

OFFSITE DRAINAGE AREA MAP

SCALE: 1"=2000'
 A = 179.1 Acres
 C = 0.85
 $t_c = 10 \text{ min} + \left[\frac{(3000 \text{ LF})}{8 \text{ fps}} \right] / 60 \text{ sec} = 16.3 \text{ min}$
 $I_{100} = 7.8 \text{ in/hr}$
 $Q_{100} = 1187 \text{ cfs}$

DETENTION CALCULATIONS (NORTH)

EXISTING CONDITIONS	
A = 2.39 Acres	
C = 0.60	
$t_c = 10 \text{ min}$	
$I_{25} = 7.44 \text{ in/hr}$	
$Q_{25} = (0.60)(7.44)(2.39) = 10.7 \text{ cfs}$	
DEVELOPED CONDITIONS	
C = 0.85	
$t_c = 10 \text{ min}$	
$I_{100} = 8.88 \text{ in/hr}$	
$Q_{100} = (0.85)(8.88)(2.39) = 18.0 \text{ cfs}$	
MAXIMUM RELEASE RATE	
EXIST CONDITIONS - 4.2 = 6.5 cfs	MAXIMUM RELEASE RATE
20 min $I_{100} = 7.0 \text{ in/hr}$	$Q = (0.85)(7.0)(2.39) = 14.2 \text{ cfs}$
30 min $I_{100} = 5.8 \text{ in/hr}$	$Q = (0.85)(5.8)(2.39) = 11.8 \text{ cfs}$
40 min $I_{100} = 5.0 \text{ in/hr}$	$Q = (0.85)(5.0)(2.39) = 10.2 \text{ cfs}$
50 min $I_{100} = 4.4 \text{ in/hr}$	$Q = (0.85)(4.4)(2.39) = 8.9 \text{ cfs}$
60 min $I_{100} = 4.0 \text{ in/hr}$	$Q = (0.85)(4.0)(2.39) = 8.1 \text{ cfs}$
70 min $I_{100} = 3.6 \text{ in/hr}$	$Q = (0.85)(3.6)(2.39) = 7.3 \text{ cfs}$
VOLUME	
NORTH	REQUIRED WS ELEV PROVIDED
15510 cf	423.2 16100 cf

DETENTION CALCULATIONS (SOUTH)

EXISTING CONDITIONS	
A = 2.91 Acres	
C = 0.60	
$t_c = 10 \text{ min}$	
$I_{25} = 7.44 \text{ in/hr}$	
$Q_{25} = (0.60)(7.44)(2.91) = 11.0 \text{ cfs}$	
DEVELOPED CONDITIONS	
C = 0.85	
$t_c = 10 \text{ min}$	
$I_{100} = 8.88 \text{ in/hr}$	
$Q_{100} = (0.85)(8.88)(2.91) = 22.0 \text{ cfs}$	
MAXIMUM RELEASE RATE	
EXIST CONDITIONS - 3.7 = 7.3 cfs	MAXIMUM RELEASE RATE
20 min $I_{100} = 7.0 \text{ in/hr}$	$Q = (0.85)(7.0)(2.91) = 17.3 \text{ cfs}$
30 min $I_{100} = 5.8 \text{ in/hr}$	$Q = (0.85)(5.8)(2.91) = 14.3 \text{ cfs}$
40 min $I_{100} = 5.0 \text{ in/hr}$	$Q = (0.85)(5.0)(2.91) = 12.4 \text{ cfs}$
50 min $I_{100} = 4.4 \text{ in/hr}$	$Q = (0.85)(4.4)(2.91) = 10.9 \text{ cfs}$
60 min $I_{100} = 4.0 \text{ in/hr}$	$Q = (0.85)(4.0)(2.91) = 9.9 \text{ cfs}$
70 min $I_{100} = 3.6 \text{ in/hr}$	$Q = (0.85)(3.6)(2.91) = 8.9 \text{ cfs}$
VOLUME	
SOUTH	REQUIRED WS ELEV PROVIDED
20310 cf	423.2 21300 cf

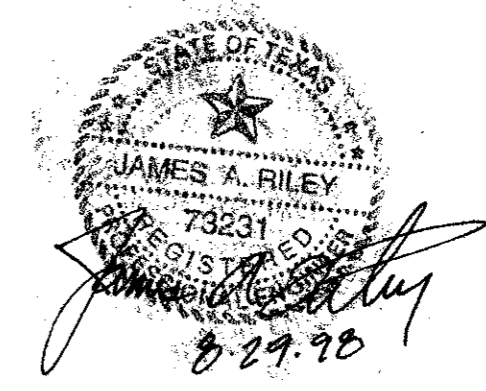
LEGEND

- 550 — Existing Contour
 - 50 — Proposed Contour
 - Flow Arrow
 - Existing Curb
 - Proposed Curb
 - Sawcut
 - Drainage Divide Line
- DRAINAGE CRITERIA**
- $Q = C I A$
 - $C = 0.90$
 - $I_{25} = 7.44 \text{ in/hr}$
 - $I_{100} = 8.88 \text{ in/hr}$
 - $t_c = 10 \text{ min}$
- 1.60 ← Acres
 7.4 ← Q_{25} in cfs
 8.8 ← Q_{100} in cfs
 2 ← Area No.

DRAINAGE AREA MAP
PARKSIDE CORPORATE CENTER
TOWN OF ADDISON
DALLAS COUNTY, TEXAS

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DESIGN	DRAWN	DATE	SCALE	NOTES	FILE	NO.
JAR	DJR	7/98	1"=40'	BDD	C98271	C-5



BENCHMARK:
 SQUARE CUT ON END OF CURB LOCATED ON DRIVEWAY ON THE NORTH SIDE OF KELLER SPRINGS, APPROX. 500' WEST OF DALLAS PARKWAY ELEV = 626.24