

4 TYPICAL WATER MAIN SECTION ON-SITE

- POLYETHYLENE ENCASUREMENT GENERAL SPECIFICATIONS**
1. TUBE TYPE POLYETHYLENE ENCASUREMENT SHALL BE INSTALLED ON ALL DUCTILE IRON PIPE AND FITTINGS IN ACCORDANCE WITH AWWA STANDARD C105 - LATEST REVISION, METHOD A.
 2. POLYETHYLENE ENCASUREMENT 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 ENCASUREMENT 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 ENCASUREMENT. 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, ENCASUREMENT 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 ENCASUREMENT 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 ENCASUREMENT SHALL BE WRAPPED WITHIN THREE FEET OF THE PIPE.

UNDERGROUND UTILITIES WARNING TAPE

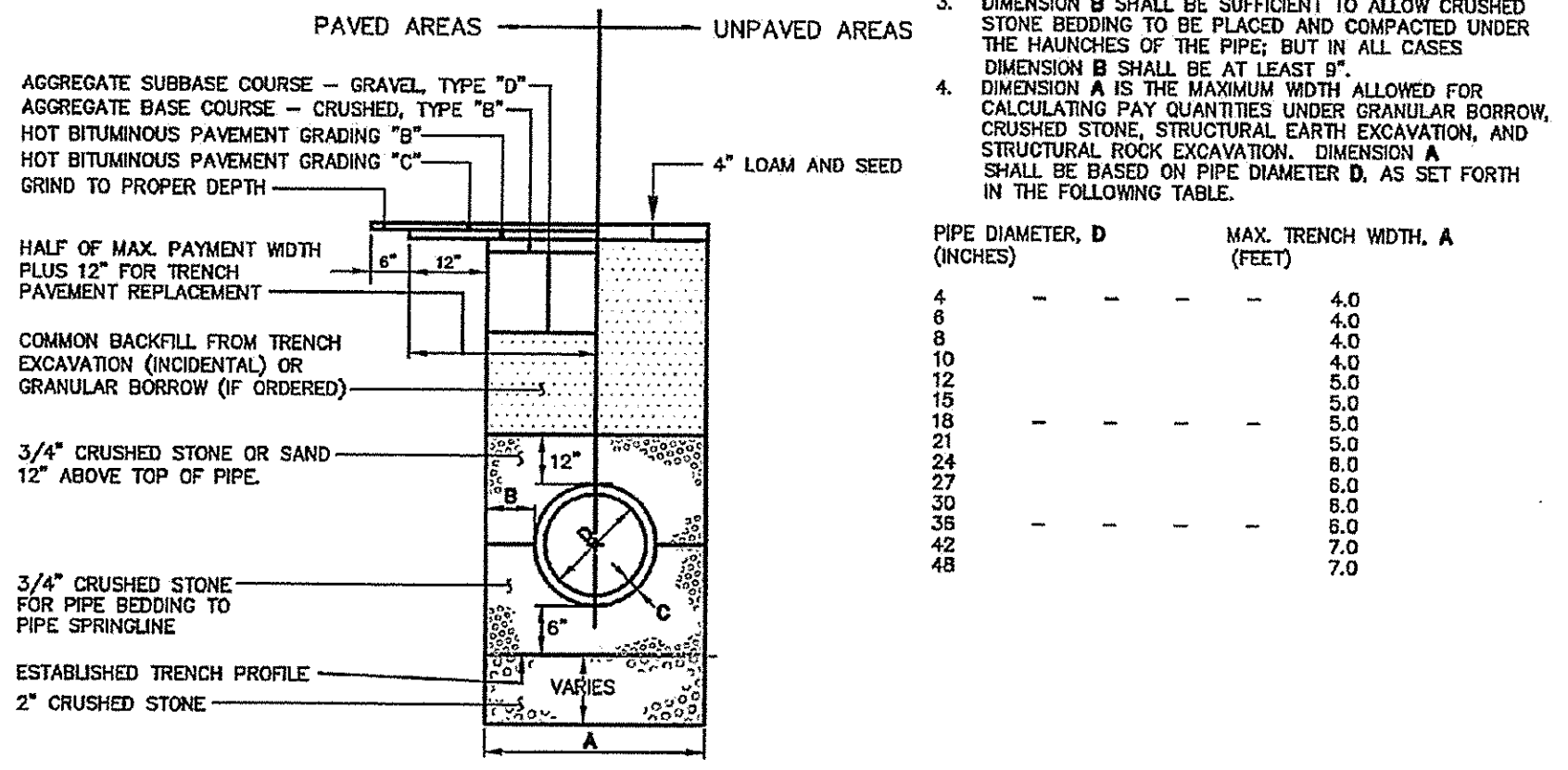
IDENTIFICATION TAPE TO BE INSTALLED ABOVE ALL NEW UNDERGROUND UTILITIES AND ABOVE ANY EXISTING UTILITIES THAT MAY BE EXPOSED BY THIS CONSTRUCTION.

DETECTABLE UNDERGROUND MARKING TAPE TO BE PERMANENT, BRIGHT-COLORED, CONTINUOUS-PRINTED PLASTICIZED ALUMINUM TAPE, INTENDED FOR DIRECT BURIAL SERVICE NOT LESS THAN 3\"/>

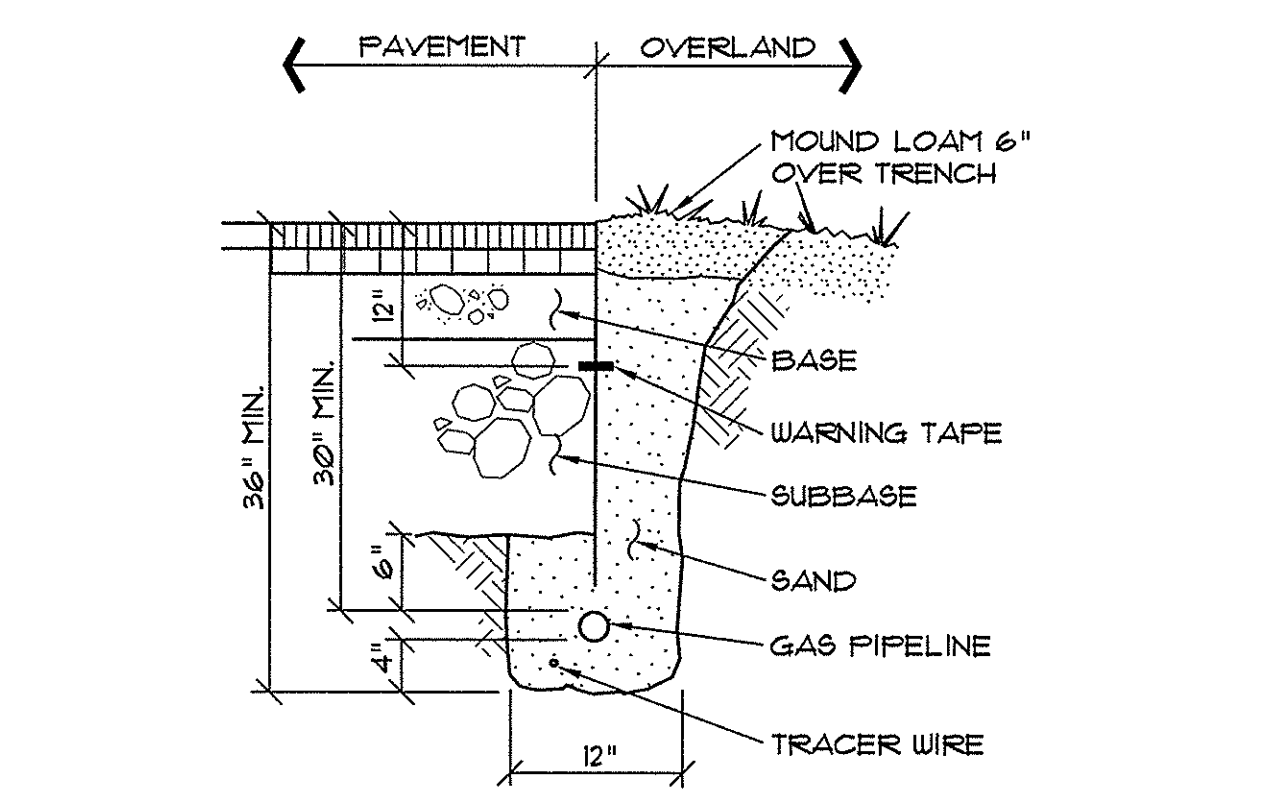
- APWA UNIFORM COLOR CODE:**
- WHITE PROPOSED EXCAVATION
 - PINK TEMPORARY SURVEY MARKINGS
 - RED ELECTRIC POWER LINES, CABLES, CONDUIT AND LIGHTING CABLES
 - YELLOW GAS, OIL, STEAM, PETROLEUM OR GASEOUS MATERIALS
 - ORANGE COMMUNICATION, ALARM OR SIGNAL LINES, CABLES OR CONDUIT
 - BLUE POTABLE WATER
 - PURPLE RECLAIMED WATER, IRRIGATION AND SLURRY LINES
 - GREEN SEWERS AND DRAIN LINES

1 UNDERGROUND UTILITIES WARNING TAPE

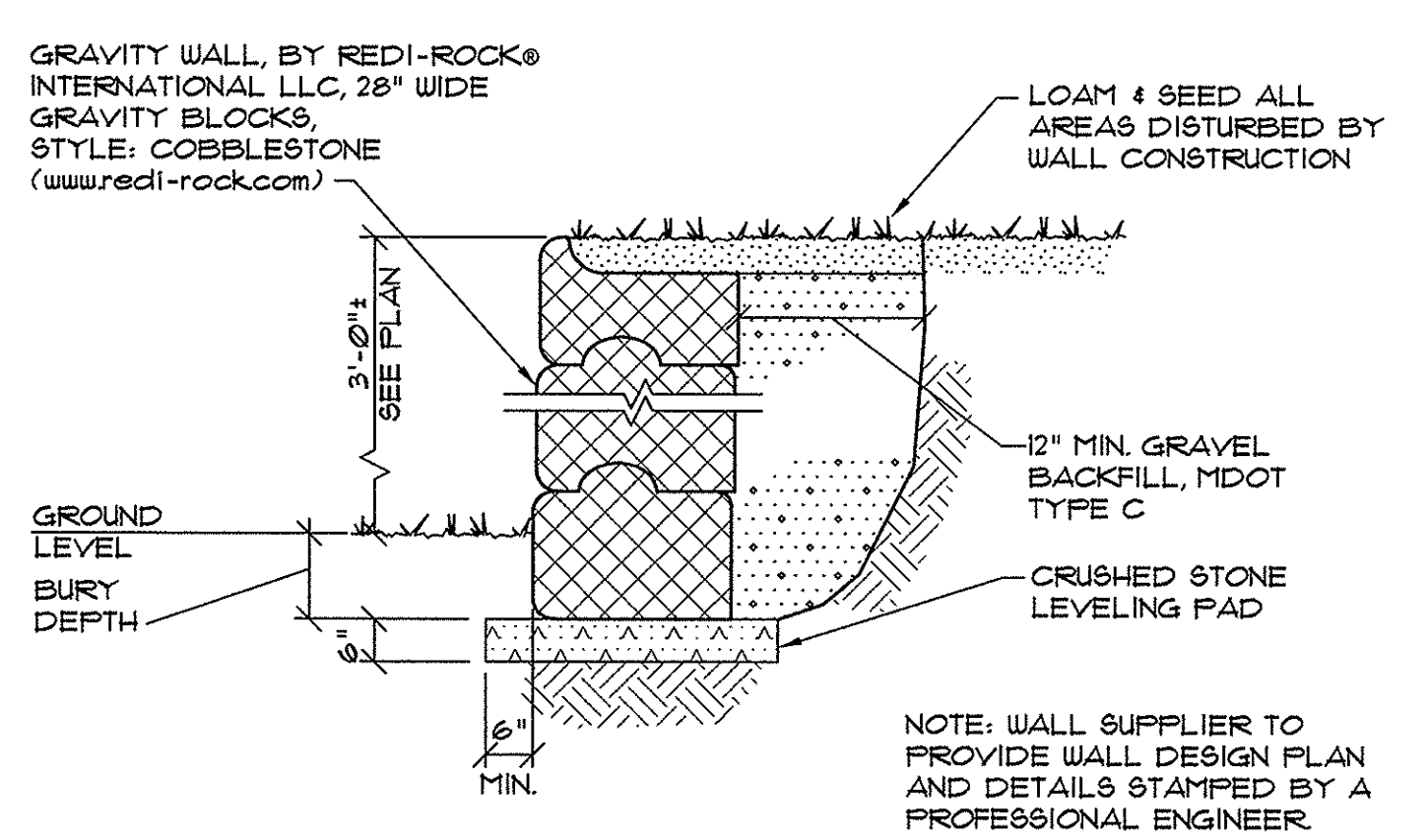
- NOTES:**
1. ALTERNATIVE CONSTRUCTION METHODS OR PAYMENT METHODS SHALL BE APPROVED IN ADVANCE BY THE CITY.
 2. IN PAVED AREAS, DEPTHS OF GRAVEL AND HOT MIX ASPHALT PAVEMENT SHALL MATCH THE GREATER OF EXISTING CONDITIONS OR THE REQUIREMENTS FOR THE CORRESPONDING STREET CLASSIFICATION.
 3. DIMENSION B SHALL BE SUFFICIENT TO ALLOW CRUSHED STONE BEDDING TO BE PLACED AND COMPACTED UNDER THE HAUNCHES OF THE PIPE; BUT IN ALL CASES DIMENSION B SHALL BE AT LEAST 6\"/>



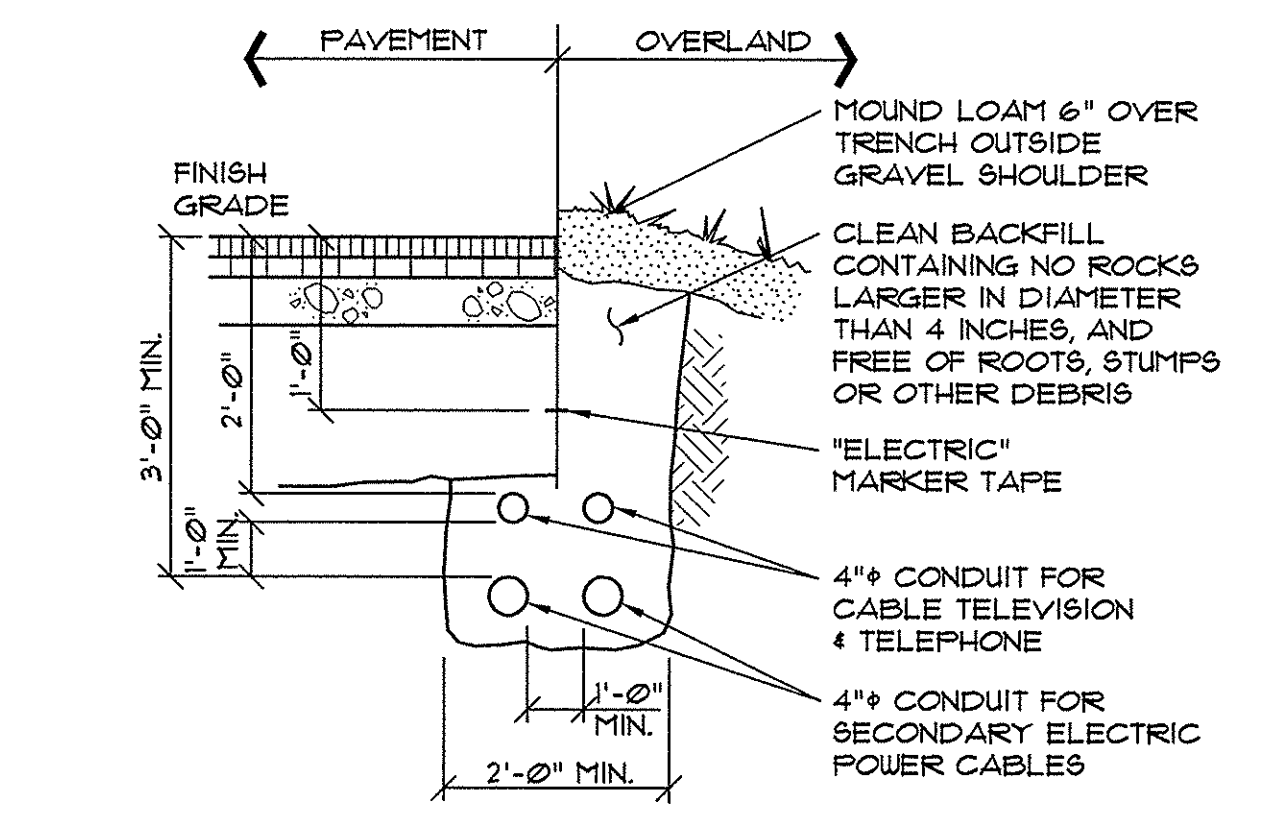
3 TYPICAL PIPE TRENCH INSTALLATION (11-12)



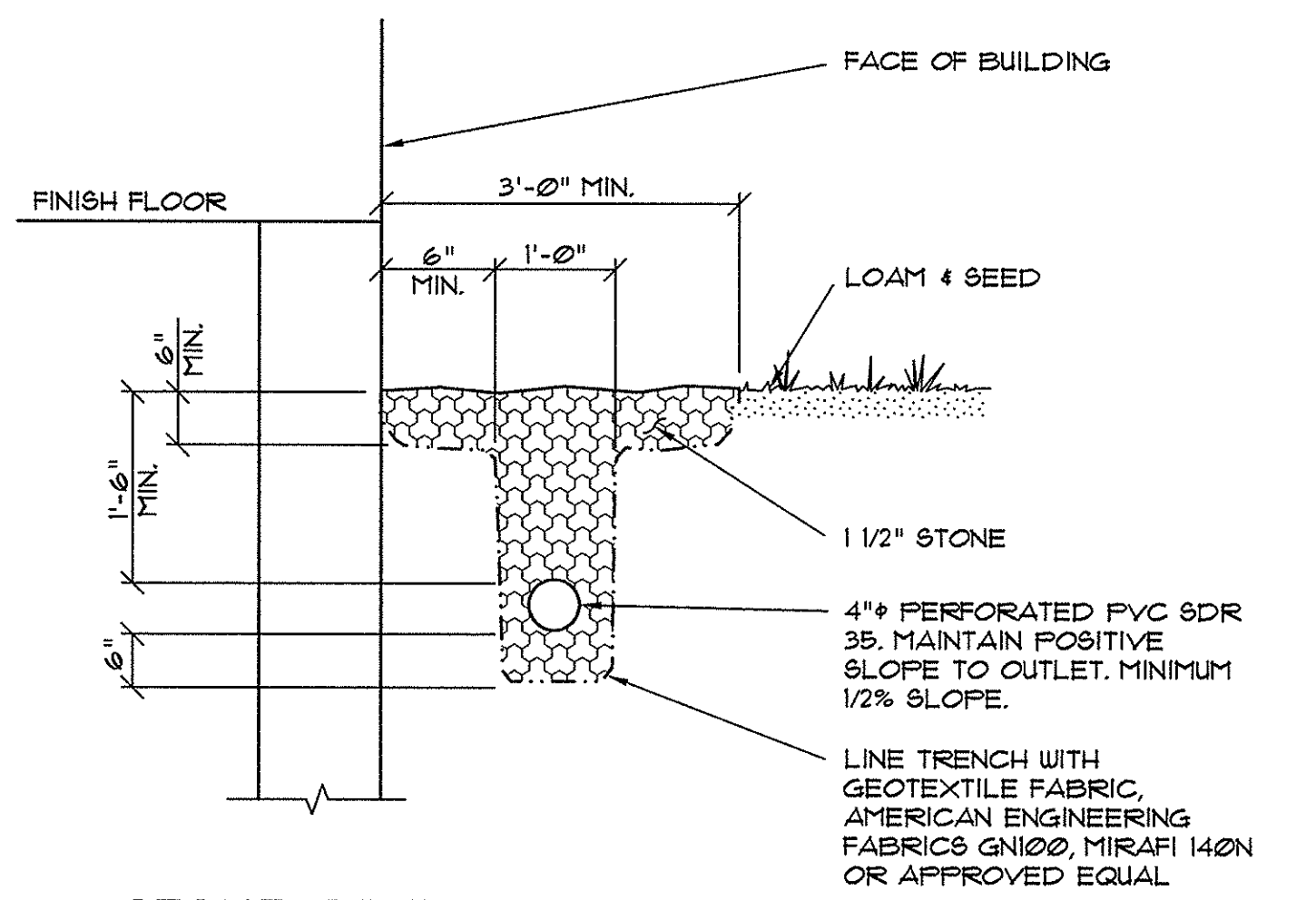
6 GAS PIPING TRENCH SECTION



5 MODULAR BLOCK WALL



8 CABLE TRENCH SECTION



7 STONE DRIPSTRIP SECTION

PINKHAM & GREER CIVIL ENGINEERS
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Professional Engineer Seal for Thomas S. Greer, License No. 46450.

REV.	DATE	DESCRIPTION
2	7/14/15	REV'D PER STAFF COMMENTS
1	5/20/15	FOR CITY SUBMITTAL

BRIGGS STREET PROPERTY, LLC
 55 SALEM ST #B
 PORTLAND, ME. 04102

SCALE: AS SHOWN
 DATE: APRIL 7, 2015
 PROJECT: 14164

DRN BY: JDC/RJS
 DESG BY: TSG
 CHK BY: TSG

5 BRIGGS STREET
 PORTLAND, MAINE

DETAILS