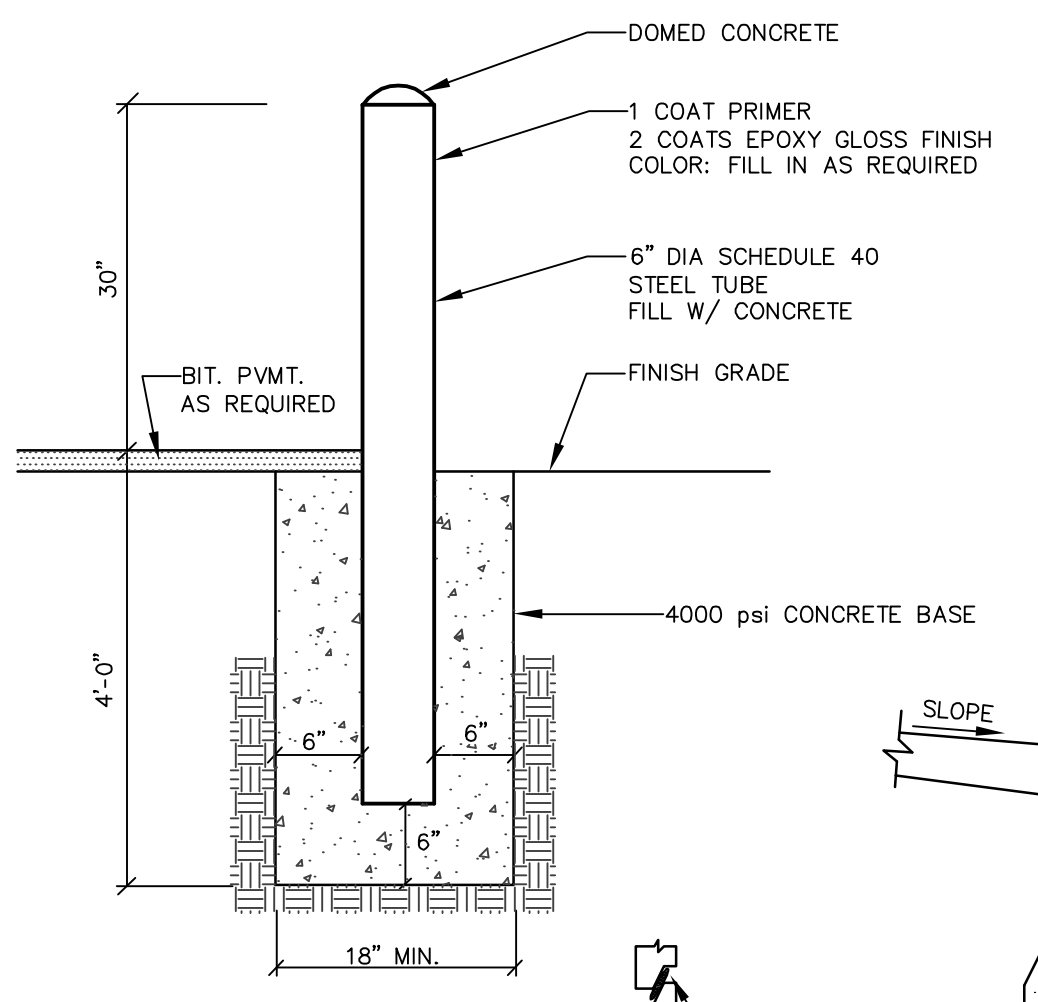
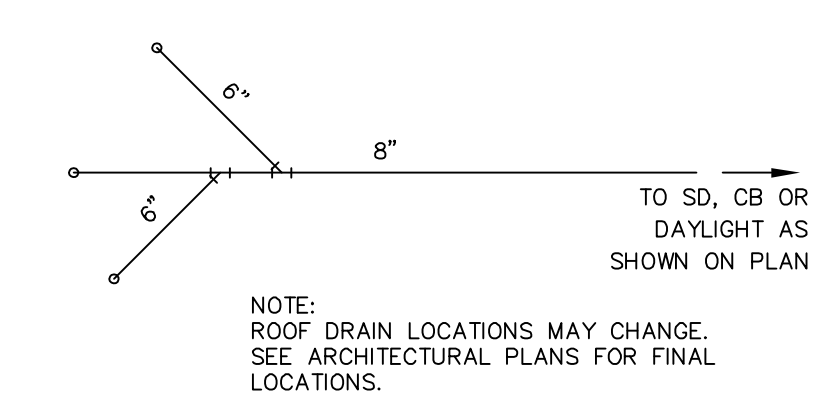


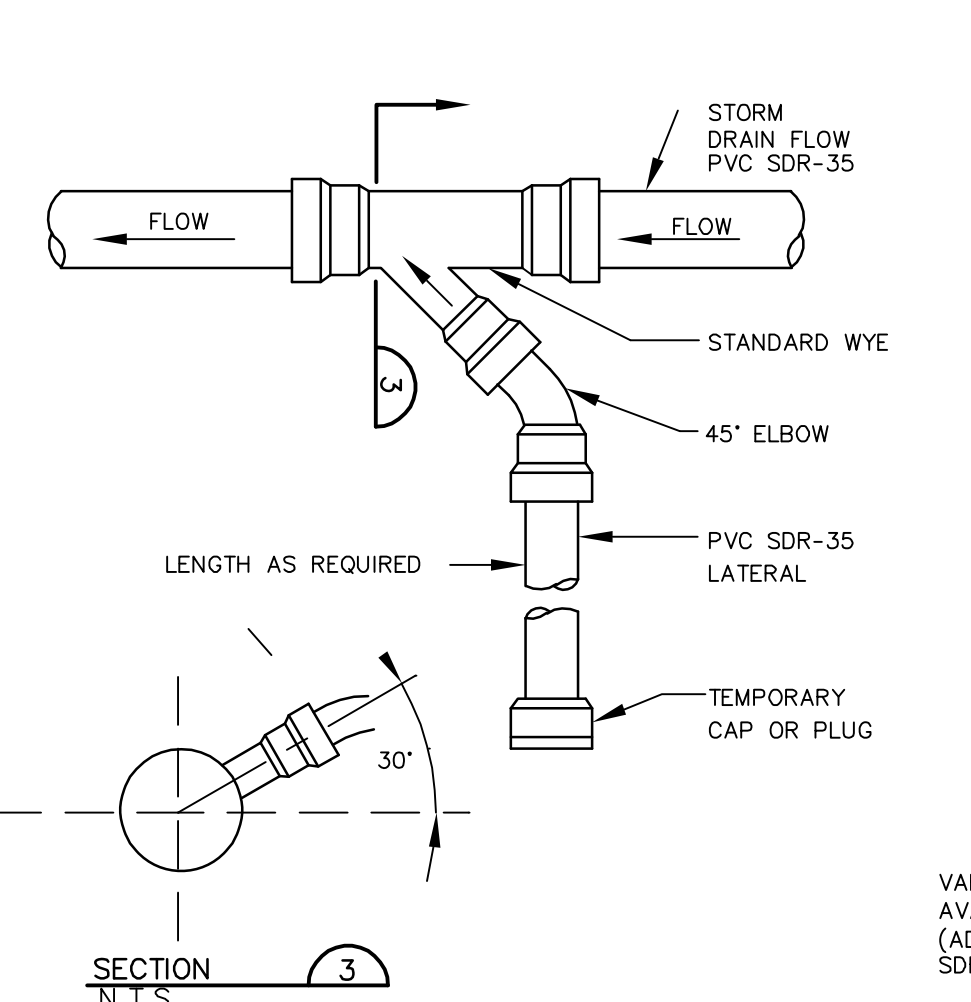
1 HANDICAP SIGNS IN METAL BOLLARD
NOT TO SCALE



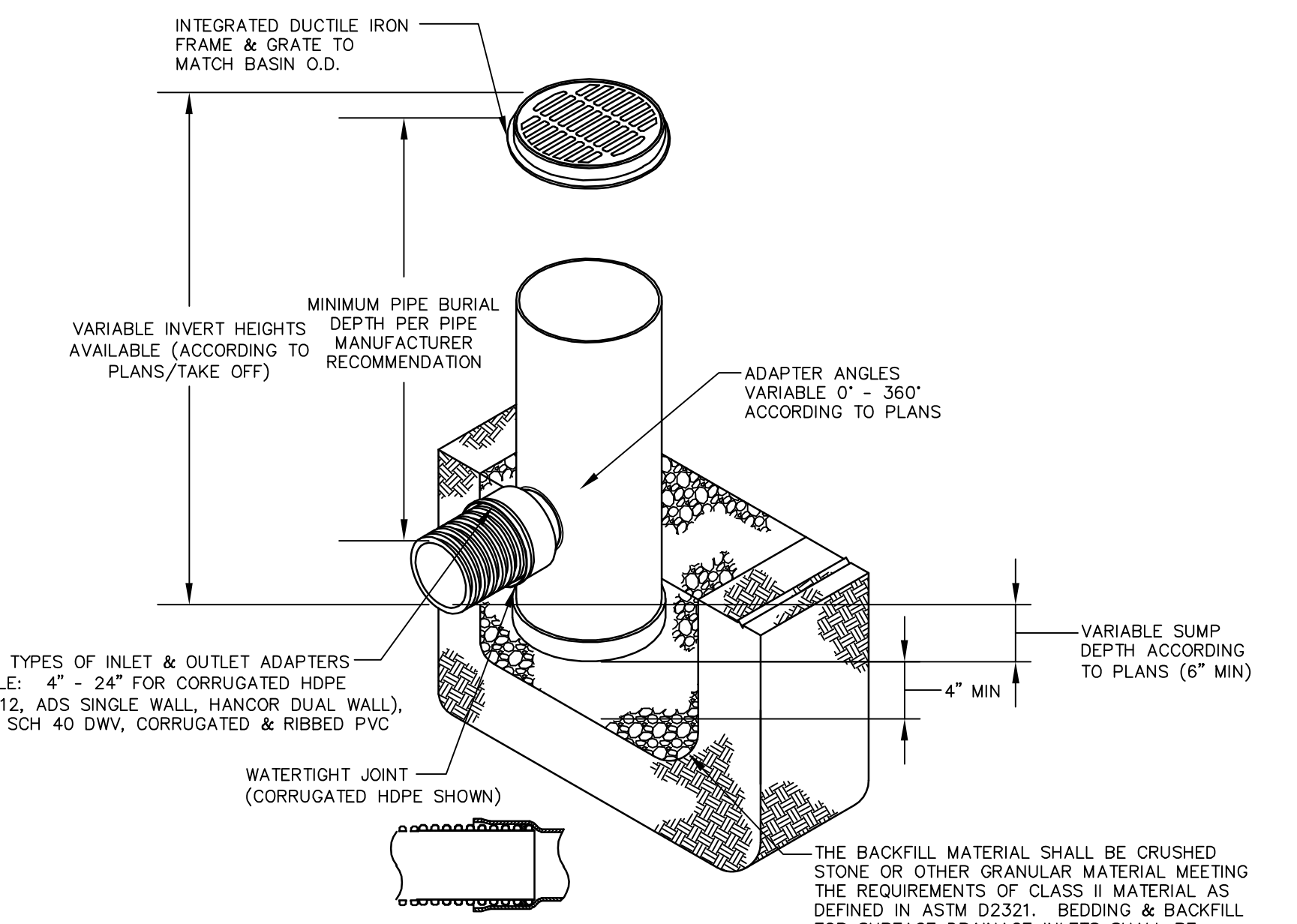
4 METAL BOLLARD
NOT TO SCALE



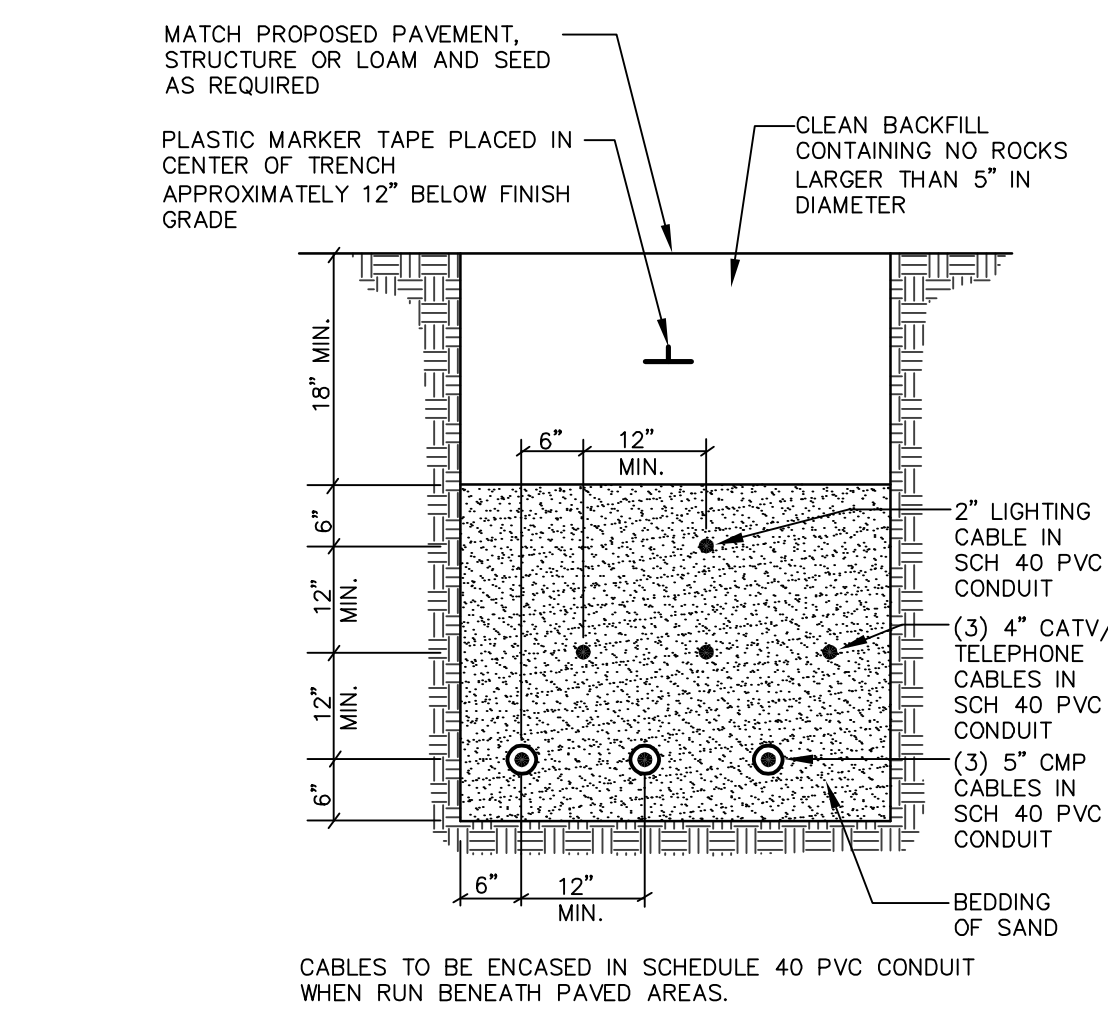
5 TYPICAL ROOF DRAIN
NOT TO SCALE



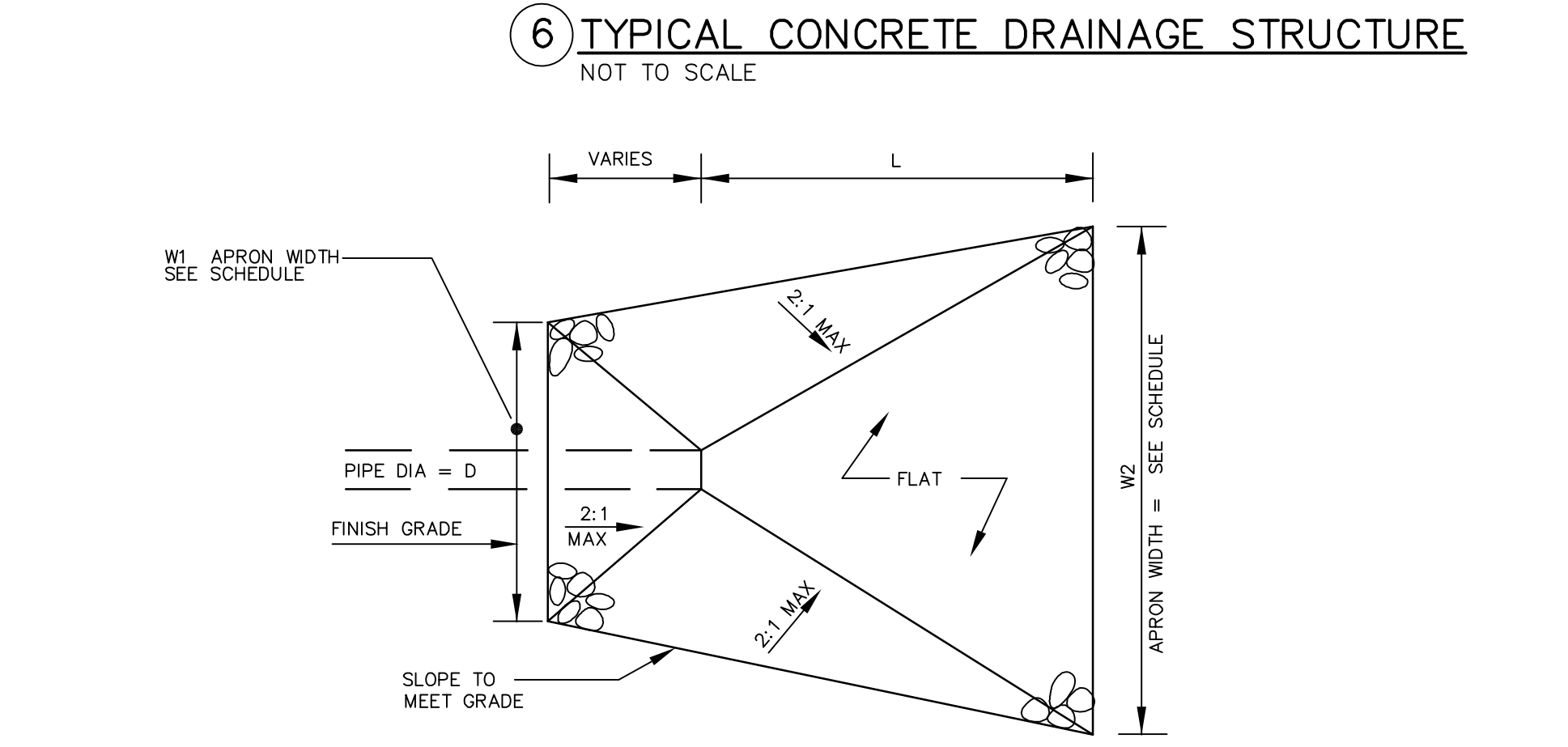
8 ROOF DRAIN SERVICE CONNECTION
NOT TO SCALE



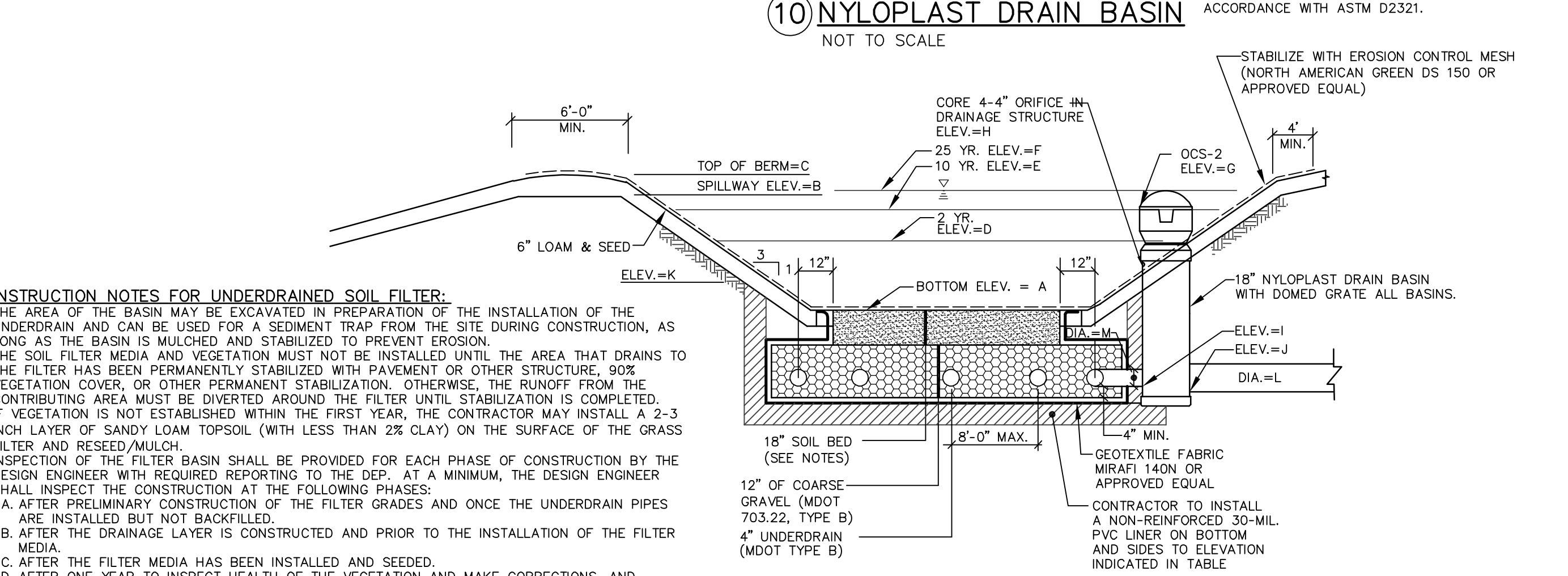
10 NYLOPLAST DRAIN BASIN
NOT TO SCALE



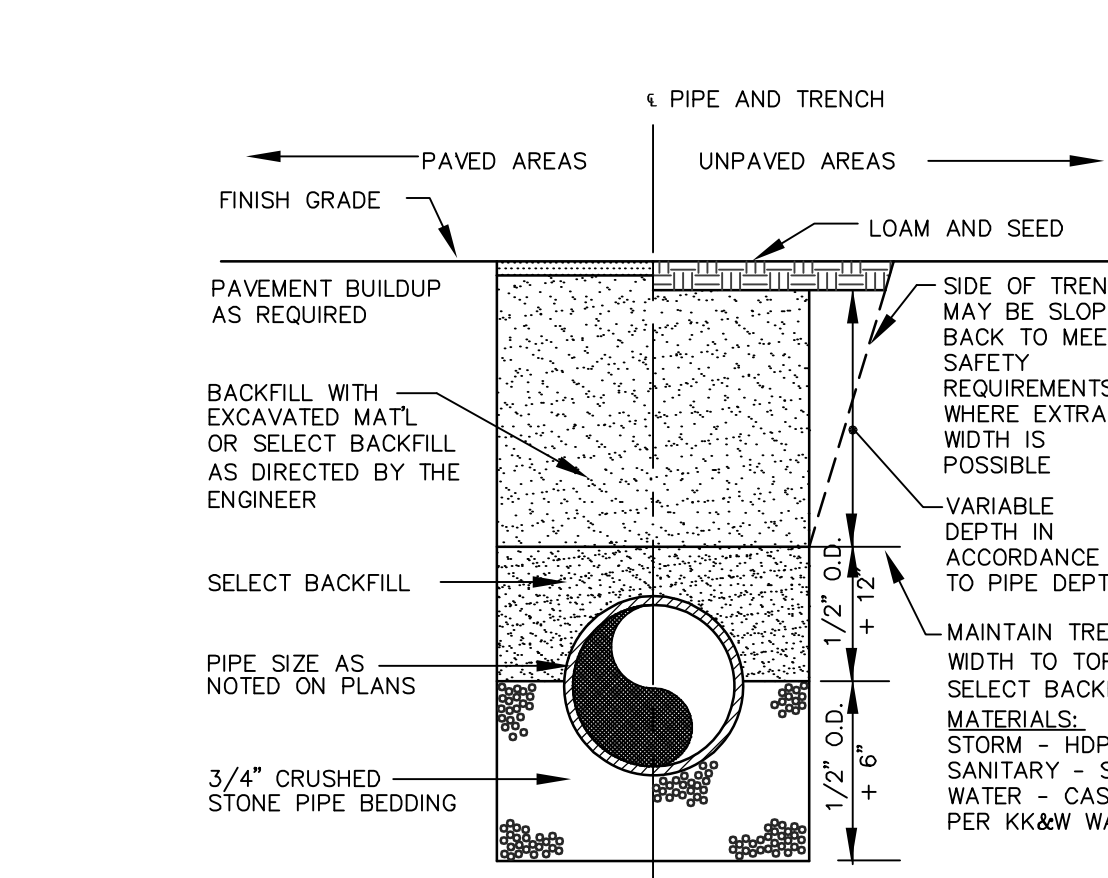
2 TYPICAL UNDERGROUND CABLE INSTALLATION
NOT TO SCALE



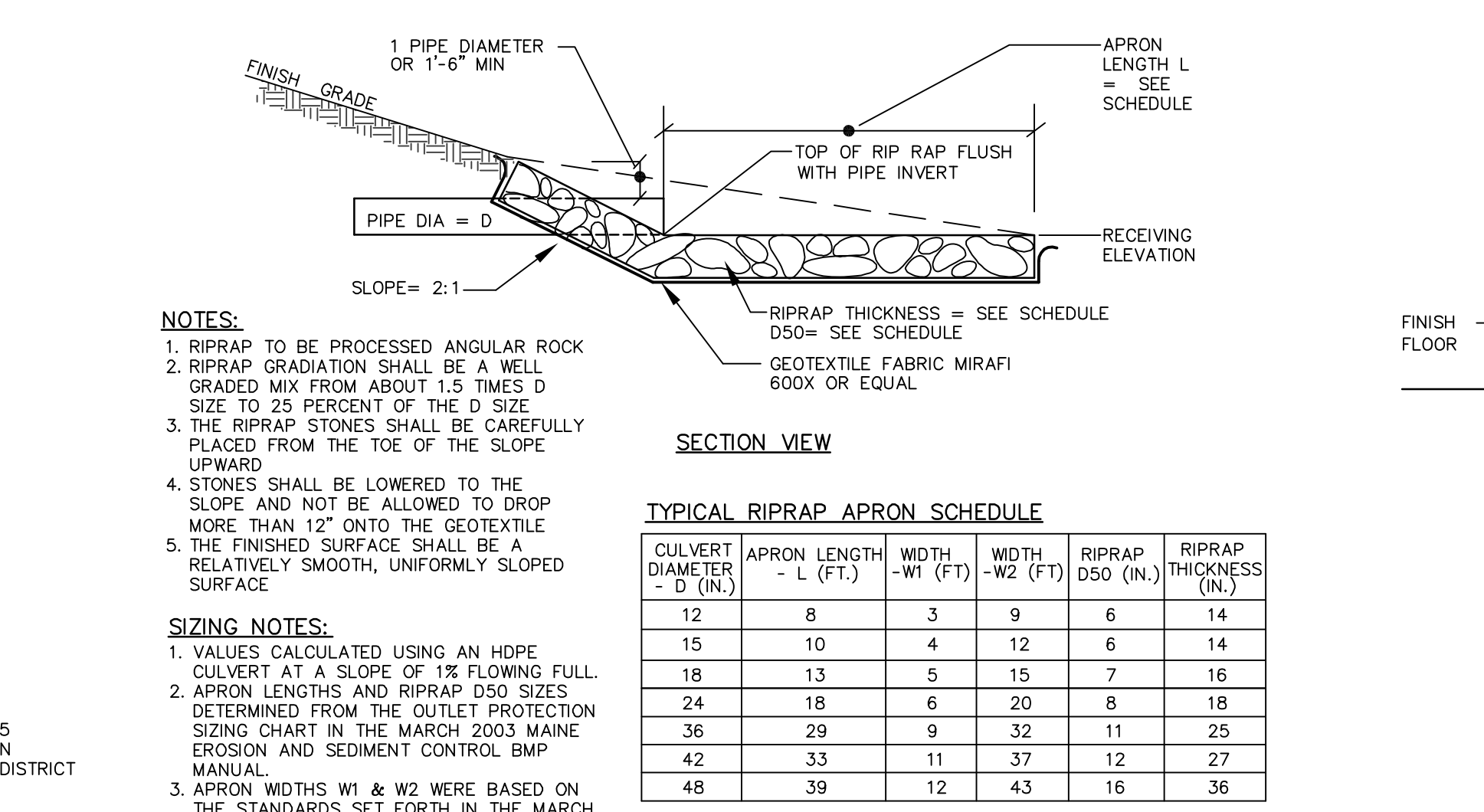
6 TYPICAL CONCRETE DRAINAGE STRUCTURE
NOT TO SCALE



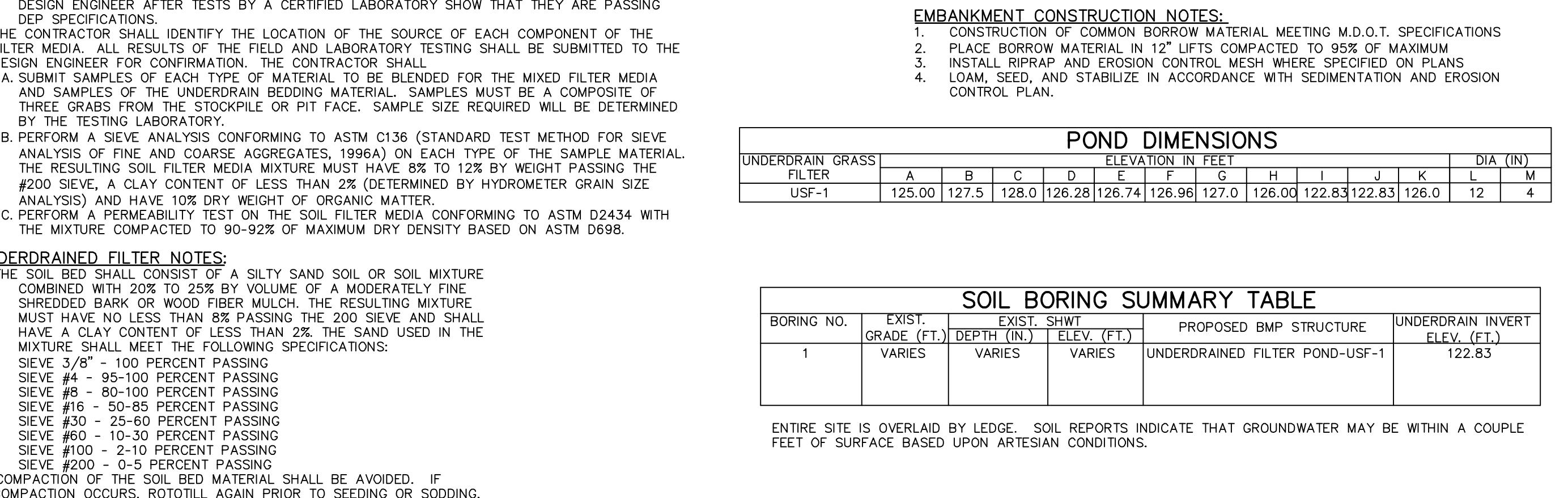
11 UNDERDRAINED SOIL FILTER BASIN
NOT TO SCALE



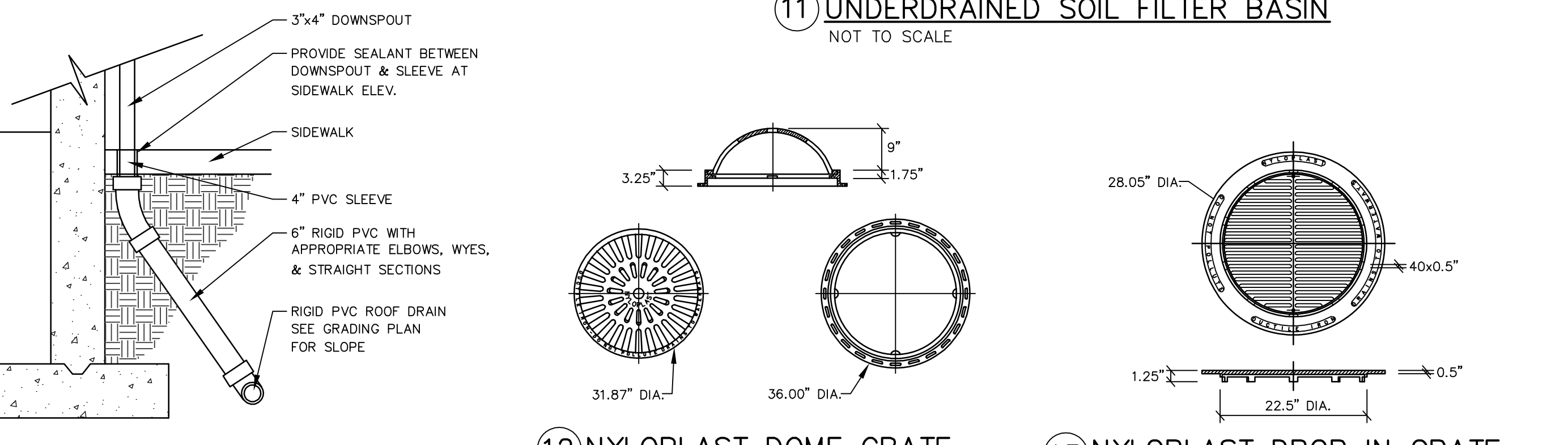
3 TYPICAL TRENCH SECTION
NOT TO SCALE



7 RIPRAP APRON
NOT TO SCALE



9 ROOF DRAIN CONNECTOR
NOT TO SCALE



12 NYLOPLAST DOME GRATE
NOT TO SCALE



13 NYLOPLAST DROP IN GRATE
NOT TO SCALE

- 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 PLANS.
 - CATCH BASIN FRAME AND GRATE TO BE EAST JORDAN FOUNDRY 5250 OR APPROVED EQUAL.
 - DRAINAGE MANHOLE FRAME AND COVER TO BE EAST JORDAN FOUNDRY 1122, TYPE A, OR APPROVED EQUAL. COVER SHALL BE MARKED "DRAIN".

- CONSTRUCTION NOTES FOR UNDERDRAINED SOIL FILTER:**
- 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.
 - 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.
 - IF VEGETATION IS NOT ESTABLISHED WITHIN THE FIRST YEAR, THE CONTRACTOR WILL 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.
 - 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:
 - 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 MEDIA.
 - AFTER THE FILTER MEDIA HAS BEEN INSTALLED AND SEEDED.
 - AFTER ONE YEAR TO INSPECT HEALTH OF THE VEGETATION AND MAKE CORRECTIONS, AND
 - 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.
 - 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
 - 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.
 - 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 SOIL FILTER 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.
 - 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:**
- 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
 - COMPACTION OF THE SOIL BED MATERIAL SHALL BE AVOIDED. IF COMPACTION OCCURS, ROTOTILL AGAIN PRIOR TO SEEDING OR SODDING.

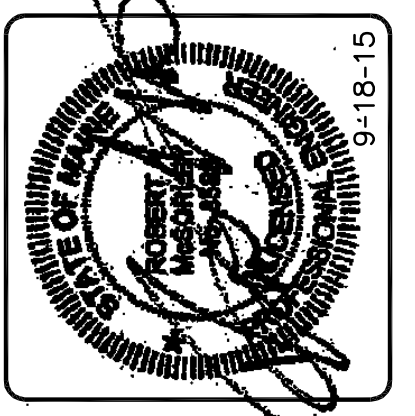
POND DIMENSIONS

| UNDERDRAIN GRASS FILTER | ELEVATION IN FEET | | | | | | | | | | | | DIA (IN) |
|-------------------------|-------------------|-------|-------|--------|--------|--------|-------|--------|--------|--------|-------|----|----------|
| | A | B | C | D | E | F | G | H | I | J | K | L | |
| USF-1 | 125.00 | 127.5 | 128.0 | 126.28 | 126.74 | 126.96 | 127.0 | 126.00 | 122.83 | 122.83 | 126.0 | 12 | 4 |

SOIL BORING SUMMARY TABLE

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

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



| DESIGNED | CHECKED |
|----------|---------|
| PDO | RAM |
| | |

PLAN SUBMISSION TO CITY OF PORTLAND
 DATE: 9-18-15
 STATUS: A
 REV: 1
 BY: JRM
 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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 WWW.SEBAGOTECHNICS.COM
 75 John Roberts Rd., Suite 100
 South Portland, ME 04106
 Tel: 207-200-9100 Fax: 207-783-5656

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