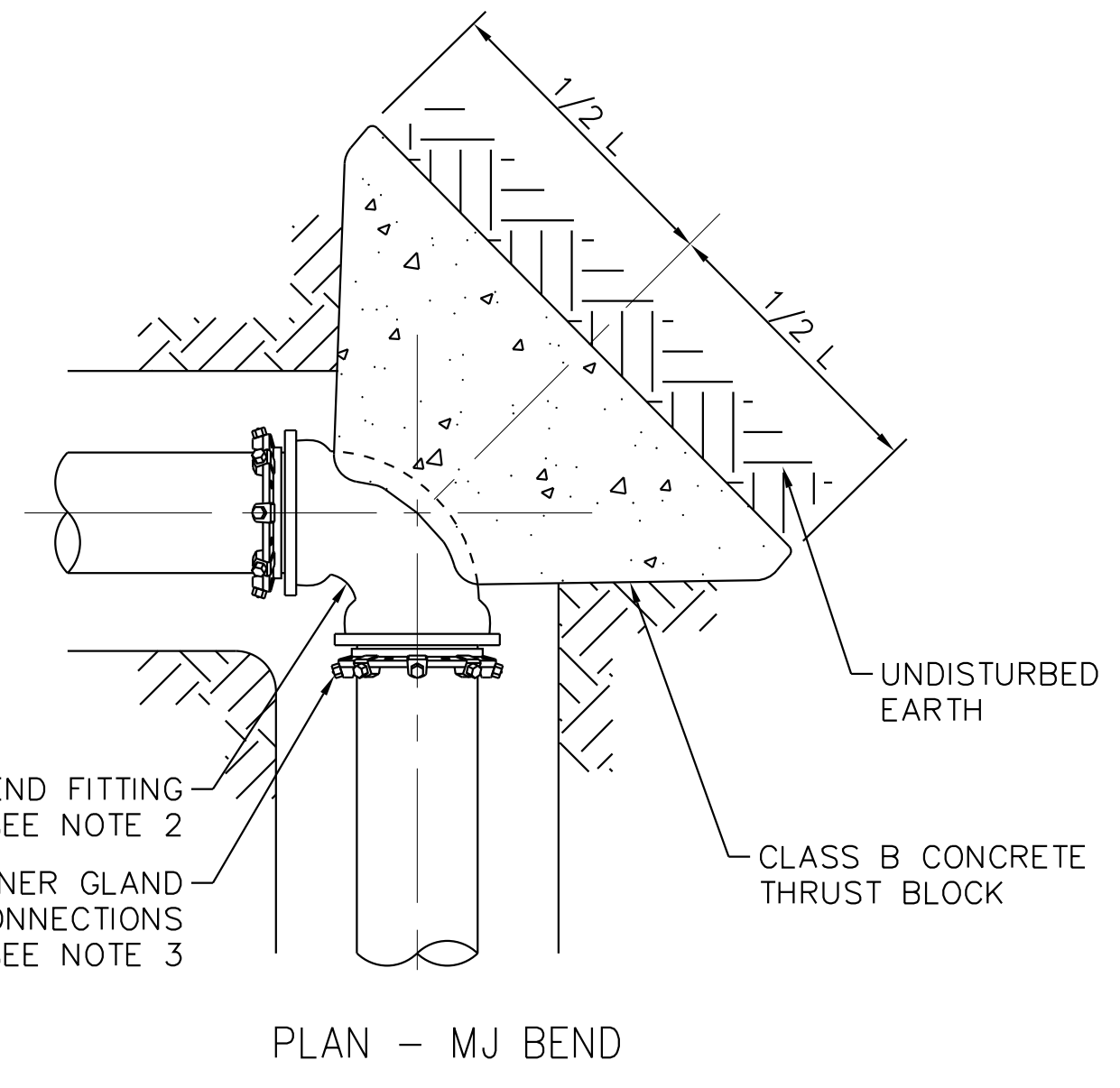
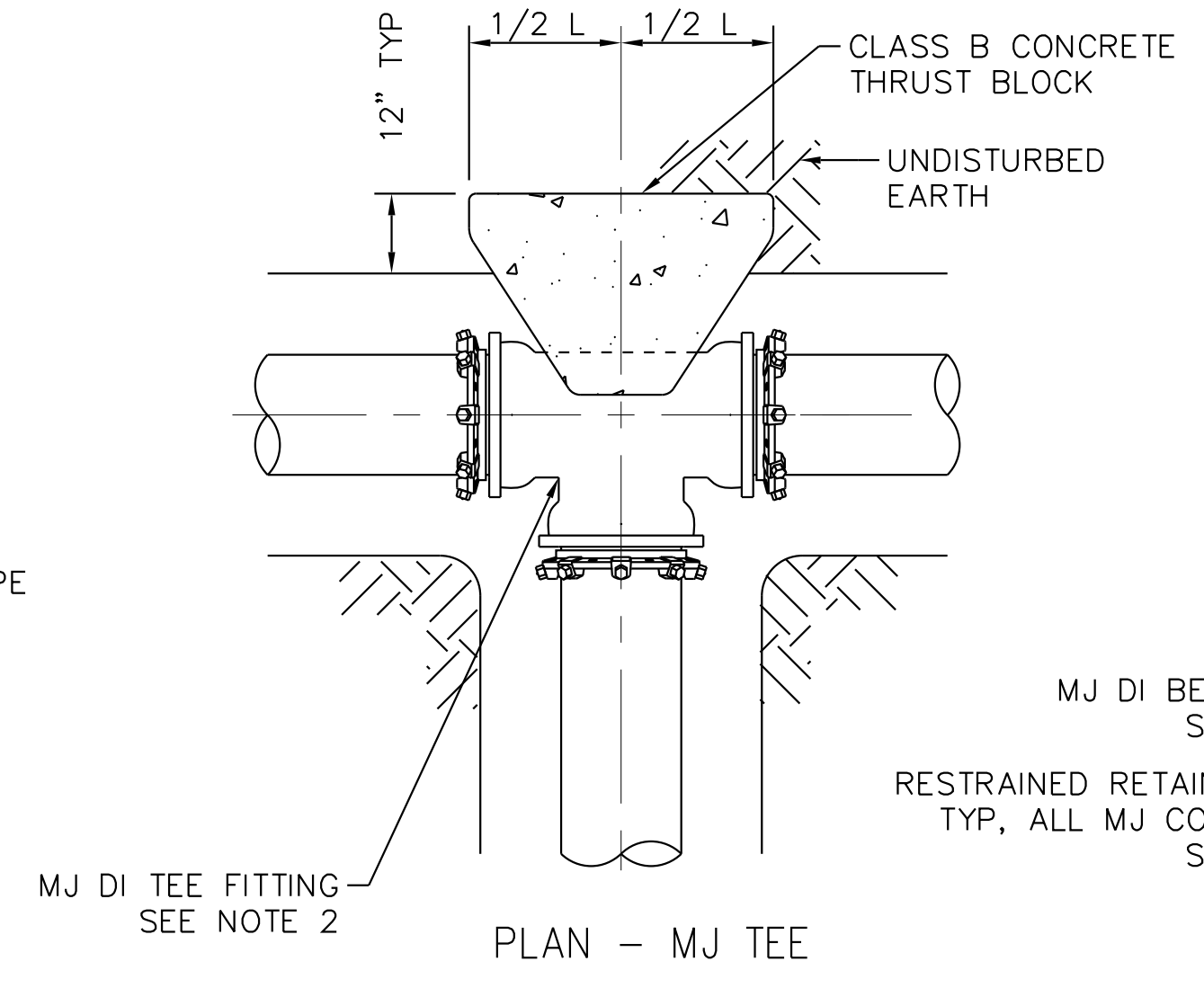
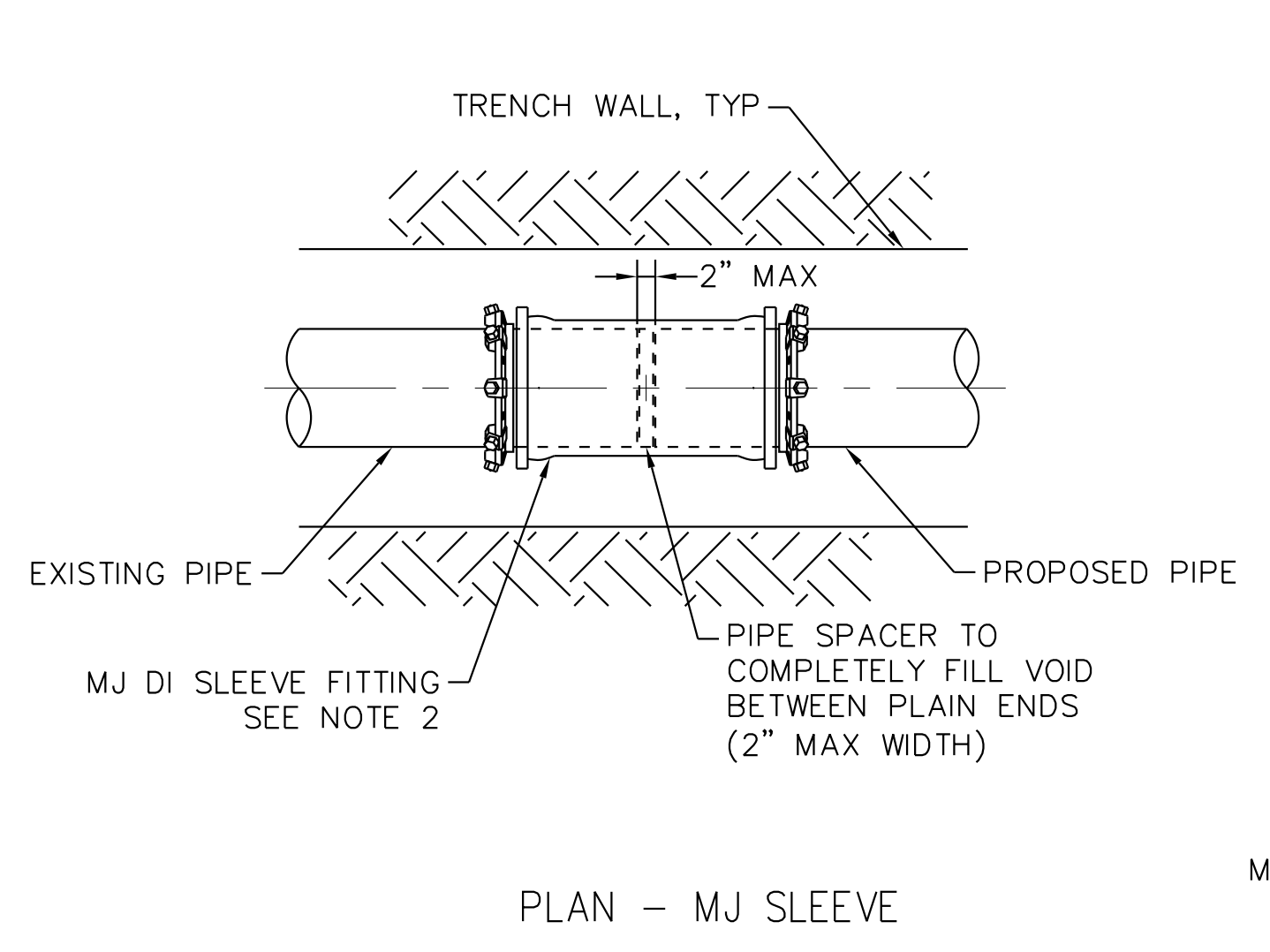


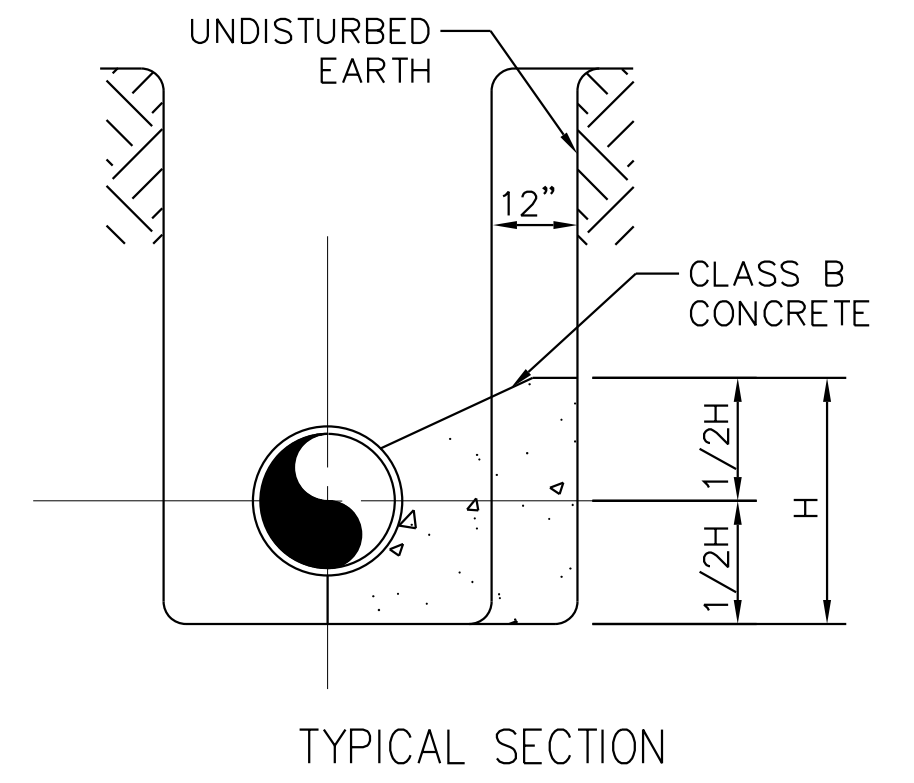
5/14/99

| | |
|---|-----------|
| PROJECT REFERENCE NO. | SHEET NO. |
| B-5534 | UC-3C |
| DESIGNED BY: NLH | |
| DRAWN BY: CDR | |
| CHECKED BY: CPM | |
| APPROVED BY: NLH | |
| REVISED: | |
| NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151 | |
| UTILITY CONSTRUCTION PLANS ONLY DOCUMENT NOT CONSIDERED FINAL UNTIL ALL SIGNATURES ARE COMPLETED | |

UTILITY CONSTRUCTION



| PIPE SIZE (IN) | FITTING | | | | | | | |
|----------------|-----------|------|-----|------|-------|------|--------|-----|
| | 90° / TEE | | 45° | | 22.5° | | 11.25° | |
| | H | W | H | W | H | W | H | W |
| 4 | 2.0 | 4.0 | 1.5 | 2.9 | 1.0 | 2.1 | 0.7 | 1.5 |
| 6 | 2.0 | 4.0 | 1.5 | 2.9 | 1.0 | 2.1 | 0.7 | 1.5 |
| 8 | 2.6 | 5.2 | 1.9 | 3.8 | 1.4 | 2.7 | 1.0 | 1.9 |
| 12 | 3.8 | 7.6 | 2.8 | 5.6 | 2.0 | 4.0 | 1.4 | 2.8 |
| 16 | 5.0 | 10.0 | 3.7 | 7.4 | 2.6 | 5.3 | 1.9 | 3.7 |
| 24 | 7.4 | 14.9 | 5.5 | 11.0 | 3.9 | 7.8 | 2.8 | 5.5 |
| 30 | 9.2 | 18.5 | 6.8 | 13.6 | 4.9 | 9.7 | 3.4 | 6.9 |
| 36 | 11.1 | 22.1 | 8.1 | 16.3 | 5.8 | 11.6 | 4.1 | 8.2 |



- NOTES:
- THRUST BLOCK DIMENSIONS BASED ON AVERAGE SOIL PASSIVE BEARING STRENGTH OF 2000 PSF USING SF OF 1.5 AND DESIGN TEST PRESSURE OF 200 PSI. FOR PIPE SIZES NOT LISTED, USE DIMENSIONS FOR NEXT LARGER PIPE SIZE.
 - ALL FITTINGS SHALL BE DUCTILE IRON MECHANICAL JOINT (DI MJ) OF THE SAME OR HIGHER PRESSURE RATING AS THE HOST PIPE AND SHALL BE RESTRAINED AGAINST THRUST VIA RESTRAINT GLANDS AND CONCRETE THRUST BLOCKING.
 - RESTRAINT GLANDS DESIGNED FOR THE INTENDED USE. RESTRAINT GLANDS SHALL CONSIST OF MULTIPLE GRIPPING WEDGES INCORPORATED INTO A FOLLOWER GLAND AND BOLT-ACTUATED BY TORQUE-LIMITING TWIST OFF NUTS.
 - DIRECT CONTACT BETWEEN CONCRETE AND FITTINGS, PIPE, OR HARDWARE SHALL NOT BE PERMITTED. THRUST BLOCK SHALL NOT OBSTRUCT ACCESS TO RESTRAINT GLAND BOLTS.

1 **THRUST RESTRAINT FOR FITTINGS**
 UC-3C SCALE: N.T.S.