

NOTE: ORIGINAL SITE WAS 0.63 AC
WITH ROW DEDICATION SITE IS 0.56 AC
WITH 0.06 AC BYPASS OF BASIN

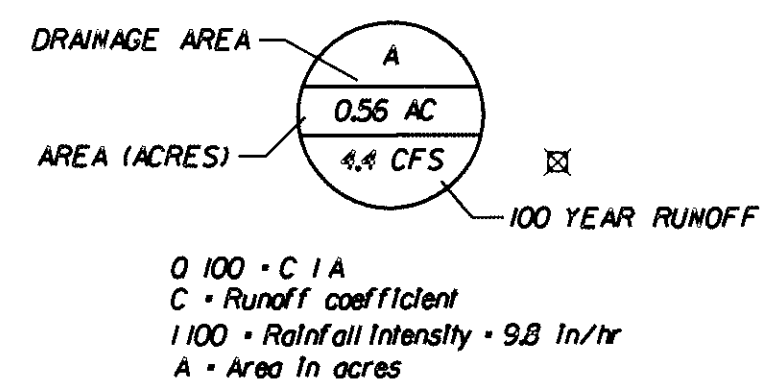
EXISTING CONDITIONS:

0 - CIA	0 - CIA	BYPASS AC	NEW AC
A - 0.56 AC	A - 0.06 AC	0.06 AC	0.50 AC
C - 0.50	C - 0.90		
100 - 9.8	100 - 9.8		
0100 - 2.74 CFS	0100 - 0.53 CFS		

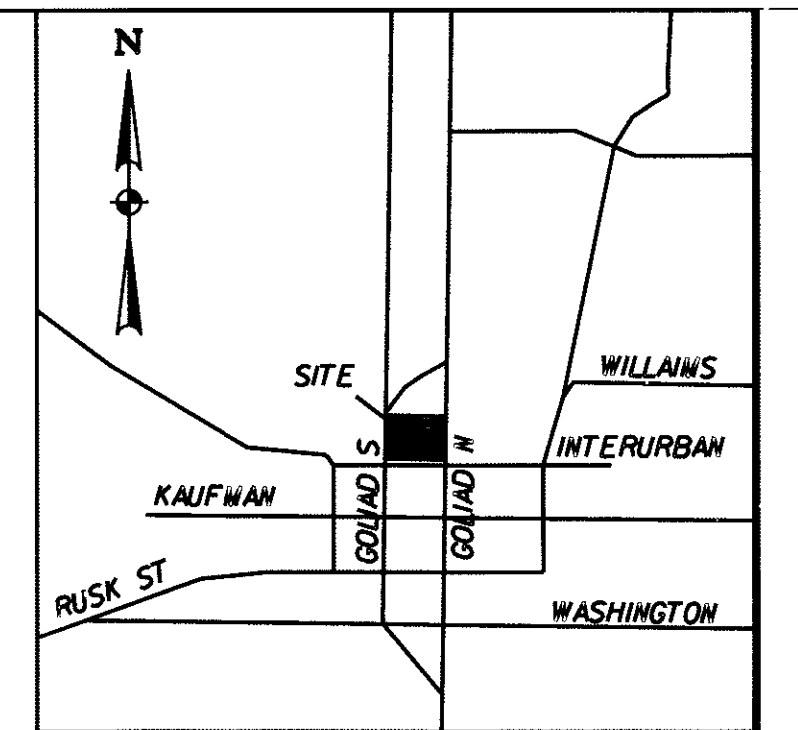
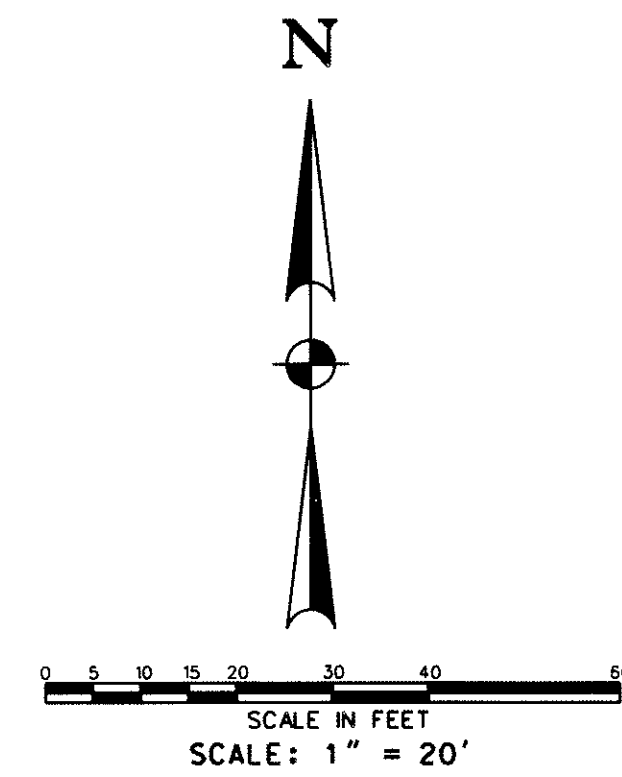
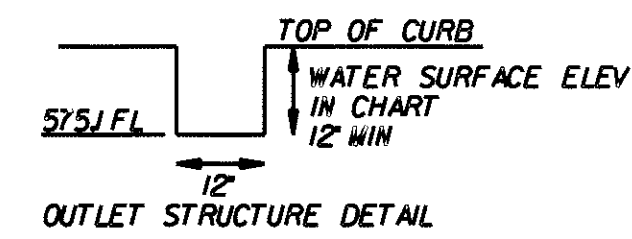
FUTURE CONDITIONS:

0 - CIA			
A - 0.56 AC			
C - 0.90			
100 - 9.8			
0100 - 4.94 CFS			

DRAINAGE AREA DESIGN CRITERIA



POND OUTLET RELEASE STRUCTURE 12" VERTICAL WEIR INSTALLED IN CURB		
	HEIGHT	VOL (CF)
100 YR - 2.21 CFS	0.85 FT	2949 CF
25 YR - 1.87 CFS	0.76 FT	2211 CF
10 YR - 1.61 CFS	0.69 FT	1956 CF
5 YR - 1.56 CFS	0.68 FT	1449 CF



VICINITY MAP
NOT TO SCALE

AS-BUILT DRAWING 01-25-18

THIS DOCUMENT IS SUBMITTED AS AN "AS-BUILT DRAWING" FOR RECORD PURPOSES ONLY. TO THE BEST OF OUR KNOWLEDGE HELMBERGER ASSOCIATES, INC. STATES THAT THIS PLAN IS ASBUILT. THIS INFORMATION IS BASED ON LIMITED ASBUILT SURVEYING AT THE SITE PROVIDED BY OTHERS AND INFORMATION PROVIDED BY THE OWNER/CONTRACTOR. CONSTRUCTION SUPERVISION WAS WAS PERFORMED BY OTHERS. TBPE FIRM NO. 000756

LINE LEGEND:

- PROPERTY LINE
- DRAINAGE FLOW
- PROPOSED WATER LINE
- ROAD CENTER LINE
- PROPOSED STORM SEWER
- PROPOSED STREET
- - - - - EXISTING CONTOUR LINE
- 610- PROPOSED CONTOUR LINE
- BUILDING SETBACK LINE
- DRAINAGE EASEMENT
- DRAINAGE DIVIDE LINE
- ROW / LOT LINE
- PROPOSED FENCE

STORMWATER RUNOFF CALCULATIONS (100 YR STORM)						
LOCATION	Tc (MINUTES)	I (100)	A (ACRES)	C	Q100	FLOW TO
DA-1	10	9.80	0.50	0.90	4.4 CFS	SHEET FLOW TO DETENTION BASIN
DA-2	10	9.80	0.03	0.90	0.3 CFS	SHEET FLOW TO ALAMO
DA-3	10	9.80	0.03	0.90	0.3 CFS	SHEET FLOW TO INTERURBAN

Rockwall at Alamo Street - 5 Year Flow

Cfuture= 0.90
A = 0.50 acres
Tc= 10.00 min
Qout= 1.66 cfs
Q Peak in 2.74 cfs

Pond Outlet release rate = 1.71 - 0.15 = 1.56 cfs

Storage Required						
Time (min)	Id 5 yr	Q=CIA	V _{in} - ft ³	V _{out} - ft ³	Volume - ft ³	Volume - Ac-ft
0	0.00	0.00	0	0	0	0.00
5	6.10	2.7	1647	936	711	0.02
15	5.50	2.5	2228	1170	1058	0.02
20	4.90	2.2	2846	1404	1242	0.03
30	4.10	1.8	3321	1872	1449	0.03
40	3.40	1.5	3872	2340	1532	0.03
50	2.80	1.3	3780	2838	972	0.02
60	2.60	1.2	4212	3278	936	0.02
70	2.40	1.1	4536	3744	792	0.02
80	2.30	1.0	4968	4212	766	0.02
90	2.10	0.9	5103	4680	423	0.01
100	1.90	0.9	5130	5148	0	0.00
110	1.80	0.8	5346	5616	-270	-0.01

ALL HANDICAP RAMPS, STALLS, PARKING AND ACCESS TO THE BUILDING TO MEET ADA, TAS AND ALL APPLICABLE STDS

ACCESS TO THE BUILDING TO BE PROVIDED BY THE ARCHITECT

Rockwall at Alamo Street - 10 Year Flow

Cfuture= 0.90
A = 0.50 acres
Tc= 10.00 min
Qout= 1.61 cfs
Q Peak in 3.20 cfs

Pond Outlet release rate = 1.99 - 0.38 = 1.61 cfs

Storage Required						
Time (min)	Id 10 yr	Q=CIA	V _{in} - ft ³	V _{out} - ft ³	Volume - ft ³	Volume - Ac-ft
0	0.00	0.00	0	0	0	0.00
5	7.10	3.2	1917	966	951	0.02
10	6.50	2.9	2633	1208	1425	0.03
20	5.90	2.7	3186	1449	1737	0.04
30	4.80	2.2	3888	1932	1956	0.04
40	4.00	1.8	4320	2415	1905	0.04
50	3.50	1.6	4725	2898	1627	0.04
60	3.00	1.4	4860	3381	1479	0.03
70	2.80	1.3	5292	3864	1428	0.03
80	2.60	1.2	5616	4347	1269	0.03
90	2.50	1.1	6075	4830	1245	0.03
100	2.40	1.1	6480	5313	1167	0.03
110	2.30	1.0	6831	5796	1035	0.02

Rockwall at Alamo Street - 25 Year Flow

Cfuture= 0.90
A = 0.50 acres
Tc= 10.00 min
Qout= 1.87 cfs
Q Peak in 3.74 cfs

Pond Outlet release rate = 2.32 - 0.45 = 1.87 cfs

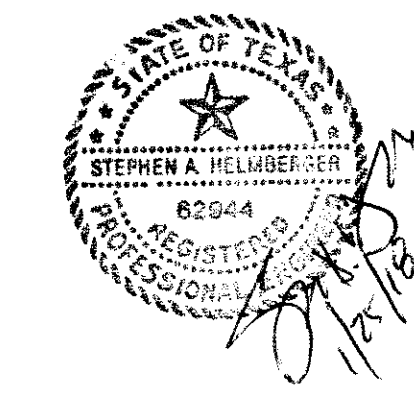
Storage Required						
Time (min)	Id 25 yr	Q=CIA	V _{in} - ft ³	V _{out} - ft ³	Volume - ft ³	Volume - Ac-ft
0	0.00	0.00	0	0	0	0.00
5	8.30	3.7	2241	1122	1119	0.03
10	7.50	3.4	3038	1403	1635	0.04
20	6.60	3.0	3564	1683	1881	0.04
30	5.50	2.5	4455	2244	2211	0.05
40	4.60	2.1	4968	2805	2163	0.05
50	4.00	1.8	5400	3366	2034	0.05
60	3.50	1.6	5670	3927	1743	0.04
70	3.30	1.5	6237	4488	1749	0.04
80	3.10	1.4	6696	5049	1647	0.04
90	2.90	1.3	7047	5610	1437	0.03
100	2.70	1.2	7290	6171	1119	0.03
110	2.50	1.1	7425	6732	693	0.02

Rockwall at Alamo Street - 100 Year Flow

Cfuture= 0.90
A = 0.50 acres
Tc= 10.00 min
Qout= 2.21 cfs
Q Peak in 4.41 cfs

Pond Outlet release rate = 2.74 - 0.53 = 2.21 cfs

Storage Required						
Time (min)	Id 100 yr	Q=CIA	V _{in} - ft ³	V _{out} - ft ³	Volume - ft ³	Volume - Ac-ft
0	0.00	0.00	0	0	0	0.00
5	9.80	4.4	2846	1326	1520	0.03
10	9.00	4.1	3646	1658	1988	0.05
20	8.30	3.7	4482	1989	2493	0.06
30	6.90	3.1	5589	2652	2937	0.07
40	5.80	2.6	6284	3315	2949	0.07
50	5.00	2.3	6750	3978	2772	0.06
60	4.50	2.0	7290	4641	2649	0.06
70	4.00	1.8	7560	5304	2256	0.05
80	3.70	1.7	7992	5967	2025	0.05
90	3.50	1.6	8505	6630	1875	0.04
100	3.40	1.5	9180	7293	1887	0.04
110	3.20	1.4	9504	7956	1548	0.04



OWNER:
DIRKSE AND ASSOCIATES, LTD
3077 NORTH GOLIAD
ROCKWALL, TEXAS 75087
MR. RICK DIRKSE
(972) 771-1040

ENGINEER:
HELMBERGER ASSOCIATES, INC.
1525 BOZMAN ROAD
WYLE, TEXAS 75098
MR. STEPHEN A. HELMBERGER, P.E.
(972) 442-7459

GRADING AND DRAINAGE PLAN

LOT 1 BLOCK A - DIRKSE ADDITION

DIRKSE AND ASSOCIATES, LTD

CITY OF ROCKWALL, TEXAS

REGISTRATION NO. 000756 **HELMBERGER ASSOCIATES, INC.**
CIVIL AND ENVIRONMENTAL ENGINEERS
1525 BOZMAN ROAD, WYLE, TEXAS 75098 (972) 442-7459

DESIGN	DRAWN	DATE	SCALE	NOTES	FILE	NO.
HELM	CADD	MAY 2017	1"=20'	GDBORDER	1709	C3