

### DRAINAGE AREA CALCULATIONS

DRAINAGE AREA LETTER	C	I In. / hr.	A Acres	Q <sub>100</sub> C.F.S.
A	3.9	9.8	8.48	21.8
B	3.9	9.8	0.4	3.5
C	3.6	9.8	0.12	0.7
TOTAL			9.00	26.00

● DRAINAGE AREA 'A', WEST DITCH = 12' WIDE, 1.5' DEEP. DITCH CAPACITY ON 1.4% GRADE:

$$Q = A \times 1.486 \times R^{497} S^{49} / n$$

$$= 9 \times 1.486 \times (0.7276)^{497} \times (0.004)^{49} / 0.03$$

$$= 9 \times 2.534$$

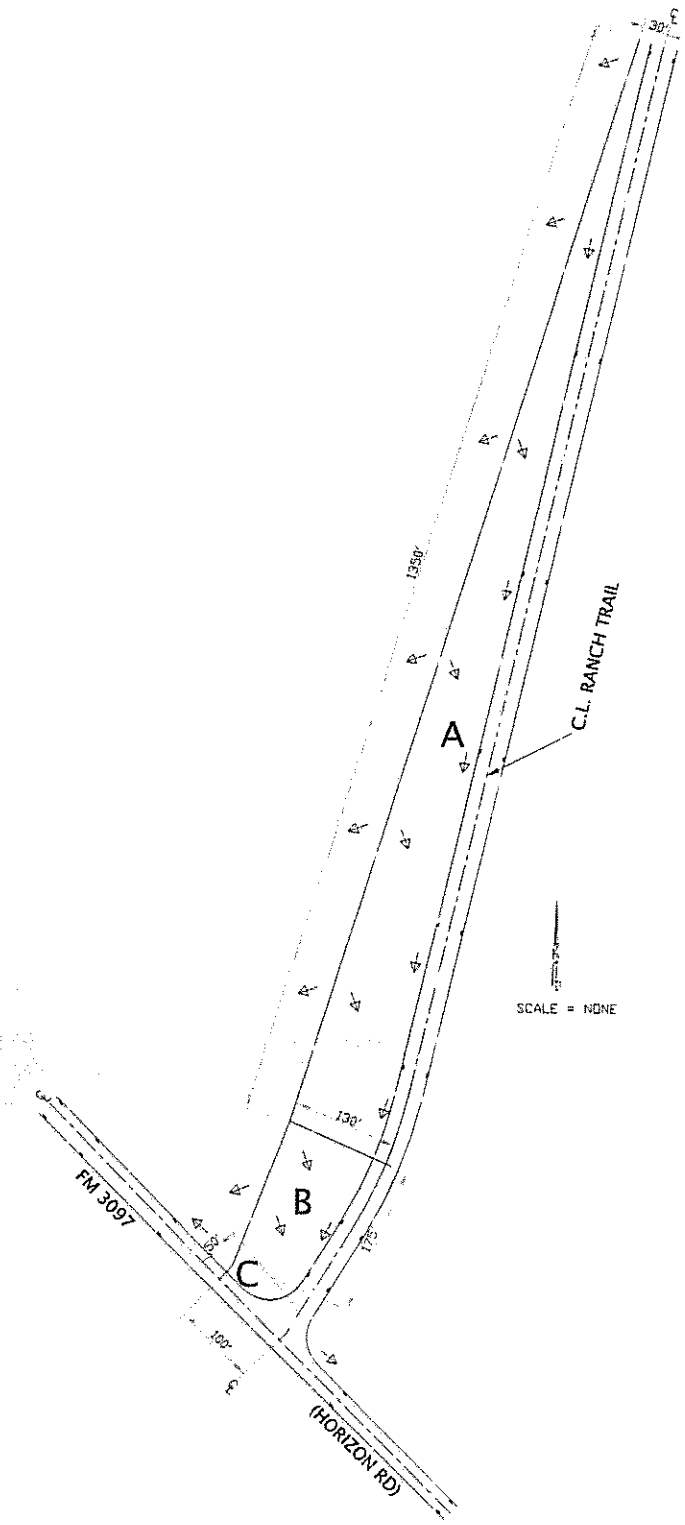
$$= 22.81 \text{ C.F.S.} > 21.8 \text{ C.F.S. OK}$$

● DRAINAGE AREA 'B', WEST DITCH CAPACITY ON 3.0% GRADE:

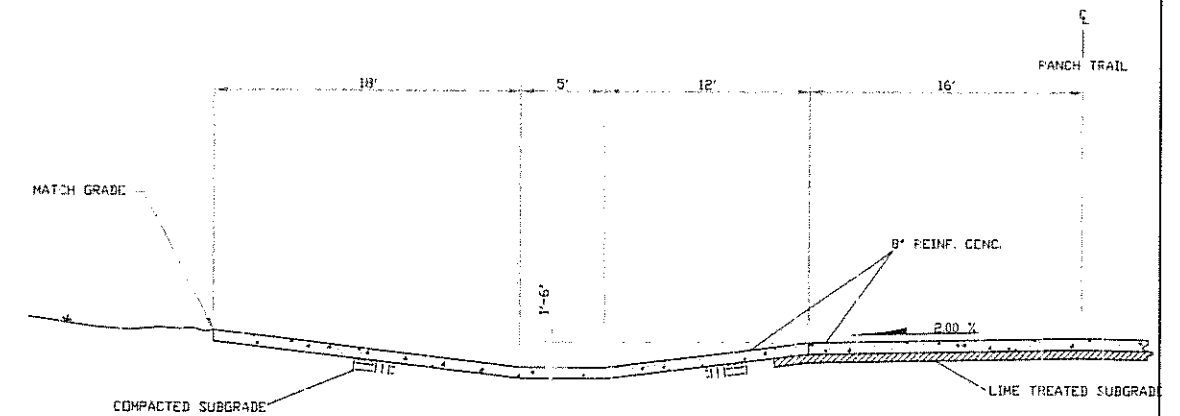
$$Q = 9 \times 1.486 \times (0.7276)^{497} \times (0.03)^{49} / 0.03$$

$$= 9 \times 6.94$$

$$= 62.5 \text{ C.F.S.} > 26.0 \text{ C.F.S. OK}$$



DRAINAGE AREA MAP



DRIVEWAY DETAIL

(VIEW NE.)  
N.T.S.

**APPROVED FOR  
CONSTRUCTION**

NOV 11 2004

City of Rockwall Engineering Dept.  
City Engineer: \_\_\_\_\_



Nov 5, 2004

SCALE: AS SHOWN 24 X 36	REV: 1	DATE: 10/27/04	BY: JJB	DESCRIPTION: REVISED PER JW MARKUPS OF 10/28/04	Wright Engineering 9609 La Rochelle Greenville, TX 75402 DRAWING NO: RTR-1.3
DRAWN BY: Jerry Booker	DATE: 9-18-04	REV: 2	DATE: 11/1/04	DESCRIPTION: CULVERTS AT WEST END OF RANCH TRAIL REMOVED. (THE INTERSECTION IS AT THE CREST OF THE HILL)	
DESIGNED BY: AUTOCAD 14	DATE: 4/25/04	REV: 3	DATE: 11/1/04	DESCRIPTION: CULVERTS AT WEST END OF RANCH TRAIL REMOVED. (THE INTERSECTION IS AT THE CREST OF THE HILL)	
CHECKED BY: RTR-1.3 DRAINAGE AREA MAP	DATE: 4/25/04	REV: 4	DATE: 11/1/04	DESCRIPTION: CULVERTS AT WEST END OF RANCH TRAIL REMOVED. (THE INTERSECTION IS AT THE CREST OF THE HILL)	
PROJECT: RTR-1.3 DRAINAGE AREA MAP	DATE: 4/25/04	REV: 5	DATE: 11/1/04	DESCRIPTION: CULVERTS AT WEST END OF RANCH TRAIL REMOVED. (THE INTERSECTION IS AT THE CREST OF THE HILL)	PROJECT: RANCH TRAIL ROAD & FM 3097 (HORIZON RD) LOCATION: ROCKWALL, TEXAS SHEET NO: DRAINAGE AREA MAP