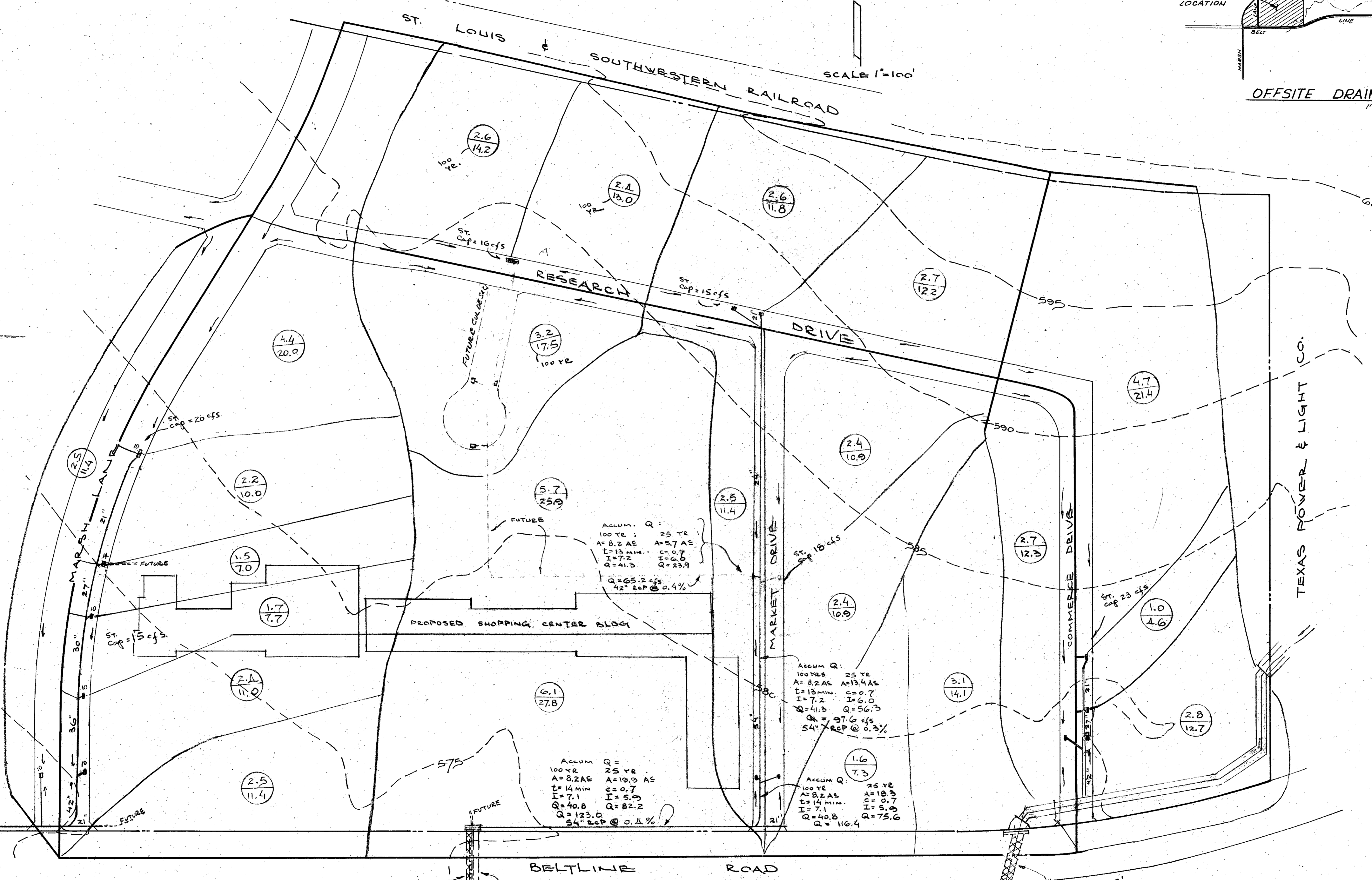
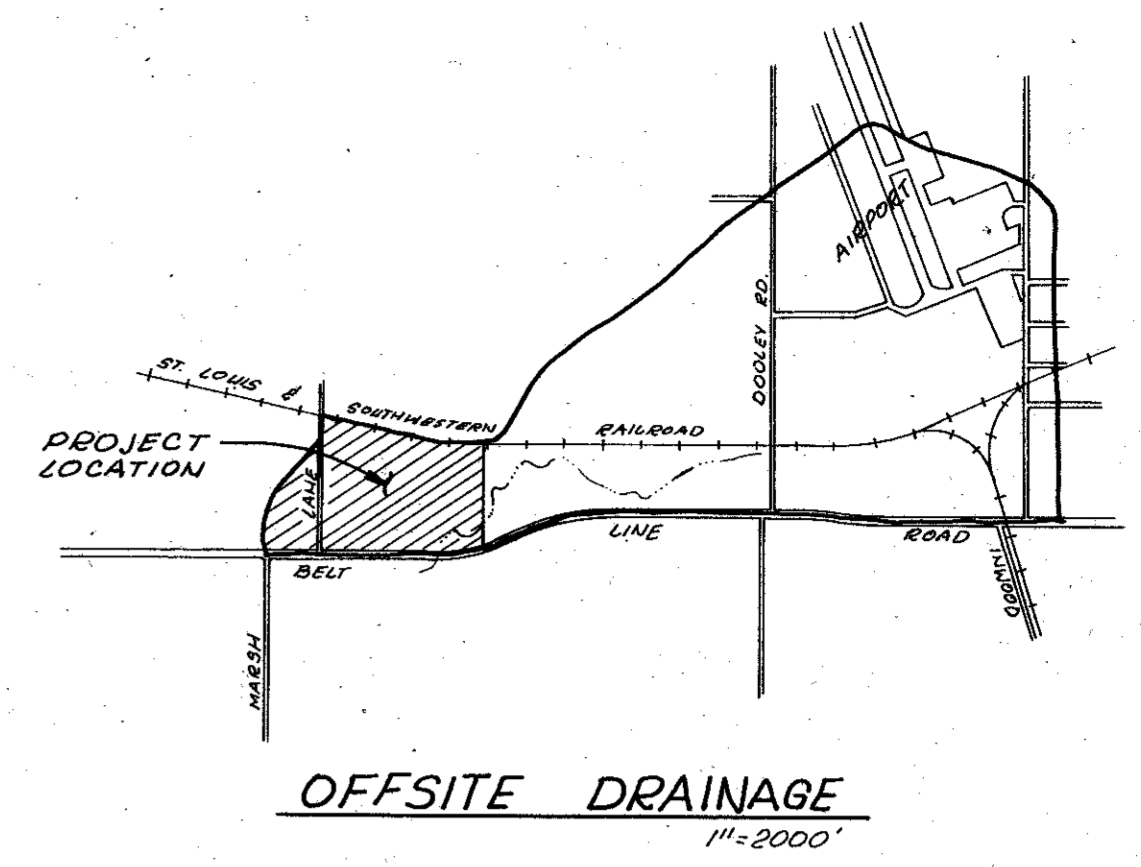
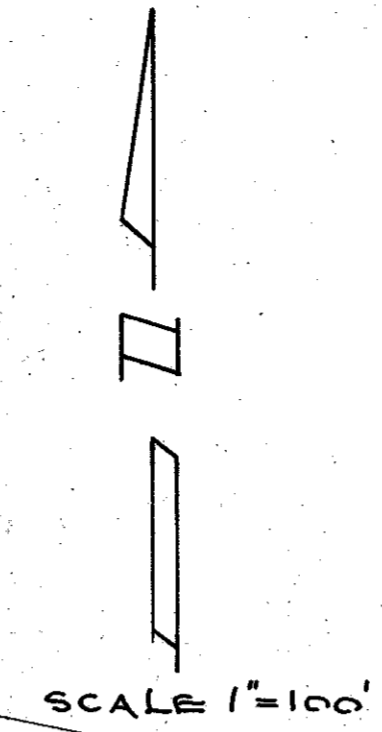


25 YE: $C=0.7$ $T=10$ MIN. $I=6.5$
 $Q = 4.55 \text{ cfs/AE}$

100 YE: $C=0.7$ $T=10$ MIN. $I=7.8$
 $Q = 5.46 \text{ cfs/AE}$

(2.6 / 11.8) AREA (IN ACRES)
 RUNOFF (CFS) 25 YE FREQ.
 UNLESS NOTED OTHERWISE.



CHANNEL
 $A = 382 \text{ AE}$ $C_{AVG} = 0.7$
 T.O.C.
 2700' GUTTER FLOW @ 1.0% = 18 MIN.
 1000' OVERLAND FLOW @ 0.8% = 35 MIN.
 3500' IMPROV. CHANNEL @ 0.8% = 30 MIN.
 TOTAL 83 MIN. SAY 1 HR 20 MIN.
 $I_{25} = 2.8$ $I_{100} = 3.5$
 $Q_{25} = 382(1.7)2.8 = 750 \text{ cfs}$
 $Q_{100} = 936 \text{ cfs}$

CULVERT:
 $Q_{100} = 936 + 52 \text{ ON SITE} = 988 \text{ cfs}$

LINE CHANNEL W/ CONC. FOR 25 YRS:

 $Q = (84.21) 75.625 (1.698) 0.0707 = 770 \text{ cfs}$
 USE 2-10" X 4.5" BOX CULVERTS.
 $Q = (99.07) 45 (1.7768) 0.0707 = 560 \text{ cfs}$
 $V = 988 / 1.7 = 581 \text{ FPS}$

Accum. Q:
 100 YE: $A=8.2 \text{ AE}$ $A=13.4 \text{ AS}$
 $T=13$ MIN. $C=0.7$ $I=7.2$
 $Q=41.3$ $Q=56.3$
 $Q=65.2 \text{ cfs}$
 $42" \text{ RCP @ } 0.4\%$

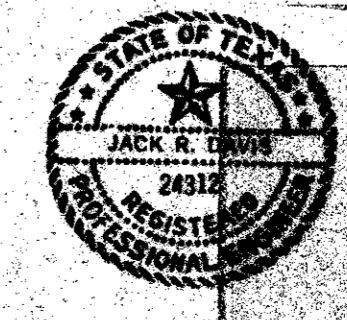
Accum. Q:
 100 YRS: $A=8.2 \text{ AE}$ $A=13.4 \text{ AS}$
 $T=13$ MIN. $C=0.7$ $I=7.2$
 $Q=41.3$ $Q=56.3$
 $Q=97.6 \text{ cfs}$
 $54" \text{ RCP @ } 0.3\%$

Accum. Q:
 100 YE: $A=8.2 \text{ AS}$ $A=13.9 \text{ AS}$
 $T=14$ MIN. $C=0.7$ $I=7.1$
 $Q=40.8$ $Q=82.2$
 $Q=123.0$
 $54" \text{ RCP @ } 0.4\%$

Accum. Q:
 100 YRS: $A=8.2 \text{ AS}$ $A=13.9 \text{ AS}$
 $T=14$ MIN. $C=0.7$ $I=7.1$
 $Q=40.8$ $Q=82.2$
 $Q=116.4$

EXIST. 12" RCP @ 1.42% Cap = 110 cfs
 PROP. 12" RCP @ 0.5% Cap = 70 cfs

ENS. 2-8.5" X 8.5" Cap w/H/D = 1.0 = 1105 cfs.



DRAINAGE AREA MAP

CIVIL STRUCTURAL
MAYES & BROCKETTE, INC.
 CONSULTING ENGINEERS
 2802 CARLISLE
 DALLAS, TEXAS 75204

DESIGN BY: MCG JOB NO. 7787 DATE 4-11-78
 DRAWN BY: MCG SCALE: 1"=100' APPROVED BY: SHEET OF