



Breezy Hill Phases 2A and 2B Detention Pond
2-Year Storm

Pre-Project Runoff Calculations						
Area #	Area (sf)	Area (acres)	Existing Runoff Coefficient	Tc - Existing (min)	Rainfall Intensity (in/hr)	Q - Undeveloped (cfs)
EX1	1220877	28.03	0.35	20	3.9	38.3
22	30430	0.70	0.5	10	5.3	1.8
23	24951	0.57	0.5	10	5.3	1.5
24	16081	0.37	0.5	10	5.3	1.0
25	30365	0.70	0.5	10	5.3	1.8
26	10006	0.23	0.5	10	5.3	0.6
Allowed Release=						31.5

Post-Project Runoff Calculations						
Area #	Area (sf)	Area (acres)	Existing Runoff Coefficient	Tc - Existing (min)	Rainfall Intensity (in/hr)	Q - Post Development (cfs)
41295	141143	32.40	0.5	10	5.3	85.8
Allowed Release=						85.8

10-Year Storm

Pre-Project Runoff Calculations						
Area #	Area (sf)	Area (acres)	Existing Runoff Coefficient	Tc - Existing (min)	Rainfall Intensity (in/hr)	Q - Undeveloped (cfs)
1	141143	28.03	0.35	20	6.9	67.9
22	30430	0.70	0.5	10	7.1	2.5
23	24951	0.57	0.5	10	7.1	2.0
24	16081	0.37	0.5	10	7.1	1.3
25	30365	0.70	0.5	10	7.1	2.5
26	10006	0.23	0.5	10	7.1	0.8
Allowed Release=						48.8

Post-Project Runoff Calculations						
Area #	Area (sf)	Area (acres)	Existing Runoff Coefficient	Tc - Existing (min)	Rainfall Intensity (in/hr)	Q - Post Development (cfs)
1	141143	32.4	0.5	10	7.1	115.0
Allowed Release=						115.0

25-Year Storm

Pre-Project Runoff Calculations						
Area #	Area (sf)	Area (acres)	Existing Runoff Coefficient	Tc - Existing (min)	Rainfall Intensity (in/hr)	Q - Undeveloped (cfs)
1	141143	28.03	0.35	20	8.6	84.4
22	30430	0.70	0.5	10	8.3	2.9
23	24951	0.57	0.5	10	8.3	2.4
24	16081	0.37	0.5	10	8.3	1.5
25	30365	0.70	0.5	10	8.3	2.9
26	10006	0.23	0.5	10	8.3	1.0
Allowed Release=						64.1

Post-Project Runoff Calculations						
Area #	Area (sf)	Area (acres)	Existing Runoff Coefficient	Tc - Existing (min)	Rainfall Intensity (in/hr)	Q - Post Development (cfs)
1	141143	32.4	0.5	10	8.3	134.4
Allowed Release=						134.4

50-Year Storm

Pre-Project Runoff Calculations						
Area #	Area (sf)	Area (acres)	Existing Runoff Coefficient	Tc - Existing (min)	Rainfall Intensity (in/hr)	Q - Undeveloped (cfs)
1	141143	28.03	0.35	20	7.5	73.8
22	30430	0.70	0.5	10	9	3.1
23	24951	0.57	0.5	10	9	2.6
24	16081	0.37	0.5	10	9	1.7
25	30365	0.70	0.5	10	9	3.1
26	10006	0.23	0.5	10	9	1.0
Allowed Release=						82.0

Post-Project Runoff Calculations						
Area #	Area (sf)	Area (acres)	Existing Runoff Coefficient	Tc - Existing (min)	Rainfall Intensity (in/hr)	Q - Post Development (cfs)
1	141143	32.4	0.5	10	9	145.8
Allowed Release=						145.8

100-Year Storm

Pre-Project Runoff Calculations						
Area #	Area (sf)	Area (acres)	Existing Runoff Coefficient	Tc - Existing (min)	Rainfall Intensity (in/hr)	Q - Undeveloped (cfs)
1	141143	28.03	0.35	20	8.3	81.4
22	30430	0.70	0.5	10	9.8	3.4
23	24951	0.57	0.5	10	9.8	2.8
24	16081	0.37	0.5	10	9.8	1.8
25	30365	0.70	0.5	10	9.8	3.4
26	10006	0.23	0.5	10	9.8	1.1
Allowed Release=						88.8

Post-Project Runoff Calculations						
Area #	Area (sf)	Area (acres)	Existing Runoff Coefficient	Tc - Existing (min)	Rainfall Intensity (in/hr)	Q - Post Development (cfs)
1	141143	32.4	0.5	10	9.8	158.7
Allowed Release=						158.7

Elevation Calculations

Event	Maximum Release Rate	Storage Requirement	Occurs at Elevation
2-year	31.5	56069	501.40
10-year	48.8	79068	502.56
25-year	64.1	83884	503.29
50-year	82.0	104558	503.75
100-year	88.8	117318	504.17

Elevation-Storage Table

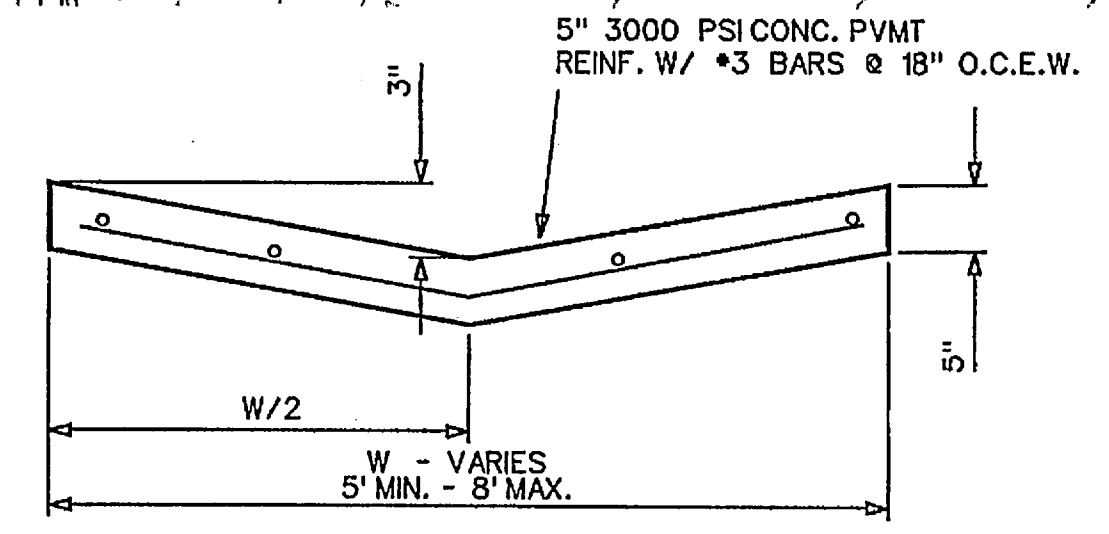
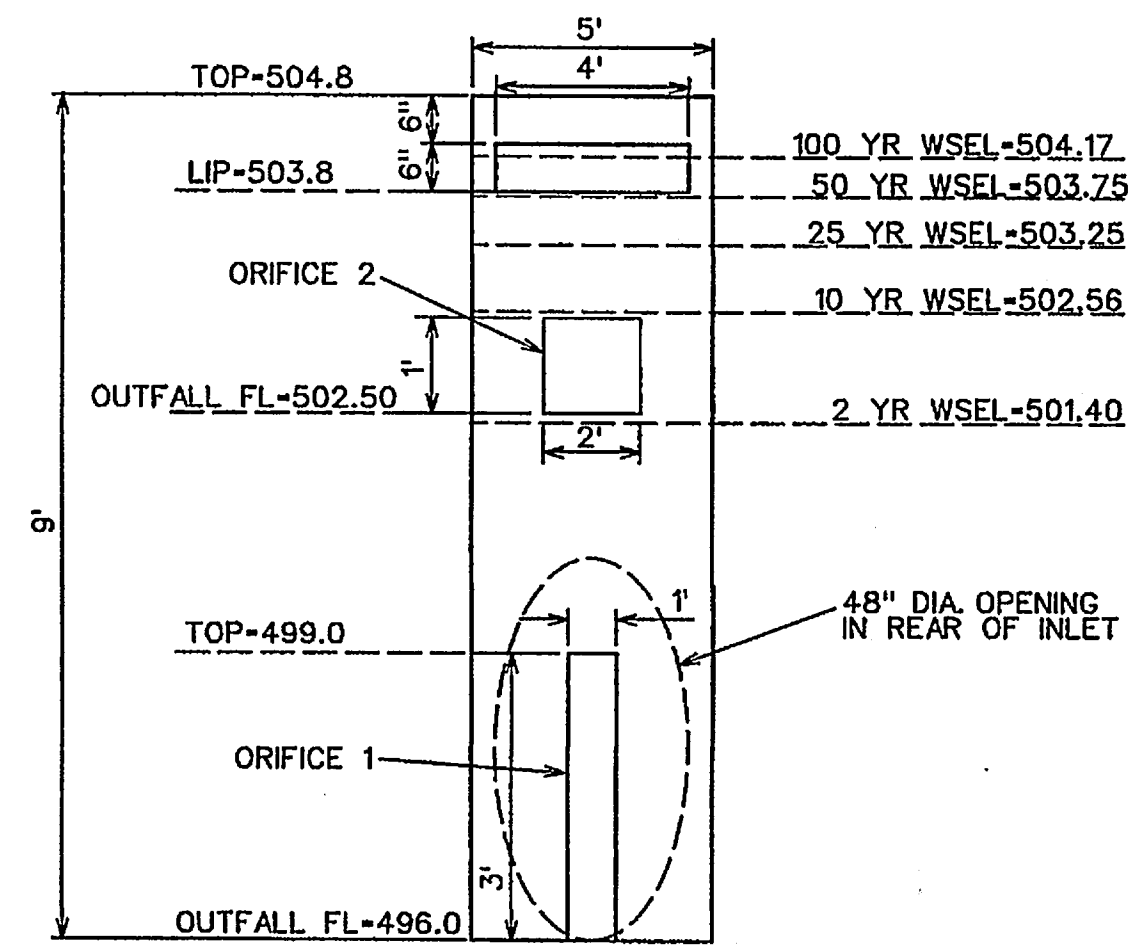
Elevation (ft)	Volume
496	0
497	2634
498	9685
499	20080
500	33017
501	48632
502	67069
503	88527
504	113121
505	141022

Stage-Discharge Table

Stage	Office 1			Office 2			Weir Length	Depth of Flow Over Weir	Weir Discharge	Total Discharge	Allowable Discharge	Above (Below)
	H	Area	Discharge	H	Area	Discharge						
496.00	0	0	0	-	-	-	16.0	0.0	0.0	0.0		
497.00	0.50	1.00	3.4	-	-	-	16.0	0.0	0.0	3.4		
498.00	1.00	2.00	9.6	-	-	-	16.0	0.0	0.0	9.6		
499.00	1.50	3.00	17.7	-	-	-	16.0	0.0	0.0	17.7		
500.00	2.50	3.00	22.8	-	-	-	16.0	0.0	0.0	22.8		
501.40	3.00	3.00	28.5	-	-	-	16.0	0.0	0.0	28.5	31.5	(2.92)
502.56	5.06	3.00	32.5	0.56	3.0	10.8	16.0	0.0	0.0	43.3	48.8	(5.48)
503.25	5.75	3.00	34.6	1.25	3.0	10.8	16.0	0.0	0.0	50.8	54.1	(3.30)
503.75	6.25	3.00	36.1	1.75	3.0	19.1	16.0	0.0	0.0	55.3	62.0	(6.77)
504.17	6.67	3.00	37.3	2.17	3.0	21.3	16.0	0.4	9.5	68.1	68.8	(0.75)
504.50	7.00	3.00	38.2	2.50	3.0	22.8	16.0	0.7	24.8	65.7		

RELEASED FOR CONSTRUCTION
ALL RESPONSIBILITY FOR ADEQUACY OF DESIGN
REMAINS WITH THE DESIGN ENGINEER. THE CITY
OF ROCKWALL, IN REVIEWING AND RELEASING
PLANS FOR CONSTRUCTION, ASSUMES NO
RESPONSIBILITY FOR ADEQUACY OR ACCURACY
OF DESIGN.

CITY _____ DATE _____



AS-BUILT JULY 2014
INFORMATION PROVIDED BY CONTRACTORS
(NOT FIELD VERIFIED)

STATE OF TEXAS
REGISTERED PROFESSIONAL ENGINEER
BRANDON DAVIDSON
87682
The seal appearing on this document was authorized by Brandon Davidson P.E. 87682, on August 19, 2013

CORWIN ENGINEERING, INC.
200 W. BELMONT, SUITE E
ALLEN, TEXAS 75013 (972)396-1200
TPE FIRM #5951

DEVELOPMENT PLANS FOR BREEZY HILL PHASE 2 ROCKWALL, TEXAS

DETENTION POND PLAN

DRAWN BY	DESIGNED BY	CHECKED BY	SHEET NO.
JOB NUMBER	DATE	SCALE	
13022	MAY 2013	1"=20'	22 OF 25