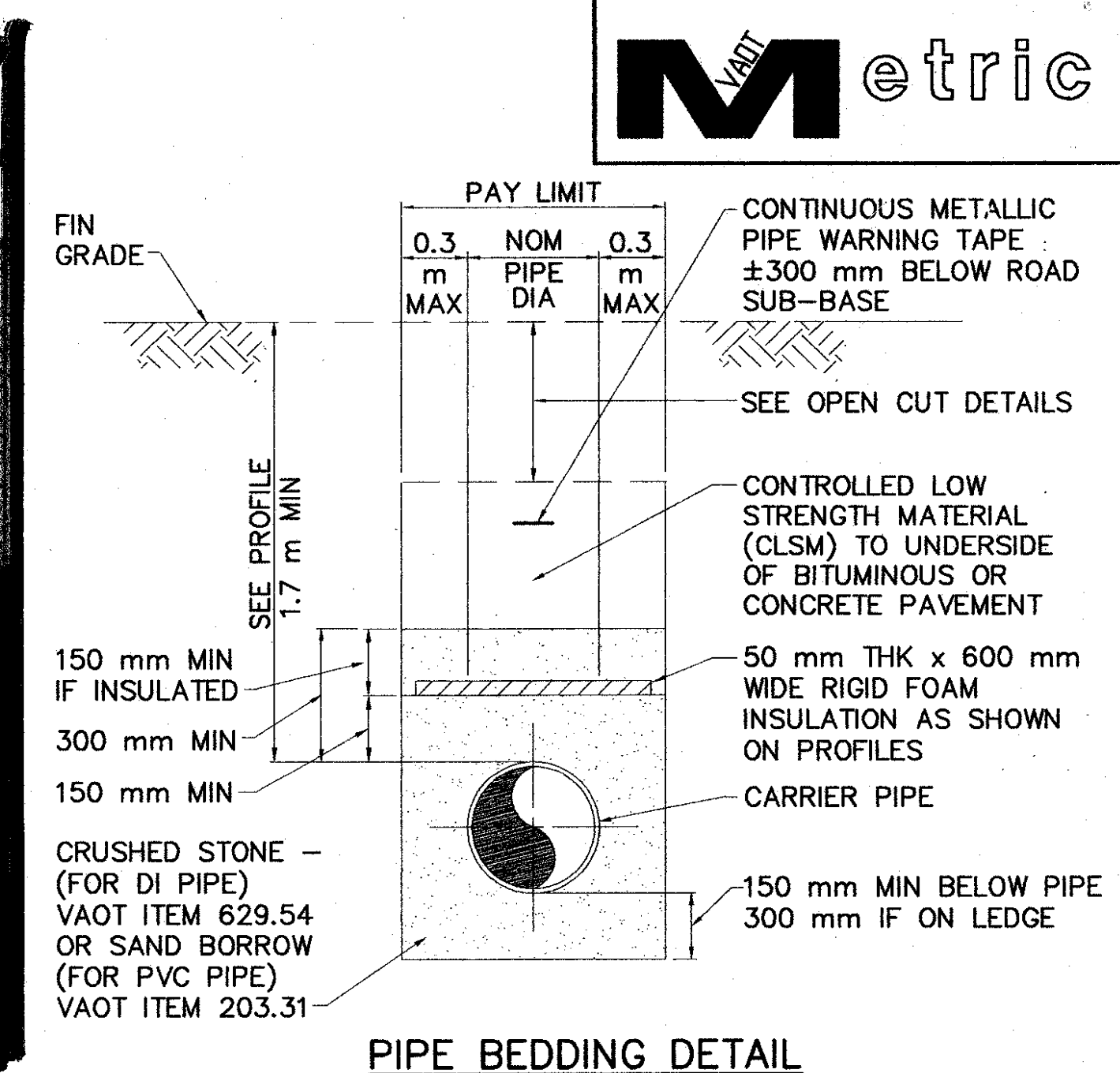
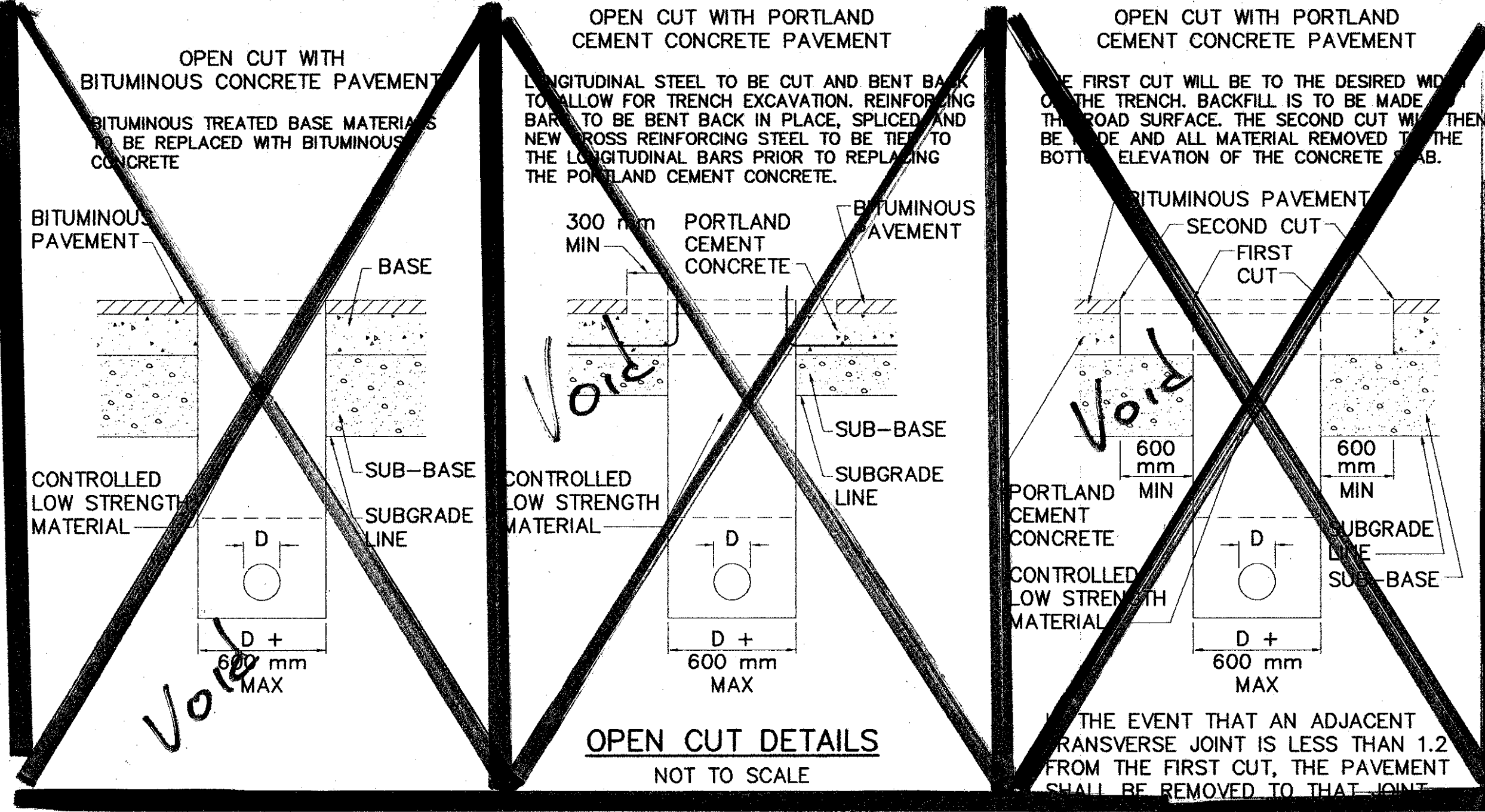
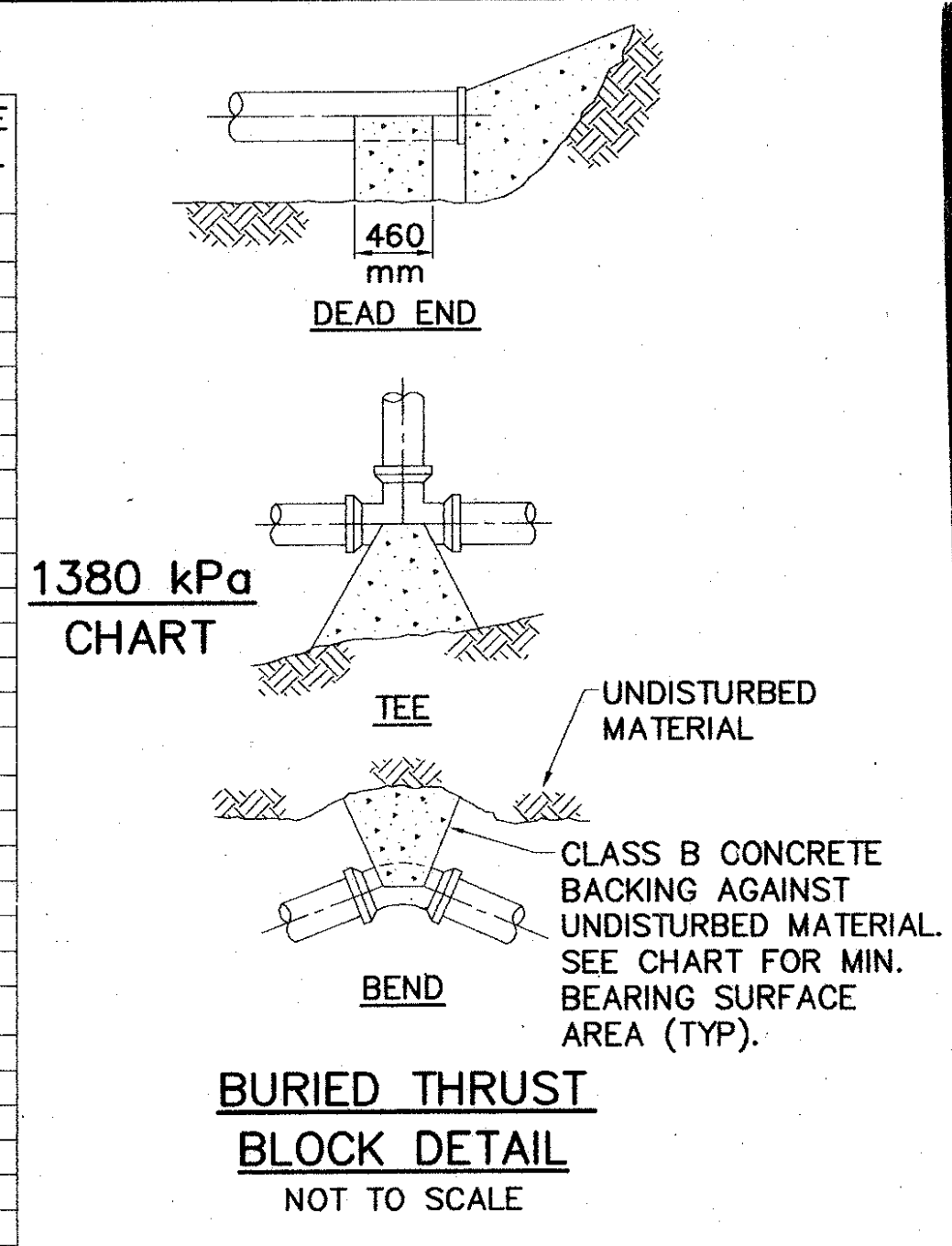
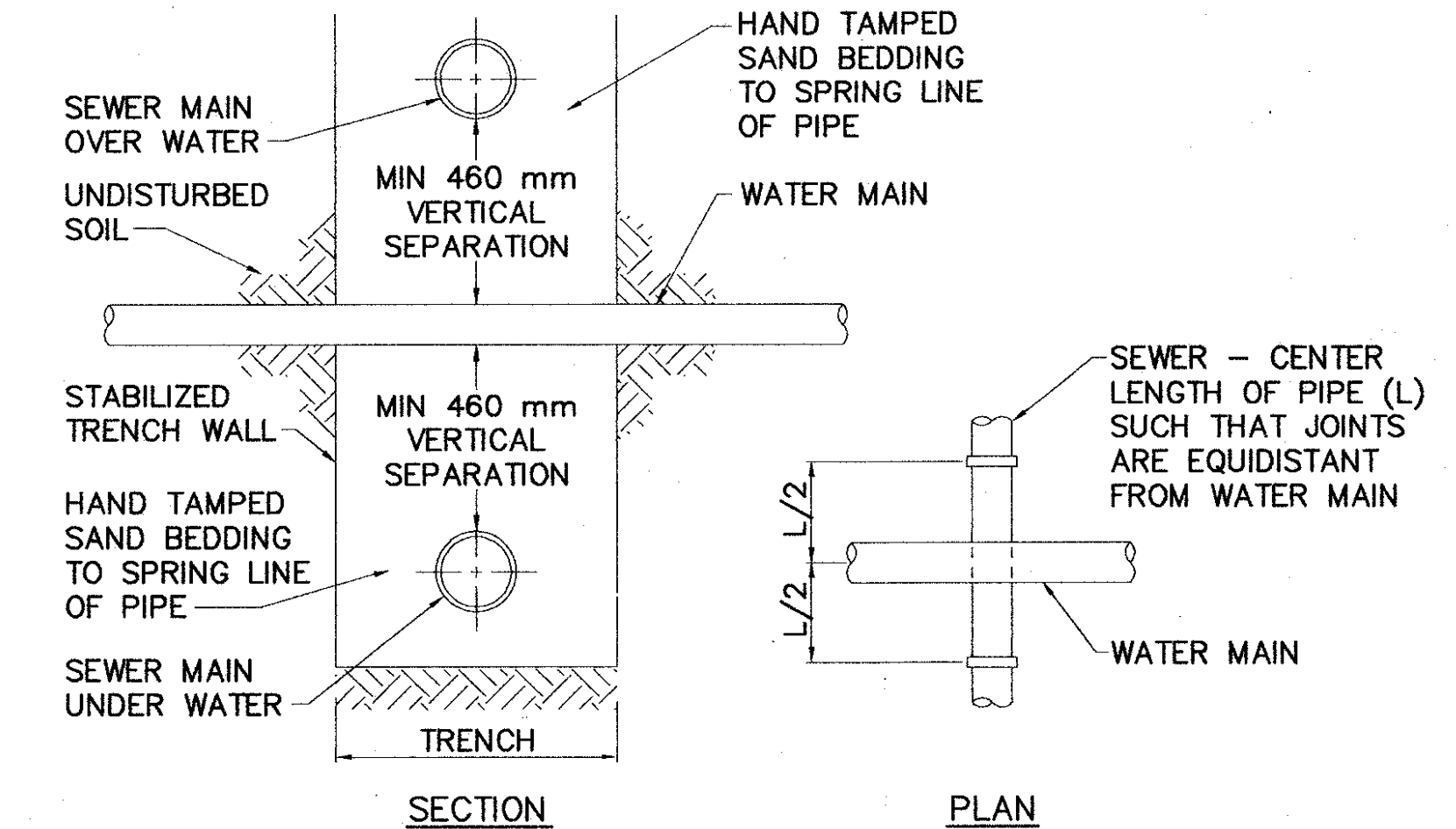
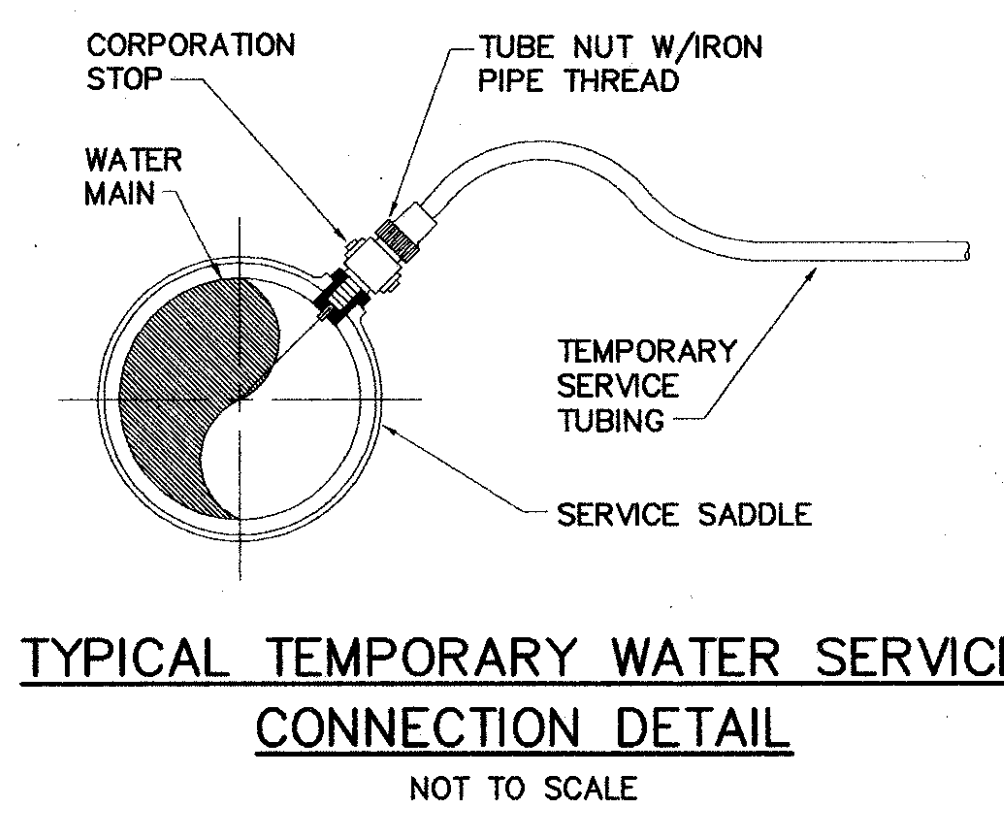
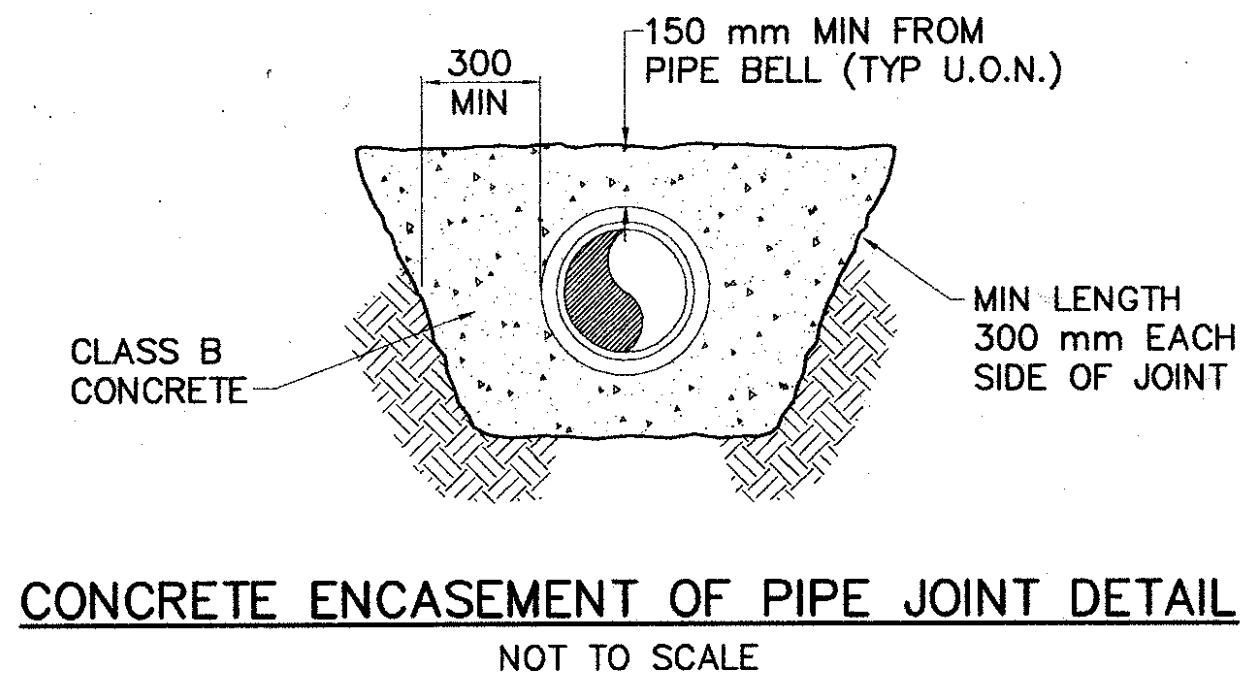
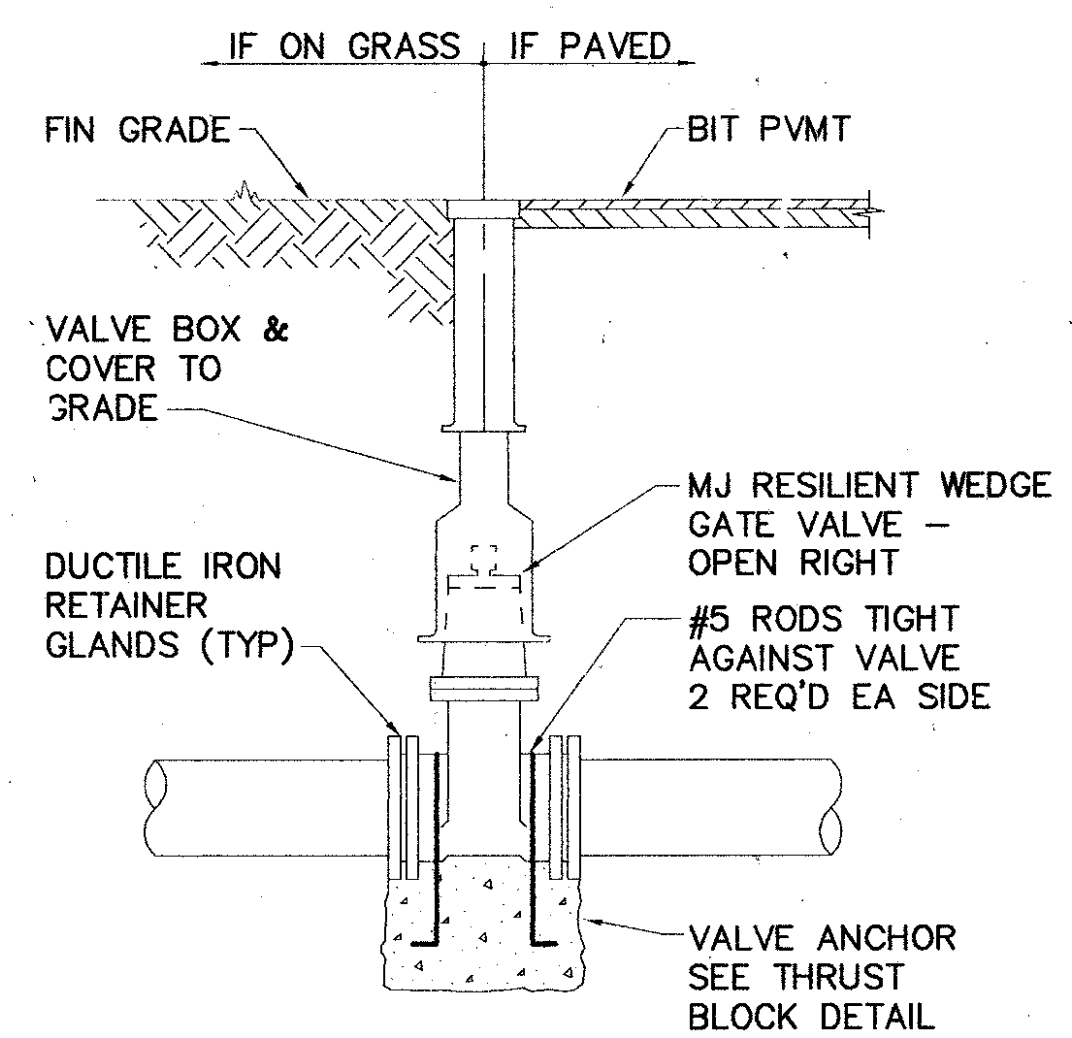


AREA OF BEARING FACE OF CONCRETE THRUST BLOCKS IN SQUARE METERS

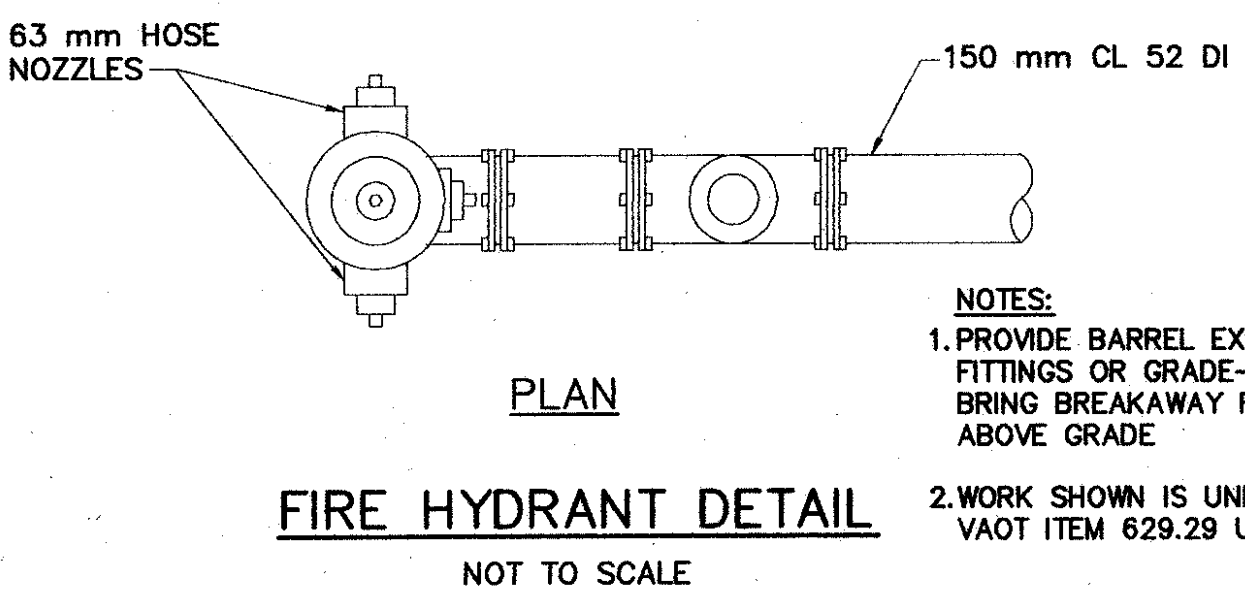
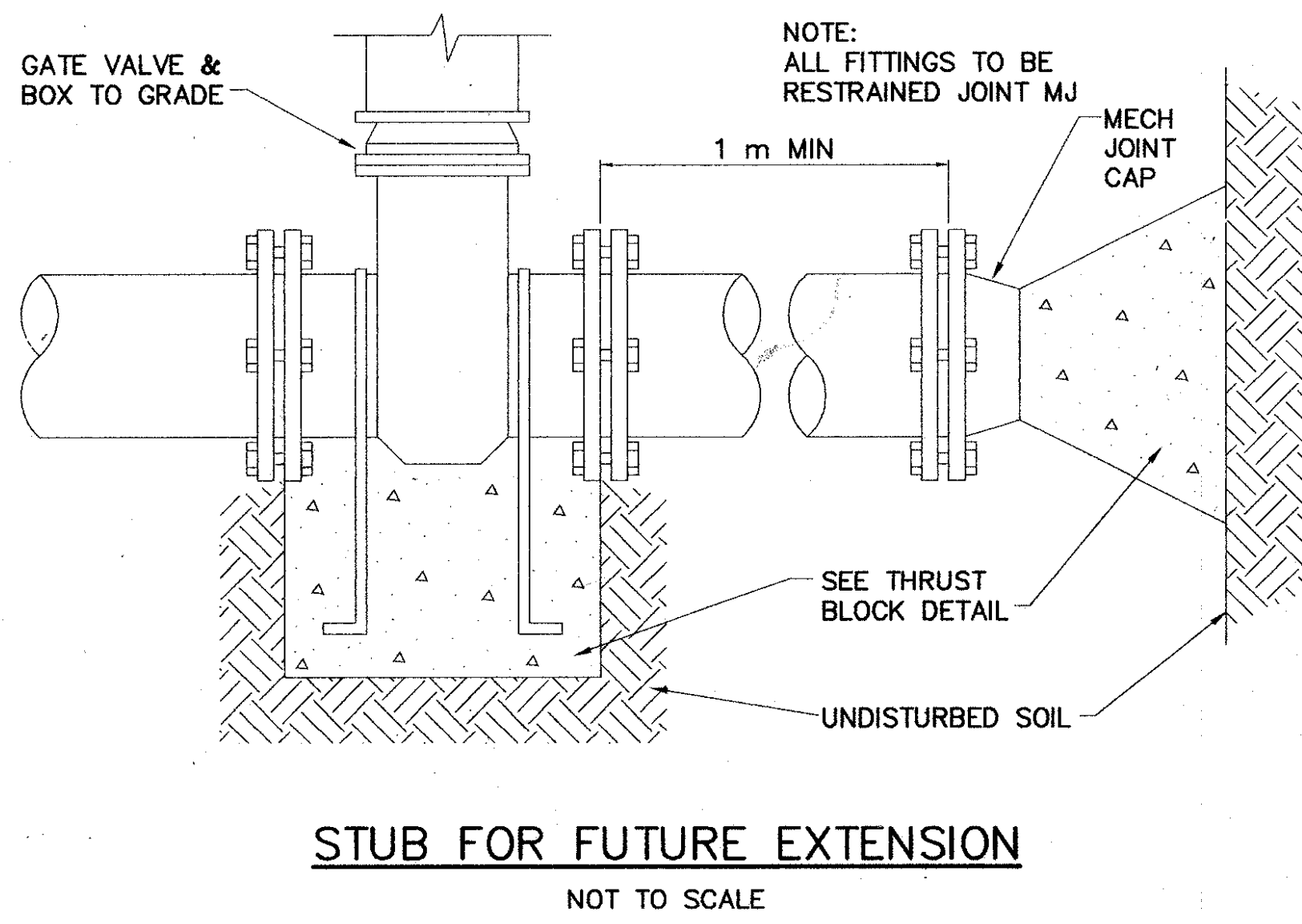
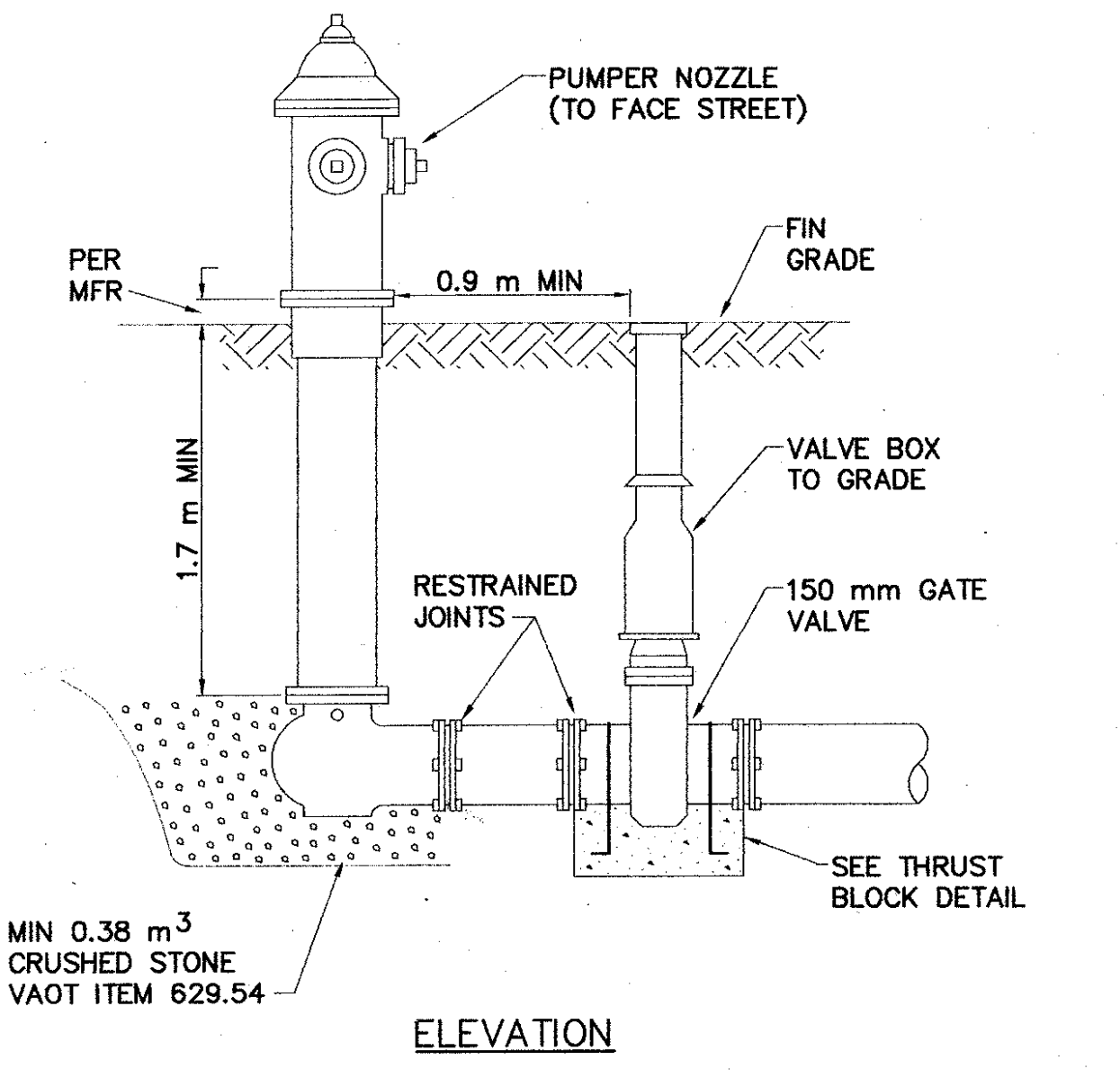
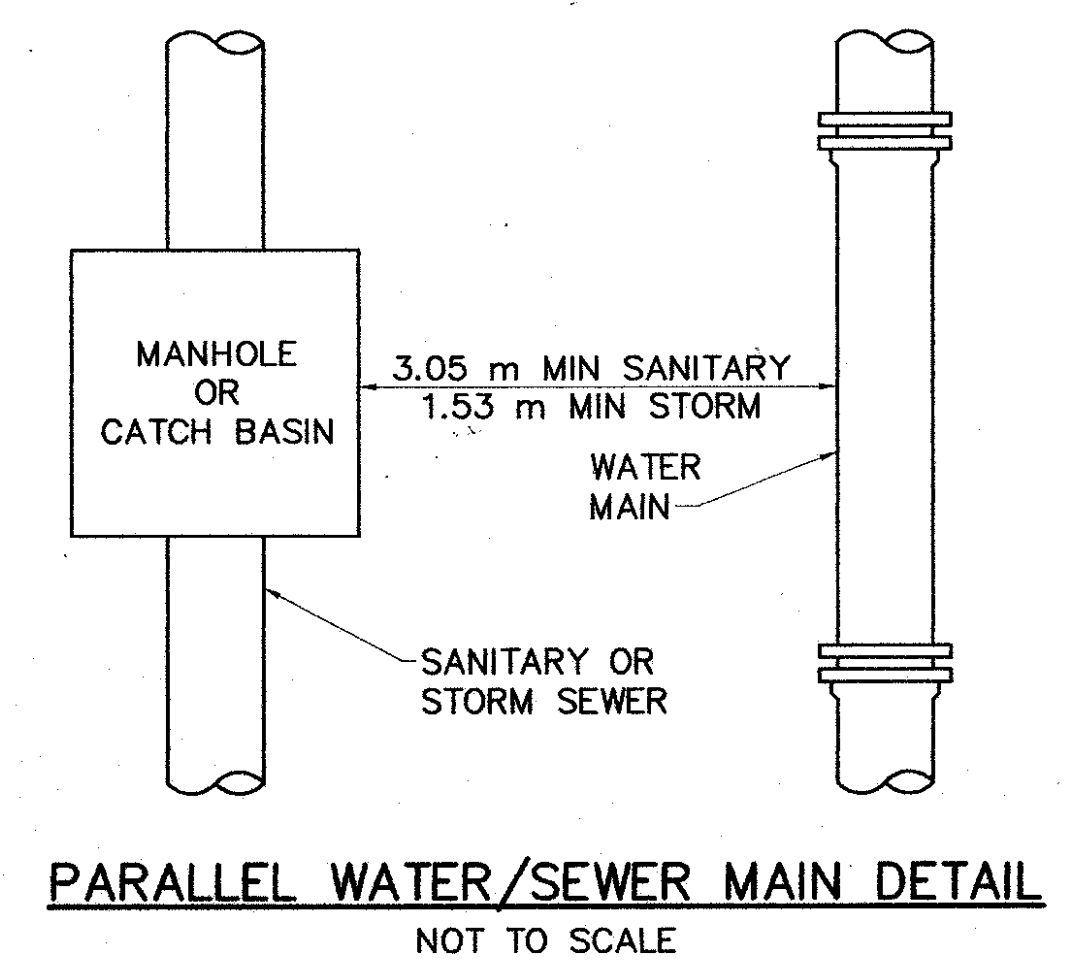
| PIPE SIZE (mm) | SOFT WET CLAY SAND OR SILT (48 kPa) | DRY SAND (192 kPa) | COMPACT COARSE SAND OR GRAVEL (287 kPa) |
|--|-------------------------------------|--------------------|---|
| DEAD END, TEE OR VALVE (90°) | | | |
| 200 OR LESS | 1.3 | .4 | .3 |
| 250 | 1.9 | .5 | .4 |
| 300 | 2.6 | .7 | .5 |
| 400 | 4.5 | 1.1 | .7 |
| 500 | 6.9 | 1.8 | 1.2 |
| 600 | 9.7 | 2.4 | 1.7 |
| 1/4 BEND (90°) | | | |
| 200 OR LESS | 1.7 | .5 | .3 |
| 250 | 2.6 | .7 | .5 |
| 300 | 3.7 | .9 | .7 |
| 400 | 6.3 | 1.6 | 1.1 |
| 500 | 9.7 | 2.4 | 1.7 |
| 600 | 13.7 | 3.4 | 2.3 |
| 1/8 BEND (45°) | | | |
| 200 OR LESS | .9 | .3 | .2 |
| 250 | 1.5 | .4 | .3 |
| 300 | 2.0 | .6 | .4 |
| 400 | 3.3 | .8 | .6 |
| 500 | 5.2 | 1.3 | .9 |
| 600 | 7.4 | 1.9 | 1.3 |
| 1/16 BEND (22 1/2°) AND SEWER MAIN SHT6 | | | |
| 200 OR LESS | .6 | .2 | .1 |
| 250 | .7 | .2 | .2 |
| 300 | 1.1 | .3 | .2 |
| 400 | 1.9 | .5 | .4 |
| 500 | 2.8 | .7 | .5 |
| 600 | 3.7 | .9 | .7 |



- FIGURES BASED ON 1380 kPa.
- FOR PIPE SIZES NOT LISTED, USE NEXT LARGER PIPE SIZE.
- WHEN MORE THAN ONE SOIL TYPE IS ENCOUNTERED, THE ONE WITH LEAST BEARING CAPACITY SHALL BE USED.
- RETAINING RODS OR RESTRAINED JOINT PIPE AS APPROVED BY THE ENGINEER SHALL BE USED IN PLACE OF THRUST BLOCKS WHEN MUCK IS ENCOUNTERED.

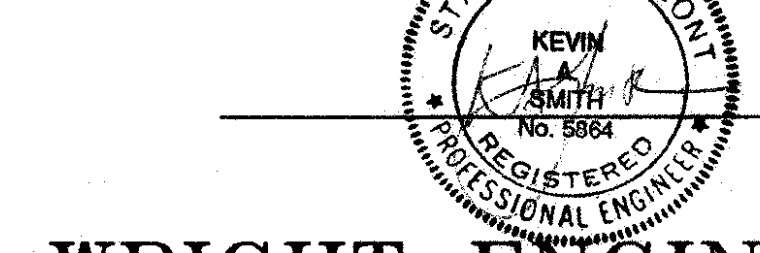


- WATER MAIN/SEWER MAIN CROSSING NOTES:**
- THIS DETAIL REFERS TO WATER MAINS, WATER SERVICES, SANITARY SEWERS, BUILDING SEWERS AND STORM SEWERS UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
 - IF WATER MAIN IS LESS THAN 460 mm ABOVE SEWER MAIN OR IF SEWER MAIN IS ABOVE WATER MAIN, THE SEWER PIPE MUST BE CONSTRUCTED OF CL 50 DUCTILE IRON PIPE OR EQUAL FOR A MINIMUM DISTANCE OF 6.1 m EITHER SIDE OF THE CROSSING OR A TOTAL OF THREE PIPE LENGTHS, WHICHEVER IS GREATER. THE SECTION CONSTRUCTED OF DUCTILE IRON PIPE MUST BE PRESSURE TESTED TO MAINTAIN 70 kPa FOR 15 MINUTES WITHOUT LEAKAGE PRIOR TO BACKFILLING BEYOND 0.3 METERS ABOVE THE PIPE TO ASSURE WATER TIGHTNESS.
 - CONCRETE ENCASEMENT OF SEWER PIPE JOINTS ON EACH SIDE OF WATER MAIN OR WITHIN 6.1 m EACH SIDE OF WATER MAIN, WHICHEVER IS GREATER, MAY BE AN ACCEPTABLE SUBSTITUTION ONLY WHERE SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.



- NOTES:**
- PROVIDE BARREL EXTENSION, FITTINGS OR GRADE-LOK TO BRING BREAKAWAY FLANGE ABOVE GRADE
 - WORK SHOWN IS UNDER VAOT ITEM 629.29 U.O.N.

THE ENGINEER'S SIGNATURE BELOW INDICATES THAT HE/SHE HAS REVIEWED THIS PLAN AND HAS AUTHORIZED SUBMITTAL TO THE REVIEWING AGENCIES. PLANS ARE NOT FOR CONSTRUCTION UNLESS SEALED BY THE ENGINEER.



WRIGHT ENGINEERING, LTD.
Consulting Engineers
Rutland, Vermont

WATER MAIN AND SEWER MAIN X-ING
NOT TO SCALE

| Revision No. | Date | Description | Dr. | Ck. |
|-------------------------------------|---------------------|--------------|----------------|------------|
| WATER SYSTEM IMPROVEMENTS | | | | |
| FOR THE | | | | |
| WALLINGFORD FIRE DISTRICT #1 | | | | |
| WALLINGFORD, VERMONT | | | | |
| MISCELLANEOUS DETAILS | | | | |
| Drawn By: DSM | Date | Scale | Engr's Job No. | Sheet No. |
| Checked By: MPY | Date 7/21/98 | NOTED | 9126 | W-3 |
| Certified By: KAS | Date 3/12/00 | | | |

DATUM

| | |
|------------|-----|
| VERTICAL | N/A |
| HORIZONTAL | N/A |