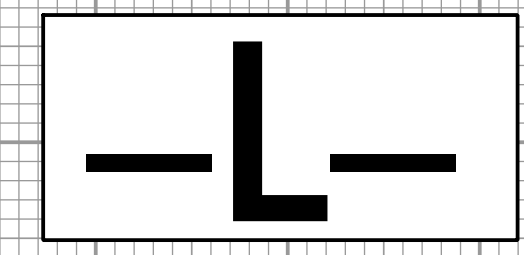
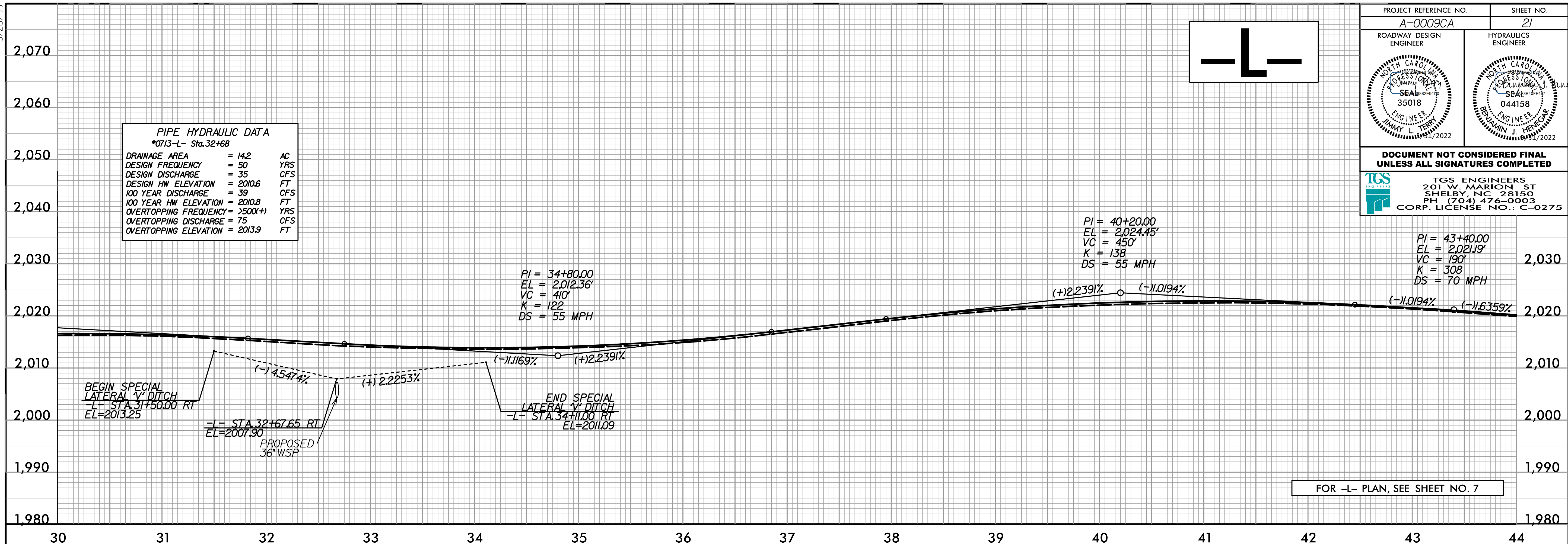


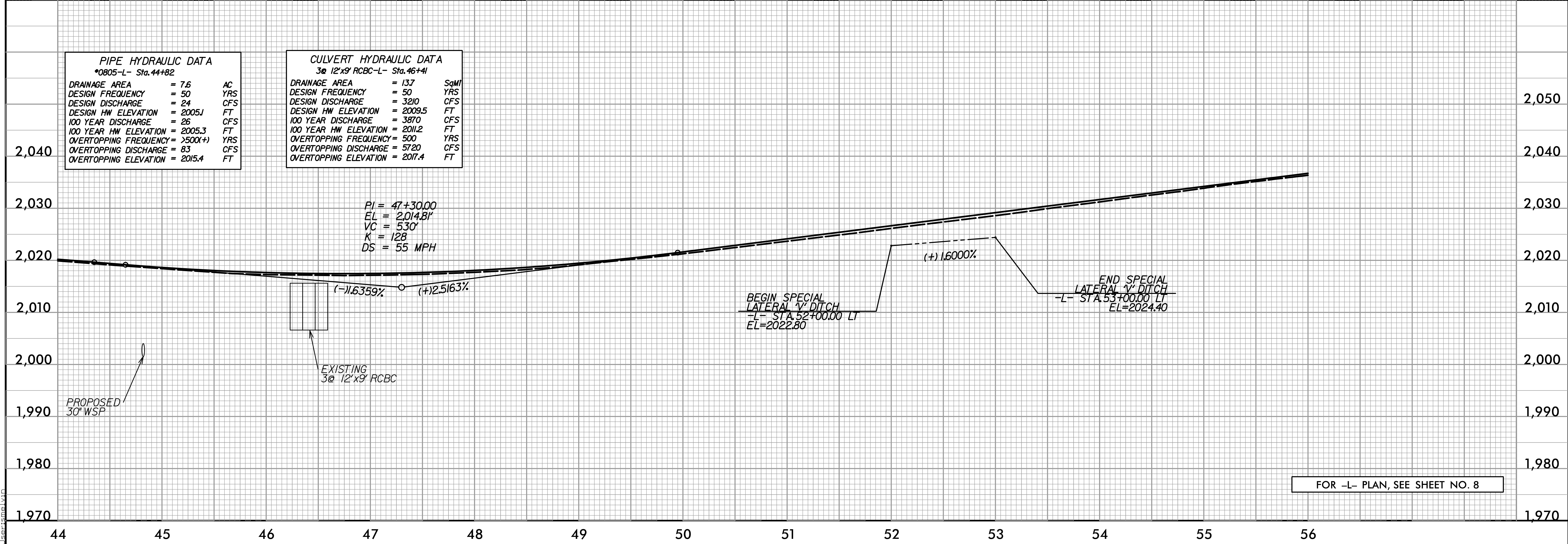
5/28/22



PROJECT REFERENCE NO. A-0009CA	SHEET NO. 21
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
 TGS ENGINEERS 201 W. MARION ST SHELBY, NC 28150 PH (704) 476-0003 CORP. LICENSE NO.: C-0275	



FOR -L- PLAN, SEE SHEET NO. 7



FOR -L- PLAN, SEE SHEET NO. 8

**PIPE HYDRAULIC DATA**  
\*0713-L- Sta.32+68

DRAINAGE AREA	= 14.2	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 35	CFS
DESIGN HW ELEVATION	= 2010.6	FT
100 YEAR DISCHARGE	= 39	CFS
100 YEAR HW ELEVATION	= 2010.8	FT
OVERTOPPING FREQUENCY	= >500(+)	YRS
OVERTOPPING DISCHARGE	= 75	CFS
OVERTOPPING ELEVATION	= 2013.9	FT

PI = 34+80.00  
 EL = 2,012.36'  
 VC = 40'  
 K = 122  
 DS = 55 MPH

PI = 40+20.00  
 EL = 2,024.45'  
 VC = 45'  
 K = 138  
 DS = 55 MPH

PI = 43+40.00  
 EL = 2,021.19'  
 VC = 190'  
 K = 308  
 DS = 70 MPH

**PIPE HYDRAULIC DATA**  
\*0805-L- Sta.44+82

DRAINAGE AREA	= 7.6	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 24	CFS
DESIGN HW ELEVATION	= 2005.1	FT
100 YEAR DISCHARGE	= 26	CFS
100 YEAR HW ELEVATION	= 2005.3	FT
OVERTOPPING FREQUENCY	= >500(+)	YRS
OVERTOPPING DISCHARGE	= 83	CFS
OVERTOPPING ELEVATION	= 2015.4	FT

**CULVERT HYDRAULIC DATA**  
3@ 12'x9' RCBC-L- Sta.46+41

DRAINAGE AREA	= 137	SqMI
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 3210	CFS
DESIGN HW ELEVATION	= 2009.5	FT
100 YEAR DISCHARGE	= 3870	CFS
100 YEAR HW ELEVATION	= 2011.2	FT
OVERTOPPING FREQUENCY	= 500	YRS
OVERTOPPING DISCHARGE	= 5720	CFS
OVERTOPPING ELEVATION	= 2017.4	FT

PI = 47+30.00  
 EL = 2,014.81'  
 VC = 530'  
 K = 128  
 DS = 55 MPH

PI = 52+00.00  
 EL = 2,022.80'  
 VC = 150'  
 K = 150  
 DS = 70 MPH

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