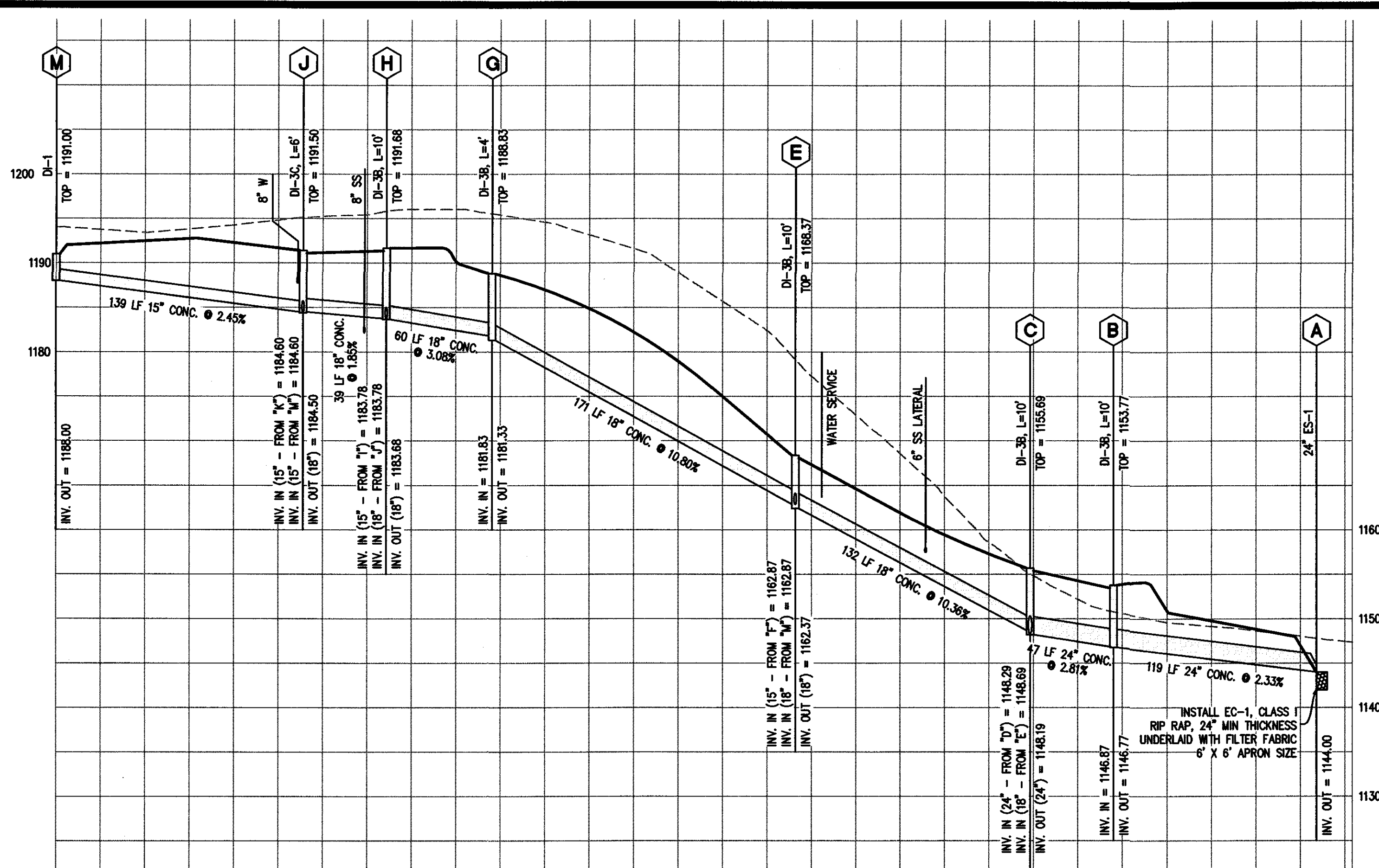
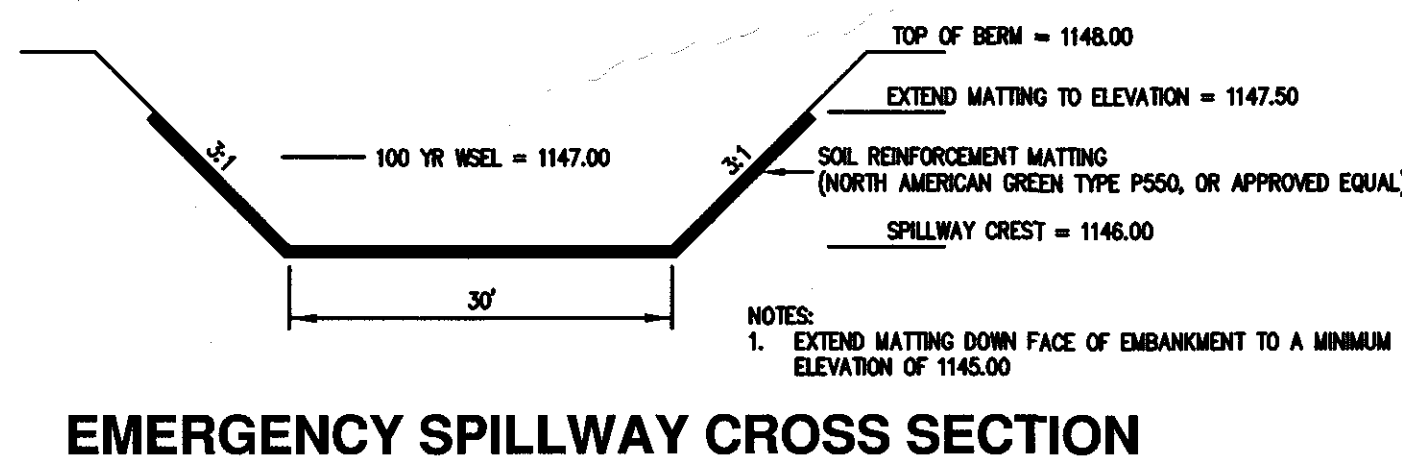




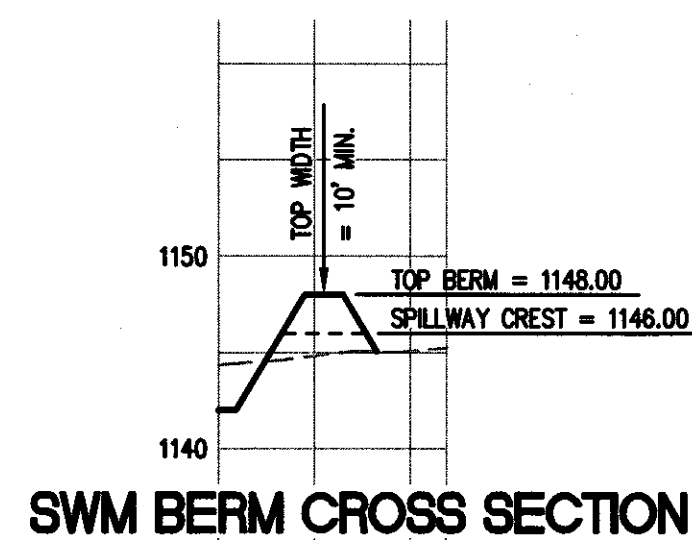
DETENTION POND CONSTRUCTION

1. GEOTECHNICAL ENGINEER SHOULD BE CONSULTED FOR DETENTION POND CONSTRUCTION. NO GEOTECHNICAL REPORTS HAVE BEEN FURNISHED TO THE DESIGN ENGINEER.
2. SOILS CLASSIFIED AS "CL" OR "CL" SHALL BE USED TO CONSTRUCT THE EMBANKMENT FOR THE DETENTION POND. A CUTOFF TRENCH SHALL ALSO BE INCLUDED ALONG THE ENTIRE LENGTH OF THE EMBANKMENT. THE CUTOFF TRENCH SHALL BE EIGHT (8) FEET WIDE AND SHALL EXTEND A MINIMUM OF FOUR (4) FEET INTO NATURAL GROUND WITH 1:1 SIDE SLOPES. THE EMBANKMENT SHALL BE PLACED IN MAXIMUM EIGHT (8) INCH LOOSE LIFTS AND THEN COMPACTED USING HEAVY SHEEPSFOOT OR PADFOOT TYPE ROLLERS. THE EMBANKMENT MATERIAL SHALL BE COMPACTED TO AT LEAST 95 PERCENT OF MAXIMUM DRY DENSITY, STANDARD PROCTOR, AT A MOISTURE CONTENT OF TWO (2) TO FOUR (4) PERCENT ABOVE OPTIMUM. THE RESULTS OF THE COMPACTION AND MOISTURE TEST SHALL BE PROVIDED TO BOTETOURT COUNTY AND/OR THE OWNER.



EMERGENCY SPILLWAY CROSS SECTION

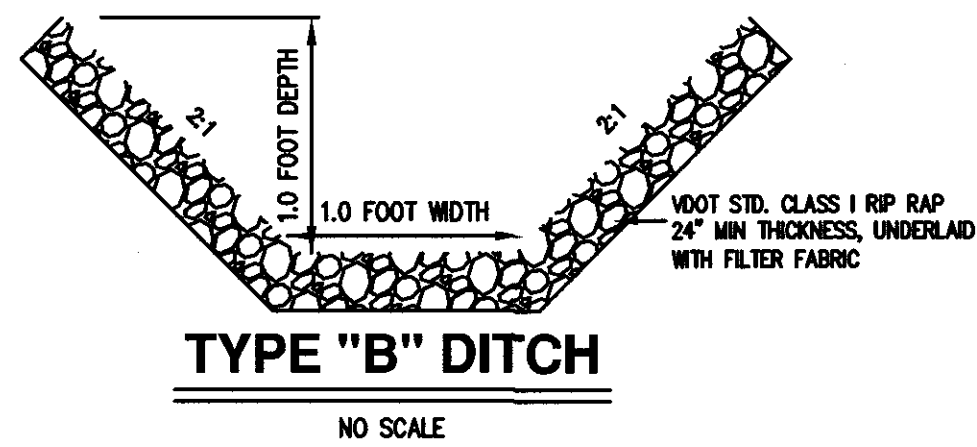
NO SCALE



SWM BERM CROSS SECTION

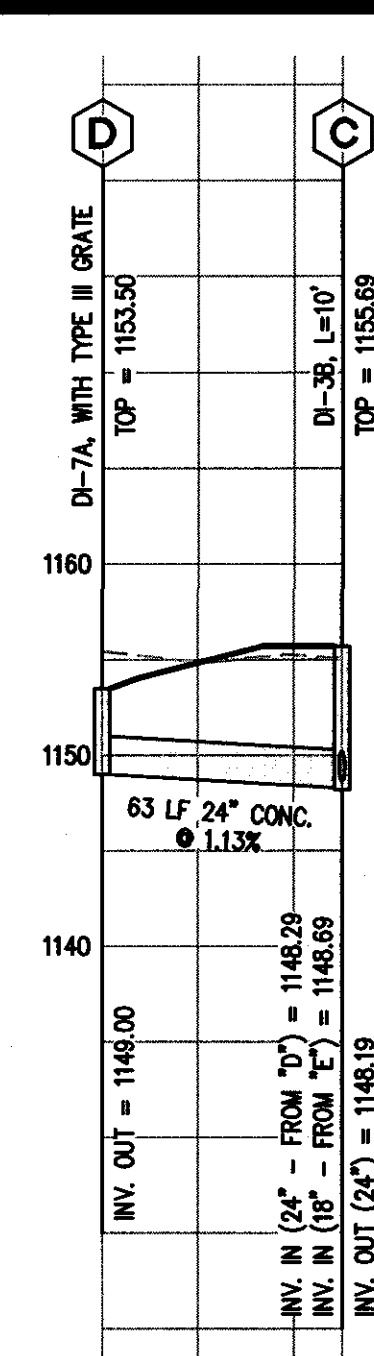
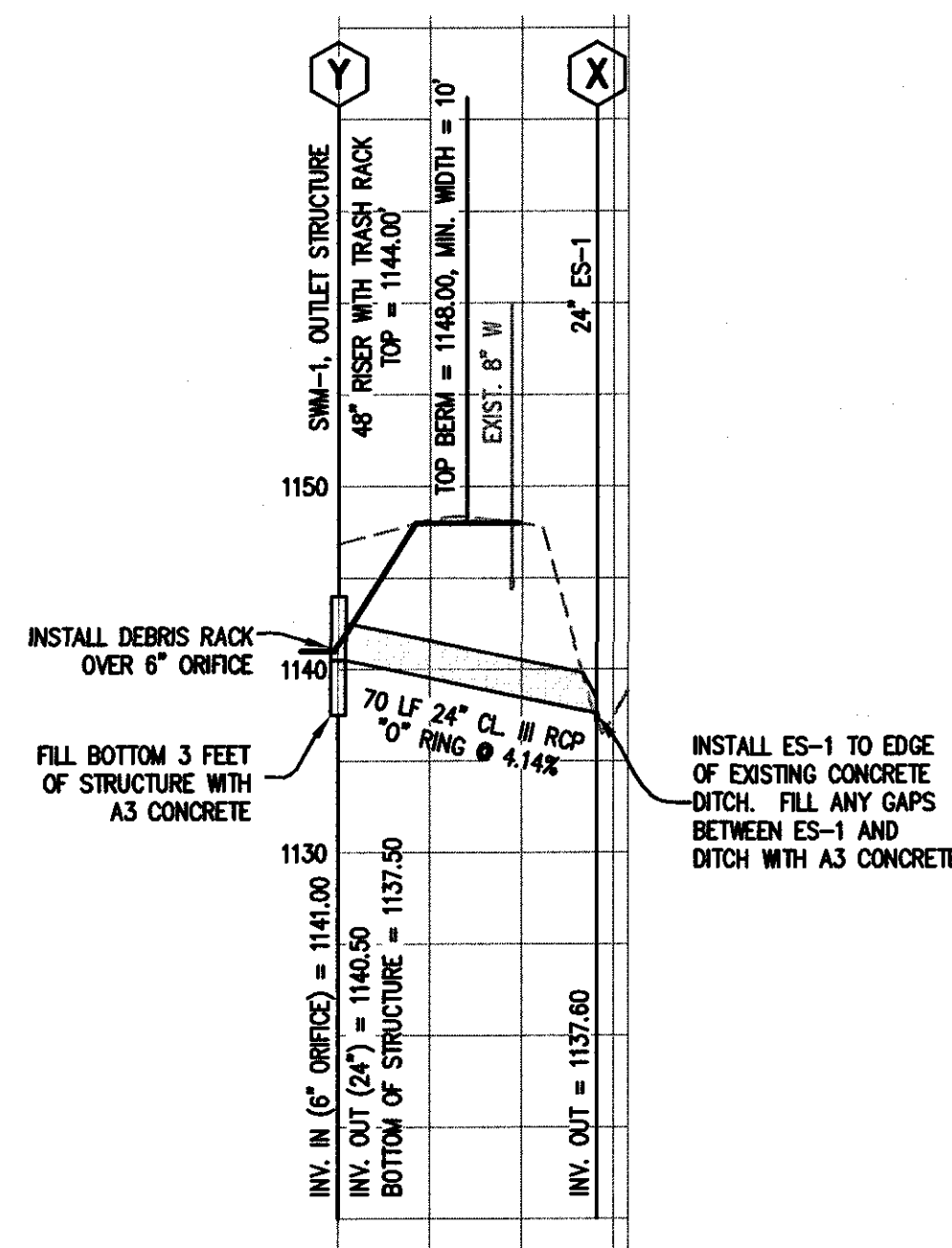
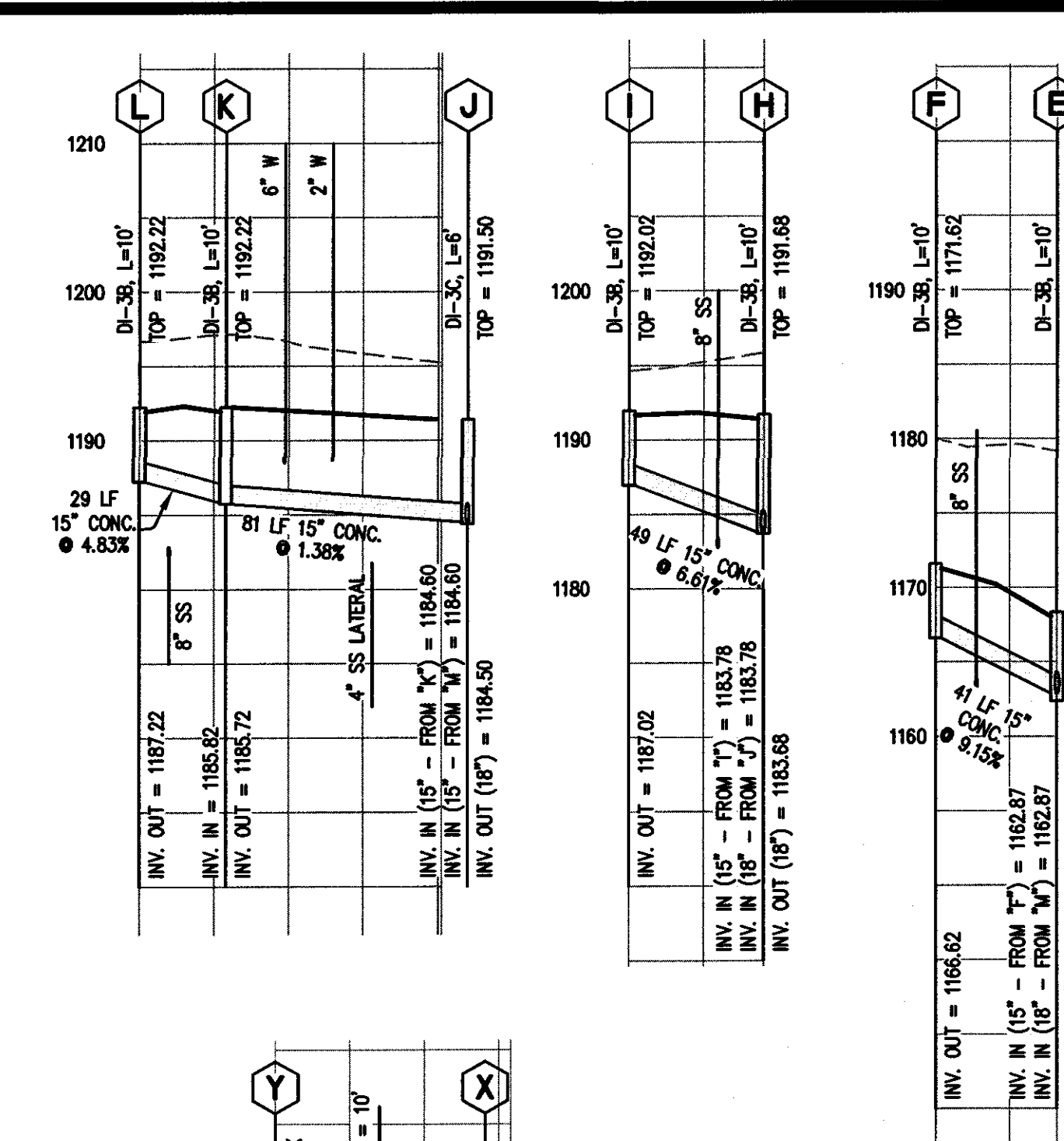
TYPE "A" DITCH

NO SCALE



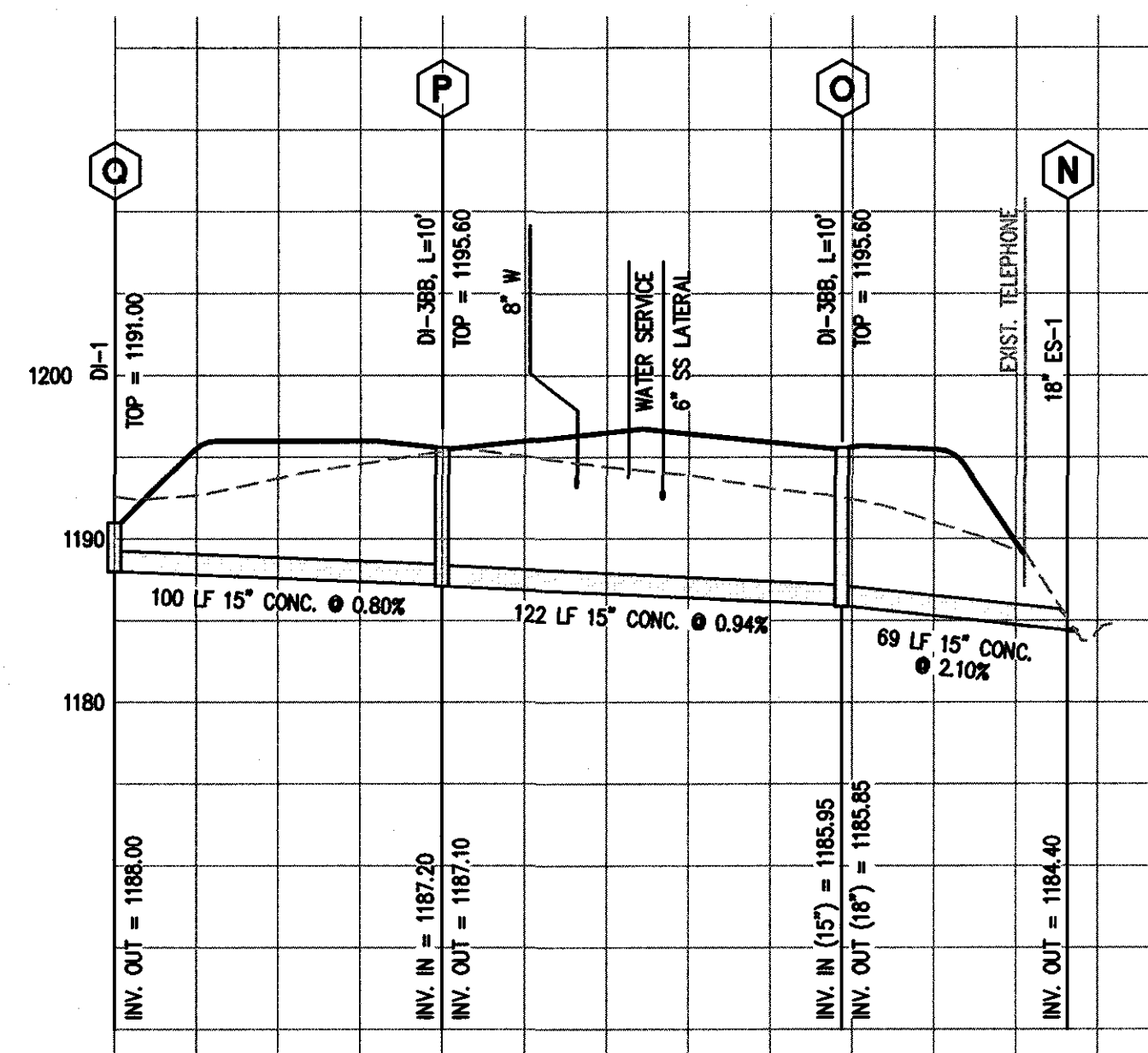
TYPE "B" DITCH

NO SCALE



UTILITY NOTES:

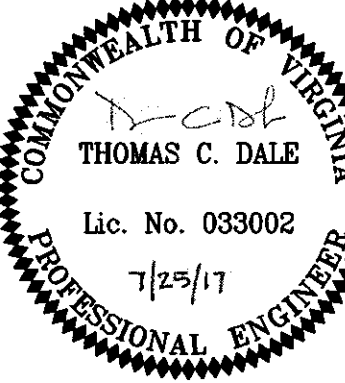
1. ALL SANITARY SEWER CONSTRUCTION METHODS & MATERIALS SHALL CONFORM THE WESTERN REGIONAL DESIGN AND CONSTRUCTION STANDARDS.
2. ALL WATER LINE CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE AQUA VIRGINIA, INC. SPECIFICATIONS. SEE SHEETS 11 AND 12. SEE ALSO WATER LINE NOTES ON SHEET 3.
3. ALL STORM DRAIN CONSTRUCTION SHALL BE IN ACCORDANCE WITH VDOT'S ROAD AND BRIDGE STANDARDS AND SPECIFICATIONS.
4. ALL CURB INLETS SHALL BE INSTALLED WITH ALTERNATE NOSE TYPE A TO MAKE EASIER TRANSITION INTO ROLLTOP CURBING. SEE DETAIL ON SHEET 2.
5. ALL WATER AND SANITARY SEWER LINES SHALL HAVE A MINIMUM OF 3.0 FEET OF COVER.
6. MAINTAIN A MINIMUM OF 18" CLEARANCE FROM OUTSIDE OF PIPE TO OUTSIDE OF PIPE AT ALL WATER, SANITARY SEWER, AND STORM DRAIN CROSSINGS. WHERE THIS CLEARANCE CANNOT BE ACHIEVED, CONCRETE PIERS SHALL BE UTILIZED IN ACCORDANCE WITH THE WESTERN VIRGINIA REGIONAL DESIGN AND CONSTRUCTION STANDARDS.
7. SANITARY SEWER MAIN PIPE MATERIAL SHALL BE PVC, SDR-35, EXCEPT AS NOTED, OR APPROVED EQUAL.
8. ALL SANITARY SEWER CONNECTIONS TO EXISTING LINES SHALL BE COORDINATED WITH AND PERFORMED BY THE WESTERN VIRGINIA WATER AUTHORITY.
9. ALL NEW DROP INLETS AND STORM DRAIN MANHOLES SHALL HAVE VDOT STD. IS-1, INLET SHAPING.
10. ALL DRAINAGE STRUCTURES DEEPER THAN 4.0 FEET SHALL HAVE STEPS (VDOT STD. ST-1) INSTALLED.
11. SAFETY SLABS (VDOT STD. SL-1) ARE REQUIRED IN ALL NEW DRAINAGE STRUCTURES WITH A DEPTH OF 12.0 FEET OR GREATER. THE SPACING OF THE SLABS SHOULD BE 8 TO 12 FEET WITH NO SAFETY SLAB LOCATED WITHIN 6 FEET FROM THE TOP OR BOTTOM OF THE STRUCTURE.



STORM DRAIN PROFILES

SANDERSON RIDGE

PREPARED FOR
HUNGATE-FIELDS, LLC
VALLEY MAGISTERIAL DISTRICT
THE COUNTY OF BOTETOURT, VIRGINIA



LUMSDEN ASSOCIATES, P.C.
ENGINEERS-SURVEYORS-PLANNERS
ROANOKE, VIRGINIA
PHONE: (540) 774-4411
FAX: (540) 772-9445
E-MAIL: MAIL@LUMSDENPC.COM

DATE: July 25, 2017

SCALE: (H) 1"=50' (V) 1"=10'

COMMISSION NO. 2016-003

SHEET 6 OF 14