

Drainage Area (ac)	4.01
Sediment Storage Volume Required (cu.ft.) <sup>1</sup>	3,609.00
Detention Storage Volume Required (cu.ft.) <sup>1</sup>	14,436.00
Sediment Storage Provided (cu.ft.)	20,096.00
Detention Storage Provided (cu.ft.)	27,098.50
Storm Event	10-year/24-hr Type II
V <sub>max</sub> (ft.)	1.88
Q <sub>max</sub> (cfs)	7.30
Q <sub>max</sub> /DA (cfs/ft.)	1.82
Q <sub>10</sub> /Q <sub>2</sub>	0.0250
Max Q <sub>outlet</sub> (cfs)	0.18
Orifice Diameter (in.)	2.00
Outflow Achieved (cfs)	0.16

**NOTES:**

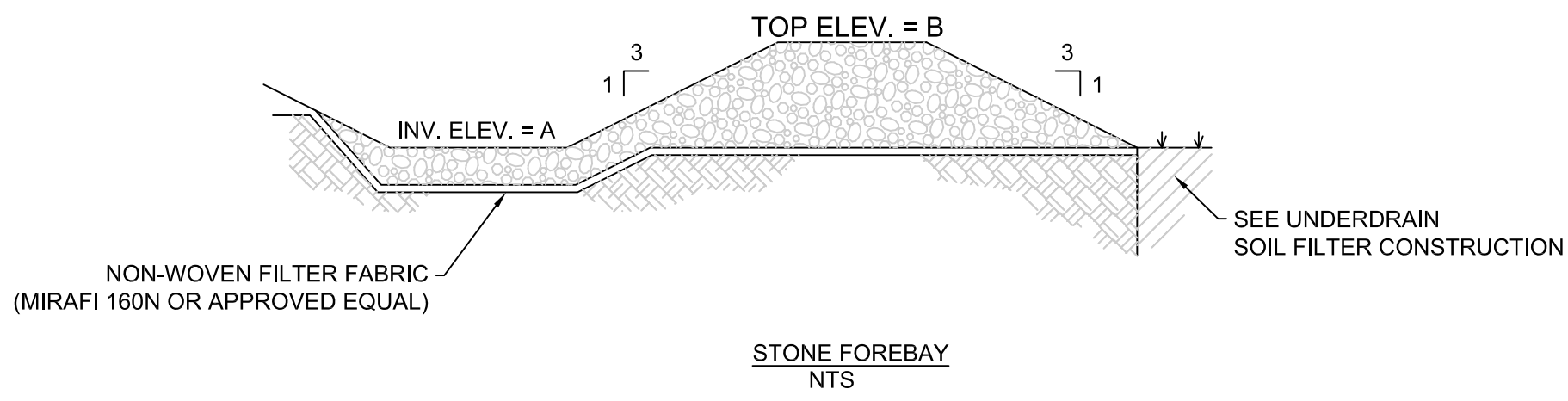
CONVERT THE SEDIMENT BASIN TO A GRADED DEPRESSION WITH CATCH BASIN TOP AT GRADE BY LOWERING THE GRATE TOP FOLLOWING FINAL STABILIZATION

GRADE SEDIMENT BASIN AND SURROUNDING AREA TO FINISHED PLAN GRADES UP TO ELEVATION 312' (MIN.) PRIOR TO UPSTREAM DISTURBANCES

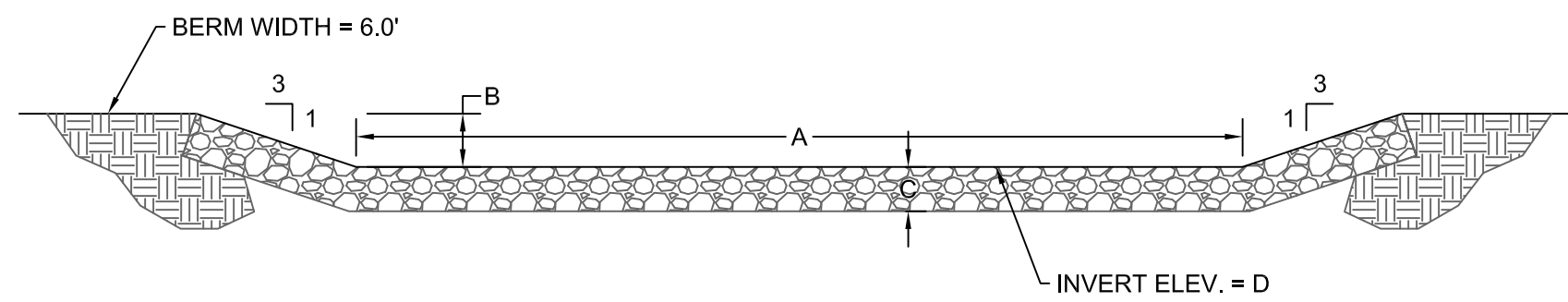
\* 1' OF STORAGE ASSUMED. ACTUAL PERMANENT GRATE ELEVATION = 310.0'

1. NRCS Conservation Practice Standard Code 350 - Sediment Basin  
2. Maine Erosion and Sediment Control BMPs (10/2016) Ch. 2 - Sediment Basins, Graph C.1

ELEVATION	AREA (SQ.FT)	INCR. VOLUME (CU.FT.)	TOTAL VOLUME (CU.FT.)
310.00	15,327.00		
311.00	24,865.00	20,096.00	20,096.00
312.00	29,332.00	27,098.50	47,194.50



STONE FOREBAY ELEVATIONS		
UNDERDRAIN FILTER NUMBER	A	B
SOIL FILTER #1	310.0	310.5
SOIL FILTER #2	302.0	302.5



EMERGENCY SPILLWAY GEOMETRY						
UNDERDRAIN FILTER NUMBER	A	B	C	D	RIP RAP D50	25-YR WATER ELEV.
SOIL FILTER #1	40'	1.30'	18"	310.70	9"	310.93
SOIL FILTER #2	30'	1.20'	12"	303.80	6"	303.84

**FILTER NOTES:**

- UNDERDRAIN PIPES SHALL BE SCH. 40 PVC. ENDS OF UNDERDRAIN PIPING SHALL BE PLUGGED WITH PIPE FITTINGS. PIPE JOINTS SHALL BE FULLY GLUED.
- COMPACT EMBANKMENT MATERIAL TO 93% OF MAXIMUM DENSITY AS DETERMINED BY ASTM D1557.
- FILTER BED & SIDE SLOPES SHALL BE SEEDED USING "NEW ENGLAND CONSERVATION/WILDLIFE MIX" FROM NEW ENGLAND WETLAND PLANTS, INC. OF AMHERST, MA. OR APPROVED EQUAL (APPLICATION RATE 25#/ACRE).
- MDOT 703.22 UNDERDRAIN BACKFILL MATERIAL, TYPE B SPECIFICATIONS.

SIEVE	% BY WEIGHT
1	90-100
1/2	75-100
#4	50-100
#20	15-80
#50	0-15
#200	0-5

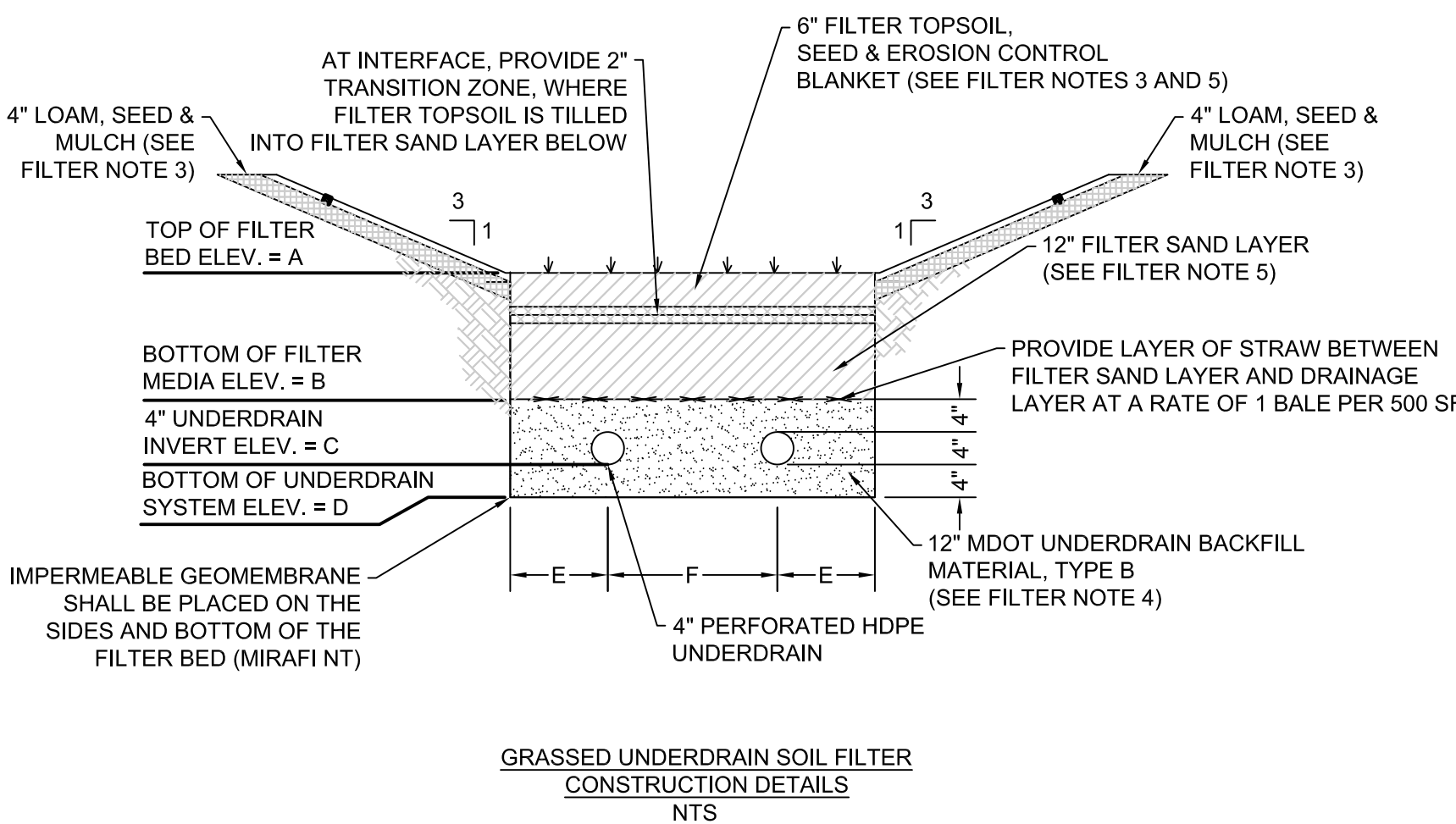
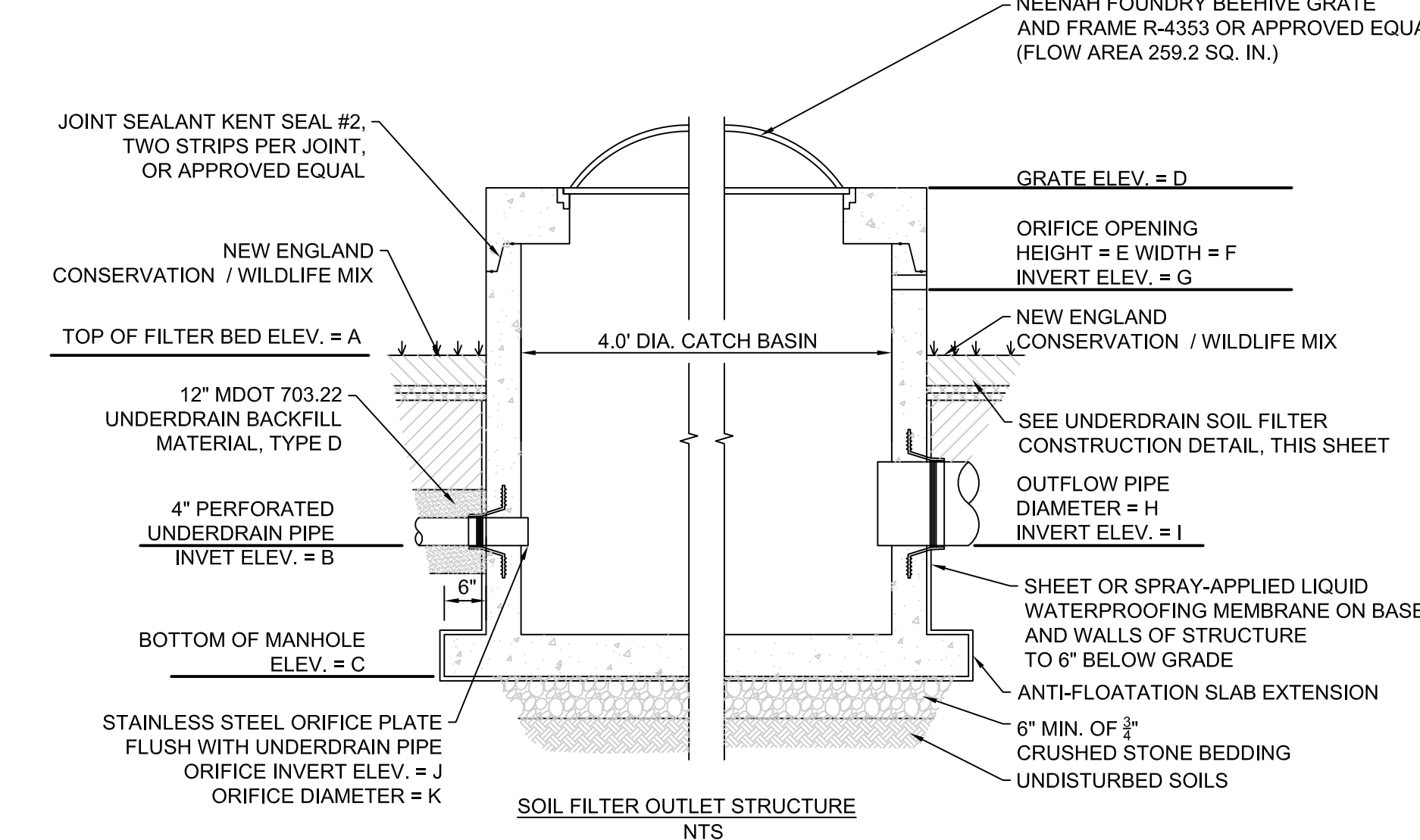
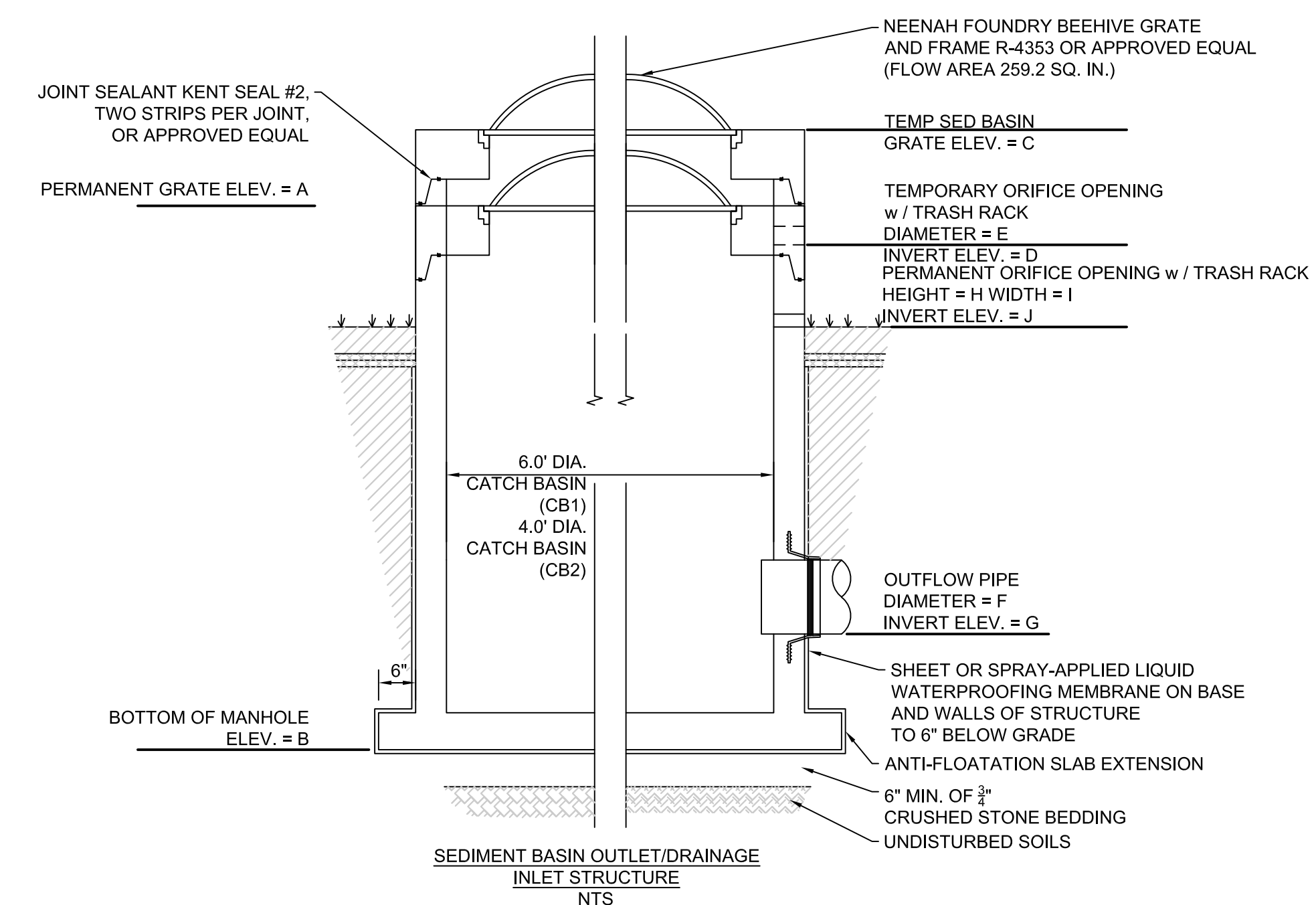
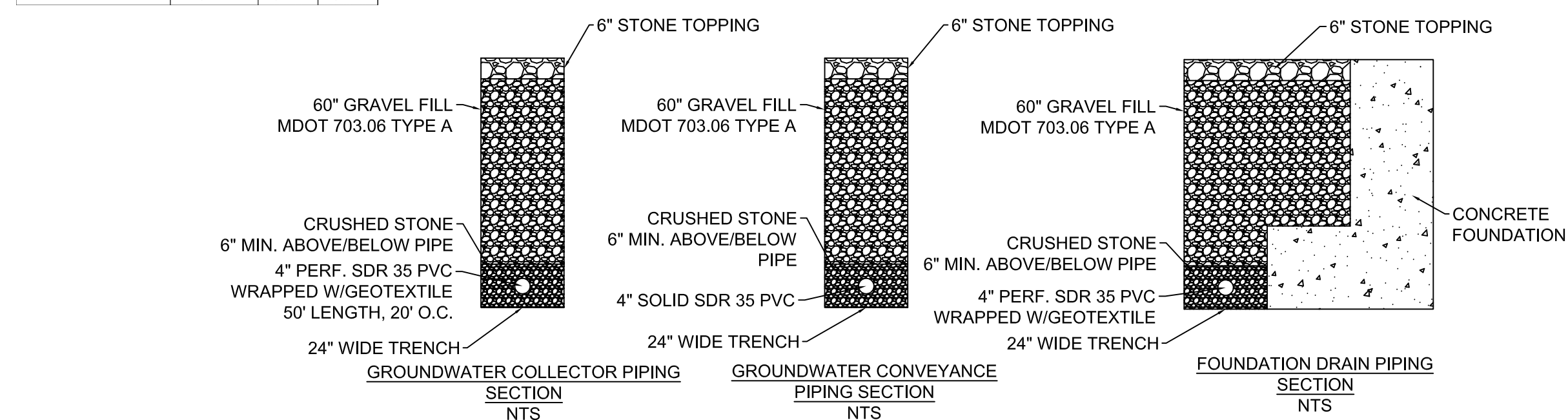
**5. FILTER MEDIA MATERIALS:**

- 5.1. FILTER TOPSOIL LAYER: A 6-INCH LAYER OF LOAMY TOPSOIL SUCH AS USDA SANDY LOAM TOPSOIL WITH 5-8% HUMIFIED ORGANIC MATTER. SCREENED TOPSOIL FROM THE SITE MAY BE APPROPRIATE BUT SHALL BE TESTED FOR ORGANIC CONTENT. ORGANIC MATTER (SUCH AS SUPERHUMUS OR EQUIVALENT) MAY BE ADDED IF NECESSARY, PROVIDED THAT THE RESULTING TEXTURE IS SUITABLE. SEE EROSION CONTROL DETAILS FOR EROSION CONTROL BLANKET INSTALLATION REQUIREMENTS.
- 5.2. FILTER SAND LAYER: A 12-INCH LAYER OF LOAMY COARSE SAND PER MAINE DEP STORMWATER BEST MANAGEMENT PRACTICES TABLE 7.1.3.

SIEVE	% BY WEIGHT
#10	85-100
#20	70-100
#60	15-40
#200	8-15
#200 (CLAY SIZE)	<2.0

**FILTER CONSTRUCTION INSPECTION AND TESTING NOTES:**

- INSPECTION OF THE FILTER BASIN SHALL BE PROVIDED FOR EACH PHASE OF CONSTRUCTION BY THE DESIGN ENGINEER WITH REQUIRED REPORTING TO THE MAINE DEP.
- AT A MINIMUM INSPECTIONS WILL OCCUR:
  - AFTER PRELIMINARY CONSTRUCTION OF THE FILTER GRADES AND ONCE THE UNDERDRAIN PIPES ARE INSTALLED BUT NOT BACKFILLED;
  - AFTER THE DRAINAGE LAYER IS CONSTRUCTED AND PRIOR TO THE INSTALLATION OF THE FILTER SAND LAYER;
  - AFTER FILTER SAND LAYER IS CONSTRUCTED AND PRIOR TO THE INSTALLATION OF THE FILTER TOPSOIL LAYER;
  - AFTER THE FILTER TOPSOIL LAYER HAS BEEN INSTALLED AND SEEDING; AND
  - AFTER ONE YEAR TO INSPECT HEALTH OF THE VEGETATION AND MAKE CORRECTIONS.
- THE CONTRACTOR SHALL PROVIDE SUBMITTALS FOR EACH COMPONENT OF THE FILTER MEDIA, IDENTIFYING THE SOURCE.
- ALL MATERIAL USED FOR THE CONSTRUCTION OF THE FILTER BASIN WILL BE APPROVED BY THE DESIGN ENGINEER, AFTER TESTS BY A CERTIFIED LABORATORY SHOW THAT THEY ARE PASSING MAINE DEP SPECIFICATIONS.
- THE CONTRACTOR SHALL SUBMIT SAMPLES OF EACH TYPE OF MATERIAL TO BE USED FOR THE MIXED FILTER MEDIA AND SAMPLES OF THE UNDERDRAIN BEDDING MATERIAL. 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.
- THE CONTRACTOR SHALL PERFORM, OR HAVE PERFORMED, A SIEVE ANALYSIS CONFORMING TO ASTM C138 ON EACH TYPE OF THE SAMPLE MATERIAL. ALL MATERIALS SHALL HAVE A CLAY CONTENT OF LESS THAN 2% AS DETERMINED BY HYDROMETER GRAIN SIZE ANALYSIS.
- THE CONTRACTOR SHALL PERFORM, OR HAVE PERFORMED, A PERMEABILITY TEST ON THE SOIL FILTER MEDIA MATERIALS CONFORMING TO ASTM D2434 WITH THE MIXTURE COMPACTED TO 90 - 92% OF MAXIMUM DRY DENSITY BASED ON ASTM D698.



GRASSED UNDERDRAIN SOIL FILTER ELEVATIONS/GEOMETRY						
UNDERDRAIN FILTER NUMBER	A	B	C	D	E	F
SOIL FILTER #1	308.00	306.33	305.66	305.33	7.00	11.00
SOIL FILTER #2	301.50	299.83	299.16	298.83	7.00	11.00

NOTE: FILTER CROSS SECTION IS SHOWN FOR GRAPHICAL PURPOSES ONLY - NOT TRUE SCALE.

SOIL FILTER OUTLET STRUCTURE ELEVATIONS/GEOMETRY												
UNDERDRAIN FILTER NUMBER	A	B	C	D	E	F	G	H	I	J	K	
SOIL FILTER #1	308.00	305.66	304.83	312.00	6"	30"	309.50	24"	305.60	305.66	6"	
SOIL FILTER #2	301.50	299.16	298.32	305.00	4.5"	4.5"	302.75	15"	299.00	299.16	1.00"	

SEDIMENT BASIN OUTLET / CATCH BASIN STRUCTURE ELEVATIONS/GEOMETRY										
STRUCTURE	A	B	C	D	E	F	G	H	I	J
CB 1	310.33	304.80	312.00	311.00	2"	24"	305.30	4"	36"	309.50
CB 2	316.00	311.50	N/A	N/A	N/A	24"	312.00	N/A	N/A	N/A

**ISSUED FOR PERMITTING  
NOT FOR CONSTRUCTION  
05/29/18**

REV.	DESCRIPTION	DATE	BY	CK	APP
B	MEDEP PERMIT SET COMMENT REVISIONS	05/29/18	TJG	KRV	

OWNER ENGINEER: \_\_\_\_\_ APPROVAL STAMP: \_\_\_\_\_  
 DRAWING PREPARED BY: \_\_\_\_\_ ACCEPTED BY OE: \_\_\_\_\_

REV.	DATE	BY	DESCRIPTION	APP.	DATE

**IUSA ENGINEERING**  
CONFIDENTIAL, PROPRIETARY and TRADE SECRET INFORMATION  
Property of IBERDROLA, USA

**CMP**  
IBERDROLA - USA

**STORMWATER TREATMENT PLAN**

SH 2 OF 4

MERRILL ROAD/1076 LEWISTON, ME

DR: TJG SCALE: N/A FILE: 1076-003-002SH002.DWG  
 CK: KRV NO.  
 APP. DATE

1076-003-002 REV. B

ANSI D CADD Drawing. DO NOT REVISE MANUALLY.