

Rockwall, Texas

Detention Computations for Pond A-3 WBC-20000, SWBC ROCKWALL PH. II

		(A-3)		(A11)		(A20)			
		Undeveloped		Developed		Bypass			
Area	A(ac)=	0.935		0.903		0.161			
Runoff Coefficient	C=	0.350		0.750		0.750			
Time of Concentration	Tc(min)=	20.0		10.0		10.0			
		STORM	I	Qundev	I	Qin	Qbypass	Required Qout	REQUIRED
		YEAR	IN/HR	CFS	IN/HR	CFS	CFS	CFS	AC-FT
		5	4.90	1.6	6.10	4.1	0.7	0.9	0.1159
		10	5.90	1.9	7.10	4.8	0.9	1.1	0.1276
		25	6.80	2.2	8.30	5.6	1.0	1.2	0.1642
		50	7.50	2.5	9.00	6.1	1.1	1.4	0.1829
		100	8.30	2.7	9.80	6.6	1.2	1.5	0.2017
		Computed		Qout		PROVIDED		PROVIDED	
		CFS		AC-FT		CF		CF	
		0.9		0.1171		5100.84			
		0.9		0.1388		6047.16			
		1.0		0.1761		7671.45			
		1.1		0.2006		8738.60			
		1.4		0.2127		9263.52			

SWBC ROCKWALL PH. II

Required Detention Computations, Pond A-3

		Undeveloped		Developed		Bypass	
Area	A=	0.935	AC	0.903	AC	0.161	
Runoff Coefficient	C=	0.35		0.75		0.75	
Time of Concentration	Tc=	20.0	MIN	10.0	MIN	10.0	
Rainfall Intensity	I100=	8.30	IN/HR	9.80	IN/HR	9.80	
Peak Rate of Runoff	Q100=	2.7	CFS	6.6	CFS	1.2	
Allowable Outflow	Q100=	1.5		CFS			
Tc	I100	Q100	Inflow	Outflow	Storage		Required
MIN	IN/HR	CFS	CF	CF	CF	AC-FT	AC-FT
5	10.70	7.2	2,174	690	1,484	0.034	
10	9.80	6.6	3,982	920	3,063	0.070	
15	9.00	6.1	5,486	1,150	4,336	0.100	
20	8.30	5.6	6,745	1,380	5,366	0.123	
30	6.90	4.7	8,411	1,839	6,572	0.151	
40	5.80	3.9	9,427	2,299	7,128	0.164	
50	5.00	3.4	10,159	2,759	7,400	0.170	
60	4.50	3.0	10,971	3,219	7,753	0.178	
70	4.00	2.7	11,378	3,679	7,699	0.177	
80	3.70	2.5	12,028	4,139	7,889	0.181	
90	3.50	2.4	12,800	4,598	8,202	0.188	
100	3.40	2.3	13,816	5,058	8,758	0.201	
110	3.20	2.2	14,304	5,518	8,785	0.202	0.202
120	3.00	2.0	14,629	5,978	8,651	0.199	

SWBC ROCKWALL PH. II

Required Detention Computations, Pond A-3

		Undeveloped		Developed		Bypass	
Area	A=	0.935	AC	0.903	AC	0.161	
Runoff Coefficient	C=	0.35		0.75		0.75	
Time of Concentration	Tc=	20.0	MIN	10.0	MIN	10.0	
Rainfall Intensity	I50=	7.50	IN/HR	9.00	IN/HR	9.00	
Peak Rate of Runoff	Q50=	2.5	CFS	6.1	CFS	1.1	
Allowable Outflow	Q50=	1.4		CFS			
Tc	I50	Q50	Inflow	Outflow	Storage		Required
MIN	IN/HR	CFS	CF	CF	CF	AC-FT	AC-FT
5	10.00	6.8	2,032	615	1,416	0.033	
10	9.00	6.1	3,657	821	2,837	0.065	
15	8.10	5.5	4,937	1,026	3,911	0.090	
20	7.50	5.1	6,095	1,231	4,864	0.112	
30	6.10	4.1	7,436	1,641	5,795	0.133	
40	5.20	3.5	8,452	2,051	6,401	0.147	
50	4.50	3.0	9,143	2,462	6,681	0.153	
60	3.90	2.6	9,509	2,872	6,637	0.152	
70	3.70	2.5	10,524	3,282	7,242	0.166	
80	3.50	2.4	11,378	3,693	7,685	0.176	
90	3.30	2.2	12,069	4,103	7,966	0.183	0.183
100	3.00	2.0	12,191	4,513	7,677	0.176	

SWBC ROCKWALL PH. II

Required Detention Computations, Pond A-3

		Undeveloped		Developed		Bypass	
Area	A=	0.935	AC	0.903	AC	0.161	
Runoff Coefficient	C=	0.35		0.75		0.75	
Time of Concentration	Tc=	20.0	MIN	10.0	MIN	10.0	
Rainfall Intensity	I25=	6.60	IN/HR	8.30	IN/HR	8.30	
Peak Rate of Runoff	Q25=	2.2	CFS	5.6	CFS	1.0	
Allowable Outflow	Q25=	1.2		CFS			
Tc	I25	Q25	Inflow	Outflow	Storage		Required
MIN	IN/HR	CFS	CF	CF	CF	AC-FT	AC-FT
5	9.30	6.3	1,890	521	1,369	0.031	
10	8.30	5.6	3,373	695	2,678	0.061	
15	7.50	5.1	4,571	868	3,703	0.085	
20	6.60	4.5	5,364	1,042	4,322	0.099	
30	5.50	3.7	6,705	1,389	5,316	0.122	
40	4.60	3.1	7,477	1,736	5,740	0.132	
50	4.00	2.7	8,127	2,084	6,043	0.139	
60	3.50	2.4	8,533	2,431	6,102	0.140	
70	3.30	2.2	9,387	2,778	6,608	0.152	
80	3.10	2.1	10,077	3,126	6,952	0.160	
90	2.90	2.0	10,606	3,473	7,133	0.164	
100	2.70	1.8	10,971	3,820	7,151	0.164	0.164
110	2.50	1.7	11,175	4,167	7,007	0.161	

SWBC ROCKWALL PH. II

Required Detention Computations, Pond A-3

		Undeveloped		Developed		Bypass	
Area	A=	0.935	AC	0.903	AC	0.161	
Runoff Coefficient	C=	0.35		0.75		0.75	
Time of Concentration	Tc=	20.0	MIN	10.0	MIN	10.0	
Rainfall Intensity	I10=	5.90	IN/HR	7.10	IN/HR	7.10	
Peak Rate of Runoff	Q10=	1.9	CFS	4.8	CFS	0.9	
Allowable Outflow	Q10=	1.1		CFS			
Tc	I10	Q10	Inflow	Outflow	Storage		Required
MIN	IN/HR	CFS	CF	CF	CF	AC-FT	AC-FT
5	8.30	5.6	1,686	483	1,203	0.028	
10	7.10	4.8	2,885	644	2,241	0.051	
15	6.50	4.4	3,962	805	3,157	0.072	
20	5.90	4.0	4,795	966	3,829	0.088	
30	4.80	3.3	5,851	1,288	4,563	0.105	
40	4.00	2.7	6,502	1,610	4,891	0.112	
50	3.50	2.4	7,111	1,932	5,179	0.119	
60	3.00	2.0	7,314	2,254	5,060	0.116	
70	2.80	1.9	7,964	2,576	5,388	0.124	
80	2.60	1.8	8,452	2,898	5,554	0.127	
90	2.40	1.6	8,777	3,220	5,557	0.128	0.128
100	2.20	1.5	8,940	3,542	5,397	0.124	

SWBC ROCKWALL PH. II

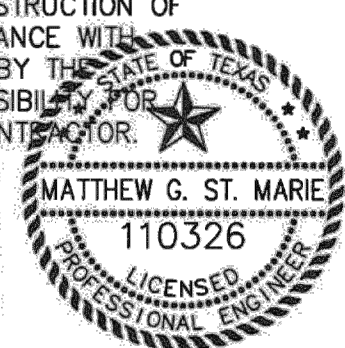
Required Detention Computations, Pond A-3

		Undeveloped		Developed		Bypass	
Area	A=	0.935	AC	0.903	AC	0.161	
Runoff Coefficient	C=	0.35		0.75		0.75	
Time of Concentration	Tc=	20.0	MIN	10.0	MIN	10.0	
Rainfall Intensity	I5=	4.90	IN/HR	6.10	IN/HR	6.10	
Peak Rate of Runoff	Q5=	1.6	CFS	4.1	CFS	0.7	
Allowable Outflow	Q5=	0.9		CFS			
Tc	I5	Q5	Inflow	Outflow	Storage		Required
MIN	IN/HR	CFS	CF	CF	CF	AC-FT	AC-FT
5	7.00	4.7	1,422	405	1,017	0.023	
10	6.10	4.1	2,479	540	1,939	0.045	
15	5.50	3.7	3,352	675	2,677	0.061	
20	4.90	3.3	3,982	810	3,172	0.073	
30	4.10	2.8	4,998	1,080	3,918	0.090	
40	3.40	2.3	5,526	1,350	4,176	0.096	
50	2.80	1.9	5,689	1,620	4,069	0.093	
60	2.60	1.8	6,339	1,890	4,449	0.102	
70	2.40	1.6	6,827	2,160	4,667	0.107	
80	2.30	1.6	7,477	2,430	5,047	0.116	0.116
90	2.10	1.4	7,680	2,700	4,980	0.114	
100	1.90	1.3	7,721	2,970	4,751	0.109	

AS-BUILT RECORD DRAWING

THE INFORMATION ON THESE PLANS HAS BEEN REVISED TO REFLECT CHANGES TO PUBLIC IMPROVEMENTS MADE DURING CONSTRUCTION. UNLESS OTHERWISE NOTED, THE CONSTRUCTION OF THE PUBLIC IMPROVEMENTS IS IN GENERAL CONFORMANCE WITH THESE PLANS, BASED UPON INFORMATION PROVIDED BY THE CONTRACTOR AND FIELD VERIFICATIONS. THE RESPONSIBILITY FOR ACCURACY AND COMPLETENESS BELONGS TO THE CONTRACTOR.

Matthew G. St. Marie
 THE JOHN R. MCADAMS COMPANY, INC.
 Date: 09/25/2023



MCADAMS
 TBPE 19762

Drawn By:	CMK
Date:	12/30/2020
Scale:	N/A
Revisions:	
02/11/2021	
03/11/2021	
05/07/2021	
07/12/2021	

09/25/2023 - AS-BUILT

OWNER/DEVELOPER
 SWBC ROCKWALL LP
 6949 SHERRY LANE, SUITE 750
 DALLAS, TEXAS 75225
 Ph. (214) 987-0700
 Contact: Spencer Byington

WBC20000

C3.18

SWBC ROCKWALL PHASE II
 Lot 1, Block A
 SWBC ROCKWALL - ADDITION, PHASE II
 21,275 Acres
 in the
 J.M. ALLEN SURVEY, ABSTRACT NO. NO. 2
 CITY OF ROCKWALL,
 ROCKWALL COUNTY, TEXAS



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SWBC ROCKWALL PHASE II

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 Plot: 9/25/2023 11:12 AM by Matthew G. St. Marie, Somet. 8/25/2023 1:30 PM by sml