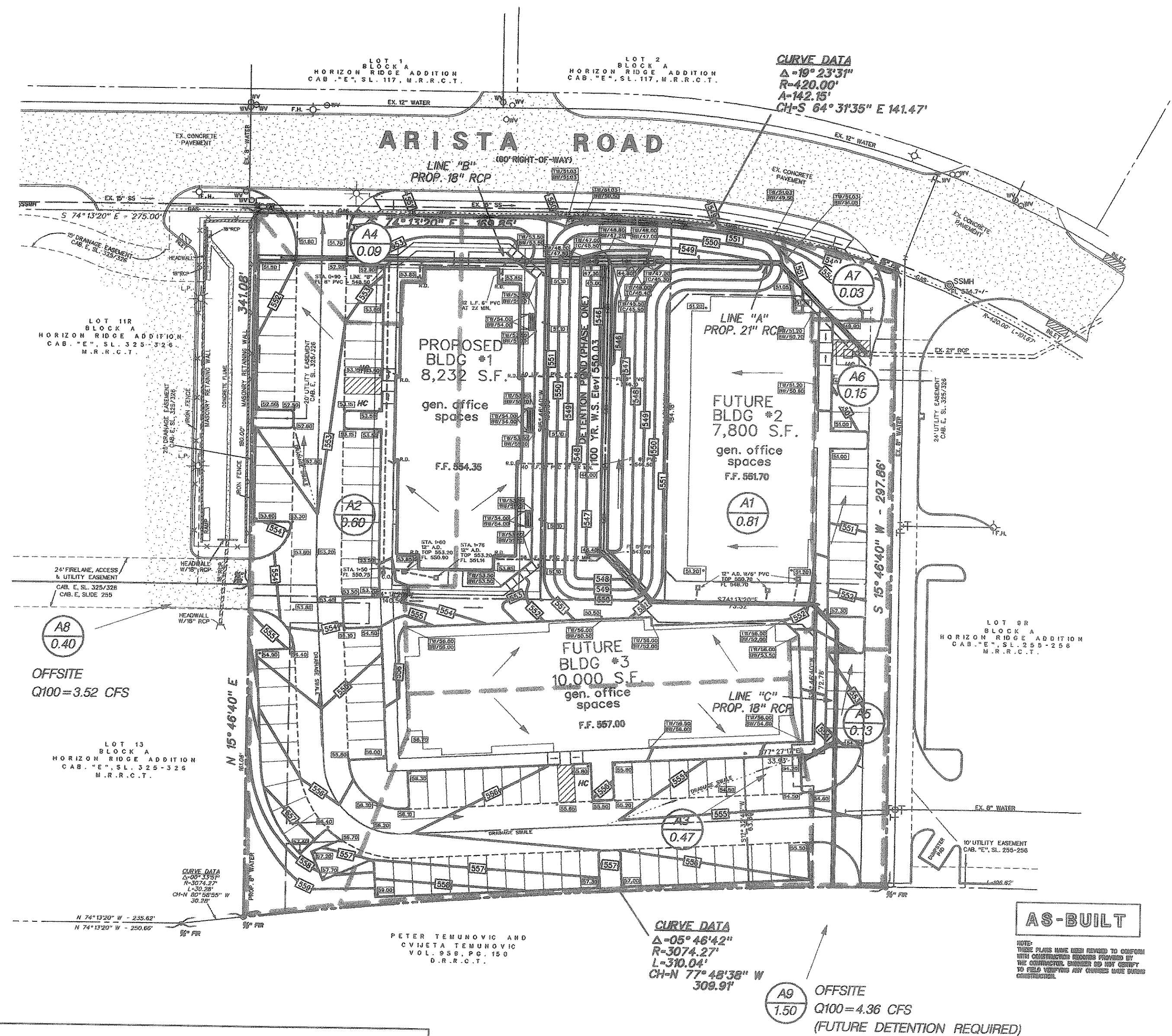
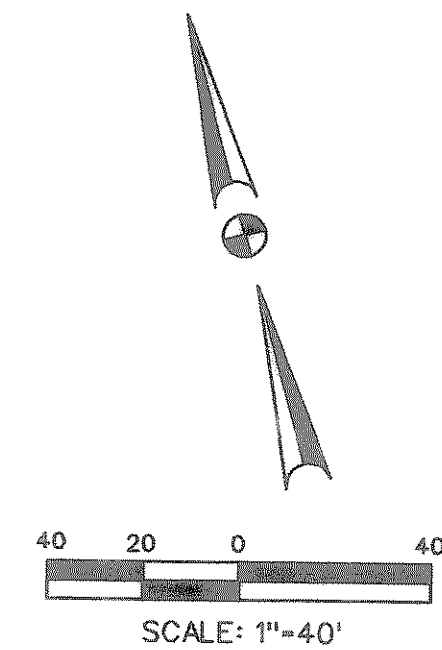




DEPTH VS. VOLUME CHART

ELEV. (FT.)	AREA (S.F.)	VOLUME (C.F.)	CUMULATIVE VOL. (C.F.)
544.8			
546	818	327.2	327.2
547	2682	1750	2077.2
548	4353	3517.5	5594.7
549	6720	5536.5	11131.2
550	9241	7980.5	19111.7
551	12103	10672	29783.7

DRAINAGE CALCULATION TABLE					
D.A. NO.	AREA (ac.)	Tc (min.)	C	100yr (in/hr)	Q100yr (cfs)
A1	0.81	10	0.90	9.8	7.14
A2	0.60	10	0.90	9.8	5.29
A3	0.47	10	0.90	9.8	4.15
A4	0.09	10	0.90	9.8	0.79
A5	0.13	10	0.90	9.8	1.15
A6	0.15	10	0.90	9.8	1.32
A7	0.03	10	0.90	9.8	0.26
A8	0.40	10	0.90	9.8	3.52
A9	1.50	20	0.35	8.3	4.36

* AREA NOT INCLUDED BY POND.

PREDEVELOPMENT CONDITIONS

Q=CIA
C = 0.35
Tc = 10 min
I (100 yr intensity) = 8.3
A (acres) = 2.28 (A1 to A7)
Q (cfs) = 6.62
Q (off-site) = 7.88 (A8 & A9)
Qr (Total Allowed Release w/o Detention) = 14.50 cfs
Released w/o Detention (Areas 4,5,6,7) = -3.51 cfs
Qo Allowed Release from Pond = 10.99 cfs

DEVELOPED CONDITIONS

Area A1 0.81 ac. 7.14 cfs
Area A2 0.60 ac. 5.29 cfs
Area A3 0.47 ac. 4.15 cfs
Area A4 0.09 ac. 0.79 cfs
Area A5 0.13 ac. 1.15 cfs
Area A6 0.15 ac. 1.32 cfs
Area A7 0.03 ac. 0.26 cfs
Area A8 0.40 ac. 3.52 cfs
Area A9 1.50 ac. 4.36 cfs
Total Area contributing to pond (Areas 1,2,3,8,9) = 3.78 ac.
Calculated "C" factor = ((2.28*0.9)+(1.50*0.35))/3.51 = 0.682

Time	Td	C	I	A	Q	Inflow (T _d =60)	Outflow Reg. 0.5*(T _c +T _d)/T _c Q _o ≦60	Storage Volume (acre-ft)
1	10	0.682	9.80	3.78	25.26	15.158	8.594	8.564
2	15	0.682	9.00	3.78	23.20	20.881	8.243	12.639
3	20	0.682	8.30	3.78	21.40	25.676	9.891	15.785
4	30	0.682	6.90	3.78	17.79	32.018	13.188	18.830
5	40	0.682	5.80	3.78	14.95	35.885	16.485	19.400
6	50	0.682	5.00	3.78	12.89	38.669	17.782	18.887
7	60	0.682	4.30	3.78	11.09	39.907	23.079	16.828

REQUIRED STORAGE= 19,400 CU. FT.

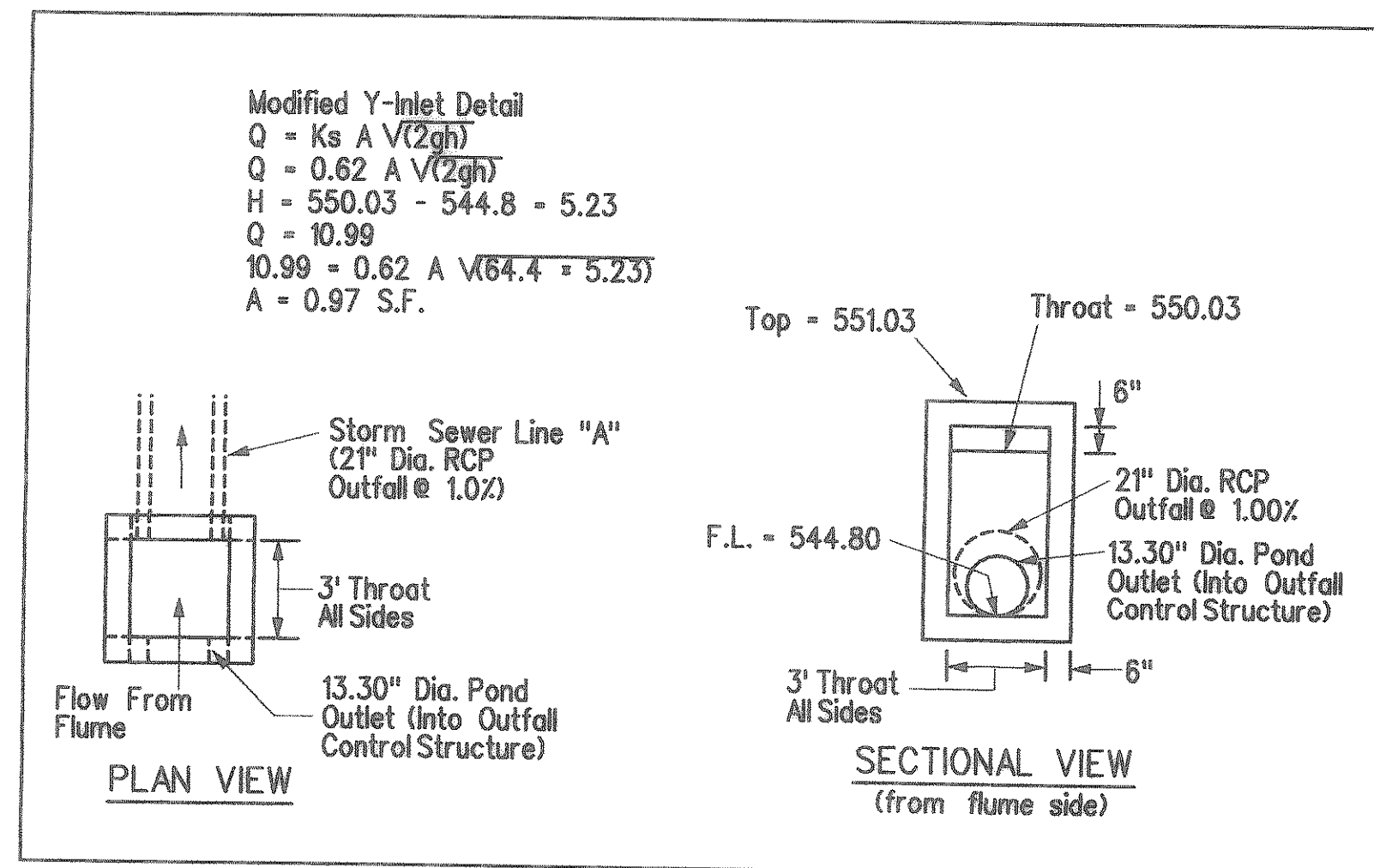
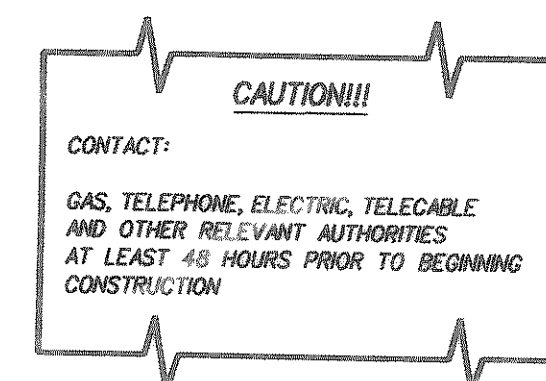
POND DISCHARGE CALCULATIONS

10 YEAR
Pre-development Q = 9.66 cfs
Post-development Q = 18.82 cfs
Volume Required = 10,682 CF
10-YR W.S. Elev = 548.92
Outfall F.L. Elev = 544.80
H = 4.12 ft
Q = 9.8 cfs max

25 YEAR
Pre-development Q = 10.99 cfs
Post-development Q = 21.40 cfs
Volume Required = 12,334 CF
25-YR W.S. Elev = 549.15
Outfall F.L. Elev = 544.80
H = 4.35 ft
Q = 10.0 cfs max

50 YEAR
Pre-development Q = 11.81 cfs
Post-development Q = 23.20 cfs
Volume Required = 14,308 CF
50-YR W.S. Elev = 549.40
Outfall F.L. Elev = 544.80
H = 4.60 ft
Q = 10.3 cfs max

100 YEAR
Pre-development Q = 10.99 cfs
Post-development Q = 25.26 cfs
Volume Required = 19,400 CF
100-YR W.S. Elev = 550.03
Outfall F.L. Elev = 544.80
H = 5.23 ft
Q = 10.99 cfs max



MODIFIED Y-INLET DETAIL
NTS

BENCHMARK:

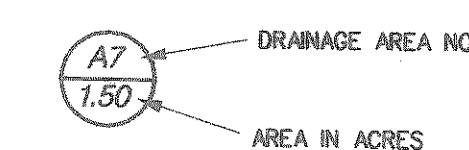
SQUARE CUT ON THE NORTHEAST CORNER OF INLET ON THE EAST SIDE OF ARISTA ROAD, APPROX. 200 FEET NORTH OF THE CENTERLINE OF RALPH HALL PARKWAY.
ELEV. 546.93'

INLET CAPACITY CHART

	D.A. NO.	Q100yr (cfs)	Gutter Slope	Cross Slope	Depth of Flow at Gutter (yo)	Li (Length of Inlet Required)	Actual Length (ft)	REMARKS
1	A2	5.29	0.0188	0.0192	0.5	4.8	10	10' INLET AT LOW POINT
2	A3, A9	8.51	0.0110	0.0417	0.5	5.0	10	10' INLET AT LOW POINT

NOTE: VALUE OF LI OBTAINED FROM CITY DESIGN CALCULATION CHART.

LEGEND:



AS-BUILT

NOTE:
THESE PLANS HAVE BEEN REVISED TO CONFORM WITH CONSTRUCTION RECORDS PROVIDED BY THE CONTRACTOR. ENGINEER DID NOT CERTIFY TO FIELD VERIFYING ANY CHANGES MADE DURING CONSTRUCTION.



DRAINAGE AREA MAP					
ROCKWALL OFFICE PARK					
CITY OF ROCKWALL					
ROCKWALL COUNTY, TEXAS					
LIM & ASSOCIATES, inc.					
engineering & surveying consultants					
1701 N. Market Street, Suite 405 / LB20					
Dallas, Texas 75202					
Tel. (214) 698-1888 • Fax (214) 698-9881					
DESIGN	DRAWN	DATE	SCALE	NOTES	FILE
LIM	LIM	AUG. 2005	1" = 40'		
					NO.
					C1