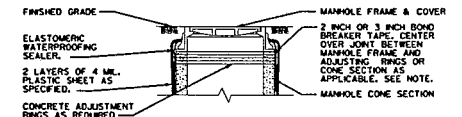


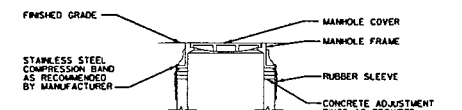
| | |
|-------------|-----------|
| PROJECT NO. | 880373 |
| DATE | JUNE 2002 |
| SCALE | AS SHOWN |

| | | | |
|-------------|-----------|-------------|-----|
| PROJECT NO. | 880373 | TOWN/SHRINK | |
| DATE | JUNE 2002 | DRAWN BY | PLK |
| SCALE | AS SHOWN | CHECKED BY | SM |

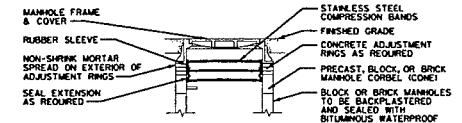
| | | | |
|--------------|-------------|----------|-----------------------------|
| DATE PLOTTED | 02 JUL 2002 | FILE NO. | 880373-05 |
| PLOT DATE | 02 JUL 2002 | PROJECT | PIEHL SUBDIVISION UTILITIES |
| PLOT TIME | 08:58:4 | CITY | TOMAHAWK, WISCONSIN |



THE BOND BREAKER TAPE IS TO PREVENT THE SEALER FROM BONDING TO THE EDGE OF THE FLANGE OF THE MH FRAME AND THE UPPER 1 1/2 INCHES OF ADJUSTING RING OR CONE. IF THE EDGE OF FLANGE IS NOT FLUSH WITH ADJUSTING RING OR CONE, APPLY ADDITIONAL TAPE AS REQUIRED TO PREVENT SUCH BONDING.

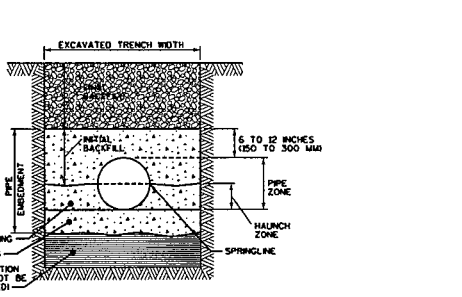


GENERAL NOTE:
 THE SEAL SHALL EXTEND FROM THE CASTING TO THE CORREL (CONE). SEAL EXTENSIONS SHALL BE USED AS REQUIRED.
 EXTERNAL RUBBER SLEEVE FRAME/CHIMNEY SEAL



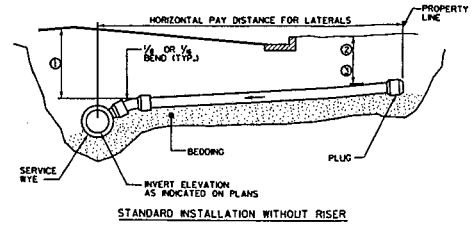
GENERAL NOTES:
 1. THE SEAL SHALL EXTEND FROM THE CASTING TO THE CORREL (CONE). SEAL EXTENSIONS SHALL BE USED AS REQUIRED.
 2. AN INTERNAL ADAPTOR SEAL RING MAY BE USED IN LIEU OF THE RUBBER SLEEVE. THE INTERNAL ADAPTOR SEAL RING SHALL BE INSTALLED PER MANUFACTURER'S INSTRUCTIONS.
 INTERNAL RUBBER SLEEVE FRAME/CHIMNEY SEAL

MANHOLE WATERPROOFING DETAIL
 SCALE: NONE

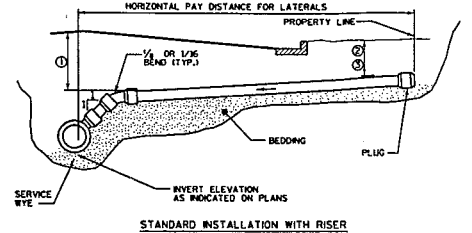


- GENERAL NOTES:
 1. DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO ASTM U221.
 2. CLASS EMBEDMENT MATERIAL SHALL BE CLEAN, COARSE-GRAINED SOILS WITH LITTLE TO NO FINES. NO PARTICLES LARGER THAN 1/2-INCHES SHALL BE USED IN THE PIPE EMBEDMENT.
 3. WHERE HYDRAULIC GRADIENT EXISTS USE A WELL-GRADED MIXTURE TO MINIMIZE MIGRATION OF FINES FROM ADJACENT SOIL.
 4. CLASS B MATERIAL IS SUITABLE AS A FOUNDATION AND FOR REPLACING OVER-EXCAVATED AND UNSTABLE TRENCH BOTTOM. INSTALL AND COMPACT IN 6-INCH MAXIMUM LAYERS.
 5. INSTALL AND COMPACT BEDDING IN 6-INCH MAXIMUM LAYERS. LEVEL FINAL GRADE BY HAND. MINIMUM DEPTH 4 INCH IS 6 INCH IN ROCK CUTS.
 6. INSTALL AND COMPACT HALUNCHING IN 6-INCH MAXIMUM LAYERS. WORK IN AROUND PIPE BY HAND TO PROVIDE UNIFORM SUPPORT.
 7. INSTALL AND COMPACT INITIAL BACKFILL TO A MINIMUM OF 6 INCH ABOVE PIPE CROWN.
 8. EMBEDMENT COMPACTION: MINIMUM DENSITY 85% STANDARD PROCTOR. USE HAND TAMPERS OR VIBRATORY COMPACTORS.

CLASS II - FLEXIBLE PIPE EMBEDMENT DETAIL
 SCALE: NONE



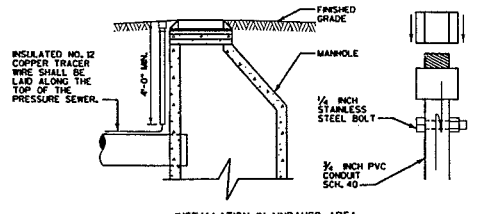
STANDARD INSTALLATION WITHOUT RISER



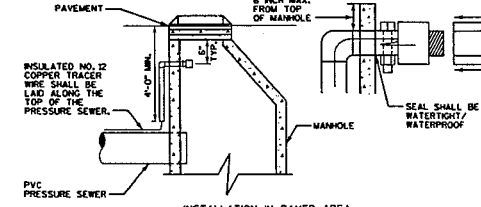
STANDARD INSTALLATION WITH RISER

- GENERAL NOTES:
 1. MINIMUM DEPTH OF COVER UNDER ROADWAY = 7 FEET.
 2. MINIMUM DEPTH OF COVER UNDER GRASS AREAS = 5 1/2 FEET.
 3. MINIMUM DEPTH OF COVER UNDER GRASS AREAS WITH FROST PROTECTION = 3 FEET 6 INCHES.
 4. LATERAL SLOPES SHALL BE 1/8 INCH PER FOOT MINIMUM AND 1/2 INCH PER FOOT MAXIMUM.

SANITARY SEWER LATERAL DETAIL
 SCALE: NONE



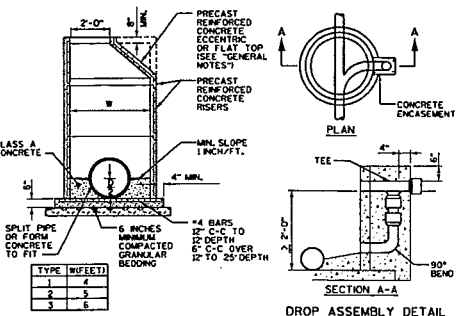
INSTALLATION IN UNPAVED AREA



INSTALLATION IN PAVED AREA

- GENERAL NOTES:
 1. THE TRACER WIRE SHALL REMAIN CONTINUOUS TO THE GREATEST EXTENT POSSIBLE.
 2. A THREADED, FEMALE PVC SCHEDULE 40 PLUG AND MALE COUPLING TO 3/4 INCH SCHEDULE 40 SHALL BE INSTALLED IN OR ADJACENT TO THE VALVE VAULT AND MANHOLE.
 3. WIRE PITING SHALL BE WRAPPED AROUND BOLT AND READILY ACCESSIBLE, WITH SUFFICIENT LENGTH FOR EASY CONNECTION.

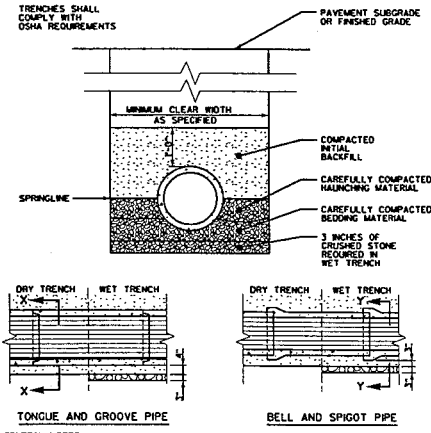
TRACER WIRE INSTALLATION FOR PVC PRESSURE SEWER DETAIL
 SCALE: NONE



DROP ASSEMBLY DETAIL

- GENERAL NOTES:
 1. DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL CONDITIONS.
 2. DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.
 3. PRECAST REINFORCED BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH WHICH MEETS THE REQUIREMENTS FOR GRANULAR BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.
 4. ECCENTRIC CONE TOPS SHALL BE USED ON ALL STRUCTURES 5 FEET OR GREATER IN DEPTH AND FLAT TOPS SHALL BE USED ONLY ON STRUCTURES LESS THAN 5 FEET IN DEPTH UNLESS DIRECTED BY THE ENGINEER.
 5. PRECAST REINFORCED CONCRETE RISERS MAY BE PLACED WITH TONGUE UP OR DOWN.
 6. ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M 199.
 7. DROP CONNECTIONS SHALL BE USED WHEN THE PIPE INVERT IS MORE THAN 2 FEET ABOVE THE MANHOLE INVERT.

PRECAST REINFORCED CONCRETE MANHOLE DETAIL
 SCALE: NONE



- GENERAL NOTES:
 1. BEDDING AND HALUNCHING MATERIAL SHALL BE WELL-GRADED 3/4 TO 1/2 INCH CRUSHED STONE OR OTHER NONE COHESIVE MATERIAL NOT SUBJECT TO MIGRATION AND FREE OF DEBRIS, ORGANIC MATERIAL, AND LARGE STONES.
 2. BEDDING MATERIAL TO BE PLACED BEFORE SETTING PIPE. 4 INCH MINIMUM UNDER BARREL WITH 3 INCH MINIMUM UNDER BELL.
 3. INITIAL BACKFILL SHALL BE DENSELY COMPACTED, NON-COHESIVE FINELY DIVIDED MATERIAL FREE OF DEBRIS, ORGANIC MATERIAL, AND LARGE STONES.
 4. IN ROCK OR OTHER INCOMPRESSIBLE MATERIALS, THE TRENCH SHALL BE OVEREXCAVATED A MINIMUM OF 6-INCHES AND REFILLED WITH GRANULAR MATERIAL.

CLASS "B" EMBEDMENT FOR RIGID PIPE DETAIL
 SCALE: NONE