

INLET DESIGN CALCULATIONS		PROJECT NAME		SPRINGER ELEMENTARY, ROCKWALL #10,		BY		TJC								
		LINE NAME		N/A		DATE		08/12/03								
No.	Inlet Location	Design Storm Frequency (yrs.)	AREA RUNOFF Q = CIA					Carry-Over From Upstream Inlet (c.f.s.)	Total Outlet Flow (c.f.s.)	Outlet Capacity (c.f.s.)	Outlet Slope (ft./foot)	Crown Type	SELECTED INLET			Carry-Over To Downstream Inlet (c.f.s.)
			Time of Conc. (min.)	Intensity I (in./hr.)	Runoff Coeff. "C"	Area (ac.)	"C" ² (c.f.s.)						Length "L" (Foot)	Inlet Capacity (c.f.s.)	Type	
A1	STA. 1+65 & STA. 2+24, LN "A-6"	100	10	9.8	0.70	0.19	1.3	0	N/A	LOW	POINT	N/A	2'x2'	4.8	A.D.	0
A2	STA. 0+62 LN A-6 & STA. 0+38, LN "A-7"	100	10	9.8	0.70	0.08	0.5	0	N/A	LOW	POINT	N/A	2'x2'	4.8	A.D.	0
A3	STA. 0+35 LN "A-5"	100	10	9.8	0.70	0.95	6.5	0	N/A	LOW	POINT	N/A	5'	10.0	C.I.	0
A4	STA. 9+21 LN "A"	100	10	9.8	0.70	0.60	4.1	0	N/A	LOW	POINT	N/A	10'	20.0	C.I.	0
A5	STA. 7+47 LN "A"	100	10	9.8	0.70	0.68	4.7	0	N/A	LOW	POINT	N/A	4'x4'	47.4	"Y"	0
B5	STA. 1+19 & STA. 0+89, LN "C-2"	100	10	9.8	0.70	0.06	0.4	0	N/A	N/A	N/A	N/A	2'x2'	4.8	A.D.	0
B6	STA. 2+06 LN "C-1"	100	10	9.8	0.70	0.09	0.6	0	N/A	N/A	N/A	N/A	2'x2'	4.8	A.D.	0
B8	STA. 5+78 LN "B"	100	10	9.8	0.70	0.15	1.0	0	N/A	N/A	N/A	N/A	2'x2'	4.8	A.D.	0
B9	STA. 4+84 LN "B"	100	10	9.8	0.70	0.39	2.7	0	N/A	N/A	N/A	N/A	4'x4'	47.4	"Y"	0
B10	STA. 0+51 LAT. "B-1"	100	10	9.8	0.70	0.09	0.6	0	N/A	N/A	N/A	N/A	2'x2'	4.8	A.D.	0

OUTLET RATING CURVE - POND	
12" STEEL ORIFICE PLATE • FL. ELEV. - 539.65	
ELEVATION (FT)	DISCHARGE (CFS)
539.65	0.00
540.15	0.76
540.65	2.67
541.15	3.78
541.65	4.63
542.15	5.35
542.65	5.98
543.15	6.55
543.65	7.07
544.15	7.56
544.65	8.02
545.15	8.45
545.65	8.87
546.15	9.26
546.65	9.64
547.00	9.69

DETENTION POND - VOLUMES - POND			
ELEVATION (FT)	AREA (ACRES)	VOLUME (ACRE-FT)	VOLUME SUM (ACRE-FT)
539.65	0.0004	0.000	0.000
540.00	0.0004	0.000	0.000
541.00	0.0004	0.000	0.001
542.00	0.0004	0.000	0.001
543.00	0.0004	0.000	0.001
544.00	0.0004	0.000	0.002
545.00	0.2336	0.061	0.063
546.00	1.0124	0.577	0.660
547.00	2.0295	1.492	2.152

AREA NO.	DRAINAGE AREA "A" (ACRES)	TIME OF CONCENTRATION (IN MINUTES)	RUNOFF COEFFICIENT "C"	INTENSITY 1 100' (IN./HR.)	DESIGN FLOW "Q" "Q 100" (cfs)	REMARKS
A1	0.19	10	0.70	9.8	1.3	AREA DRAINS (BASIN BYPASS)
A2	0.08	10	0.70	9.8	0.5	AREA DRAINS (BASIN BYPASS)
A3	0.95	10	0.70	9.8	6.5	10' CURB INLET (BASIN BYPASS)
A4	0.60	10	0.70	9.8	4.1	5' CURB INLET (BASIN BYPASS)
A5	0.68	10	0.70	9.8	4.7	4' WYE INLET (BASIN BYPASS)
B1	0.09	10	0.70	9.8	0.6	ROOF DRAINS
B2	2.54	10	0.35	9.8	8.7	FUTURE FIRE STATION/ WITH ON-SITE DETENTION
B3	2.22	10	0.70	9.8	15.2	FLUME TO BASIN
B4	3.44	10	0.70	9.8	23.6	SHEET FLOW TO BASIN
B5	0.06	10	0.70	9.8	0.4	AREA DRAINS
B6	0.09	10	0.70	9.8	0.8	AREA DRAIN
B7	1.66	10	0.70	9.8	11.3	ROOF DRAINS
B8	0.15	10	0.70	9.8	1.0	AREA DRAIN
B9	0.39	10	0.70	9.8	2.7	4' WYE INLET
B10	0.09	10	0.70	9.8	0.6	AREA DRAIN
C	1.07	10	0.70	9.8	7.3	LITTLE BUFFALO CREEK/EAST (BASIN BYPASS)

DRAINAGE TO BASIN (Q INTO POND A)		
STORM FREQUENCY (YEARS)	Q - C*IA	Q INTO POND (CFS)
10	Q = 0.70*7.3*10.72	54.8
25	Q = 0.70*8.3*10.72	62.3
50	Q = 0.70*9.0*10.72	67.5
100	Q = 0.70*9.8*10.72	73.5

INTENSITY TABLE INCHES/HOUR		
STORM FREQUENCY (YEARS)	TC = 10 MINS	TC = 20 MINS
10	7.3	5.8
25	8.3	6.7
50	9.0	7.5
100	9.8	8.3

BASIN BYPASS (Q BYPASS)		
STORM FREQUENCY (YEARS)	Q - C*IA	Q BYPASS (CFS)
10	Q = 0.70*7.3*3.77	19.3
25	Q = 0.70*8.3*3.77	21.9
50	Q = 0.70*9.0*3.77	23.8
100	Q = 0.70*9.8*3.77	25.9

Q ALLOWABLE TOTAL SITE (TC = 20 MINS)		
STORM FREQUENCY (YEARS)	Q - C*IA	Q INTO POND (CFS)
10	Q = 0.35*5.8*14.49	29.4
25	Q = 0.35*6.7*14.49	34.0
50	Q = 0.35*7.5*14.49	38.0
100	Q = 0.35*8.3*14.49	42.1

EXECUTIVE SUMMARY - DETENTION BASIN						
STORM FREQUENCY (YEARS)	Q INTO POND (CFS)	Q MAX OUT OF POND (CFS)	POND W/S. ELEV.	Q BYPASS (CFS)	Q FROM SITE WITH DETENTION (CFS)	Q ALLOWABLE TOTAL SITE (CFS)
10	54.8	9.4	546.34	19.3	28.7	29.4
25	62.3	9.5	546.52	21.9	31.4	34.0
50	67.5	9.7	546.66	23.8	33.5	38.0
100	73.5	9.7	546.79	25.9	35.6	42.1

- DRAINAGE NOTES**
1. THE AREA BYPASSING THE DETENTION BASIN IS AREA C, TOTALING 1.07 ACRES
 2. TOTAL AREA OF INTEREST IS LOT 18 + 19, BLOCK Z, NOT INCLUDING 0.85 ACRES NOT DISTURBED BY SCHOOL DISTRICT (FOR LIFT STATION) = 14.49 ACRES.
 3. BASIN A CONTROL IS A 12" STEEL ORIFICE AT ELEVATION 539.65.

These Drawings have been modified to conform to the Construction Records.
 Glenn Engineering Corporation
 By: *[Signature]* Date: 11-15-04

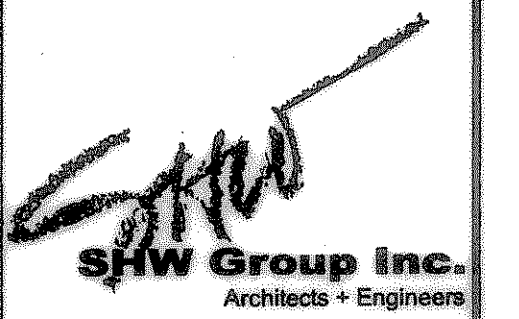
DRAINAGE CALCULATIONS

GLENN ENGINEERING
 PHONE 972-717-9183 FAX 972-717-9270
 125 DECKER COURT - SUITE 810 IRVING, TEXAS 75039

DATE: May 8, 2003
 DRAWN BY: TJC
 CHECKED: TJC
 CDM NO: 144102110
 REVIEWED: Aug 12, 2003

**SPRINGER ELEMENTARY SCHOOL
 ROCKWALL INDEPENDENT SCHOOL DISTRICT
 ROCKWALL, TEXAS**

FINAL PLANS FOR BIDDING AND CONSTRUCTION



SHEET NUMBER **C 2.12**
 OF SET NUMBER