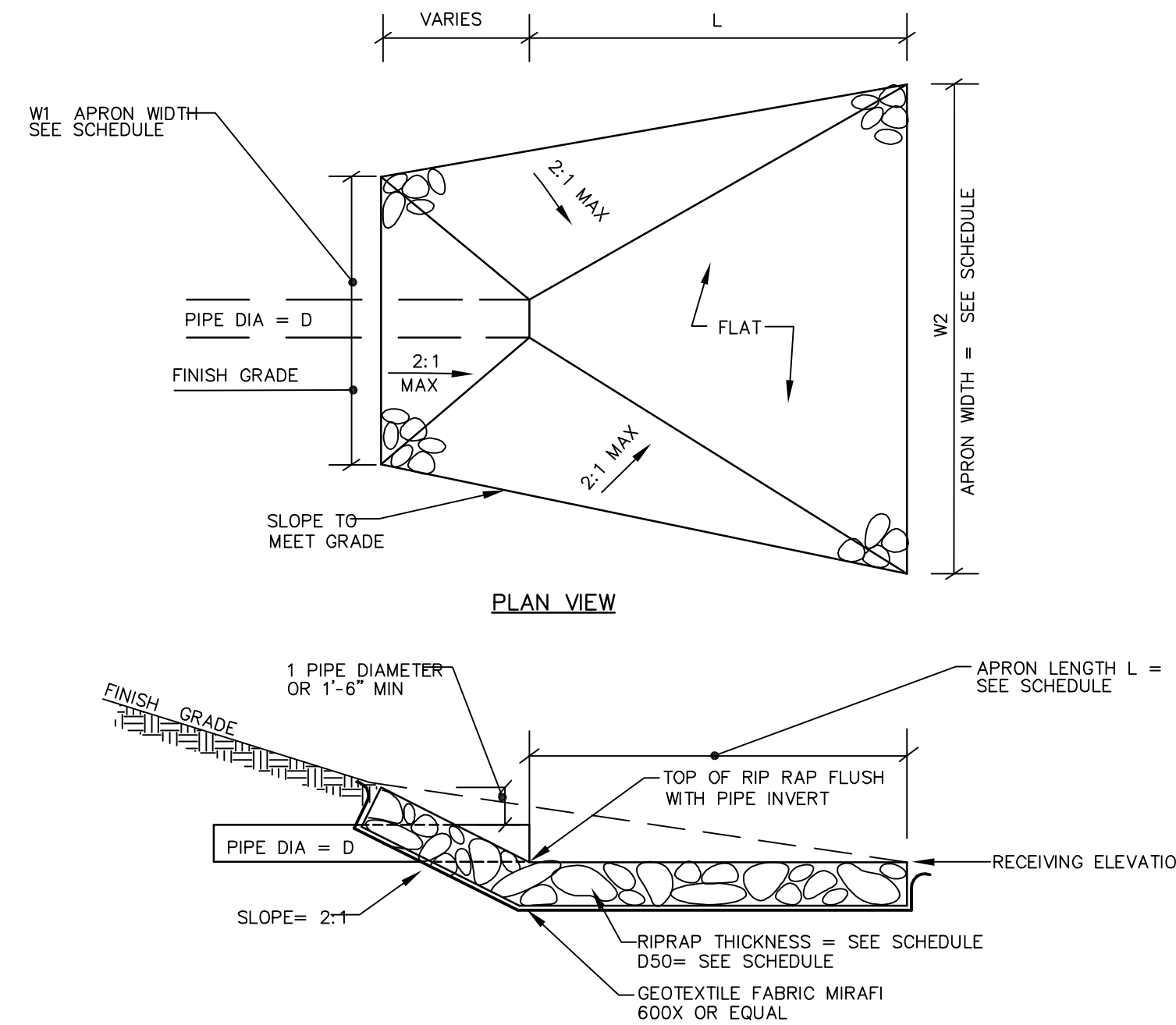


NOTES:

- 1. 4'-0" I.D. TYPICAL. SOME STRUCTURES MAY REQUIRE LARGER I.D. PROVIDE SHOP DRAWINGS.
- 2. DRAINAGE STRUCTURES TO BE DESIGNED FOR H-20 LOADING.
- 3. PIPE SIZES AND INVERTS AS NOTED ON PLANS.
- 4. CATCH BASIN FRAME AND GRATE TO BE ETHERIDGE FOUNDRY E245G AND/OR DRSA (WITH GRANITE STONE) APPROVED EQUAL. LOW PROFILE FRAMES AND COVERS MAY BE USED AS A SUBSTITUTE.
- 5. DRAINAGE MANHOLE FRAME AND COVER TO BE ETHERIDGE FOUNDRY E245S OR APPROVED EQUAL.

TYP. DRAINAGE STRUCTURE & CATCH BASIN
NOT TO SCALE



SECTION VIEW

NOTES

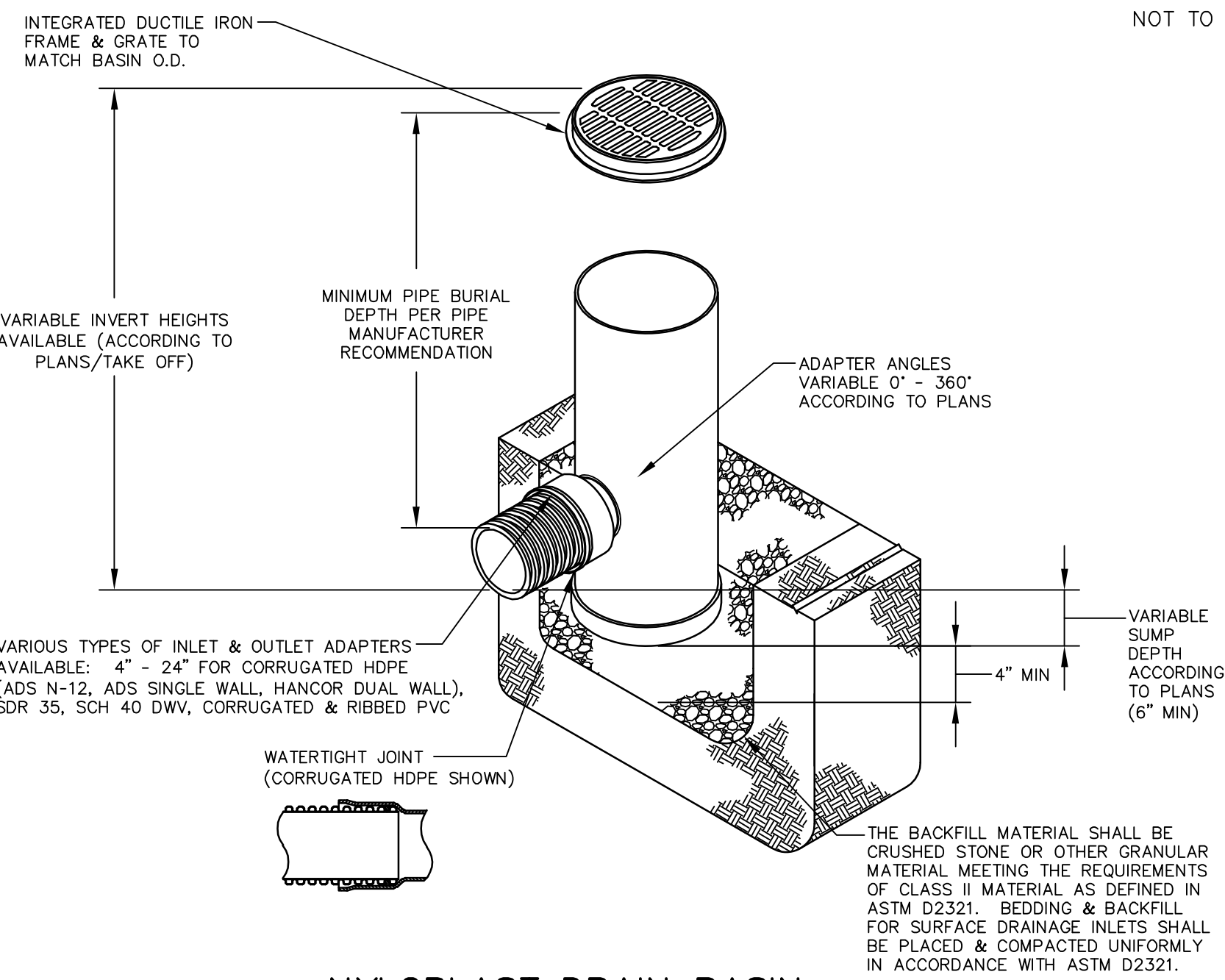
- 1. RIPRAP TO BE PROCESSED ANGULAR ROCK
- 2. RIPRAP GRADATION SHALL BE A WELL GRADED MIX FROM ABOUT 1.5 TIMES D SIZE TO 25 PERCENT OF THE D SIZE
- 3. THE RIPRAP STONES SHALL BE CAREFULLY PLACED FROM THE TOE OF THE SLOPE UPWARD
- 4. STONES SHALL BE LOWERED TO THE SLOPE AND NOT BE ALLOWED TO DROP MORE THAN 12\"/>

TYPICAL RIPRAP APRON SCHEDULE

CULVERT DIAMETER - D (IN.)	APRON LENGTH - L (FT.)	WIDTH -W1 (FT)	WIDTH -W2 (FT)	RIPRAP D50 (IN.)	RIPRAP THICKNESS (IN.)
12	8	3	9	6	14
15	10	4	12	6	14
18	13	5	15	7	16
24	18	6	20	8	18
36	29	9	32	11	25
42	33	11	37	12	27
48	39	12	43	16	36

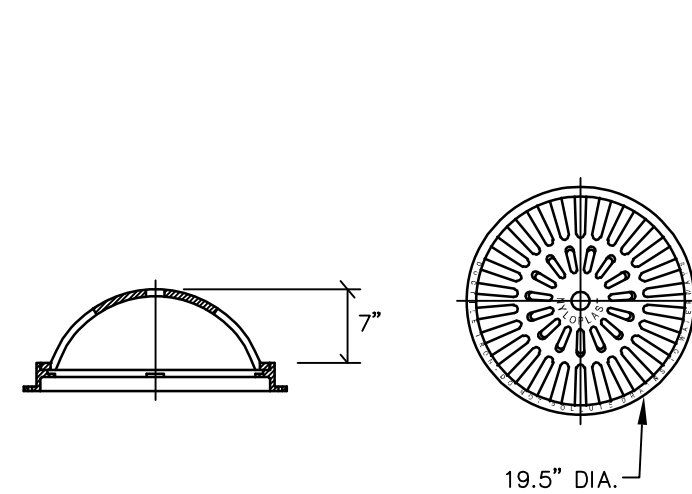
RIPRAP APRON

NOT TO SCALE

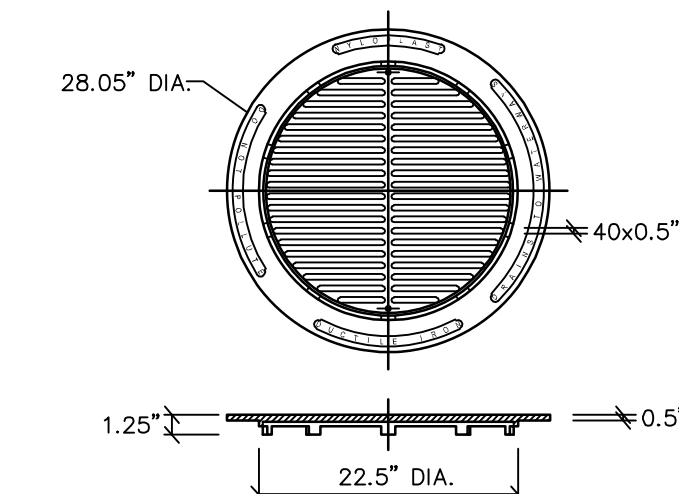


NYLOPLAST DRAIN BASIN

NOT TO SCALE



NYLOPLAST DOME GRATE
NYLOPLAST #1899CD
USE IN SOIL FILTER PONDS
NOT TO SCALE



NYLOPLAST DROP IN GRATE
NYLOPLAST #2401DI
USE AT ALL FIELD INLETS EXCEPT SOIL FILTER PONDS
NOT TO SCALE

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.

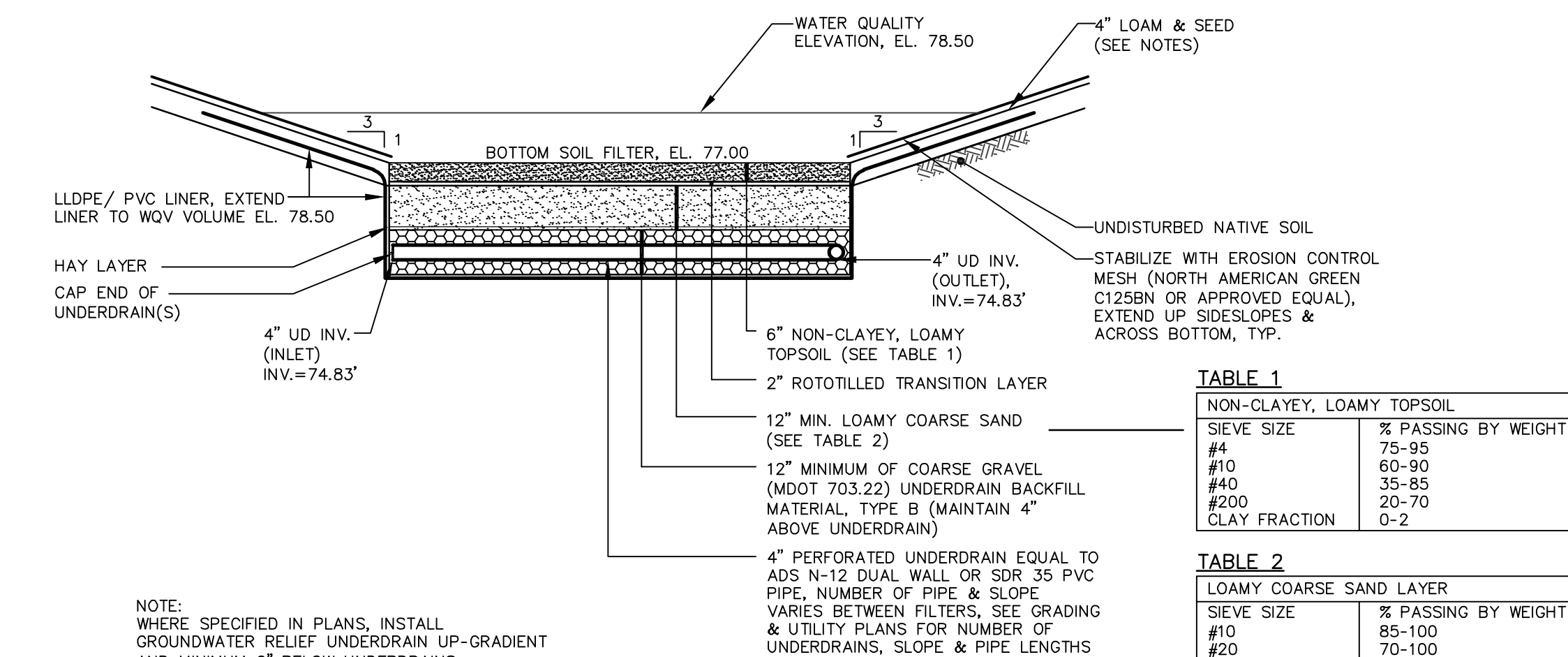
- 1. **CONSTRUCTION SEQUENCE:** THE UNDERDRAIN AND VEGETATION MUST NOT BE INSTALLED UNTIL THE AREA THAT DRAINS TO THE UNDERDRAIN HAS BEEN PERMANENTLY STABILIZED WITH PAVEMENT OR OTHER STRUCTURE, 90% VEGETATION COVER, OR OTHER PERMANENT STABILIZATION UNLESS THE RUNOFF FROM THE CONTRIBUTING DRAINAGE AREA IS DIVERTED AROUND THE FILTER UNTIL STABILIZATION IS COMPLETED.
- 2. **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.
- 3. **CONSTRUCTION OVERSIGHT:** INSPECTION BY A PROFESSIONAL ENGINEER WILL OCCUR AT A MINIMUM:
 - A. 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.
 - B. AFTER THE LOAMY COARSE SAND LAYER AND SOD/ LOAM HAS BEEN INSTALLED.
 - C. AFTER ONE YEAR TO INSPECT HEALTH OF THE VEGETATION AND MAKE CORRECTIONS.
 - D. 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

1. 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 (GRASS) FROM THE STOCKPILE OR PIT FACE. SAMPLE SIZE REQUIRED WILL BE DETERMINED BY THE TESTING LABORATORY.

UNDERDRAINED SOIL FILTER MATERIAL NOTES:

- 1. 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.
- 2. 2" TRANSITION LAYER OF THE LOAM/SOD LAYER SHALL BE ROTOTILLED INTO THE LOAMY COARSE SAND LAYER BELOW.
- 3. THE LOAMY COARSE SAND LAYER SHALL BE TESTED IN ACCORDANCE WITH THE TESTING AND SUBMITTALS NOTES ABOVE.
- 4. 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.
- 5. UNDERDRAIN STONE BEDDING MATERIAL MUST CONFORM TO THE MOOT SPECIFICATION 703.22 UNDERDRAIN TYPE B FOR UNDERDRAIN BACKFILL MATERIAL. THE BEDDING MATERIAL MUST HAVE NO MORE THAN 5% PASSING THE 200 SIEVE.
- 6. 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.
- 7. OVER COMPACTION OF UNDERDRAIN MATERIAL SHALL BE AVOIDED. IF OVER COMPACTION OCCURS, ROTOTILL AGAIN PRIOR TO SEEDING OR SODDING.



LONGITUDINAL SECTION

NOTE: WHERE SPECIFIED IN PLANS, INSTALL GROUNDWATER RELIEF UNDERDRAIN UP-GRADIENT AND MINIMUM 6" BELOW UNDERDRAINS.

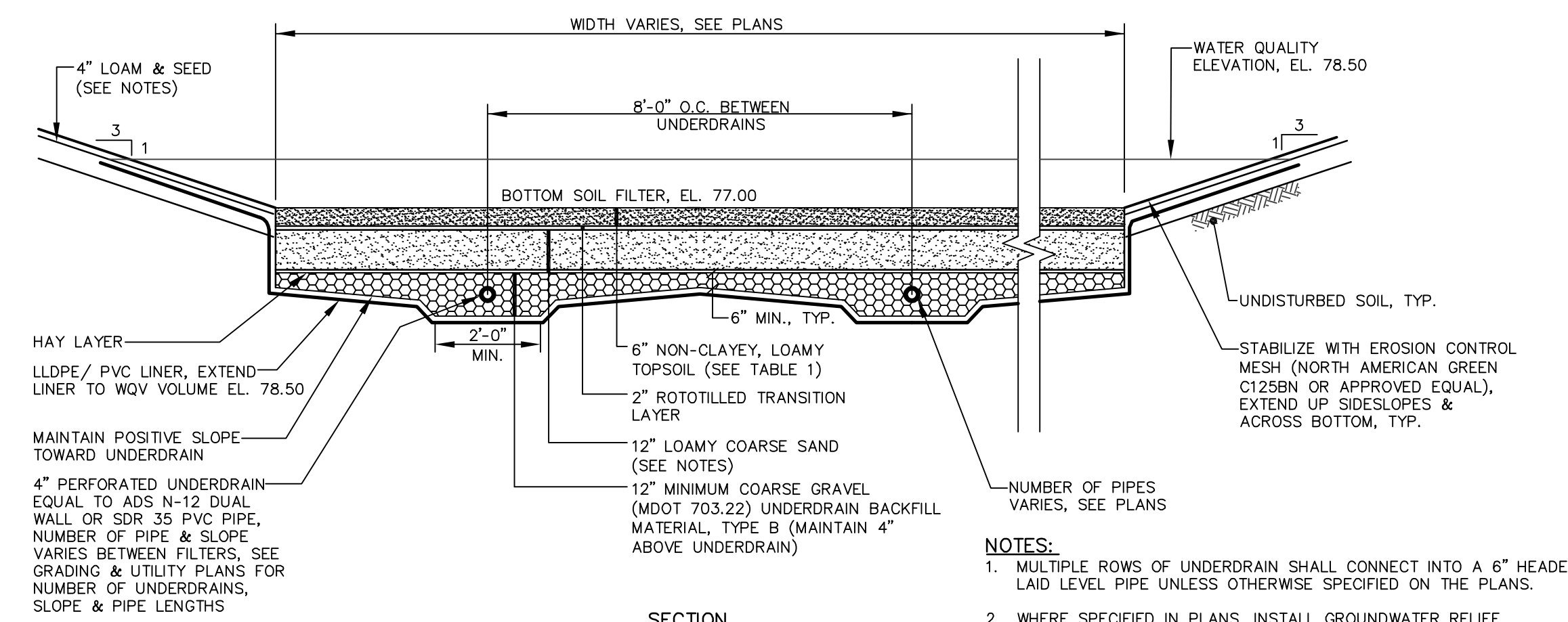
TABLE 1
NON-CLAYEY, LOAMY TOPSOIL

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.

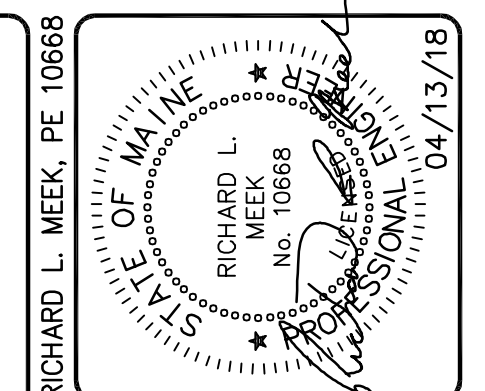


SECTION

UNDERDRAINED SOIL FILTER DETAIL

NOT TO SCALE

- NOTES:**
- 1. MULTIPLE ROWS OF UNDERDRAIN SHALL CONNECT INTO A 6" HEADER LAID LEVEL PIPE UNLESS OTHERWISE SPECIFIED ON THE PLANS.
 - 2. WHERE SPECIFIED IN PLANS, INSTALL GROUNDWATER RELIEF UNDERDRAIN UP-GRADIENT AND MINIMUM 6" BELOW UNDERDRAINS.



DESIGNED	CHECKED
RLM	RLM
B RLM 04/13/18 SUBMIT LEVEL II SITE PLAN APPLICATION TO CITY	
A RLM 03/16/18 ISSUED FOR CLIENT REVIEW	
REV. BY:	DATE:
THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM SEBAGO TECHNICS, INC. ANY ALTERATIONS AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO SEBAGO TECHNICS, INC.	

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Tel. 207-200-2100

DETAILS OF: **2018 PACKAGING EXPANSION**
ALLAGASH BREWING COMPANY 50 INDUSTRIAL WAY
PORTLAND, MAINE
FOR: **50 INDUSTRIAL WAY, LLC**
50 INDUSTRIAL WAY
PORTLAND, MAINE 04103

RICHARD L. MEEK, PE 10668 022496.dwg 146-D-3