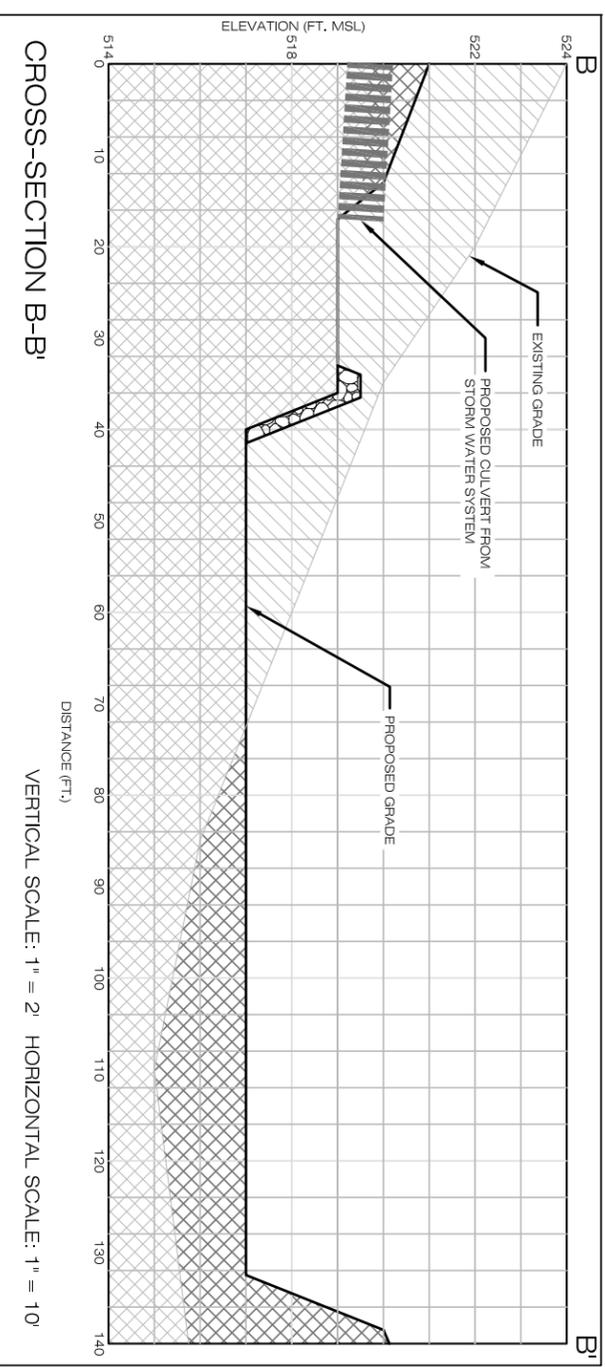
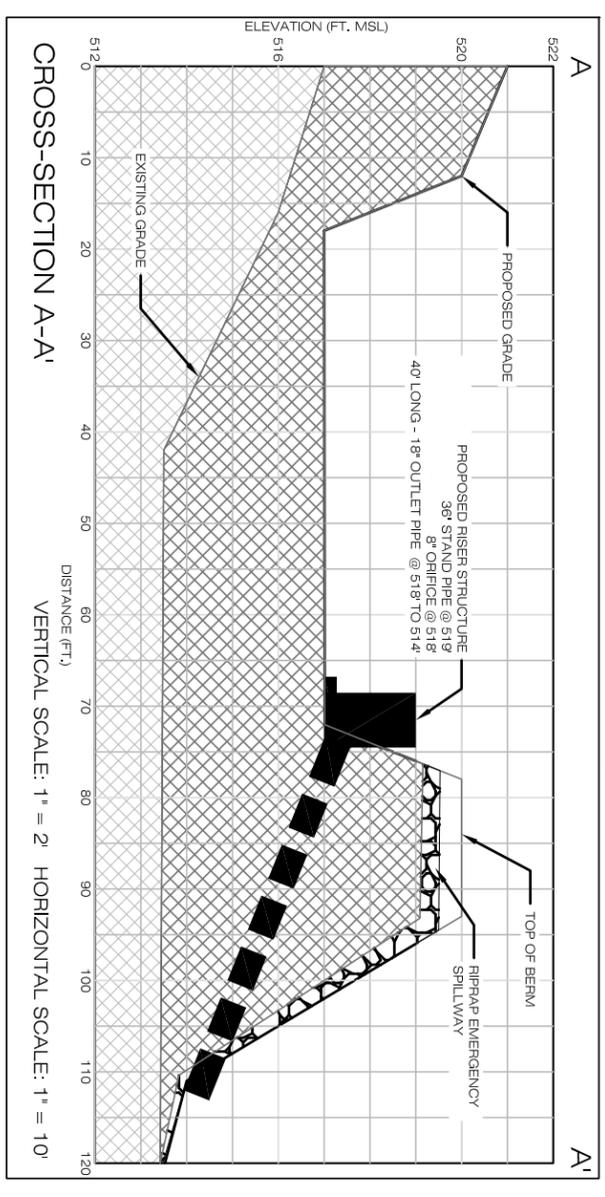


PROPOSED DRAINAGE AREA CHARACTERISTICS:
 AREA = 4.67 ACRES
 IMPERVIOUS ACREAGE = 0.6 ACRES
 OPEN SPACE/FOREST ACREAGE = 0.65 ACRES
 MANAGED TURF ACREAGE = 0.50 ACRES
 CURVE NUMBER: 81
 TIME OF CONCENTRATION: 5 MINUTES

BMP DESIGN DISCHARGES			
	IN	OUT	ELEVATION (FT)
Q1	5.99	3.17	518.7
Q2	9.57	7.08	519.2
Q10	11.93	12.02	519.8

PHOSPHOROUS REDUCTION CALCULATIONS:
 LOAD TO BMP = 2.4 LBS
 MASS LOAD EFFICIENCY = 15%
 VOLUME TO BMP = 6,524 C.F.
 RUNOFF REDUCTION BY PRACTICE
 = 0 C.F.
 TOTAL LOAD REDUCTION OF PRACTICE
 = 0.35 LB/YR
 PHOSPHOROUS LOADING REMAINING
 = 2.02 LB/YR

SIZING CALCULATIONS, EXTENDED DETENTION (L1):
 POST DEVELOPMENT TREATMENT VOLUME REQUIRED
 $TV = (Rv(A)/12)$
 + REMAINING RUNOFF FROM US BMPS
 = $[(0.32 \times 2.17 \times 43,560) / 12] + 2074$
 = 4598 C.F.
 TOTAL TREATMENT VOLUME PROVIDED = 7,536 C.F.



APRIL 2014

SMALLTOWN, VIRGINIA
DEPARTMENT OF PUBLIC WORKS

SITE PLANNING DIVISION			
EXERCISE 5 T&L COMMERCIAL DEVELOPMENT EXTENDED DETENTION DESIGN			
DEQ TRAINING CASE STUDY			
REVISIONS			
#	DESCRIPTION	BY	APPROVED DATE
APPROVED BY SITE PLANNING DIVISION			
SCALE	DESIGNED BY: K PROPST DRAFTED BY: K PROPST CHECKED BY: J SMITH		
1"=40'			

