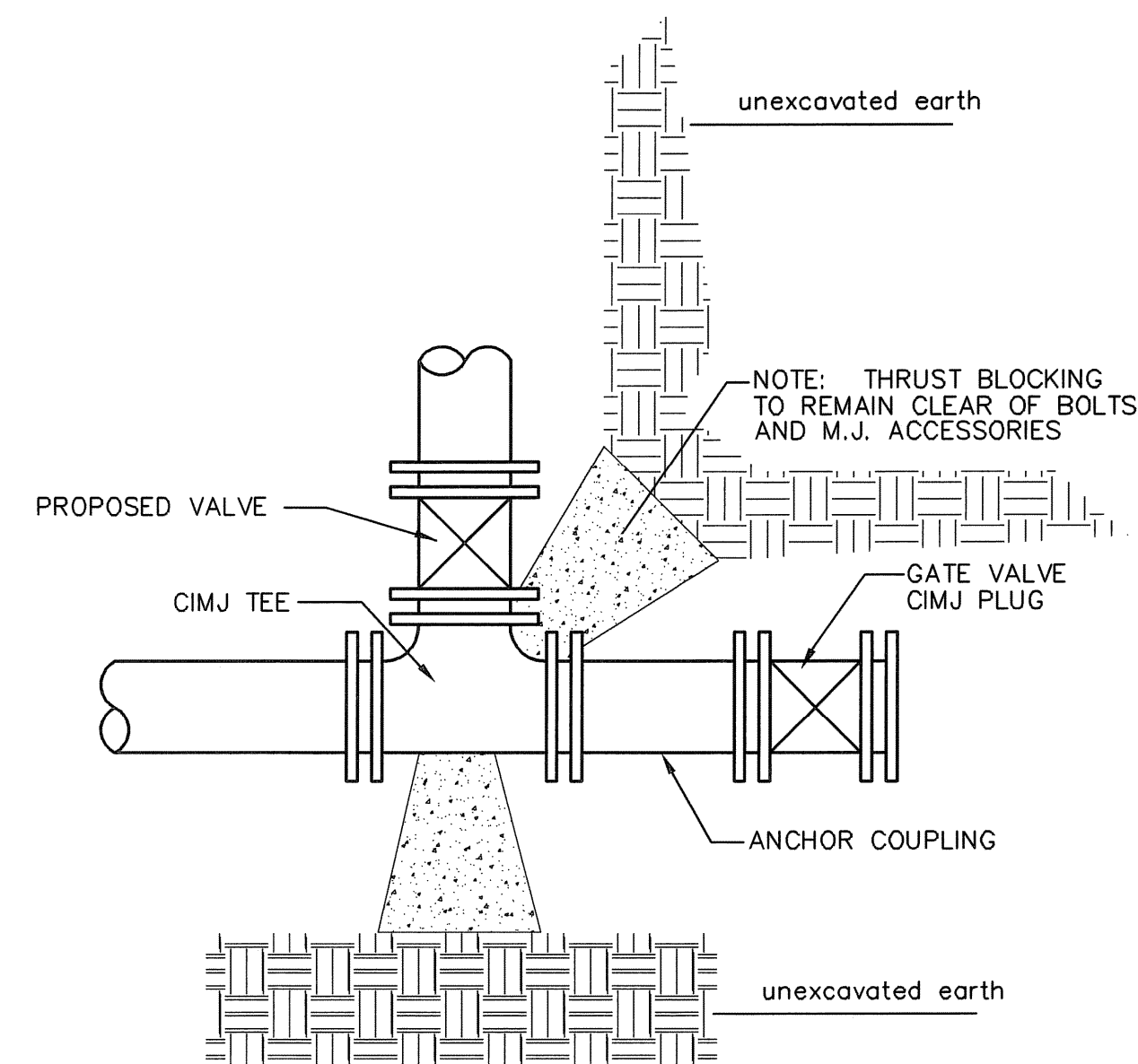
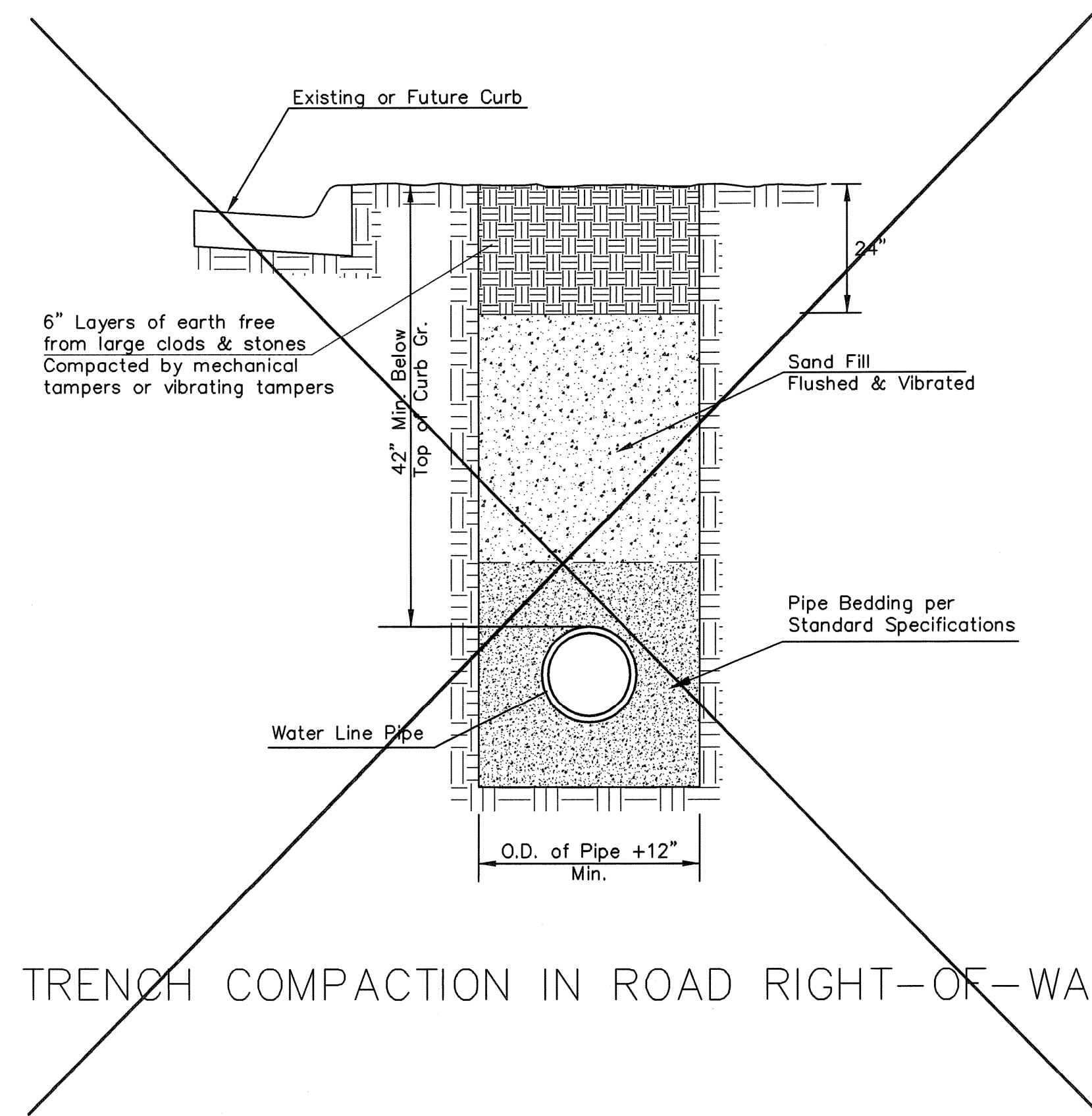


| PIPE SIZE | THRUST AT FITTINGS IN TONS—AT 150#/IN ² P | | | | | |
|-----------|--|------|-------|---------|---------|-------|
| | PLUG | 90° | 45° | 22 1/2° | 11 1/4° | TEE |
| 6" | 2.8 | 3.95 | 2.15 | 1.09 | .55 | 2.8 |
| 8" | 4.9 | 6.95 | 3.75 | 1.90 | .96 | 4.9 |
| 12" | 11.4 | 16.1 | 8.75 | 4.45 | 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 |

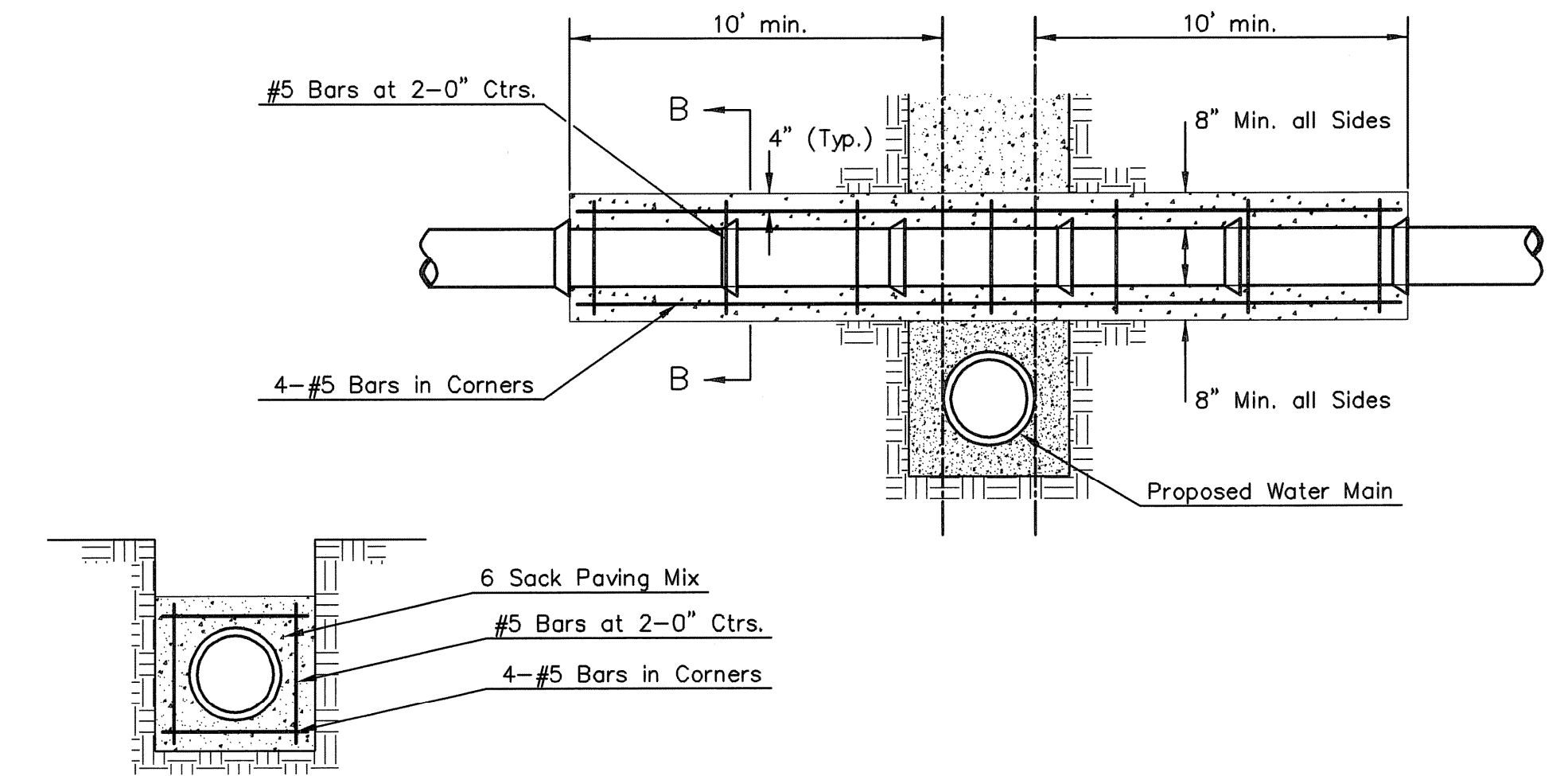
TYPICAL THRUST BLOCKS



KEY BLOCK DETAIL



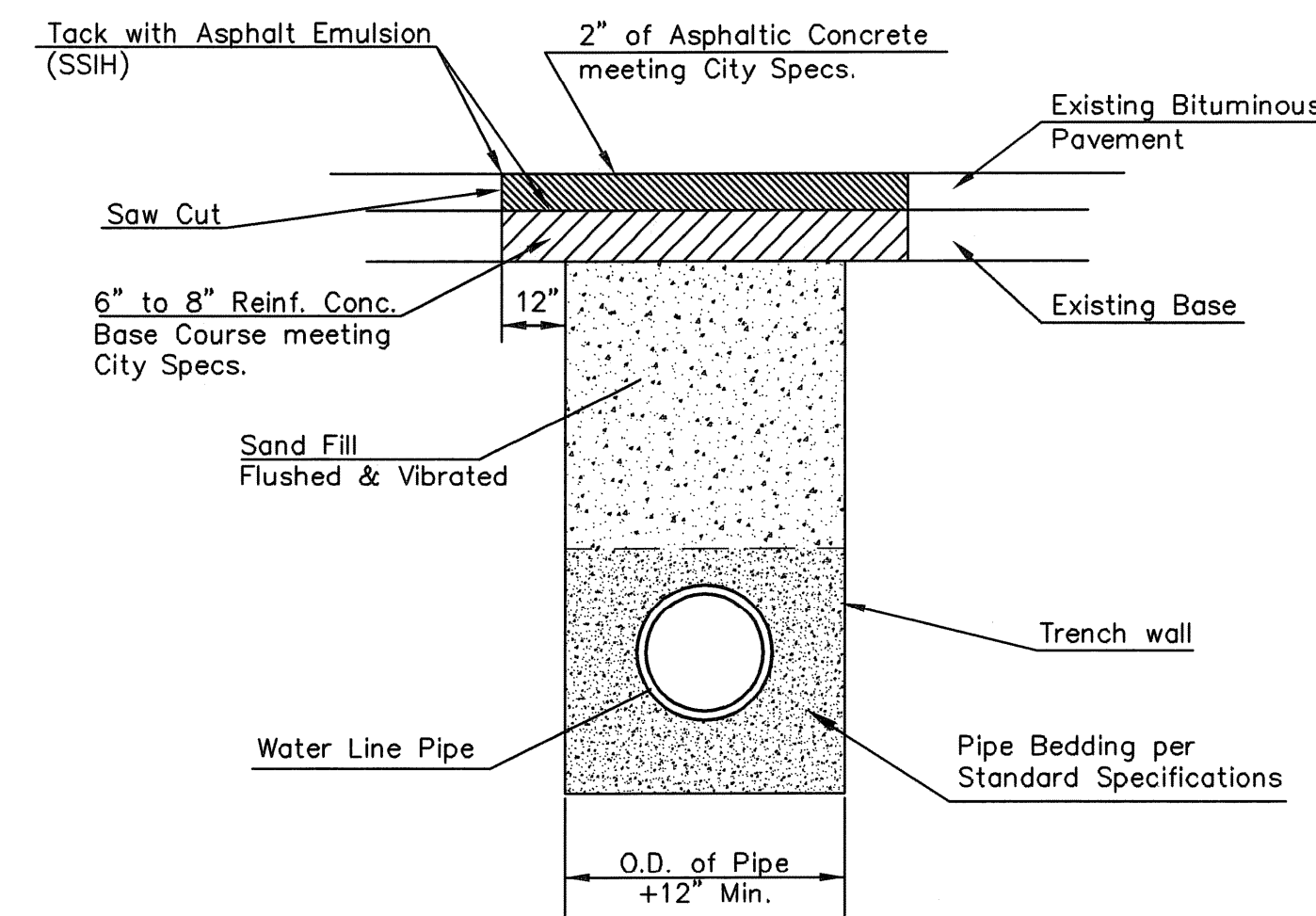
TRENCH COMPACTION IN ROAD RIGHT-OF-WAY



SECTION B-B

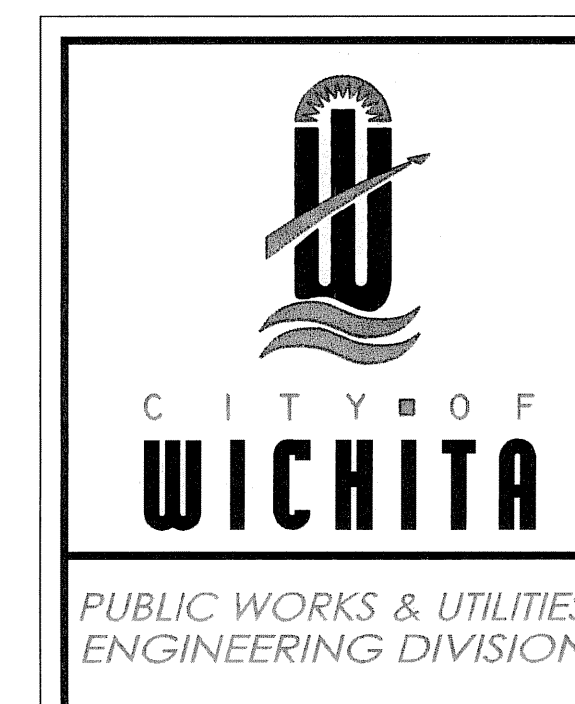
Note: Encasement to begin and end at a Bell on Sanitary Sewer Pipe.

REINFORCED CONCRETE ENCASEMENT OF SANITARY SEWER



PAVEMENT REPLACEMENT & TRENCH COMPACTION UNDER EXISTING AND PROPOSED CITY ROADS

* UNLESS OTHERWISE NOTED ON PLANS



MISCELLANEOUS WATER DETAILS

CITY ENGINEER
GARY JANZEN, P.E.

| | | |
|----------------|------------|---------|
| PROJECT NUMBER | OCA NUMBER | DATE |
| 448-90579 | 635813 | 01/2012 |

CITY ENGINEER'S OFFICE
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SHEET
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