

I. INSTALLATION SHALL NOT ALLOW INTER-TWINING OF CABLES. 2. DIRECT BURY CABLES EXCEPT UNDER PAVED AREAS. PROVIDE SCH. 40 PVC CONDUIT UNDER PAVED AREAS

EXTEND CONDUIT 5'-0" BEYOND EDGE OF PAVEMENT.

CABLE TRENCH SECTION

NOT TO SCALE

2 CONCRETE THRUSTBLOCK PLACEMENT(II-18)

NOT TO SCALE

UNDERGROUND UTILITIES WARNING TAPE

IDENTIFICATION TAPE TO BE INSTALLED ABOVE ALL NEW UNDERGROUND UTILITIES AND ABOVE ANY EXISTING UTILITIES THAT MAY BE EXPOSED BY THIS CONSTRUCTION.

DETECTABLE UNDERGROUND MARKING TAPE TO BE PERMANENT. BRIGHT-COLORED, CONTINUOUS-PRINTED PLASTICIZED ALUMINUM TAPE, INTENDED FOR DIRECT-BURIAL SERVICE NOT LESS THAN 3" WIDE X 5 MILS THICK. PROVIDE TAPE WITH BLACK PRINTING IDENTIFYING THE UTILITY. DETECTABLE WARNING TAPE REQUIRED OVER ALL WATER, SEWER, DRAINAGE, OR GAS UTILITIES. TAPE TO BE TERRA TAPE BY REEF INDUSTRIES, INC., www.reefindustries.com, OR EQUAL.

APWA UNIFORM COLOR CODE:

PROPOSED EXCAVATION

TEMPORARY SURVEY MARKINGS ELECTRIC POWER LINES, CABLES, CONDUIT AND LIGHTING CABLES

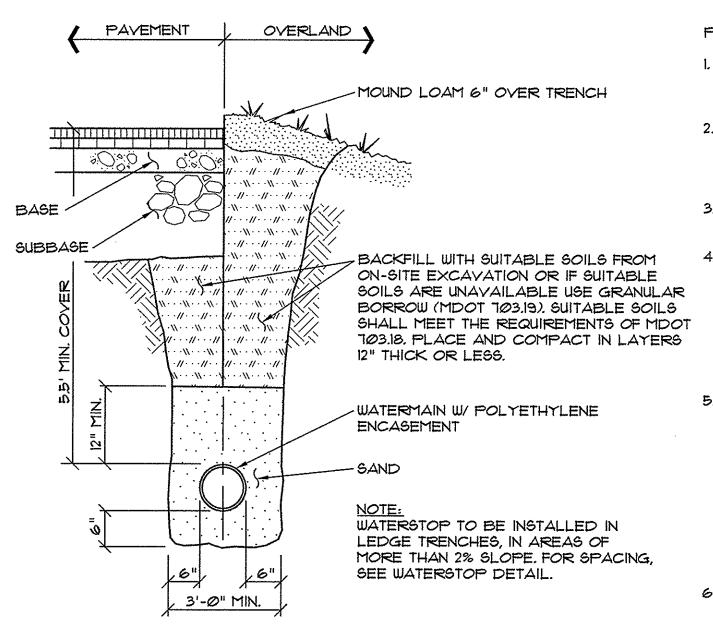
GAS, OIL, STEAM, PETROLEUM OR GASEOUS MATERIALS

COMMUNICATION, ALARM OR SIGNAL LINES, CABLES OR CONDUIT POTABLE WATER

RECLAIMED WATER, IRRIGATION AND SLURRY LINES

SEWERS AND DRAIN LINES

UNDERGROUND UTILITIES WARNING TAPE

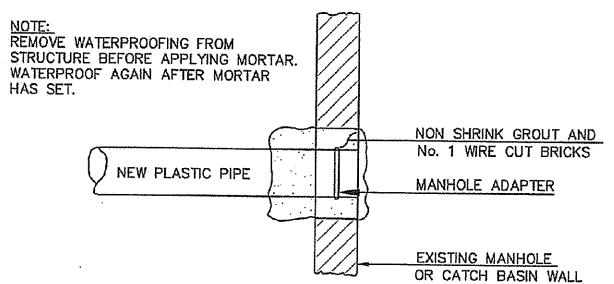


POLYETHYLENE ENCASEMENT GENERAL SPECIFICATIONS

- 1. TUBE TYPE POLYETHYLENE ENCASEMENT SHALL BE INSTALLED ON ALL DUCTILE IRON PIPE AND FITTINGS IN ACCORDANCE WITH AWWA STANDARD CIØ5 - LATEST REVISION, METHOD A.
- 2. POLYETHYLENE ENCASEMENT SHALL BE EITHER LINEAR LOW-DENSITY POLYETHYLENE (LLDPE) FILM WITH A MINIMUM THICKNESS OF 8-MIL OR HIGH-DENSITY, CROSS-LAMINATED POLYETHYLENE (HDCLPE) FILM WITH A MINIMUM THICKNESS OF 4-MIL.
- 3. CIRCUMFERENTIAL WRAPS OF TAPE OR PLASTIC TIE STRAPS SHALL BE PLACED AT 2-FT. INTERVALS ALONG THE BARREL OF THE PIPE.
- 4. THE POLYETHYLENE ENCASEMENT SHALL PREVENT CONTACT BETWEEN THE PIPE AND THE SURROUNDING BACKFILL AND BEDDING MATERIAL BUT IS NOT INTENDED TO BE A COMPLETELY AIRTIGHT OR WATERTIGHT ENCLOSURE. ALL LUMPS OF CLAY, MUD, CINDERS, AND SO FORTH, ON THE PIPE SURFACE SHALL BE REMOVED PRIOR TO INSTALLATION OF THE POLYETHYLENE ENCASEMENT. DURING INSTALLATION, CARE SHALL BE EXERCISED TO PREVENT SOIL OR EMBANKMENT MATERIAL FROM BECOMING TRAPPED BETWEEN THE PIPE AND THE POLYETHYLENE.
- 5. THE POLYETHYLENE FILM SHALL BE FITTED TO THE CONTOUR OF THE PIPE TO EFFECT A SNUG, BUT NOT TIGHT, ENCASEMENT WITH MINIMUM SPACE BETWEEN THE POLYETHYLENE AND THE PIPE. SUFFICIENT SLACK SHALL BE PROVIDED IN CONTOURING TO PREVENT STRETCHING THE POLYETHYLENE WHERE IT BRIDGES IRREGULAR SURFACES, SUCH AS BELL-SPIGOT INTERFACES, BOLTED JOINTS, OR FITTINGS, AND TO PREVENT DAMAGE TO THE POLYETHYLENE DUE TO BACKFILLING OPERATIONS. OVERLAPS AND ENDS SHALL BE SECURED WITH ADHESIVE TAPE, STRING, PLASTIC TIE STRAPS, OR ANY OTHER MATERIAL CAPABLE OF HOLDING THE POLYETHYLENE ENCASEMENT IN PLACE UNTIL BACKFILLING OPERATIONS ARE COMPLETE.
- 6. THREE LAYERS OF POLYETHYLENE ADHESIVE TAPE SHALL BE WRAPPED AROUND ANY POLYWRAPPED PIPE WHERE A TAPPING MACHINE WILL BE PLACED. ALL COPPER SERVICES CONNECTED TO A PIPE WRAPPED IN POLYETHYLENE ENCASEMENT SHALL BE WRAPPED WITHIN THREE FEET OF

NOT TO SCALE

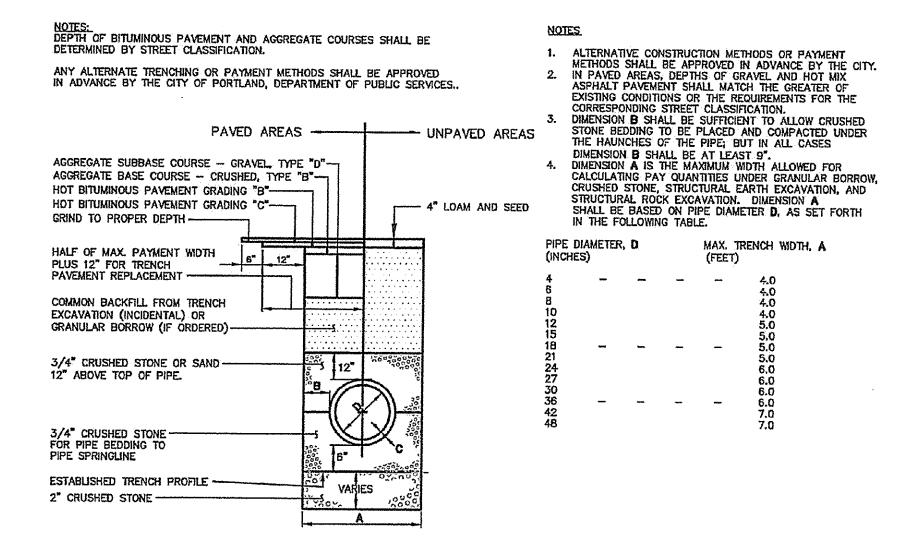
NOTE: EXISTING MANHOLE OR CATCH BASIN SHALL BE CORE DRILLED FOR PIPE INSTALLATION. IF PIPE DIAMETER IS SO LARGE THAT CORE DRILLING IS PROHIBITED, THE CONTRACTOR MAY SAW CUT THE STRUCTURE TO CREATE PIPE OPENING. THE NEW OPENING MUST THEN BE SEALED AND WATERTIGHT



METHOD 3 - NEW PIPE INTO EXISTING STRUCTURE

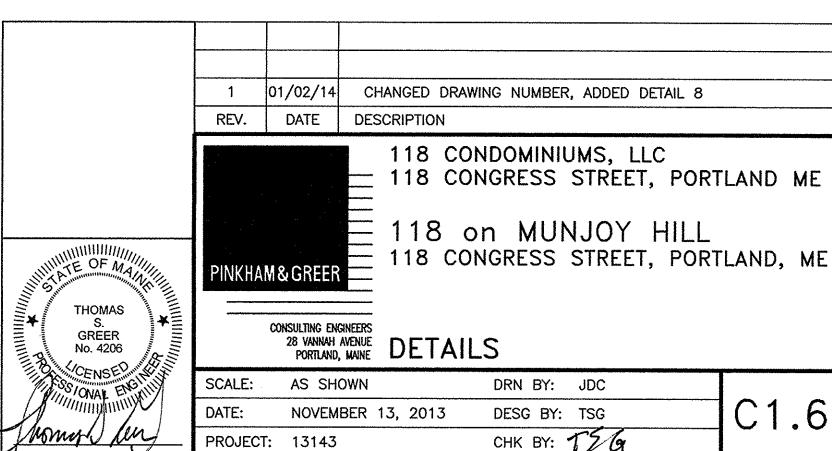
6 PLASTIC PIPE CONNECTION METHOD 3 (II-14)

THOMAS GREER



TYPICAL PIPE TRENCH INSTALLATION (11-12)

NOT TO SCALE



PAVEMENT OVERLAND BOTH INSIDE AND OUTSIDE THE STRUCTURE. MOUND LOAM 6" OVER TRENCH - WARNING TAPE -SUBBASE GAS PIPELINE TRACER WIRE

GAS PIPING TRENCH SECTION

5 TYPICAL WATER MAIN SECTION

NOT TO SCALE