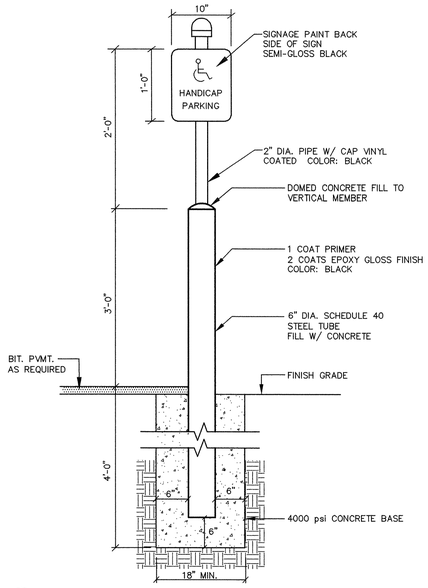
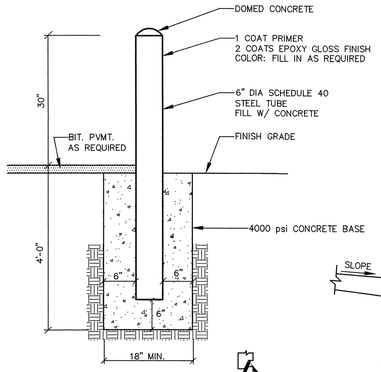


1 HANDICAP SIGNS IN METAL BOLLARD
NOT TO SCALE



4 METAL BOLLARD
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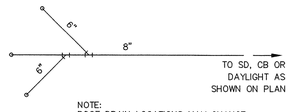
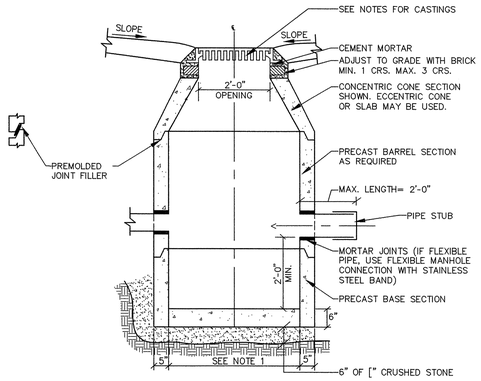


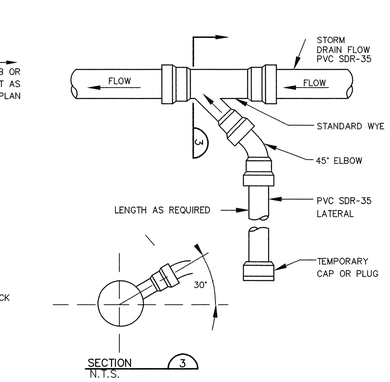
NOTE:
ROOF DRAIN LOCATIONS MAY CHANGE. SEE ARCHITECTURAL PLANS FOR FINAL LOCATIONS.

5 TYPICAL ROOF DRAIN
NOT TO SCALE

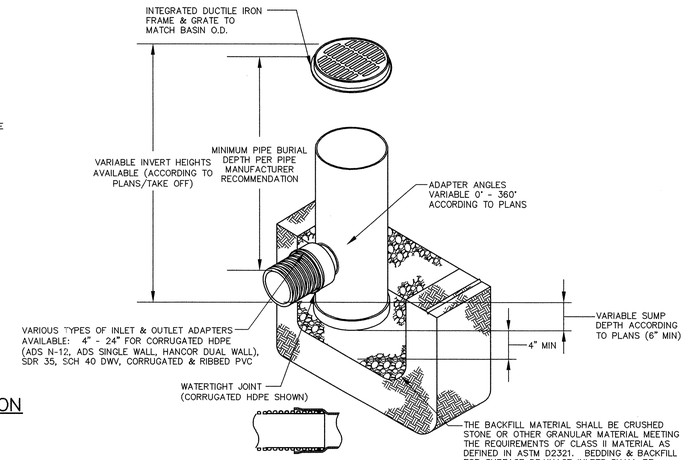


NOTES:
1. 4'-0" I.D. TYPICAL. SOME STRUCTURES MAY REQUIRE LARGER I.D. PROVIDE SHOP DRAWINGS.
2. DRAINAGE STRUCTURES TO BE DESIGNED FOR H-20 LOADING.
3. PIPE SIZES AND INVERTS AS NOTED ON PLANS.
4. CATCH BASIN FRAME AND GRATE TO BE EAST JORDAN FOUNDRY 5250 OR APPROVED EQUAL.
5. DRAINAGE MANHOLE FRAME AND COVER TO BE EAST JORDAN FOUNDRY 1122, TYPE A, OR APPROVED EQUAL. COVER SHALL BE MARKED "DRAIN".

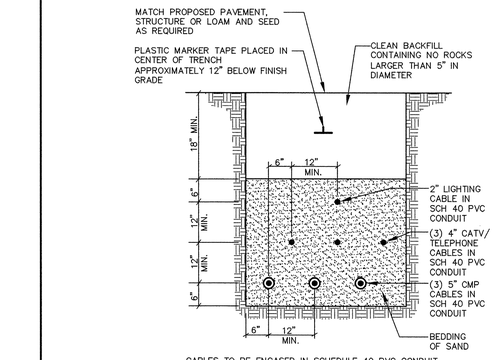
6 TYPICAL CONCRETE DRAINAGE STRUCTURE
NOT TO SCALE



8 ROOF DRAIN SERVICE CONNECTION
NOT TO SCALE

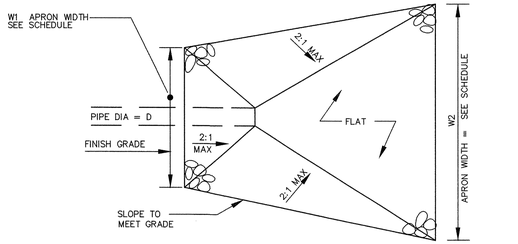


10 NYLOPLAST DRAIN BASIN
NOT TO SCALE

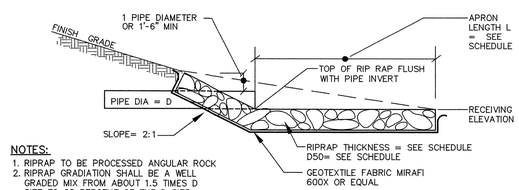


CABLES TO BE ENCASED IN SCHEDULE 40 PVC CONDUIT WHEN RUN BENEATH PAVED AREAS.

2 TYPICAL UNDERGROUND CABLE INSTALLATION
NOT TO SCALE



PLAN VIEW



SECTION VIEW

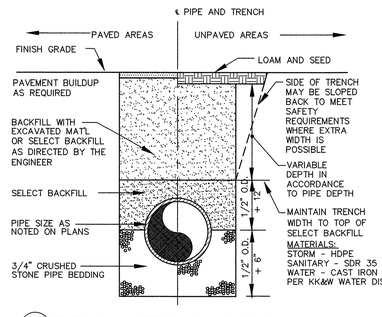
NOTES:
1. RIPRAP TO BE PROCESSED ANGULAR ROCK
2. RIPRAP GRADIATION SHALL BE A WELL GRADED MIX FROM ABOUT 1.5 TIMES D SIZE TO 25 PERCENT OF THE D SIZE
3. THE RIPRAP STONES SHALL BE CAREFULLY PLACED FROM THE TOE OF THE SLOPE UPWARD
4. STONES SHALL BE LOWERED TO THE SLOPE AND NOT BE ALLOWED TO DROP MORE THAN 12" ONTO THE GEOTEXTILE
5. THE FINISHED SURFACE SHALL BE A RELATIVELY SMOOTH, UNIFORMLY SLOPED SURFACE

SIZING NOTES:
1. VALUES CALCULATED USING AN HDPE CULVERT AT A SLOPE OF 1% FLOWING FULL.
2. APRON LENGTHS AND RIPRAP D50 SIZES DETERMINED FROM THE OUTLET PROTECTION SIZING CHART IN THE MARCH 2003 MAINE EROSION AND SEDIMENT CONTROL BMP MANUAL.
3. APRON WIDTHS W1 & W2 WERE BASED ON THE STANDARDS SET FORTH IN THE MARCH 2003 MAINE EROSION AND SEDIMENT CONTROL BMP MANUAL SECTION E-3-2.
4. THESE DIMENSIONS ARE MINIMUM VALUES FOR EACH PIPE. IF NECESSARY, THESE DIMENSIONS CAN BE INCREASED AND ARE LABELED BY THE ENGINEER ON THE PLANS.

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

7 RIPRAP APRON
NOT TO SCALE

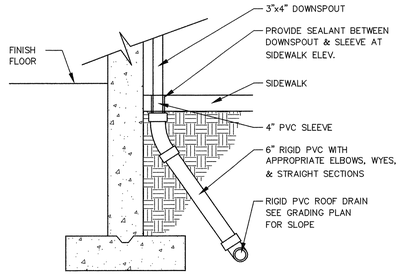


MATERIALS:
STORM - HDPE
SANITARY - SDR 35
WATER - CAST IRON PER KK&W WATER DISTRICT

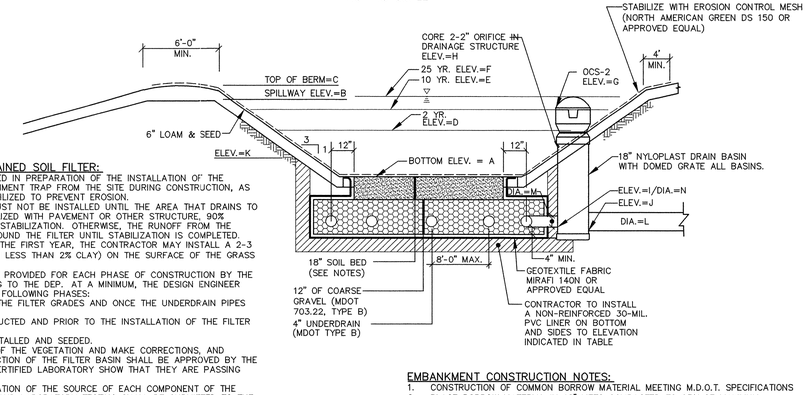
3 TYPICAL TRENCH SECTION
NOT TO SCALE

CONSTRUCTION NOTES FOR UNDERDRAINED SOIL FILTER:
1. THE AREA OF THE BASIN MAY BE EXCAVATED IN PREPARATION OF THE INSTALLATION OF THE UNDERDRAIN AND CAN BE USED FOR A SEDIMENT TRAP FROM THE SITE DURING CONSTRUCTION, AS LONG AS THE BASIN IS MULCHED AND STABILIZED TO PREVENT EROSION.
2. THE SOIL FILTER MEDIA AND VEGETATION MUST NOT BE INSTALLED UNTIL THE AREA THAT DRAINS TO THE FILTER HAS BEEN PERMANENTLY STABILIZED WITH PAVEMENT OR OTHER STRUCTURE, 90% VEGETATION COVER, OR OTHER PERMANENT STABILIZATION. OTHERWISE, THE RUNOFF FROM THE CONTRIBUTING AREA MUST BE DIVERTED AROUND THE FILTER UNTIL STABILIZATION IS COMPLETED.
3. IF VEGETATION IS NOT ESTABLISHED WITHIN THE FIRST YEAR, THE CONTRACTOR MAY INSTALL A 2-3 INCH LAYER OF SANDY LOAM TOPSOIL (WITH LESS THAN 2% CLAY) ON THE SURFACE OF THE GRASS FILTER AND RESEED/MULCH.
4. INSPECTION OF THE FILTER BASIN SHALL BE PROVIDED FOR EACH PHASE OF CONSTRUCTION BY THE DESIGN ENGINEER WITH REQUIRED REPORTING TO THE DEP. AT A MINIMUM, THE DESIGN ENGINEER SHALL INSPECT THE CONSTRUCTION AT THE FOLLOWING PHASES:
   A. AFTER PRELIMINARY CONSTRUCTION OF THE FILTER GRADES AND ONCE THE UNDERDRAIN PIPES ARE INSTALLED BUT NOT BACKFILLED.
   B. AFTER THE DRAINAGE LAYER IS CONSTRUCTED AND PRIOR TO THE INSTALLATION OF THE FILTER MEDIA.
   C. AFTER THE FILTER MEDIA HAS BEEN INSTALLED AND SEEDED.
   D. AFTER ONE YEAR TO INSPECT HEALTH OF THE VEGETATION AND MAKE CORRECTIONS, AND
   E. ALL MATERIAL USED FOR THE CONSTRUCTION OF THE FILTER BASIN SHALL BE APPROVED BY THE DESIGN ENGINEER AFTER TESTS BY A CERTIFIED LABORATORY SHOW THAT THEY ARE PASSING DEP SPECIFICATIONS.
5. THE CONTRACTOR SHALL IDENTIFY THE LOCATION OF THE SOURCE OF EACH COMPONENT OF THE FILTER MEDIA. ALL RESULTS OF THE FIELD AND LABORATORY TESTING SHALL BE SUBMITTED TO THE DESIGN ENGINEER FOR CONFIRMATION. THE CONTRACTOR SHALL
   A. SUBMIT SAMPLES OF EACH TYPE OF MATERIAL TO BE BLENDED FOR THE MIXED FILTER MEDIA AND SAMPLES OF THE UNDERDRAIN BEDDING MATERIAL. SAMPLES MUST BE A COMPOSITE OF THREE GRABS FROM THE STOCKPILE OR PIT FACE. SAMPLE SIZE REQUIRED WILL BE DETERMINED BY THE TESTING LABORATORY.
   B. PERFORM A SIEVE ANALYSIS CONFORMING TO ASTM C136 (STANDARD TEST METHOD FOR SIEVE ANALYSIS OF FINE AND COARSE AGGREGATES, 1996A) ON EACH TYPE OF THE SAMPLE MATERIAL. THE RESULTING SILTED MEDIA MIXTURE MUST HAVE 8% TO 12% BY WEIGHT PASSING THE #200 SIEVE, A CLAY CONTENT OF LESS THAN 2% (DETERMINED BY HYDROMETER GRAIN SIZE ANALYSIS) AND HAVE 10% DRY WEIGHT OF ORGANIC MATTER.
   C. PERFORM A PERMEABILITY TEST ON THE SOIL FILTER MEDIA CONFORMING TO ASTM D2434 WITH THE MIXTURE COMPACTED TO 90-92% OF MAXIMUM DRY DENSITY BASED ON ASTM D698.

UNDERDRAINED FILTER NOTES:
1. THE SOIL BED SHALL CONSIST OF A SILTY SAND SOIL OR SOIL MIXTURE COMBINED WITH 20% TO 25% BY VOLUME OF A MODERATELY FINE SHREDDED BARK OR WOOD FIBER MULCH. THE RESULTING MIXTURE MUST HAVE NO LESS THAN 8% PASSING THE 200 SIEVE AND SHALL HAVE A CLAY CONTENT OF LESS THAN 2%. THE SAND USED IN THE MIXTURE SHALL MEET THE FOLLOWING SPECIFICATIONS:
   SIEVE 3/8" - 100 PERCENT PASSING
   SIEVE #4 - 95-100 PERCENT PASSING
   SIEVE #8 - 80-100 PERCENT PASSING
   SIEVE #16 - 50-85 PERCENT PASSING
   SIEVE #30 - 25-60 PERCENT PASSING
   SIEVE #60 - 10-30 PERCENT PASSING
   SIEVE #100 - 2-10 PERCENT PASSING
   SIEVE #200 - 0-5 PERCENT PASSING
2. COMPACTION OF THE SOIL BED MATERIAL SHALL BE AVOIDED. IF COMPACTION OCCURS, ROTOTILL AGAIN PRIOR TO SEEDING OR SODDING.



9 ROOF DRAIN CONNECTOR
NOT TO SCALE



EMBANKMENT CONSTRUCTION NOTES:
1. CONSTRUCTION OF COMMON BORROW MATERIAL MEETING M.D.O.T. SPECIFICATIONS
2. PLACE BORROW MATERIAL IN 12" LIFTS COMPACTED TO 95% OF MAXIMUM
3. INSTALL RIPRAP AND EROSION CONTROL MESH WHERE SPECIFIED ON PLANS
4. LOAM, SEED, AND STABILIZE IN ACCORDANCE WITH SEDIMENTATION AND EROSION CONTROL PLAN.

POND DIMENSIONS

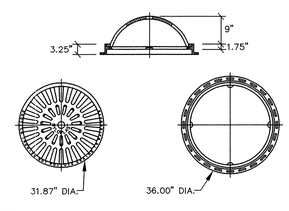
UNDERDRAIN GRASS FILTER	ELEVATION IN FEET											DIA (IN)		
	A	B	C	D	E	F	G	H	I	J	K	L	M	N
USF-1	125.00	127.5	128.0	126.30	126.99	127.17	127.00	126.00	122.83	122.83	126.0	12	4	0.9

SOIL BORING SUMMARY TABLE

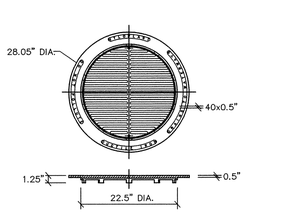
BORING NO.	EXIST. GRADE (FT.)	EXIST. SHWT DEPTH (IN.)	EXIST. SHWT ELEV. (FT.)	PROPOSED BMP STRUCTURE	UNDERDRAIN INVERT ELEV. (FT.)
1	VARIES	VARIES	VARIES	UNDERDRAINED FILTER POND-USF-1	122.83

ENTIRE SITE IS OVERLAID BY LEDGE. SOIL REPORTS INDICATE THAT GROUNDWATER MAY BE WITHIN A COUPLE FEET OF SURFACE BASED UPON ARTESIAN CONDITIONS.

11 UNDERDRAINED SOIL FILTER BASIN
NOT TO SCALE



12 NYLOPLAST DOME GRATE
NYLOPLAST #3099CGD NOT TO SCALE
USE AT ALL UNDERDRAINED PONDS



13 NYLOPLAST DROP IN GRATE
NYLOPLAST #2401DI NOT TO SCALE
USE AT ALL FIELD INLETS

DESIGNED	CHECKED
PDO	RAM

REV	BY	DATE	STATUS
B	RAM	11-20-15	RESPONSE TO CITY COMMENTS
A	RAM	9-18-15	PLAN SUBMISSION TO CITY OF PORTLAND

SEBAGO TECHNICS
WWW.SEBAGOTECHNICS.COM
75 John Roberts Rd. Suite 1A South Portland, ME 04106 Tel: 207-200-2100
250 Goddard Rd. Suite B Lewiston, ME 04240 Tel: 207-795-3535

DETAILS
OF:
PORTLAND RETIREMENT RESIDENCE
802 OCEAN AVENUE
PORTLAND, ME
FOR:
HAWTHORN DEVELOPMENT GROUP, LLC
9310 NE VANCOUVER MALL DR., STE200
VANCOUVER, WA 98662-8210

PROJECT NO.	SCALE
14432	NTS

SHEET 11 OF 14

14432D.dwg, TAB:D3