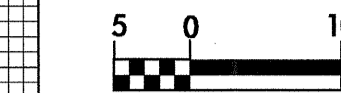


5/09/04

| DITCH LEGEND | |
|--------------|-------|
| RIGHT DITCH | ----- |
| LEFT DITCH | ----- |



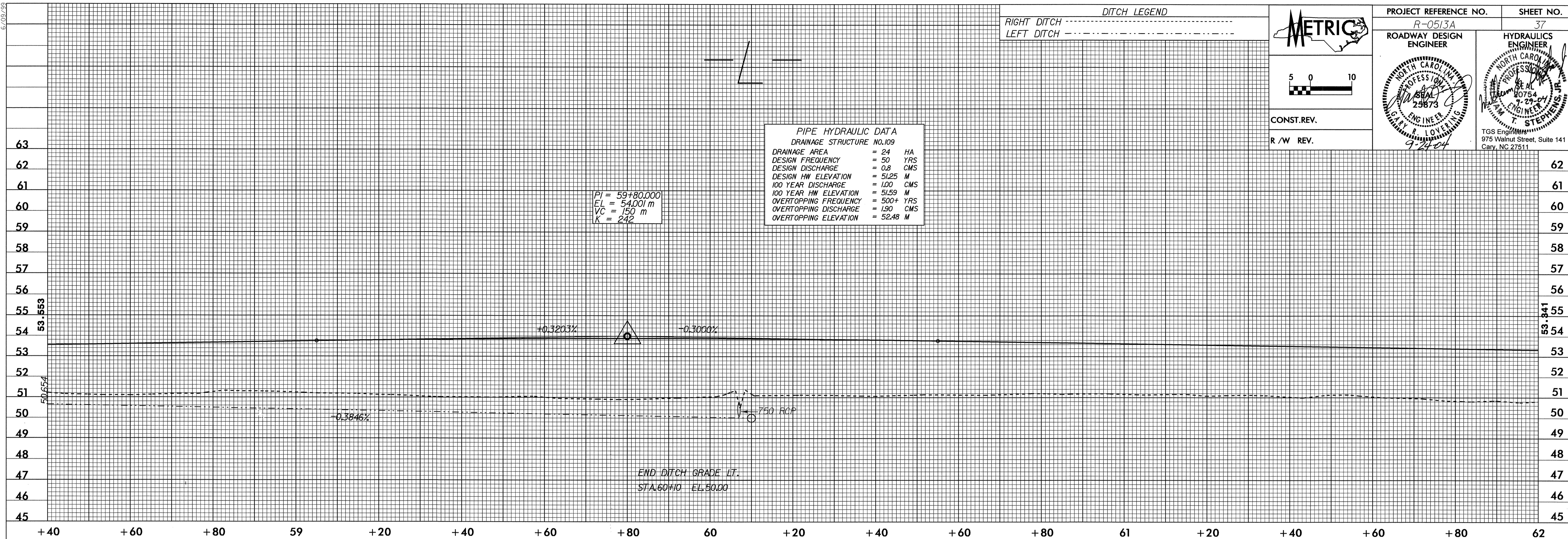
CONST. REV.

R / W REV.

| | | | |
|---|---------|---------------------|----|
| PROJECT REFERENCE NO. | R-0513A | SHEET NO. | 37 |
| ROADWAY DESIGN ENGINEER | | HYDRAULICS ENGINEER | |
| | | | |
| TGS Engineering 875 Walnut Street, Suite 141 Cary, NC 27511 | | | |

| PIPE HYDRAULIC DATA | |
|---------------------------|------------|
| DRAINAGE STRUCTURE NO.109 | |
| DRAINAGE AREA | = 24 HA |
| DESIGN FREQUENCY | = 50 YRS |
| DESIGN DISCHARGE | = 0.8 CMS |
| DESIGN HW ELEVATION | = 51.25 M |
| 100 YEAR DISCHARGE | = 1.00 CMS |
| 100 YEAR HW ELEVATION | = 51.59 M |
| OVERTOPPING FREQUENCY | = 500+ YRS |
| OVERTOPPING DISCHARGE | = 1.90 CMS |
| OVERTOPPING ELEVATION | = 52.48 M |

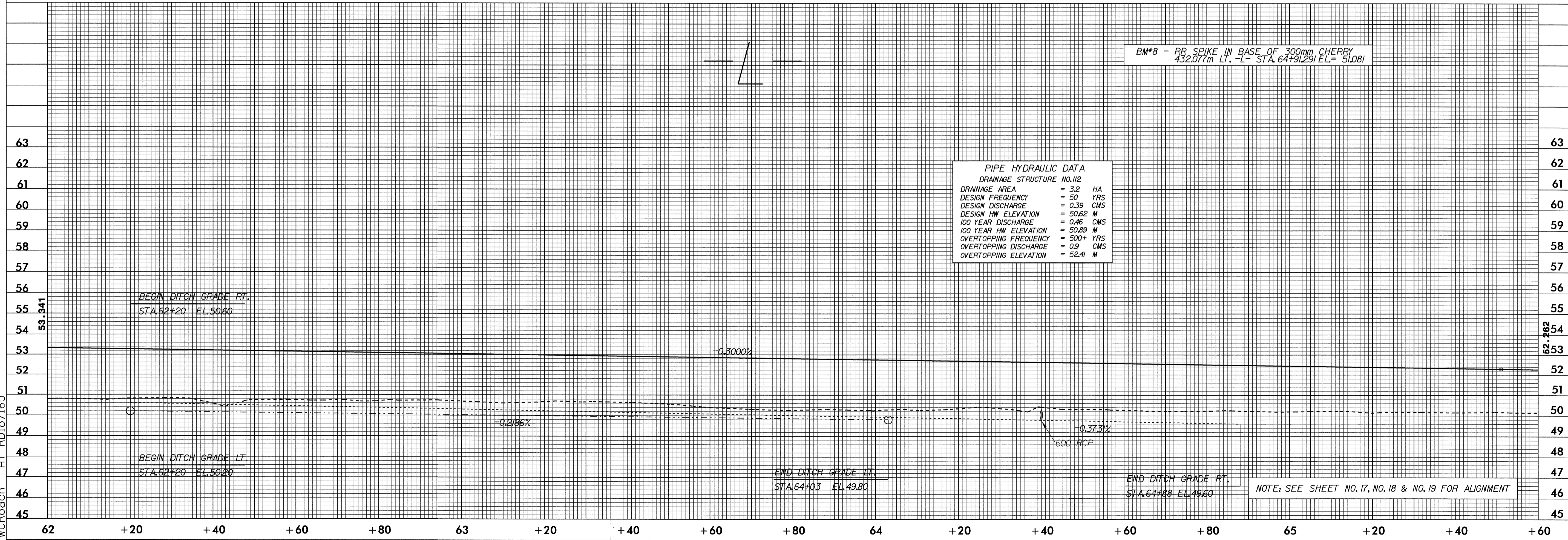
P/ = 59+80.000
 EL = 54.001 m
 VC = 150 m
 K = 242



END DITCH GRADE LT.
 STA.60+10 EL.50.00

BM*8 - RR SPIKE IN BASE OF 300mm CHERRY
 432.077m LT. -L- STA. 64+91.291 EL= 51.081

| PIPE HYDRAULIC DATA | |
|---------------------------|------------|
| DRAINAGE STRUCTURE NO.112 | |
| DRAINAGE AREA | = 3.2 HA |
| DESIGN FREQUENCY | = 50 YRS |
| DESIGN DISCHARGE | = 0.39 CMS |
| DESIGN HW ELEVATION | = 50.62 M |
| 100 YEAR DISCHARGE | = 0.46 CMS |
| 100 YEAR HW ELEVATION | = 50.89 M |
| OVERTOPPING FREQUENCY | = 500+ YRS |
| OVERTOPPING DISCHARGE | = 0.9 CMS |
| OVERTOPPING ELEVATION | = 52.41 M |



BEGIN DITCH GRADE RT.
 STA.62+20 EL.50.60

BEGIN DITCH GRADE LT.
 STA.62+20 EL.50.20

END DITCH GRADE LT.
 STA.64+03 EL.49.80

END DITCH GRADE RT.
 STA.64+88 EL.49.60

NOTE: SEE SHEET NO. 17, NO. 18 & NO. 19 FOR ALIGNMENT

08-JUL-2004 14:55
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 MCRoach AT RD187165