

**NOTES:**  
 1. INSTALLATION SHALL NOT ALLOW INTER-TWING 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.

**3 CABLE TRENCH SECTION**  
 NOT TO SCALE

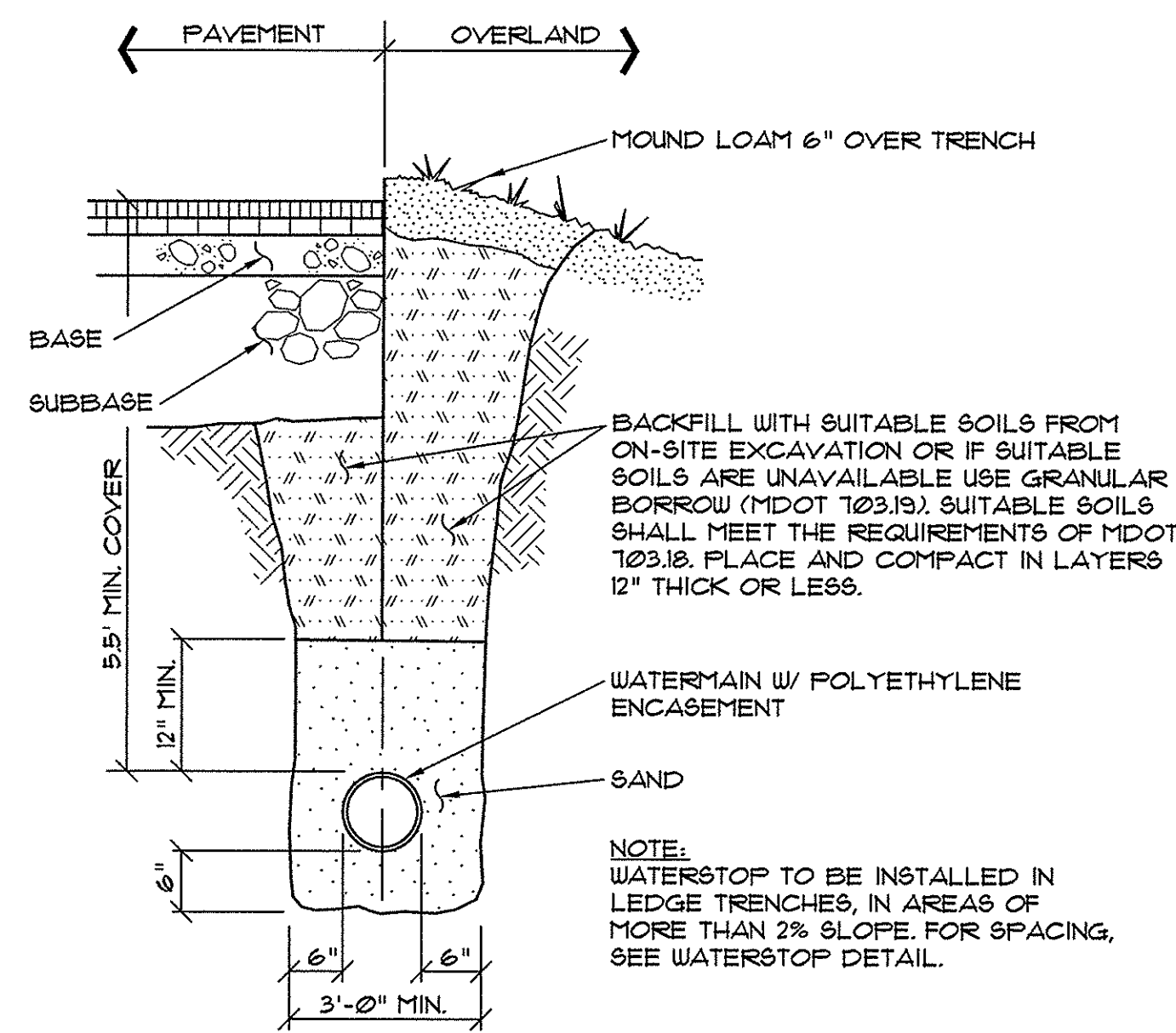


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**2 CONCRETE THRUSTBLOCK PLACEMENT(II-18)**  
 NOT TO SCALE

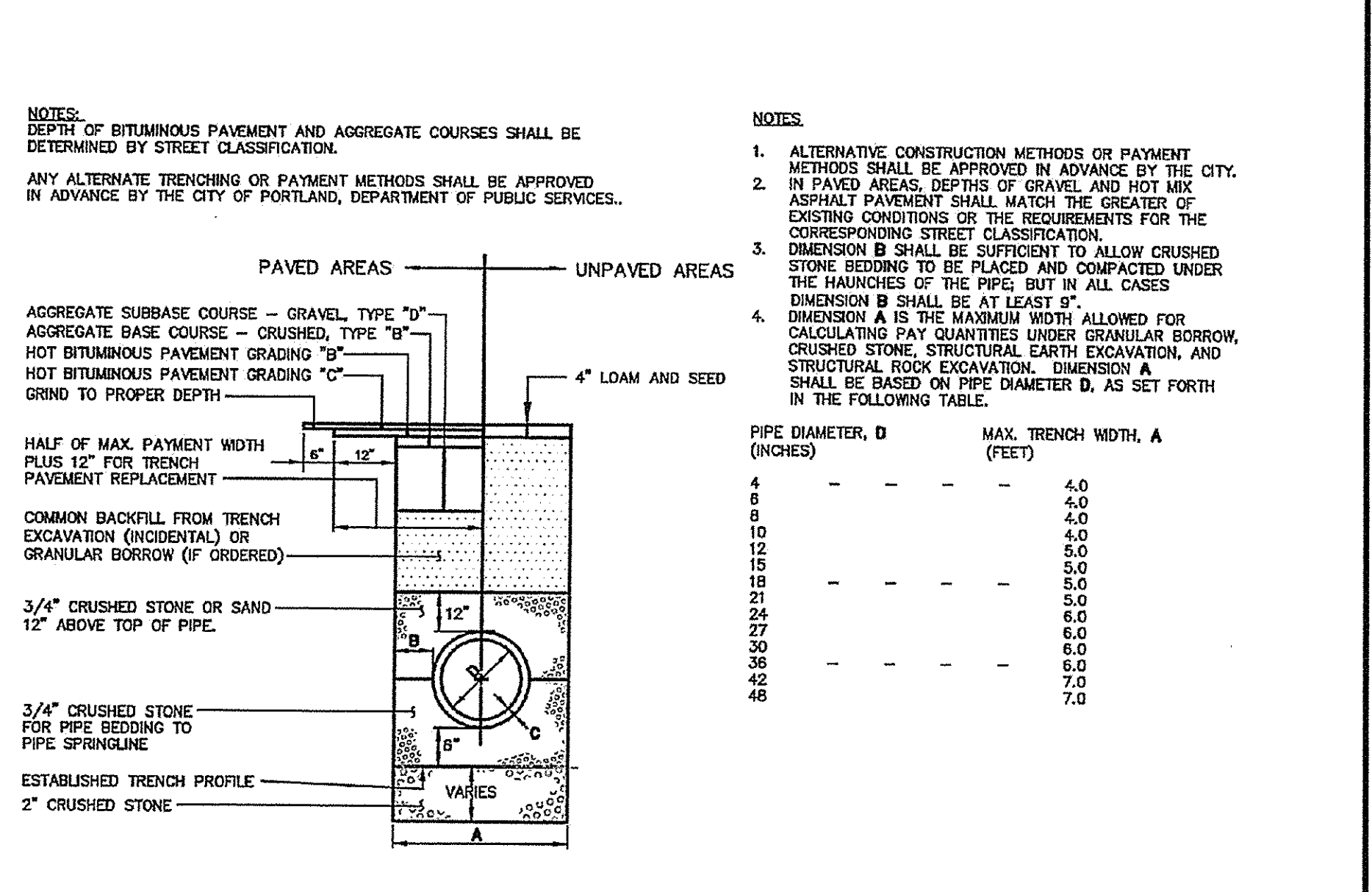
**UNDERGROUND UTILITIES WARNING TAPE**  
 IDENTIFICATION TAPE TO BE INSTALLED ABOVE ALL NEW UNDERGROUND UTILITIES AND ABOVE ANY EXISTING UTILITIES THAT MAY BE EXPOSED BY THIS CONSTRUCTION.  
 DETECTABLE UNDERGROUND MARKING TAPE TO BE PERMANENT, BRIGHT-COLORED, CONTINUOUS-PRINTED PLASTICIZED ALUMINUM 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:  
 WHITE PROPOSED EXCAVATION  
 PINK TEMPORARY SURVEY MARKINGS  
 RED ELECTRIC POWER LINES, CABLES, CONDUIT AND LIGHTING CABLES  
 YELLOW GAS, OIL, STEAM, PETROLEUM OR GASEOUS MATERIALS  
 ORANGE COMMUNICATION, ALARM OR SIGNAL LINES, CABLES OR CONDUIT  
 BLUE POTABLE WATER  
 PURPLE RECLAIMED WATER, IRRIGATION AND SLURRY LINES  
 GREEN SEWERS AND DRAIN LINES

**1 UNDERGROUND UTILITIES WARNING TAPE**  
 NOT TO SCALE

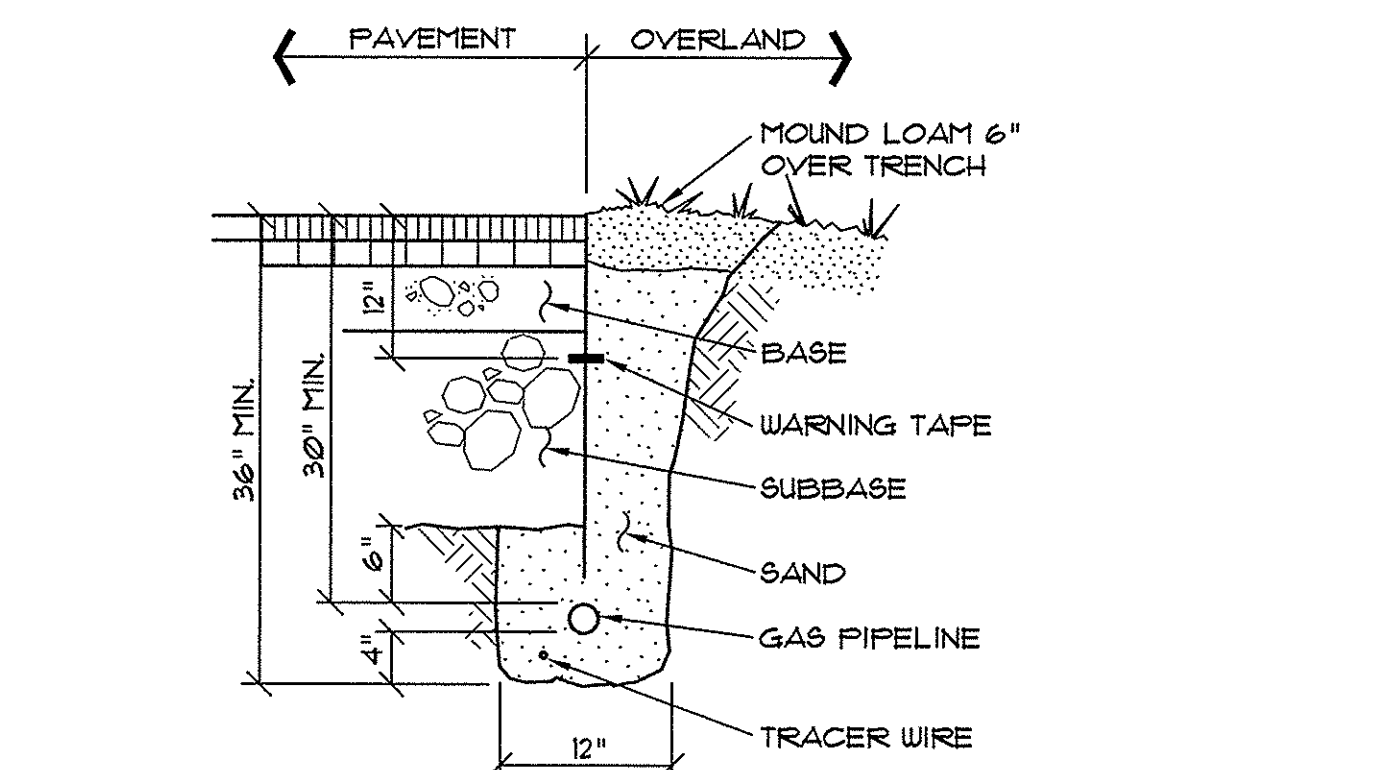


**POLYETHYLENE ENCASEMENT GENERAL SPECIFICATIONS**  
 1. TUBE TYPE POLYETHYLENE ENCASEMENT SHALL BE INSTALLED ON ALL DUCTILE IRON PIPE AND FITTINGS IN ACCORDANCE WITH APWA STANDARD C105 - LATEST REVISION, METHOD A.  
 2. POLYETHYLENE ENCASEMENT SHALL BE EITHER LINEAR LOW-DENSITY POLYETHYLENE (LLDPE) 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 THE PIPE.

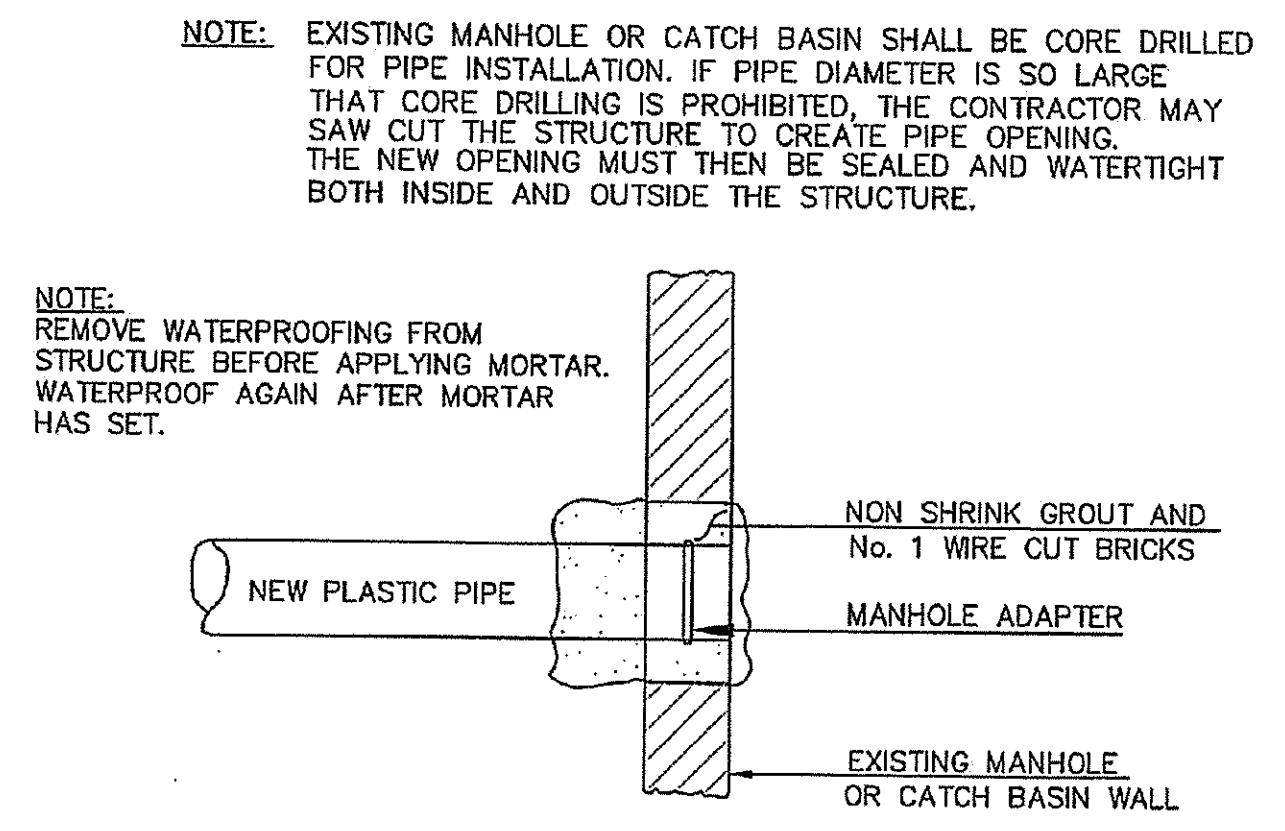
**5 TYPICAL WATER MAIN SECTION**  
 NOT TO SCALE



**4 TYPICAL PIPE TRENCH INSTALLATION (11-12)**  
 NOT TO SCALE



**7 GAS PIPING TRENCH SECTION**  
 NOT TO SCALE



**6 PLASTIC PIPE CONNECTION METHOD 3 (II-14)**  
 NOT TO SCALE

REV.	DATE	DESCRIPTION

118 CONDOMINIUMS, LLC  
 118 CONGRESS STREET, PORTLAND ME

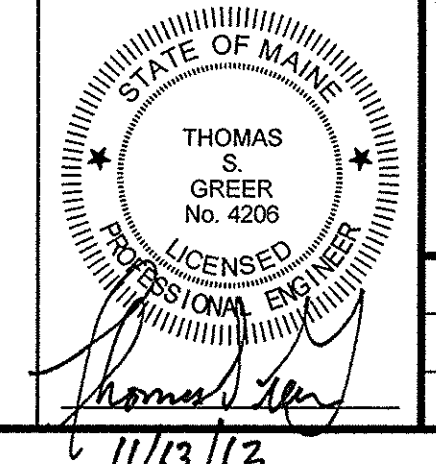
118 on MUNJOY HILL  
 118 CONGRESS STREET, PORTLAND, ME

**PINKHAM & GREER**  
 CONSULTING ENGINEERS  
 28 WANNAM AVENUE  
 PORTLAND, MAINE

**DETAILS**

SCALE: AS SHOWN DRN BY: JDC  
 DATE: NOVEMBER 13, 2013 DESG BY: TSG  
 PROJECT: 13143 CHK BY: TSG

C1.7



11/13/13