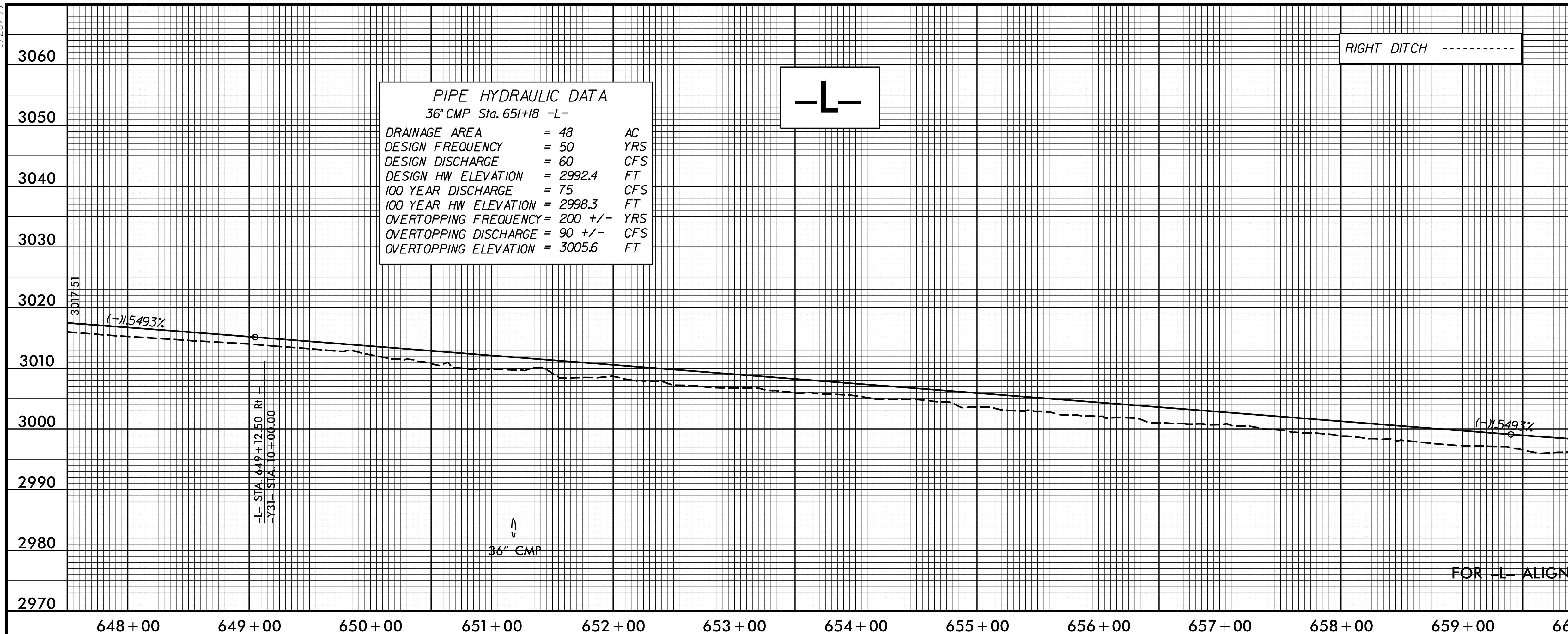


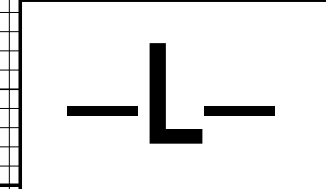
5/28/99

PROJECT REFERENCE NO. <b>R-2915D</b>	SHEET NO. <b>32</b>
ROADWAY DESIGN ENGINEER <b>Barry C. Smith</b>	HYDRAULICS ENGINEER <b>W. Henry Wells Jr.</b>
<b>SUNGATE DESIGN GROUP, P.A.</b> <small>4601 Six Forks Road, Landmark Center II, Suite 220  Raleigh, NC 27609-5210  Phone (919) 783-9214 • Fax (919) 783-9266</small>	

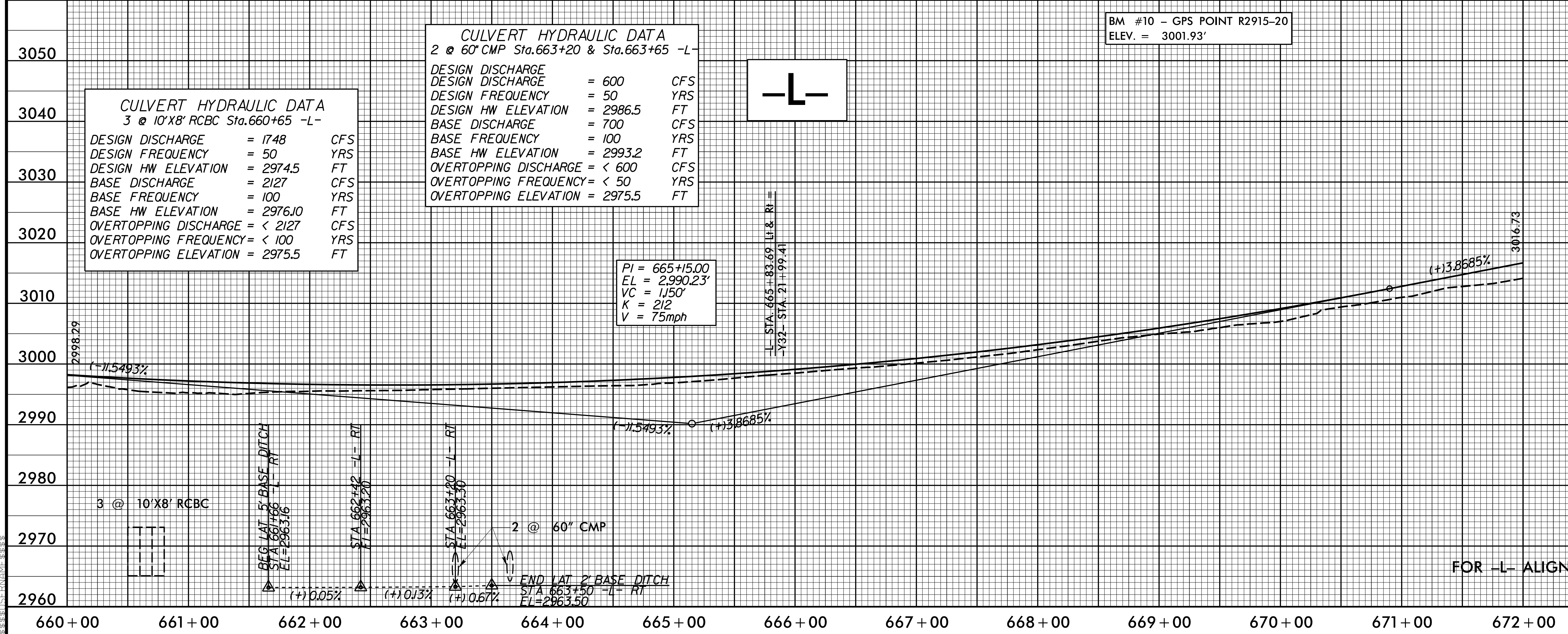


**PIPE HYDRAULIC DATA**  
36" CMP Sta. 651+18 -L-

DRAINAGE AREA	= 48	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 60	CFS
DESIGN HW ELEVATION	= 2992.4	FT
100 YEAR DISCHARGE	= 75	CFS
100 YEAR HW ELEVATION	= 2998.3	FT
OVERTOPPING FREQUENCY	= 200 +/-	YRS
OVERTOPPING DISCHARGE	= 90 +/-	CFS
OVERTOPPING ELEVATION	= 3005.6	FT



RIGHT DITCH -----

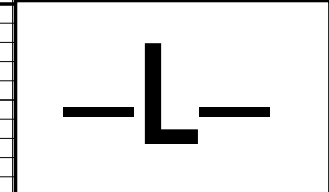


**CULVERT HYDRAULIC DATA**  
3 @ 10'x8' RCBC Sta. 660+65 -L-

DESIGN DISCHARGE	= 1748	CFS
DESIGN FREQUENCY	= 50	YRS
DESIGN HW ELEVATION	= 2974.5	FT
BASE DISCHARGE	= 2127	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 2976.10	FT
OVERTOPPING DISCHARGE	= < 2127	CFS
OVERTOPPING FREQUENCY	= < 100	YRS
OVERTOPPING ELEVATION	= 2975.5	FT

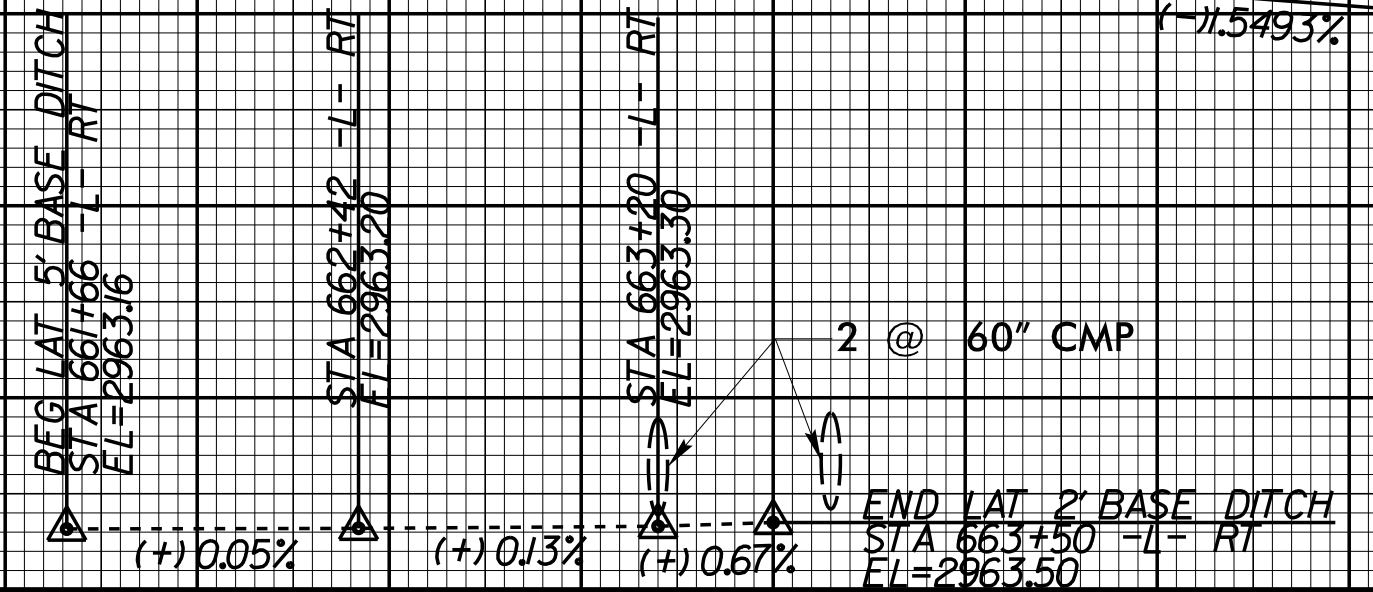
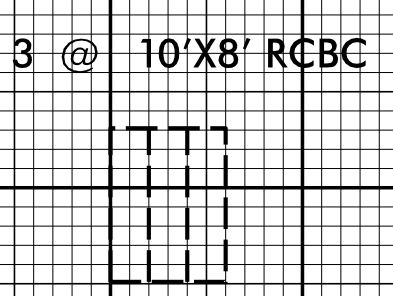
**CULVERT HYDRAULIC DATA**  
2 @ 60" CMP Sta. 663+20 & Sta. 663+65 -L-

DESIGN DISCHARGE	= 600	CFS
DESIGN FREQUENCY	= 50	YRS
DESIGN HW ELEVATION	= 2986.5	FT
BASE DISCHARGE	= 700	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 2993.2	FT
OVERTOPPING DISCHARGE	= < 600	CFS
OVERTOPPING FREQUENCY	= < 50	YRS
OVERTOPPING ELEVATION	= 2975.5	FT



BM #10 - GPS POINT R2915-20  
ELEV. = 3001.93'

PI = 665+15.00  
EL = 2990.23'  
VC = 1150'  
K = 212  
V = 75mph



FOR -L- ALIGNMENT, SEE SHEET 21

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5/28/99 10:58:31 AM  
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