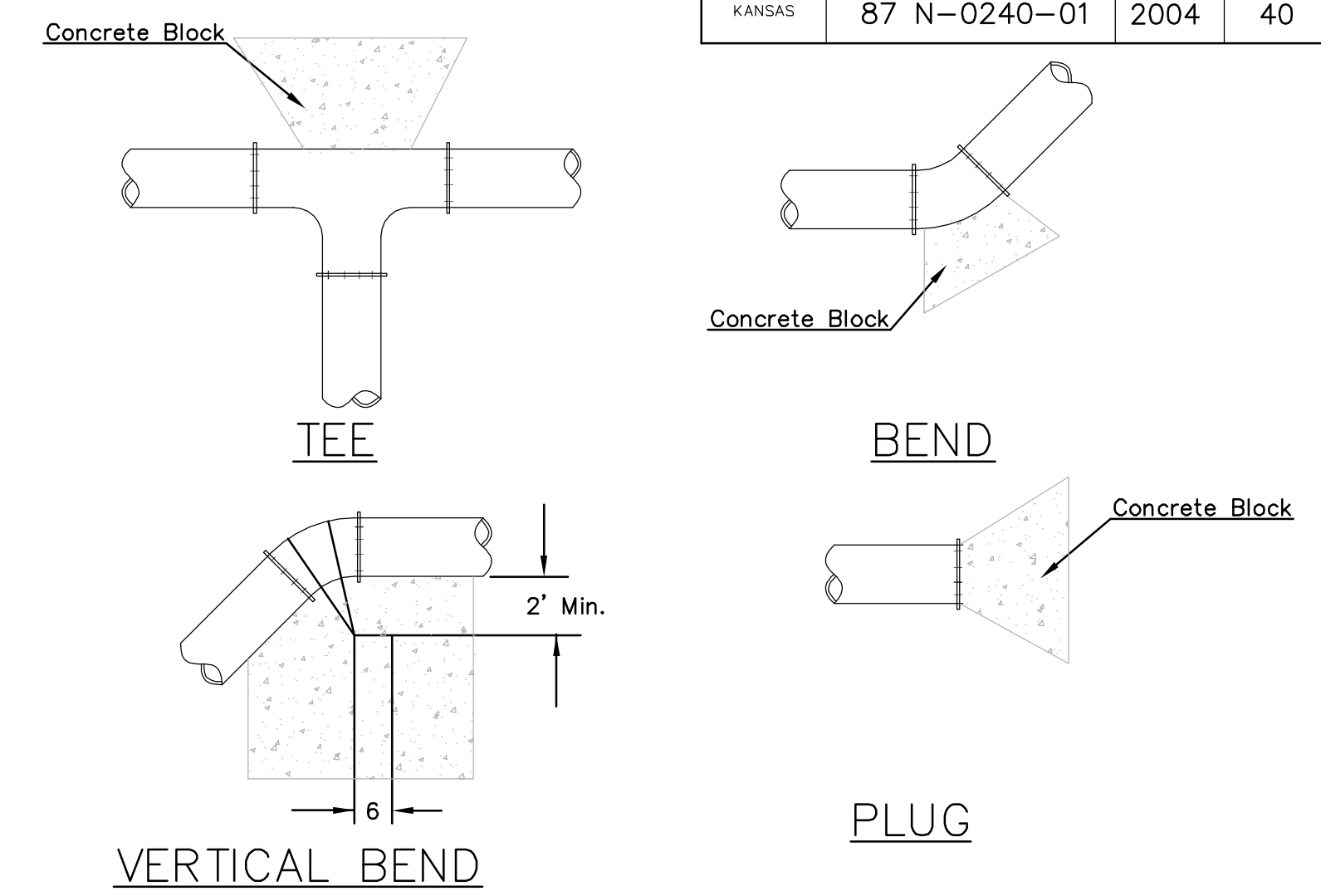
- MATERIALS LIST**
- 1-MJ GATE OR BUTTERFLY VALVE (AS PER PLAN)
  - 1-6" VALVE BOX
  - 2-COUPPLINGS
  - 2-SHORT PCS. (DICTL SJ PIPE)
- CONCRETE SUPPORT BLOCK SHALL BE FULL WIDTH OF THE TRENCH



Standard Density Test, as described in the latest addition of ASTM D698, shall be performed to verify the above requirements to the Satisfaction of the Sedgwick County Director of Public Works. All testing cost shall be included in the unit price bid for the pipe in place.

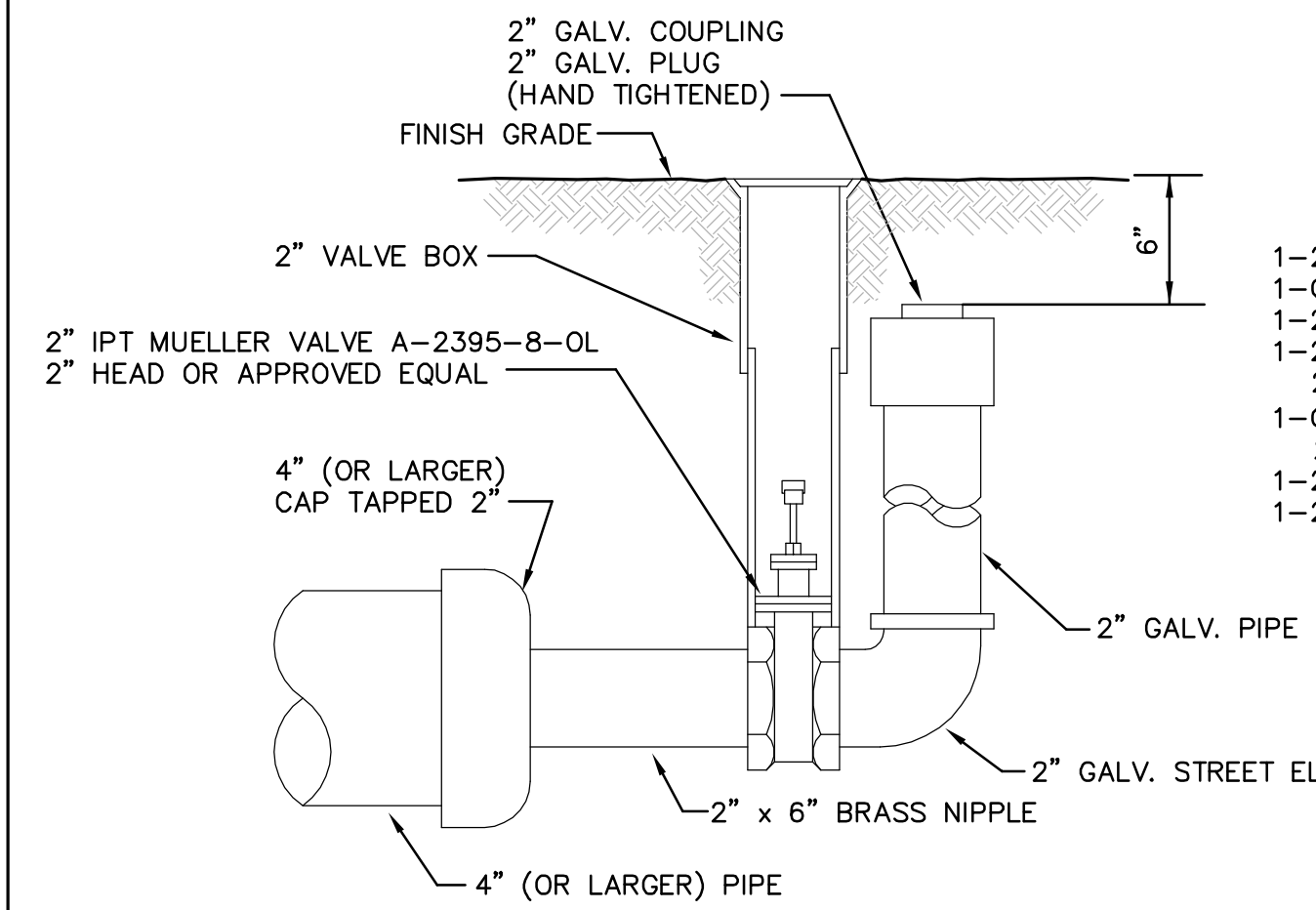
When laying under paving, parallel with the centerline of the street, a minimum of one (1) Standard Density Test shall be performed on each 300 lineal feet of ditch.

**PAVEMENT REPLACEMENT & DITCH COMPACTION UNDER EXISTING AND PROPOSED CITY ROADS**



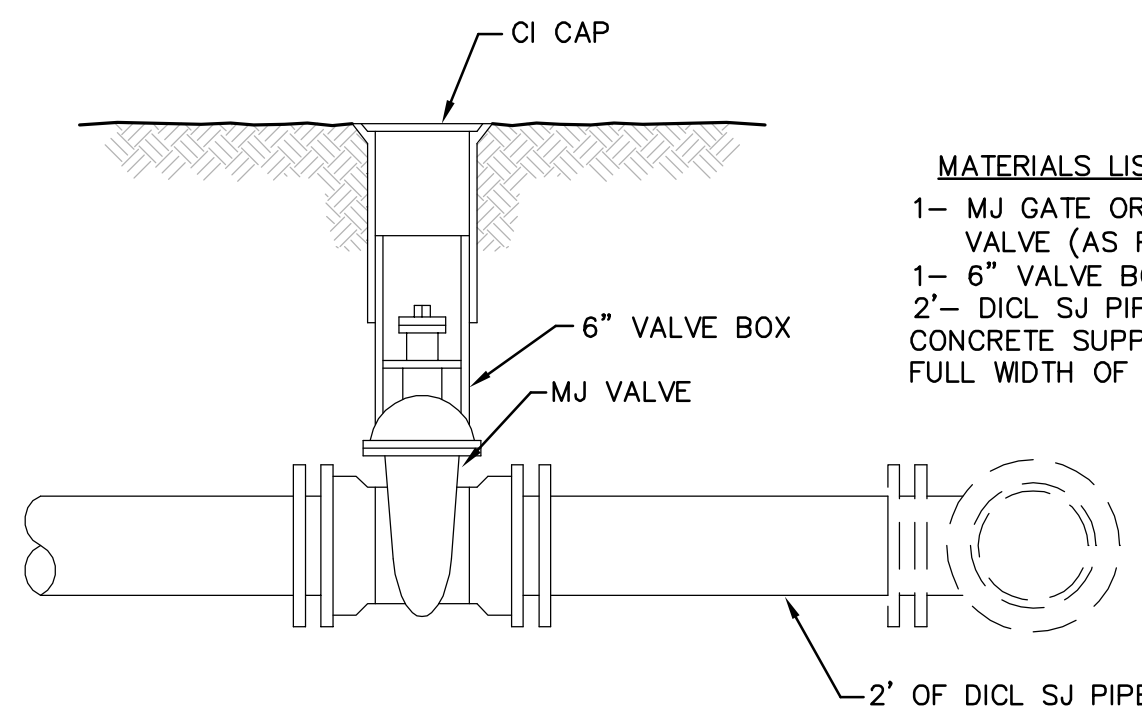
| PIPE SIZE | THRUST AT FITTINGS IN TONS-AT 150#/IN <sup>2</sup> P |      |       |       |      |       |
|-----------|--|------|-------|-------|------|-------|
|           | PLUG   | 90°  | 45°   | 22½°  | 11½° | TEE   |
| 6"        | 2.8  | 3.95 | 2.15  | 1.09  | .55  | 2.8   |
| 8"        | 4.9  | 6.95 | 3.75  | 1.90  | .96  | 4.9   |
| 12"       | 11.4   | 16.1 | 8.75  | 4.45  | 2.25 | 11.4  |
| 16"       | 20.15  | 28.5 | 15.4  | 7.85  | 3.95 | 20.15 |
| 20"       | 31.15  | 44.0 | 23.85 | 12.15 | 6.10 | 31.15 |
| 24"       | 44.55  | 63.0 | 34.1  | 17.4  | 8.75 | 44.55 |

**TYPICAL THRUST BLOCKS**



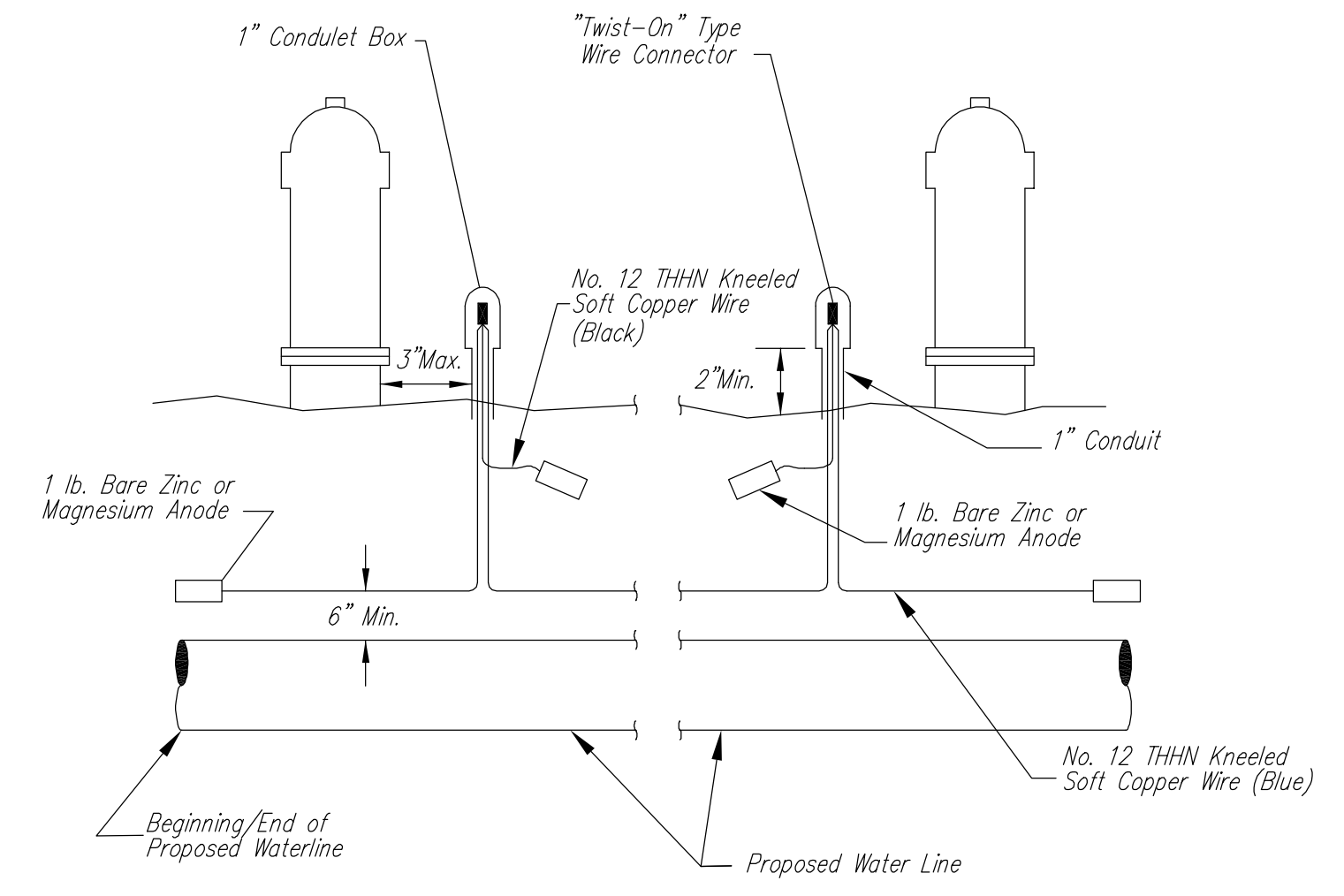
**2" BLOWOFF ASSEMBLY**

- MATERIALS LIST**
- 1-2" VALVE BOX
  - 1-CIMJ CAP
  - 1-2"x6" BRASS NIPPLE
  - 1-2" IPT MUELLER VALVE A-2395-8-0L
  - 2" HEAD OR APPROVED EQUAL
  - 1-GALV. STREET EL.
  - 2" GALV. PIPE (AS REQUIRED)
  - 1-2" GALV. COUPLING
  - 1-2" GALV. PLUG (HAND TIGHTENED)



**VALVE ASSEMBLY**

- MATERIALS LIST**
- 1- MJ GATE OR BUTTERFLY VALVE (AS PER PLAN)
  - 1- 6" VALVE BOX
  - 2"- DICTL SJ PIPE
- CONCRETE SUPPORT BLOCK SHALL BE FULL WIDTH OF THE TRENCH



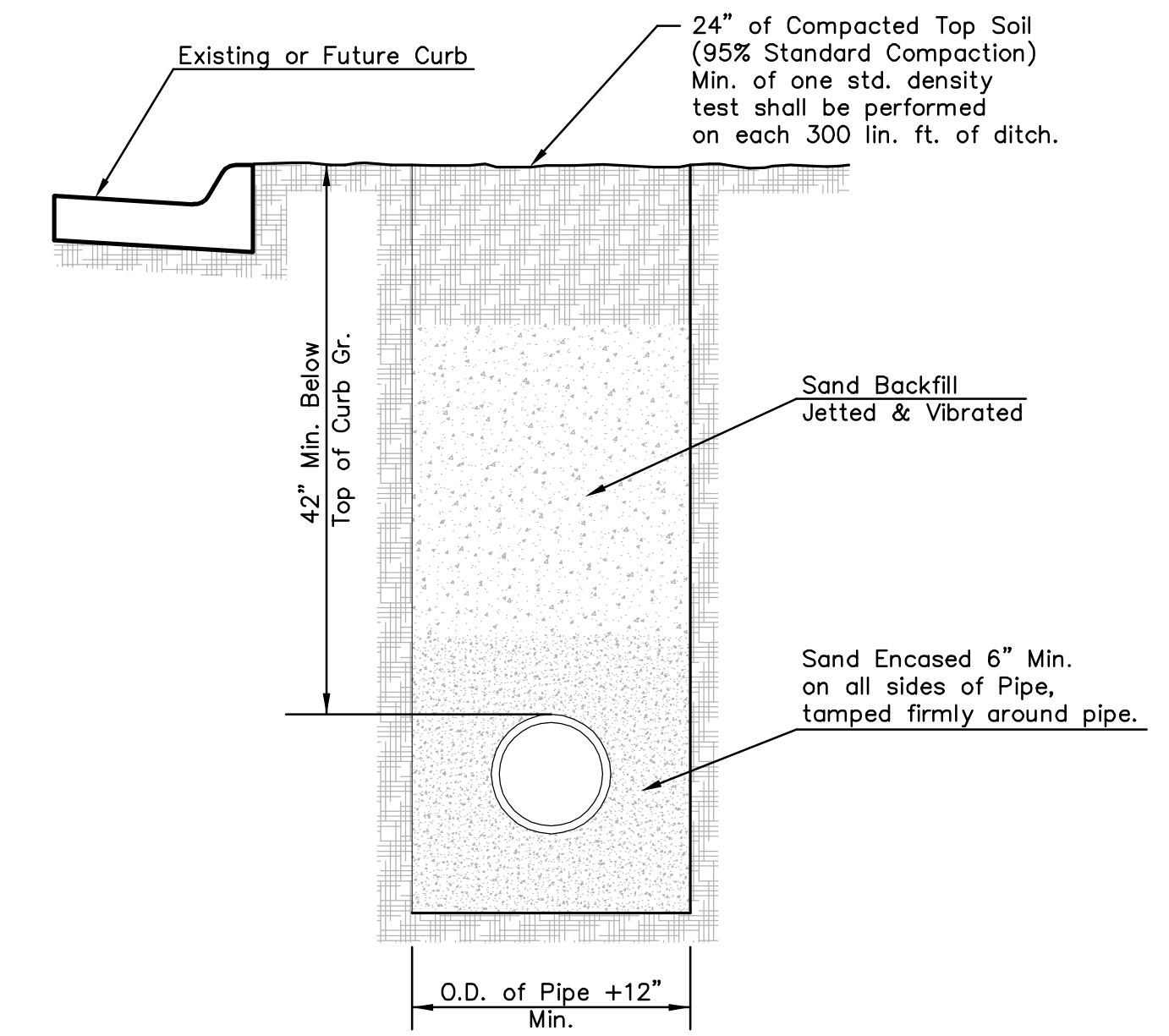
**TRACER WIRE**

Conductive type pipe locator/tracer wire shall be installed to locate Polyvinyl Chloride (PVC), or any nonmetallic, waterline pipes. The wire shall be installed 6 inches above the proposed pipe, and shall extend the entire length of the proposed pipe. In directional drilling applications, the wire shall be taped to the top of the waterline and pulled with the pipe. Split-bolt connectors or crimpers shall be used at splice locations. Electrical tape shall cover all splices so no bare wire is exposed. Test stations shall be installed adjacent to all fire hydrants along the proposed alignment. At each test station, the tracer wire shall be connected to a 1 lb. zinc or magnesium anode. This connection shall be made using a "twist-on" wire connector which shall splice the blue tracer wire from each direction to a black wire leading to the anode. The anode shall be installed a minimum of 5 feet away from the water line. Anodes shall also be attached to the tracer wire at both the beginning and the end of the proposed improvement. A typical layout of the tracer wire and test station is provided in the above Figure.

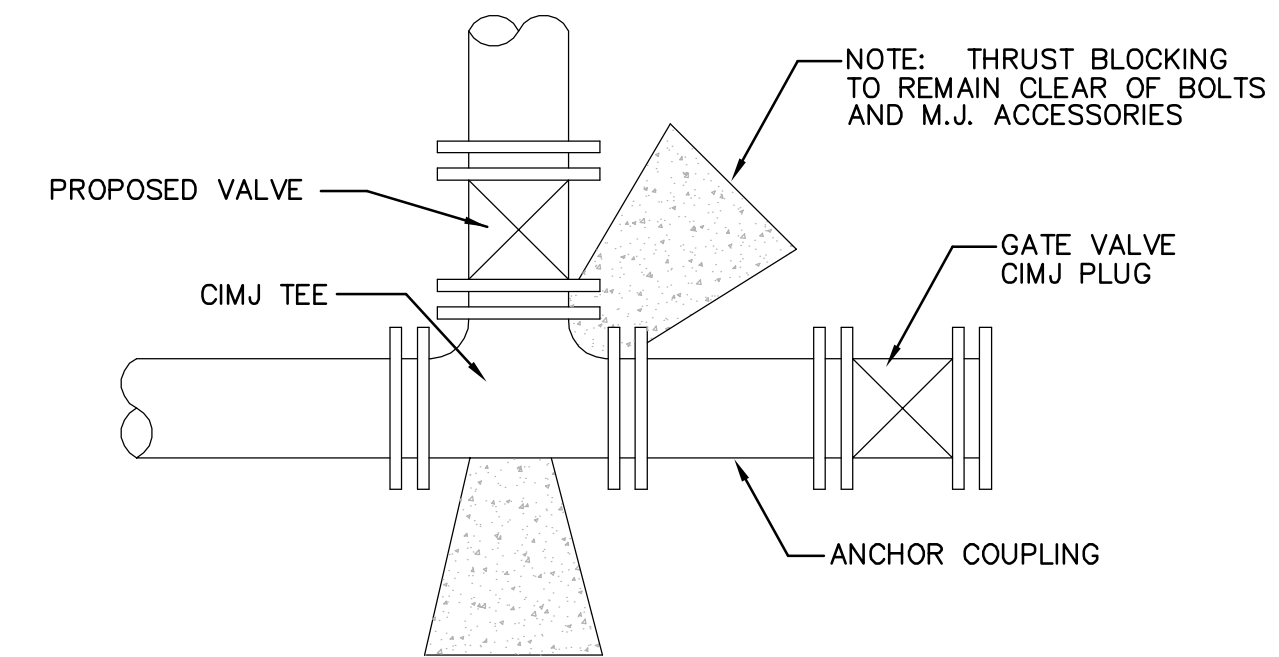
**WIRE:** The tracer wire shall be blue No. 12 THHN kneeled soft copper wire with thermal plastic insulation. The insulation shall be heat, oil, and gasoline resistant as manufactured by Temple Electrical or approved equal.

**TEST STATIONS:** The test station shall be a 1 inch conduit style test station as manufactured by COTT Manufacturing Company or approved equal and shall be provided with a removable solid cover with no leads extending from it. The test station shall be attached to a 1 inch conduit (min. length of 36 inches). Both the conduit and the test station shall be coated with weather resistant blue enamel paint. The tracer wire and the anode wire connection shall be installed to allow 10 inches of wire within the test box. Test stations shall be provided at each fire hydrant (a max. distance of 3 inches). The location of all test stations shall be approved by the construction engineer, recorded, and shown in the as-built drawings.

**ANODES:** The anodes shall be 1 lb. bare zinc or magnesium. The anodes shall be buried a minimum of 5 feet deep at each test station. The anodes shall be connected to black No. 12 THHN kneeled soft copper wire which shall be extended to the test station. Adequate length of the insulated black wire shall be attached to each anode to provide 10 inches within the test box.



**SETTLEMENT & COMPACTION ON CITY AND COUNTY ROAD RIGHT-OF-WAY EXCEPT UNDER PAVEMENT**



**KEY BLOCK DETAIL**

THE CITY OF WICHITA

CITY ENGINEER'S OFFICE  
CITY HALL - SEVENTH FLOOR  
455 NORTH MAIN STREET  
WICHITA, KANSAS 67202  
(316) 268-4501  
(316) 268-4114 FAX

**STANDARD WATER ASSEMBLY DETAILS**

M. E. LINDEBAK P.E. - CITY ENGINEER

PROJECT NUMBER: 448-89346 INDEX CODE:

DATE: MAY 99 SHEET 3 OF 3