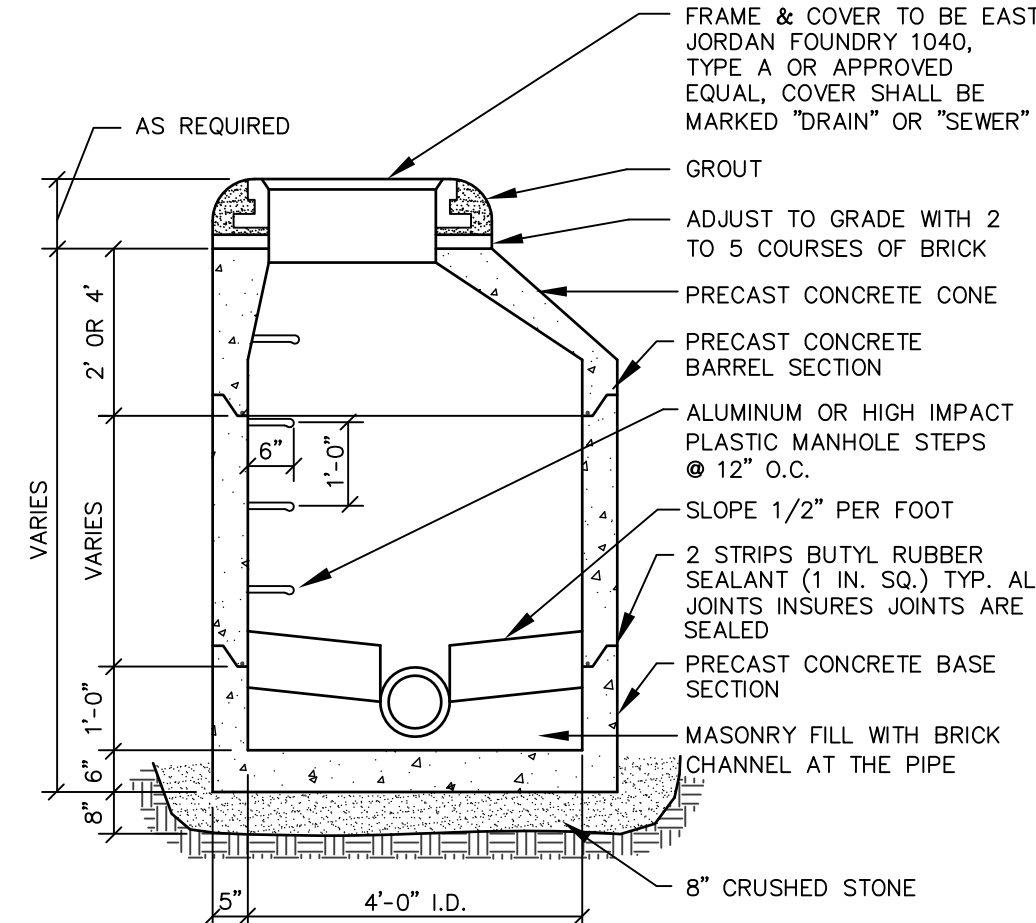


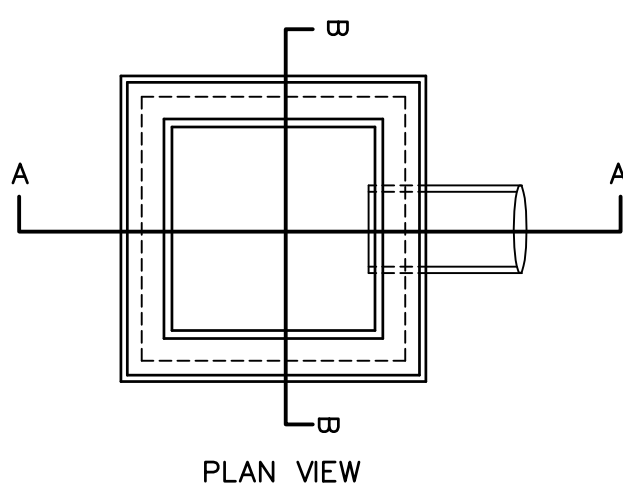
- NOTES:**
- 4'-0" I.D. TYPICAL. SOME STRUCTURES MAY REQUIRE LARGER I.D. PROVIDE SHOP DRAWINGS.
 - DRAINAGE STRUCTURES TO BE DESIGNED FOR H-20 LOADING.
 - PIPE SIZES AND INVERTS AS NOTED ON GRADING AND UTILITY PLANS.
 - CATCH BASIN SET IN PAVED AREAS: FRAME AND GRATE SHALL BE EAST JORDAN FOUNDRY 5250, OR APPROVED EQUAL.
 - CATCH BASIN SET IN LANDSCAPED AREAS: FRAME SHALL BE V-3600-2 AND GRATE SHALL BE V-3800-2 BY EAST JORDAN FOUNDRY, OR APPROVED EQUAL.

TYPICAL CATCH BASIN
NOT TO SCALE

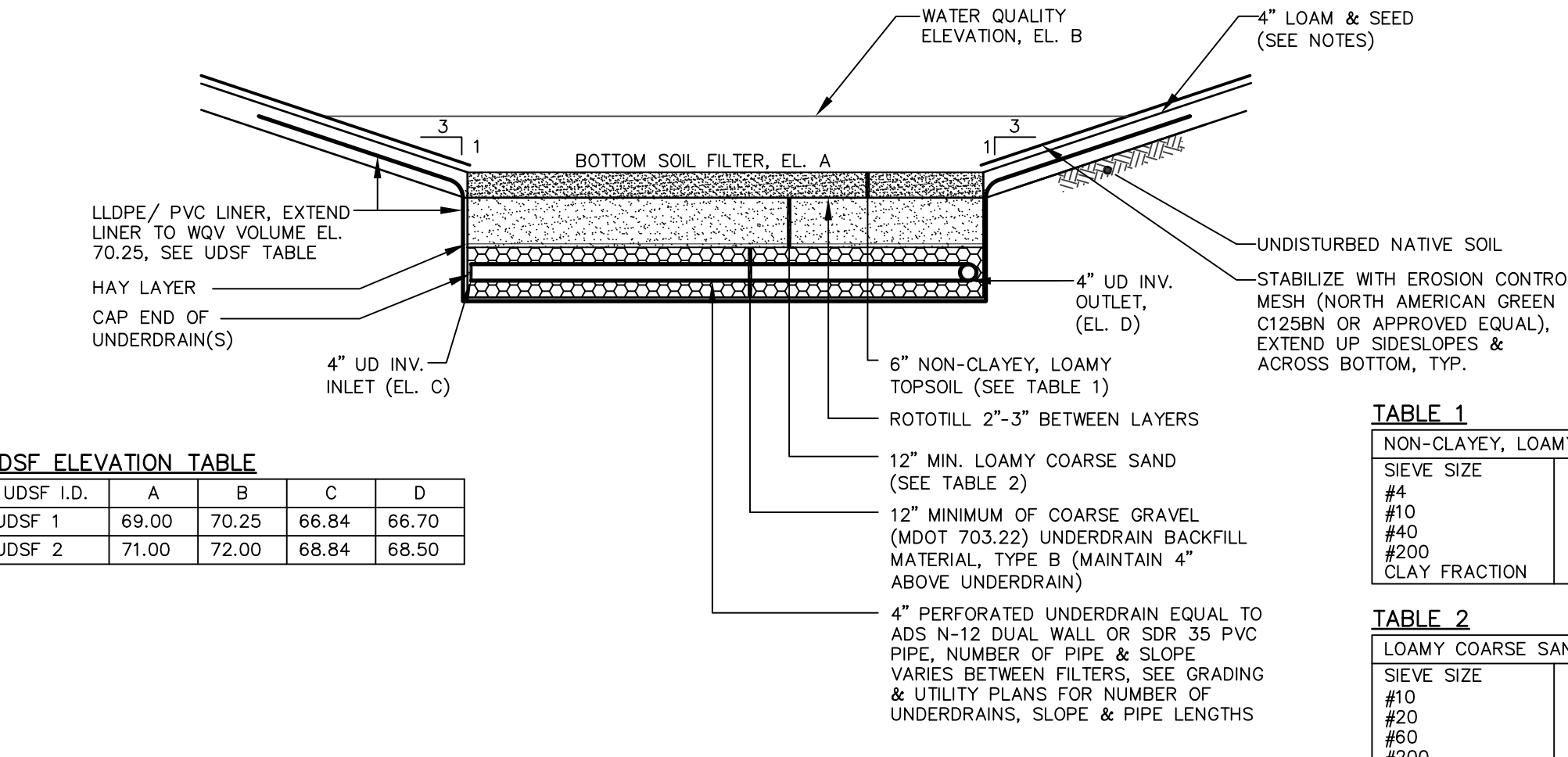


NOTE: PIPE CONNECTIONS SHALL BE WATERTIGHT FLEXIBLE BOOT CONNECTORS PROVIDES LEAKPROOF CONNECTION

PRECAST MANHOLE
NOT TO SCALE



PLAN VIEW



UDSF ELEVATION TABLE

UDSF I.D.	A	B	C	D
UDSF 1	69.00	70.25	66.84	66.70
UDSF 2	71.00	72.00	68.84	68.50

TABLE 1
NON-CLAYEY, LOAMY TOPSOIL

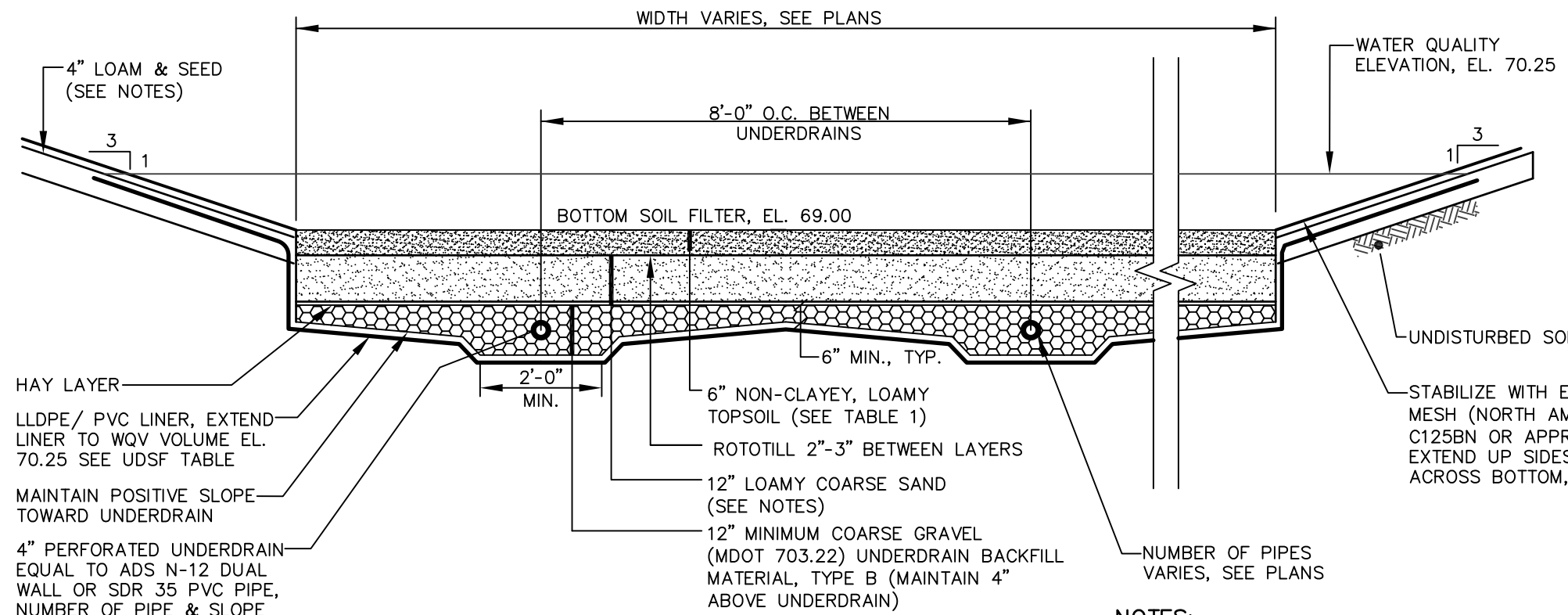
SIEVE SIZE	% PASSING BY WEIGHT
#4	75-95
#10	60-90
#40	35-85
#200	20-70
CLAY FRACTION	0-2

TABLE 2
LOAMY COARSE SAND LAYER

SIEVE SIZE	% PASSING BY WEIGHT
#10	85-100
#20	70-100
#60	15-50
#200	8-15
CLAY FRACTION	0-2

NOTE: SUPERHUMUS OR EQUIVALENT.

LONGITUDINAL SECTION



- NOTES:**
- MULTIPLE ROWS OF UNDERDRAIN SHALL CONNECT INTO A 6" HEADER LAID LEVEL PIPE UNLESS OTHERWISE SPECIFIED ON THE PLANS.
 - INSTALL GROUNDWATER RELIEF UNDERDRAIN UP-GRADE AND MINIMUM 3' BELOW UNDERDRAINS.

SECTION UNDERDRAINED SOIL FILTER DETAIL
NOT TO SCALE

UNDERDRAINED SOIL FILTER MATERIAL NOTES:

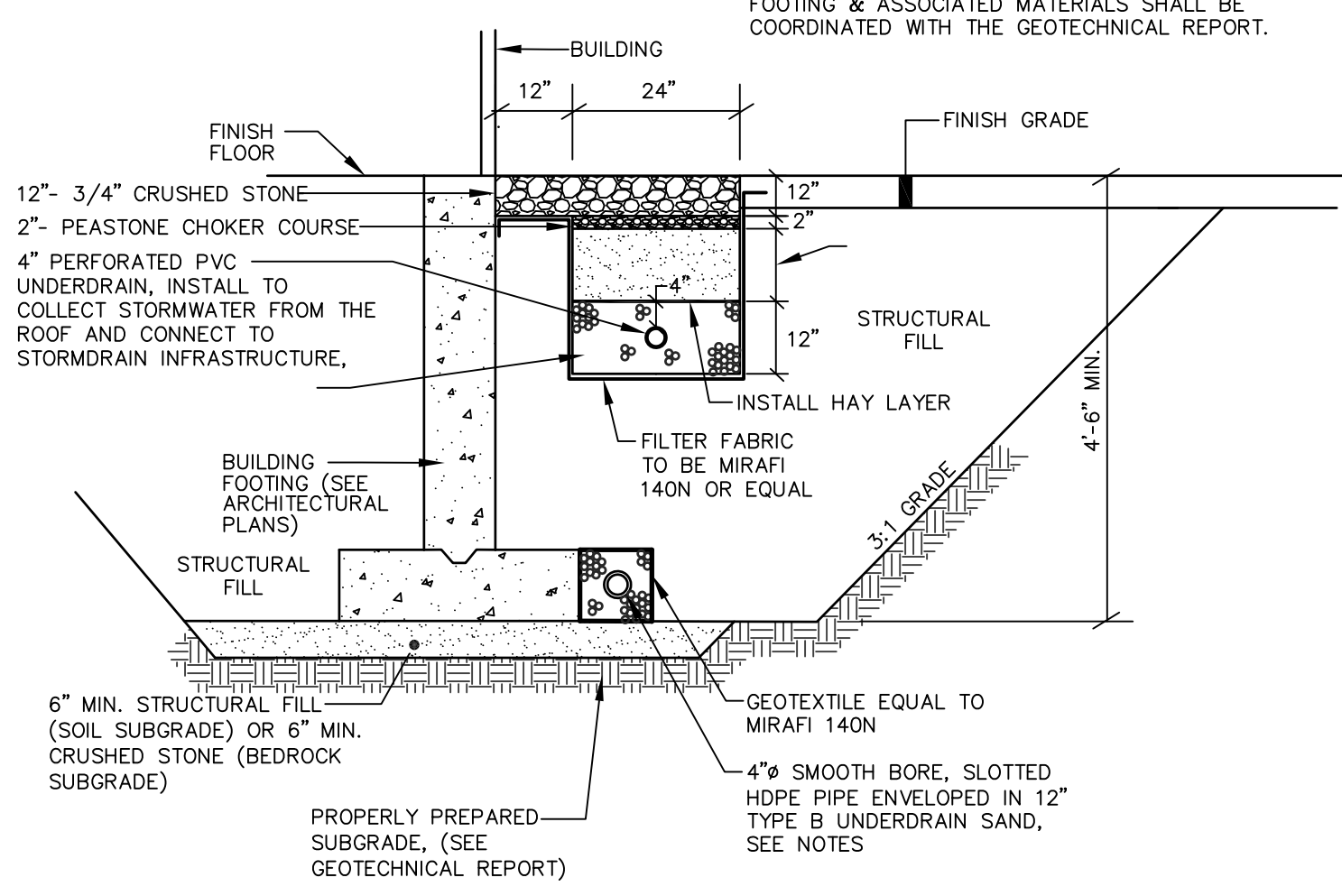
- ONSITE LOAM SHALL BE SCREENED FOR STONES LARGER THAN 1 INCH AND BE TESTED TO VERIFY THERE IS LESS THAN 2% CLAY CONTENT AND 5-8% ORGANIC MATTER. IF ONSITE LOAM DOES NOT MEET REQUIREMENTS, THEN LOAM FROM OFFSITE SHALL BE A NON-CLAYEY, LOAMY TOPSOIL SUCH AS A USDA SANDY LOAM TOPSOIL WITH 5-8% HUMIFIED ORGANIC MATTER AND 3-10% CLAY CONTENT.
- THE TOPSOIL SHALL BE GENTLY MIXED WITHIN THE FILTER LAYER TO PROVIDE CONTINUITY FOR DEEP ROOT PENETRATION. THE TEETH OF A BACKHOE, A HAND RAKE, A SHOVEL OR ROTOTILLING 2-3 INCHES MAY BE USED TO CREATE A LOOSENED TRANSITION.
- THE LOAMY COARSE SAND LAYER SHALL BE TESTED IN ACCORDANCE WITH THE TESTING AND SUBMITTALS NOTES ABOVE.
- A LAYER OF HAY SHALL BE PLACED BETWEEN 12" LOAMY COARSE LAYER AND UNDERDRAIN STONE BEDDING TO PREVENT SUBSIDENCE OR PLUGGING OF THE SAND/GRAVEL/STONE LAYER AND/OR PIPE.
- UNDERDRAIN STONE BEDDING MATERIAL MUST CONFORM TO THE MDOT SPECIFICATION 703.22 UNDERDRAIN TYPE B FOR UNDERDRAIN BACKFILL MATERIAL. THE BEDDING MATERIAL MUST HAVE NO MORE THAN 5% PASSING THE 200 SIEVE.
- MATERIAL LAYERS ABOVE THE UNDERDRAIN BACKFILL LAYER SHALL BE A UNIFORM MIX, FREE OF STONES, STUMPS, ROOTS, OR OTHER SIMILAR OBJECTS LARGER THAN TWO INCHES. NO OTHER MATERIALS OR SUBSTANCES THAT MAY BE HARMFUL TO PLANT GROWTH, OR PROVE A HINDRANCE TO THE PLANTING OR MAINTENANCE OPERATIONS CAN BE MIXED WITHIN THE FILTER. DURING CONSTRUCTION, CARE SHOULD BE TAKEN TO AVOID COMPACTION OF BOTH THE GRAVEL AND SOIL FILTER.
- OVER COMPACTION OF UNDERDRAIN MATERIAL SHALL BE AVOIDED. IF OVER COMPACTION OCCURS, ROTOTILL AGAIN PRIOR TO SEEDING OR SODDING.

UNDERDRAINED SOIL FILTER CONSTRUCTION OVERSIGHT NOTES:

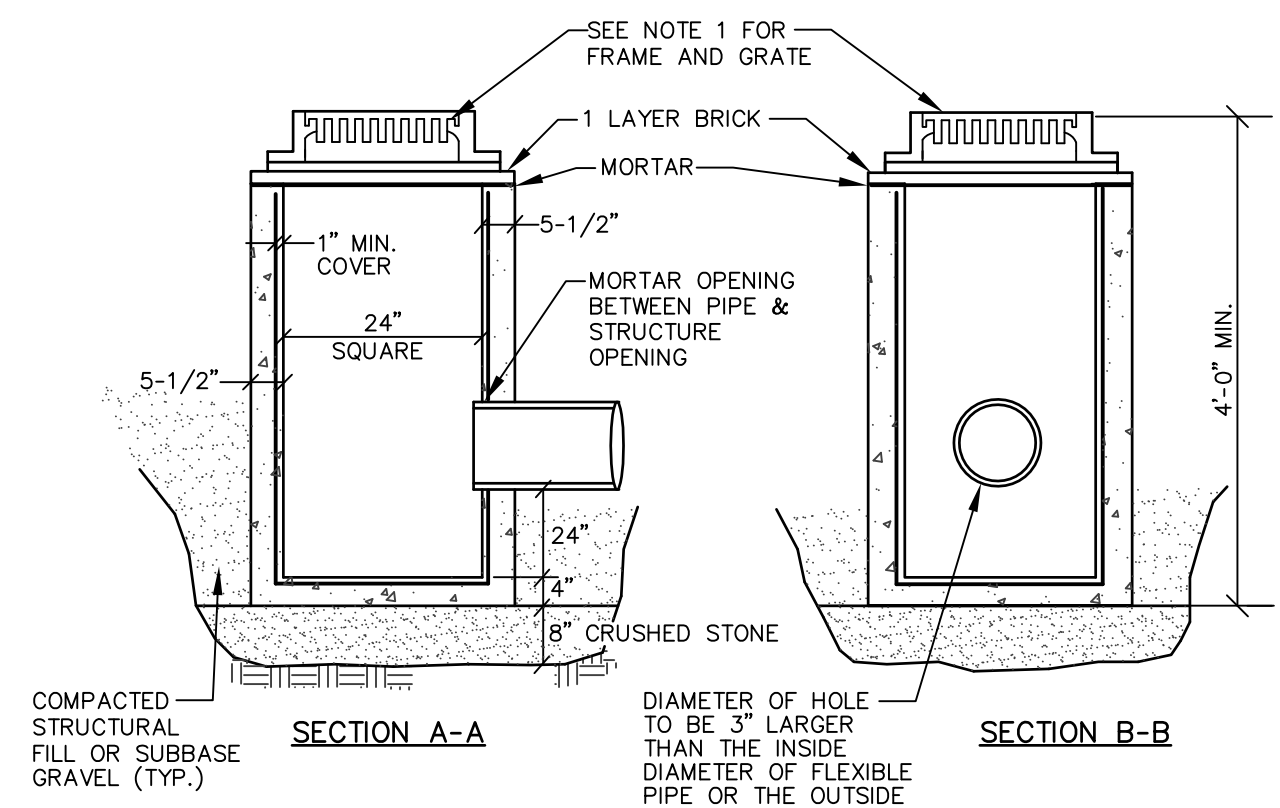
- THE APPLICANT WILL RETAIN THE SERVICES OF A PROFESSIONAL ENGINEER TO INSPECT THE CONSTRUCTION AND STABILIZATION OF THE UNDERDRAIN. IF NECESSARY, THE INSPECTING ENGINEER WILL INTERPRET THE UNDERDRAIN'S CONSTRUCTION PLAN FOR THE CONTRACTOR. ONCE ALL STORMWATER MANAGEMENT STRUCTURES ARE CONSTRUCTED AND STABILIZED, THE INSPECTING ENGINEER WILL NOTIFY THE DEPARTMENT IN WRITING WITHIN 30 DAYS TO STATE THAT THE POND HAS BEEN COMPLETED. ACCOMPANYING THE ENGINEER'S NOTIFICATION MUST BE A LOG OF THE ENGINEER'S INSPECTIONS GIVING THE DATE OF EACH INSPECTION, THE TIME OF EACH INSPECTION, AND THE ITEMS INSPECTED ON EACH VISIT, AND INCLUDE ANY TESTING DATA OR SIEVE ANALYSIS DATA OF EVERY MINERAL SOIL AND SOIL MEDIA SPECIFIED IN THE PLANS AND USED ON SITE.
- CONSTRUCTION SEQUENCE:** THE UNDERDRAIN AND VEGETATION MUST NOT BE INSTALLED UNTIL THE AREA THAT DRAINS TO THE UNDERDRAIN HAS BEEN PERMANENTLY STABILIZED WITH PAVEMENT OR OTHER STRUCTURE. 90% VEGETATION COVER, OR OTHER PERMANENT STABILIZATION UNLESS THE RUNOFF FROM THE CONTRIBUTING DRAINAGE AREA IS DIVERTED AROUND THE FILTER UNTIL STABILIZATION IS COMPLETED.
 - COMPACTION OF UNDERDRAIN:** UNDERDRAIN BEDDING MATERIAL MUST BE COMPACTED TO BETWEEN 90% AND 92% STANDARD PROCTOR. THE BED SHOULD BE INSTALLED IN AT LEAST 2 LIFTS OF 9 INCHES TO PREVENT POCKETS OF LOOSE MEDIA.
 - CONSTRUCTION OVERSIGHT:** INSPECTION BY A PROFESSIONAL ENGINEER WILL OCCUR AT A MINIMUM:
 - FOR FIRST UNDERDRAIN CONSTRUCTED, AFTER UNDERDRAIN PIPE IS INSTALLED AT GRADE AND BUT NOT BACKFILLED. AFTER THE UNDERDRAIN PIPE IS COMPLETELY BACKFILLED AND BEFORE PLACEMENT OF LOAMY COARSE SAND LAYER.
 - AFTER THE LOAMY COARSE SAND LAYER AND SOD/ LOAM HAS BEEN INSTALLED.
 - AFTER ONE YEAR TO INSPECT HEALTH OF THE VEGETATION AND MAKE CORRECTIONS.
 - ALL MATERIAL USED FOR THE CONSTRUCTION OF THE UNDERDRAIN MUST BE CONFIRMED AS SUITABLE BY THE DESIGN ENGINEER. TESTING MUST BE DONE BY A CERTIFIED LABORATORY.

TESTING AND SUBMITTALS

- THE UNDERDRAIN SHALL CONSIST OF THE TOP THREE LAYERS IDENTIFIED AS LOAMY TOPSOIL, 2" TRANSITION AND 12" LOAMY COARSE SAND. THE CONTRACTOR SHALL IDENTIFY THE LOCATION OF THE SOURCE FOR EACH COMPONENT OF THE UNDERDRAIN AND SUBMIT GRADATIONS FOR THE UNDERDRAIN MATERIALS TO THE ENGINEER FOR APPROVAL. SAMPLES MUST BE A COMPOSITE OF THREE DIFFERENT LOCATIONS (GRABS) FROM THE STOCKPILE OR PIT FACE. SAMPLE SIZE REQUIRED WILL BE DETERMINED BY THE TESTING LABORATORY.

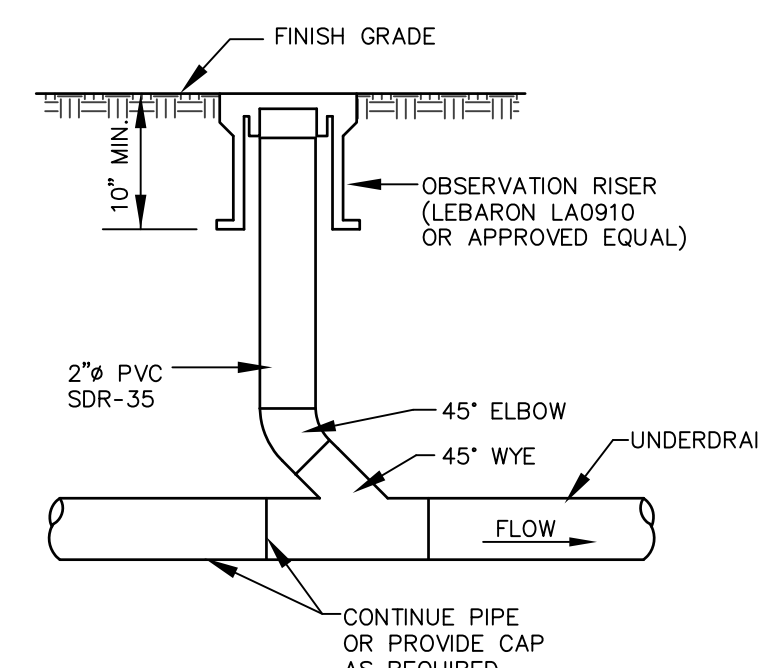


UNDERDRAINED ROOF DRIP EDGE
NOT TO SCALE

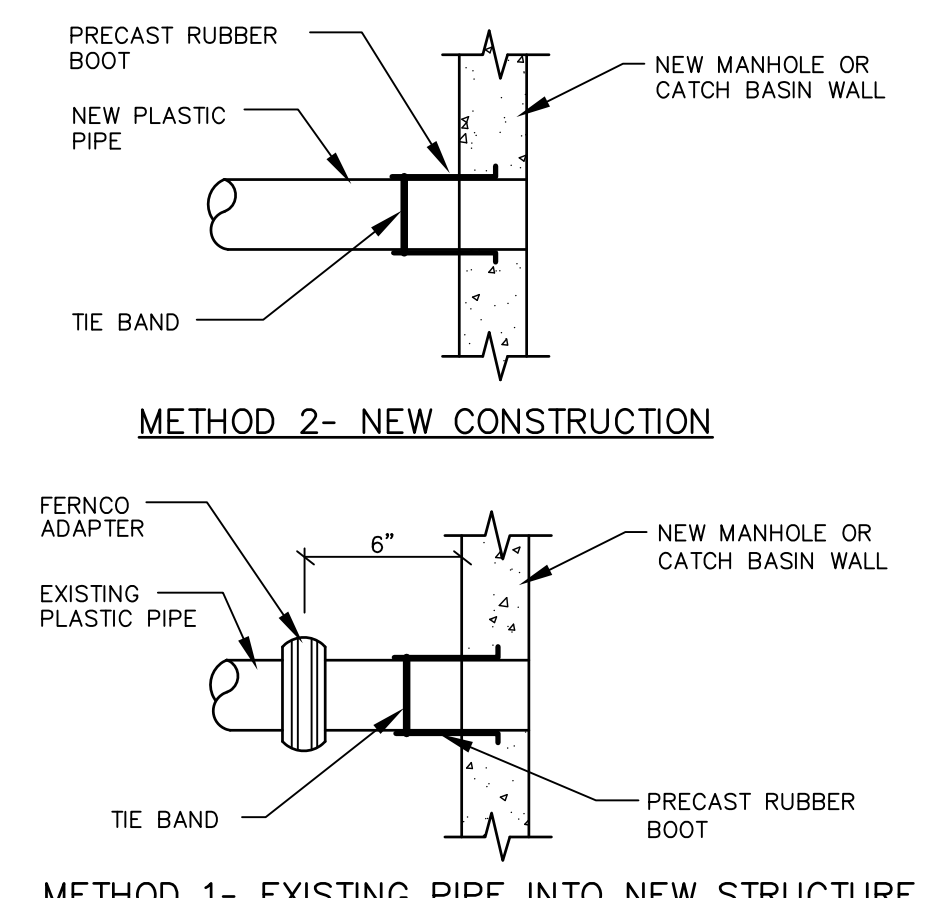


- NOTES:**
- FRAME SHALL BE FOR 24" SQUARE GRATE, EAST JORDAN FOUNDRY 5250, OR APPROVED EQUAL.
 - ENTIRE CATCH BASIN WITH EXCEPTION OF LEVELING BRICK FRAME AND GRATE TO BE PRECAST AS SINGLE PORTLAND CEMENT CONCRETE UNIT.
 - BASINS SHALL BE DESIGNED FOR H-20 WHEEL LOADING.

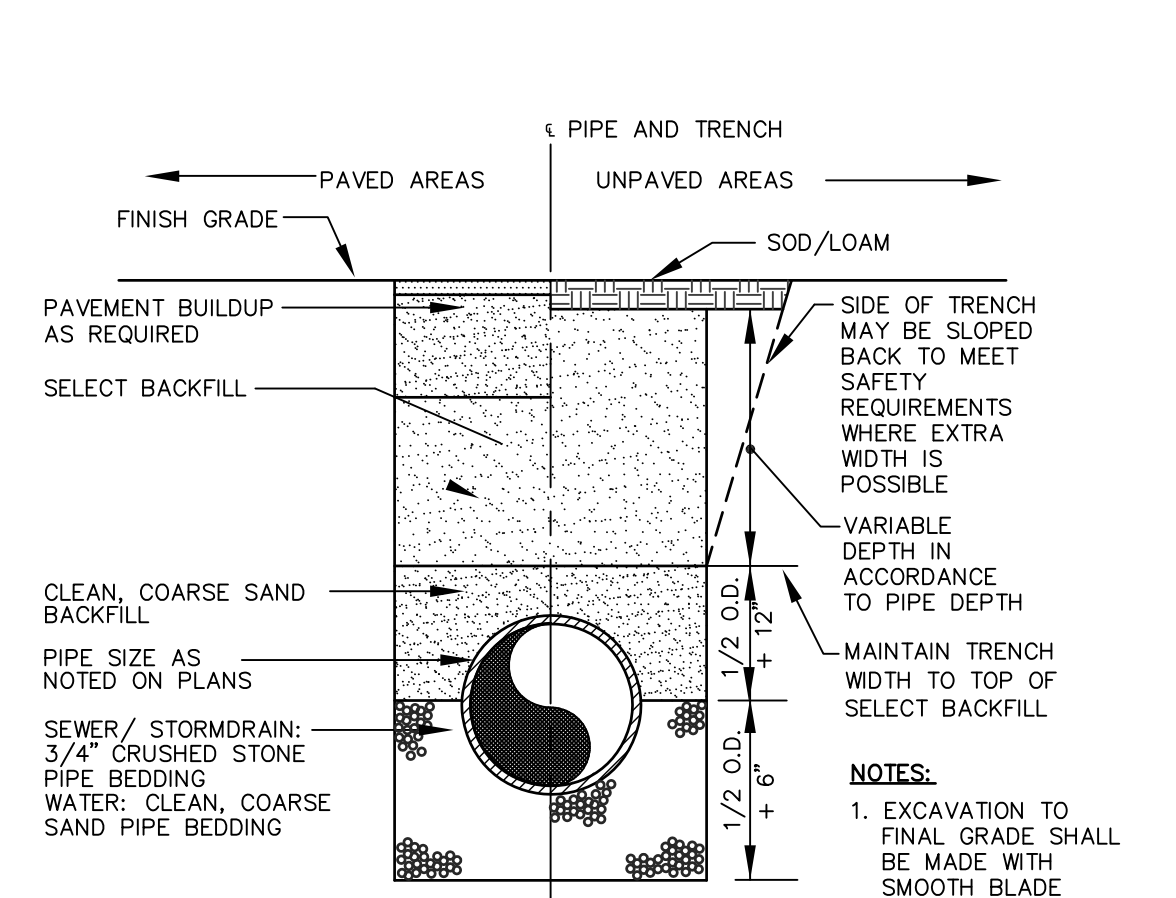
"TYPE F" CATCH BASIN
NOT TO SCALE



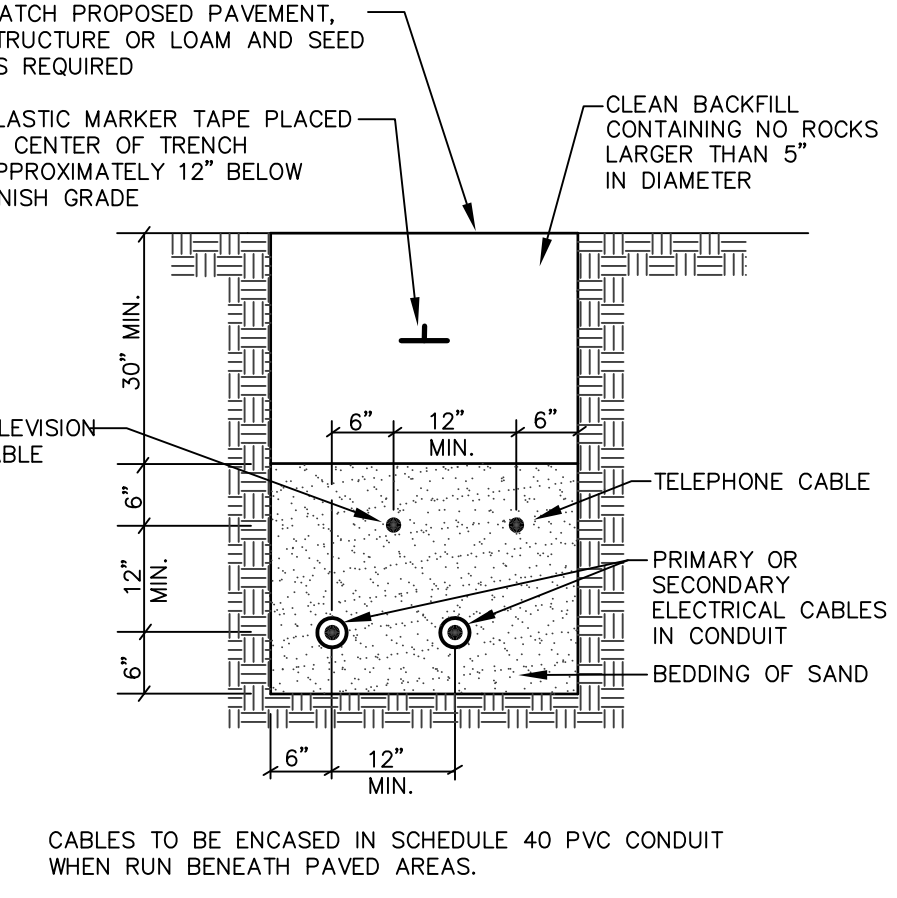
CLEANOUT IN GRASSED AREAS
NOT TO SCALE



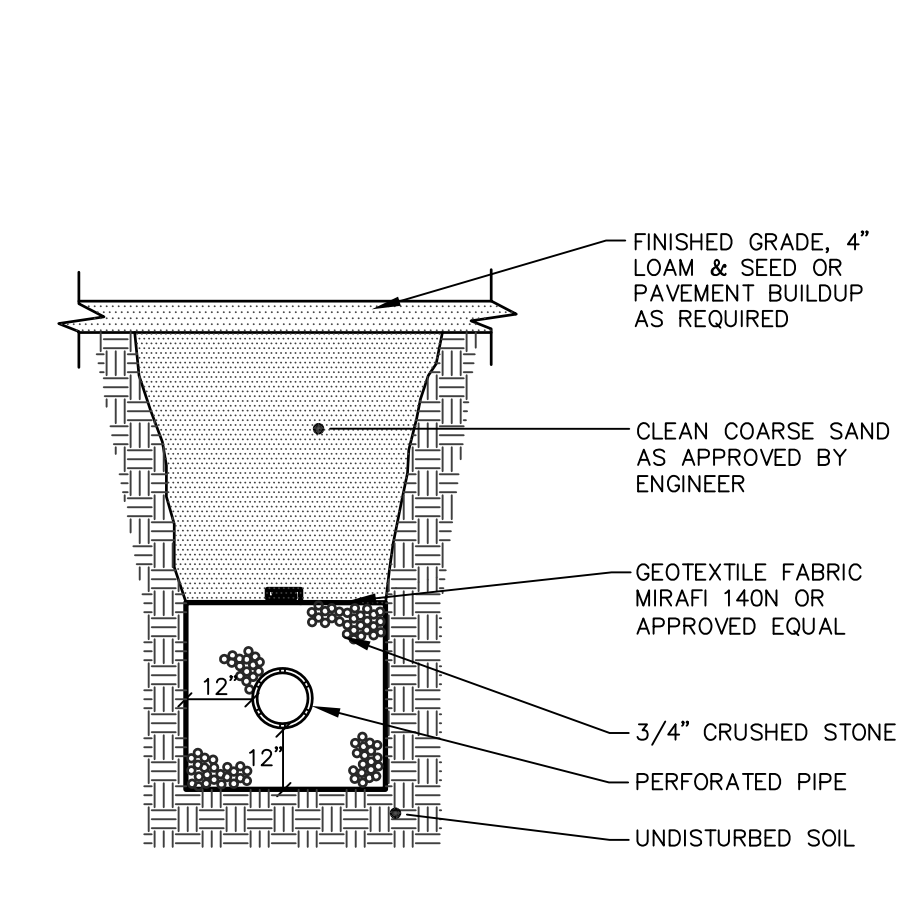
PLASTIC PIPE CONNECTIONS
NOT TO SCALE



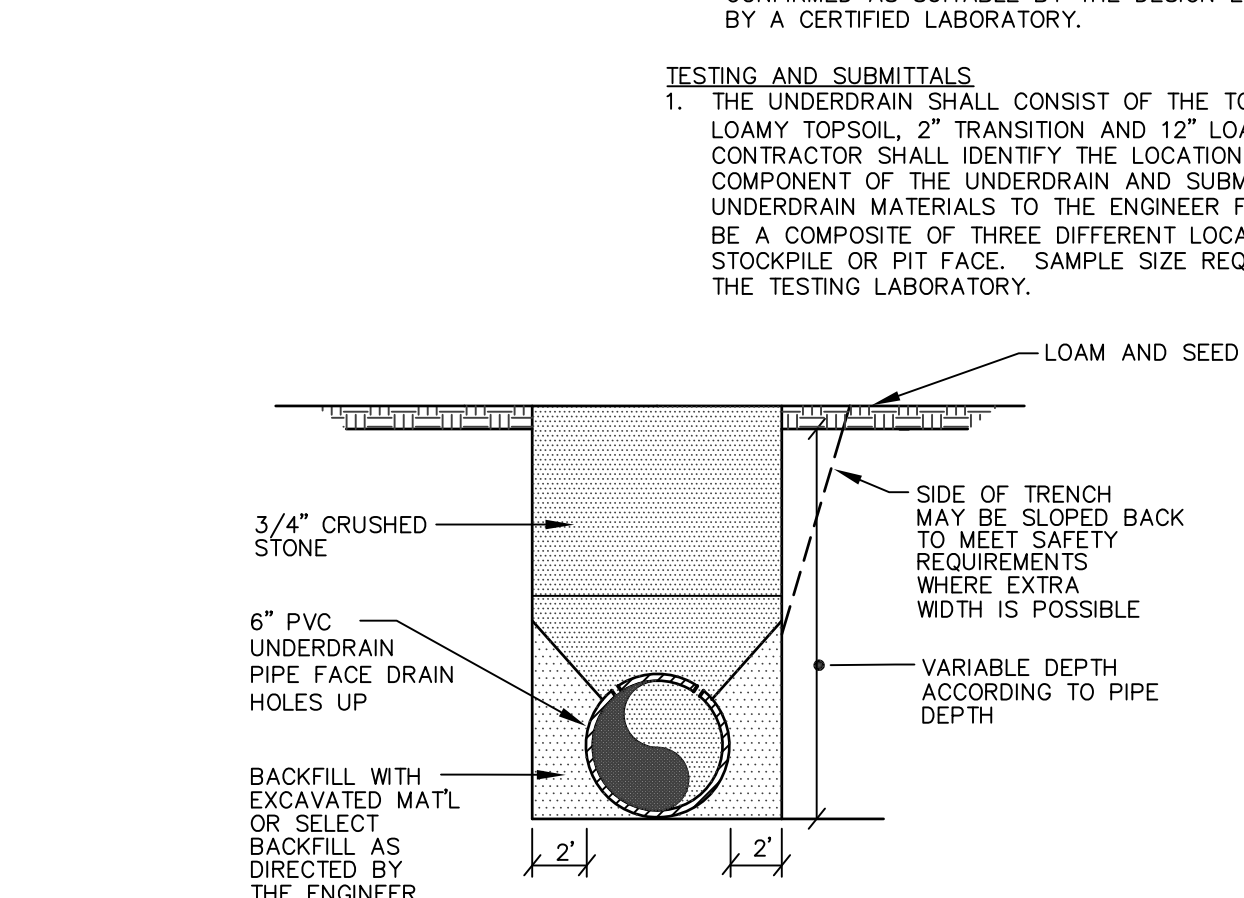
TYPICAL TRENCH SECTION
NOT TO SCALE



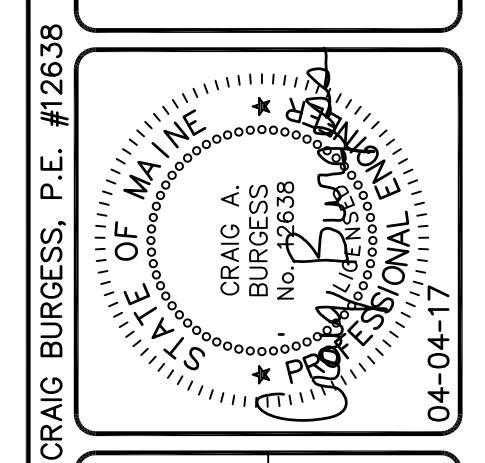
TYPICAL UNDERGROUND CABLE INSTALLATION
NOT TO SCALE



TYP. PERFORATED UNDERDRAIN TRENCH SECTION
NOT TO SCALE



GROUNDWATER INTERCEPTOR UNDERDRAIN DETAILS
NOT TO SCALE



DESIGNED	CHECKED
CAB	MAM

DATE: 04-04-17
SUBMITTED FOR CITY REVIEW & APPROVAL
STATUS: APPROVAL
REVIEWED BY: DATE: 04-04-17
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DETAILS OF: PROPOSED OFFICE BUILDING
473 & 483 RIVERSIDE ST
PORTLAND, ME

FOR: ACADIA LENDING GROUP
180 RIVERSIDE ST. UNIT 48
PORTLAND, ME 04103

PROJECT NO. 16078
SCALE NTS
SHEET 8 OF 12