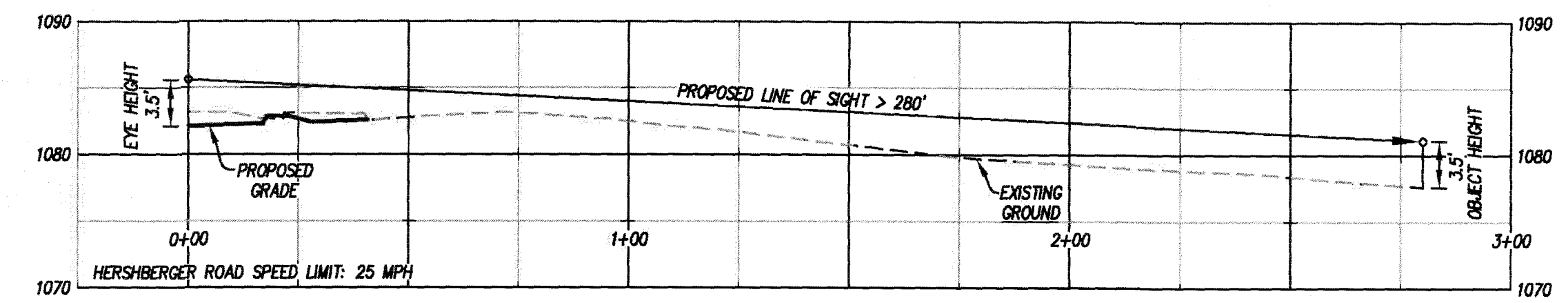
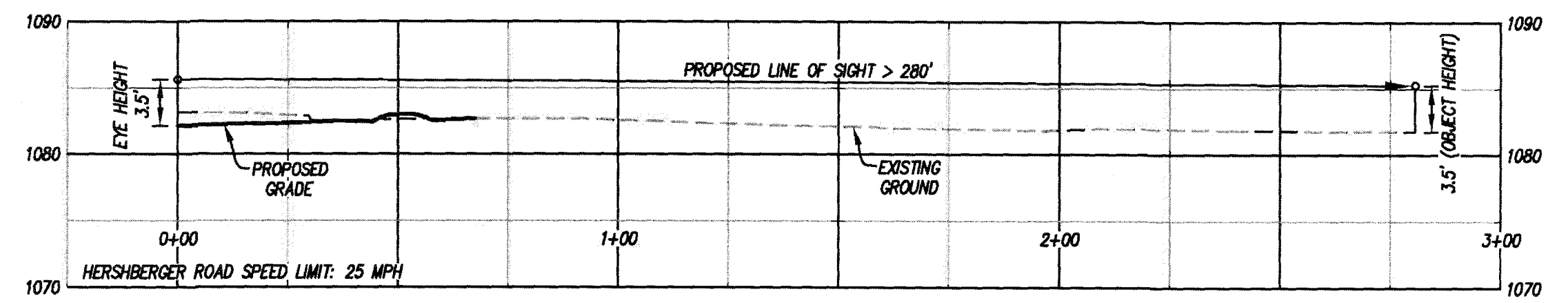




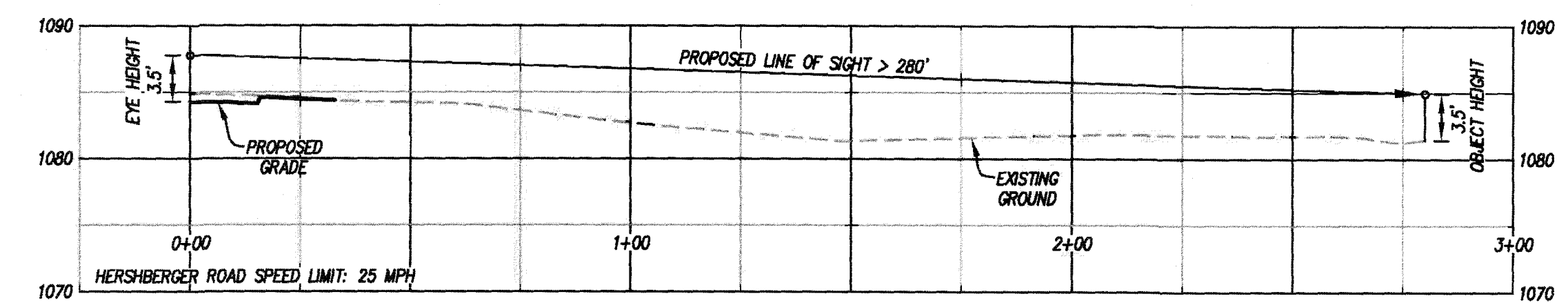
1. ALL WATER AND SANITARY SEWER LINES SHALL HAVE A MINIMUM OF 3.0 FEET OF COVER.
2. MAINTAIN A MINIMUM OF 18" CLEARANCE FROM OUTSIDE OF PIPE TO OUTSIDE OF PIPE AT ALL STORM DRAIN CROSSINGS. WHERE THIS CLEARANCE CAN NOT BE ACHIEVED, CONCRETE PIERS SHALL BE UTILIZED IN ACCORDANCE WITH THE WESTERN VIRGINIA WATER AUTHORITY'S WATER AND SANITARY SEWER STANDARDS.
3. ALL NEW DROP INLETS AND STORM DRAIN MANHOLES SHALL HAVE VDOT STD. IS-1, INLET SHAPING.
4. ALL DRAINAGE STRUCTURES DEEPER THAN 4.0 FEET SHALL HAVE STEPS (VDOT STD. ST-1) INSTALLED.
5. SAFETY SLABS (VDOT STD. SL-1) ARE REQUIRED IN ALL 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.



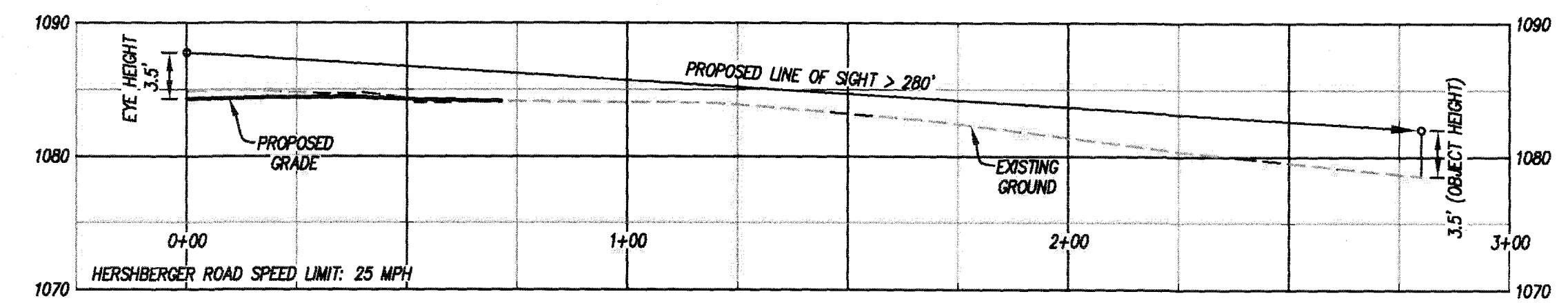
SIGHT DISTANCE PROFILE - CITY ENTRANCE LOOKING RIGHT



SIGHT DISTANCE PROFILE - CITY ENTRANCE LOOKING LEFT



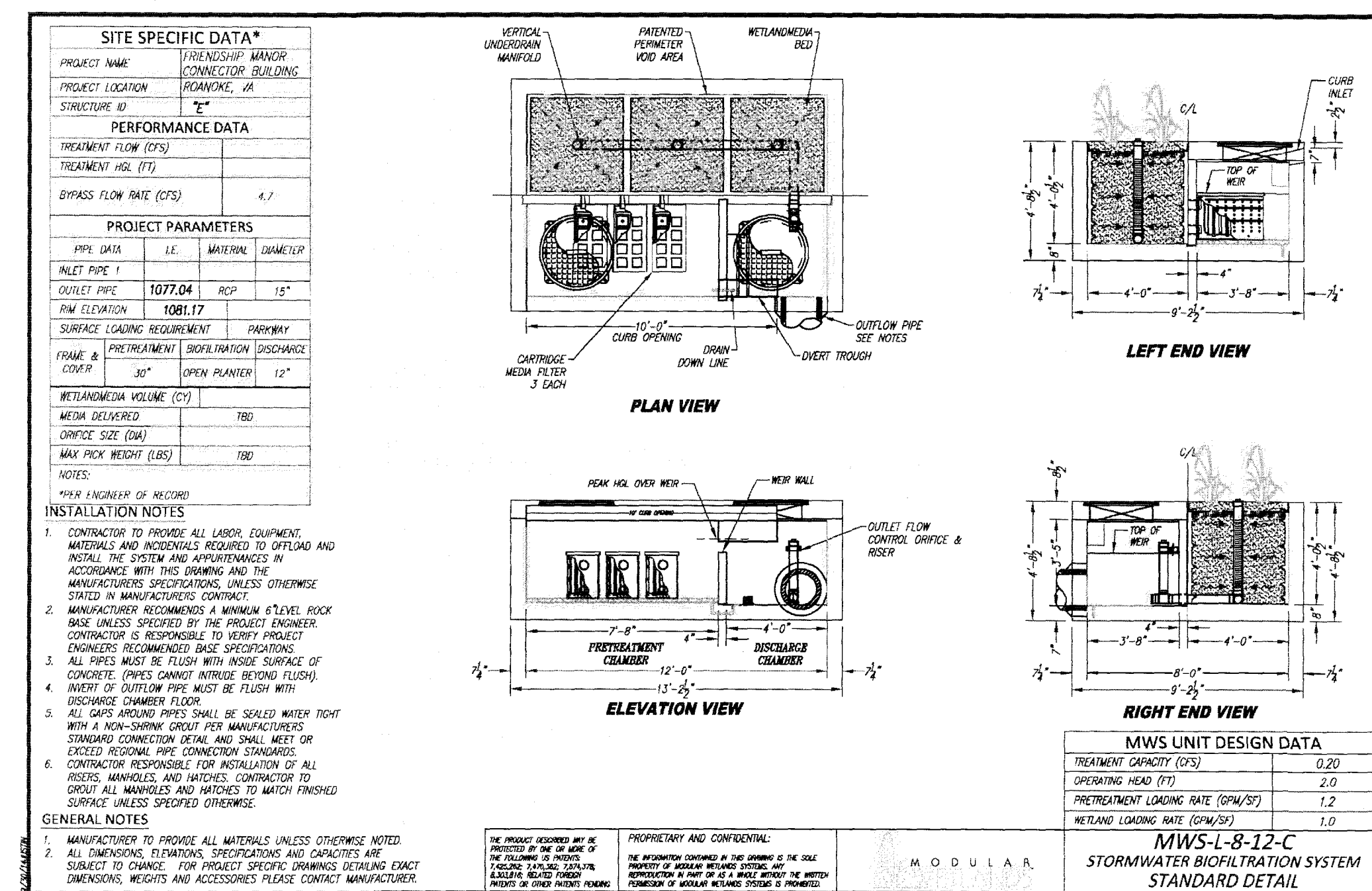
SIGHT DISTANCE PROFILE - COUNTY ENTRANCE LOOKING RIGHT



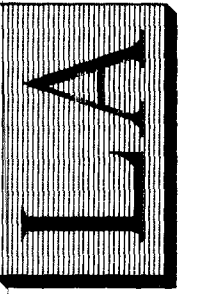
SIGHT DISTANCE PROFILE - COUNTY ENTRANCE LOOKING LEFT



1. TW = ELEVATION OF TOP BACK OF WALL; BW = ELEVATION OF BOTTOM FACE OF WALL.
2. WALL DETAILS AND PROFILES SHOWN IN THESE PLANS ARE FOR SCHEMATIC DETAIL ONLY.
3. WALL DESIGNER SHALL PROVIDE TO THE OWNER DESIGN DRAWINGS FOR THE RETAINING WALL SUCH DRAWINGS TO INCLUDE TYPE AND STYLE OF WALLS. DRAWINGS SHALL BE SIGNED AND SEALED BY A REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF VIRGINIA. WALL INFORMATION SHOWN IN THESE PLANS ARE FOR SCHEMATIC DETAIL ONLY. LUNDSEN ASSOCIATES ASSUMES NO RESPONSIBILITY OR LIABILITY RELATING TO FAILURES RESULTING FROM SAME.
4. A QUALIFIED GEOTECHNICAL ENGINEER SHOULD MONITOR THE INSTALLATION OF THE RETAINING WALL AND THE CONSTRUCTION OF THE CUT AND FILL SLOPES TO INSURE ADEQUATE SOIL COMPACTION, TESTING, STABILIZATION, SLOPE STABILITY, AND STRUCTURAL INTEGRITY, ETC. GEOTECHNICAL ENGINEER SHALL BE LICENSED AS A PROFESSIONAL ENGINEER IN THE STATE OF VIRGINIA.
5. ALL RETAINING WALLS OVER 2' IN HEIGHT MUST GET APPROVAL AND A PERMIT FROM CITY OF ROANOKE.
6. ALL RETAINING WALLS 4 FEET OR GREATER IN HEIGHT MUST BE DESIGNED BY A PROFESSIONAL ENGINEER.
7. FOOTINGS OF WALLS NOT SHOWN ON PROFILE, TO BE SET BY WALL DESIGNER.
8. HANDRAILS SHALL BE REQUIRED, SEE SHEET 4 FOR DETAILS.



RETAINING WALL PROFILE



COMMONWEALTH OF VIRGINIA
 ANDREW P. LUMSDEN
Andrew P. Lumsden
 Lic. No. 052216
 10/6/14
 PROFESSIONAL ENGINEER

STORMDRAIN, RETAINING WALL, & SIGHT DISTANCE PROFILES

FRIENDSHIP MANOR &
HERSHBERGER ROAD IMPROVEMENTS
SITUATED IN
ROANOKE COUNTY &
CITY OF ROANOKE, VIRGINIA

NO.	DATE	DESCRIPTION
1		
2		
3		
4		
5		

TE: October 6, 2014

SCALE: $H = 30'$ (H); $1" = 10'$ (V)

COMMISSION NO: 13-215

SHEET 8 OF 13