

Sl. No.	Crossing Name	Drainage Area (acres)	DNR Permit (Yes - 1, No - 0)	Replacement (0) / New Alignment (1)	Remarks if any	Area in sq. mile	Inlet Elev	trail water depth at dsgr. Dischrg	cover	pavment thickness	pipe thickness	maximum allowable rise	Existing Structure size	Area
1	CR1200N	99.63	0	0	1' backwater was practiced		473.02	3.56	1	1	0.6	1.5	1.25' CMP	1.2265625
2	US 421 Carol County, Des. # 20201034	1534	1	0	approved by INDOT	2.36							See remarks	
3	US 24 Newton County, Des. # 0200068	325	0	0	1' backwater	0.5							4' x 3' conc box	12
4	SR66 Spencer County Des# 40800794	1176.5	1	0	1' backwater	1.81							10' dia structural steel plate pipe	78.5
5	CN-49600-US50, Seg-7	116.6	0	0	1' backwater was practiced								18' x 3' conc. Box	54
6	SR58-SER	13.15	0	1	1' backwater was practiced		478.57	1.79	1	1	0.6	8.3		not mentioned, see the r
7	SR58-SWR	18.33	0	1	1' backwater was practiced		478.27	1.88	1	1	0.6	8.97		not mentioned, see the r
8	CN-51750-US50, Seg-7	53.3	0	0	replacement strcture		472.18	1.55	1	1	0.6	11.97	3' dia corrugated steel pipe	7.065

Exiting Backwater	Existing outlet velocity	EHW	proposed inlet elv (if different from the existing elev)	tail water depth at dsgr. Dischrg	allowable back water	AHW	Roadway Crest elev	cover	pavment thickness	pipe thicness	maximum allowable rise
1.06'		477.63	473.03	3.56	1	477.59	512.98	1	1	0.6	37.35
4.25'											
3.1'	road overtopping complain within lanst few years, may be undersized due to improvement in the catchment area										
4.38'	11.52 ft/sec										
0.71	10.508	470.3									
emarks											
emarks											
9.5'	12.11 ft/sec	483.27	471.58	1.55	1	474.13	486.75	1	1	0.6	12.57

Structure Size Porposed 1	DHW 1	BW1	oulet velocity 1 for Q100	Structure Size Porposed 2	DHW 2	BW2	oulet velocity 2 for Q100	Remarks if any
6' x 4' precast conc box	477.59	1.01	6.5' ft/sec	9' x 4.71' Arch Open Bottom Corrugated Steel	477.3	0.72	4.87 ft/sec	
12' x 5' conc box		3.02	10.4' ft/sec	Special permission was given based on outlet velocity (< 10 ft/sec) and raod serviceability than backwater critria				
9' x 4' reinforced conc box		0.79	8.6 ft/sec					
12' x 8' conc. Box		1	10.53 ft/sec					
19' x 4' conc. Box	470.57	0.68	5.423 ft/sec	21.5' x 7.75' corrugated steel arch	470.6	0.71	4.86 ft/sec	New structure is neec on new alignment
3' RCP	481.31	0.952	9.5 ft/sec	4.5' dia corrugated steel pipe	481.36	1	5.75 ft/sec	Head water is contain of-way
3.5' RCP	481.00	0.851	10.272 ft/sec	5' dia corrugated steel pipe	481.12	0.975	5.57 ft/sec	Head water is contain of-way
9' x 4' CB	474.00	0.87	6.12 ft/sec	11.40' x 7.24' CMA	474.13	1	5.0 ft/sec	Watershed is located infield area