

VICINITY MAP NOT TO SCALE

LEGEND

- = PROPERTY LINE
- - - - - = EXISTING CONTOURS
- - - - - = PROPOSED CONTOURS
- x 453.00 TC or x 462.50 = PROPOSED SPOT GRADES
- tc = TOP OF CURB
- ep = EDGE OF PAVEMENT
- tw = TOP OF WALL
- bw = BOTTOM OF WALL
- (ALL SPOT GRADES ARE EDGE OF PAVEMENT UNLESS OTHERWISE NOTED)
- EXIST. or EX. = EXISTING
- CL = CENTERLINE
- EX. SS = EXISTING SANITARY SEWER LINE
- EX. W = EXISTING WATER LINE
- FH = EXISTING FIRE HYDRANT
- WM = EXISTING WATER METER
- PP = EXISTING POWER POLE
- LP = EXISTING LIGHT POLE
- T = EX. WATER VALVE
- SM = EXISTING STORM MANHOLE
- SS = EXISTING SS MANHOLE
- EXIST. or EX. = EXISTING
- PROP. = PROPOSED

NOTE:
 1. ALL LAPS AND EXTENSIONS OF REINFORCING BARS SHALL BE 30 BAR DIAMETERS UNLESS OTHERWISE NOTED.
 2. PIPE MAY BE PLACED IN ANY WALL, BUT SHALL NOT ENTER ANY CORNER, OR BOTTOM.
 3. CONCRETE TO BE MIN. 4200 PSI.

Pond Report

Hydraul Hydrographs by Intelsolve v9.01 Monday, Jul 22, 2013

Pond No. 1 - Corrigan

Pond Data
 Contours - User-defined contour areas. Average end area method used for volume calculation. Beginning Elevation = 558.50 ft

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	558.50	0.00	0	0
0.25	558.75	363	45	45
0.50	559.00	1,138	238	283
1.00	559.50	2,031	892	1,175
1.50	560.00	2,609	1,160	2,335

Culvert / Orifice Structures	Weir Structures			
	[A]	[B]	[C]	[D]
Rise (in) = 18.00	7.75	0.00	0.00	Crest Len (ft) = 0.00
Span (in) = 18.00	7.75	0.00	0.00	Crest El. (ft) = 0.00
No. Barrels = 1	1	0	0	Weir Coeff. = 3.33
Invert El. (ft) = 558.50	558.52	0.00	0.00	Weir Type =
Length (ft) = 25.00	0.00	0.00	0.00	Multi-Stage = No
Slope (%) = 0.01	0.00	0.00	n/a	
N-Value = 0.13	0.13	0.13	n/a	
Orifice Coeff. = 0.60	0.60	0.60	0.60	Exfil. (in/hr) = 0.00 (By Contour)
Multi-Stage = n/a	No	No	No	TW Elev. (ft) = 0.00

NOTE:
 DETENTION SYSTEM MUST BE COMPLETELY INSTALLED AND FUNCTIONING PRIOR TO SLAB CONSTRUCTION

Original Undeveloped Site				Future + Bypass = Flow into Pond 1.94 cfs			
A = 0.2605	C = 0.35	Tc = 20	Q100 = 0.757	10 min. Inflow 1164.24	10 min. Outflow 454.0515	15 min. Inflow 1603.8	15 min. Outflow 567.5644
A = 0.2	A = 0.04	C = 0.9	Q100 = 1.764	20 min. Inflow 1972.08	20 min. Outflow 681.0773	30 min. Inflow 2459.16	30 min. Outflow 908.103
A = 0.18	C = 10	Tc = 10	Q100 = 0.3528	40 min. Inflow 2756.16	40 min. Outflow 1135.129	50 min. Inflow 2970	50 min. Outflow 1362.155
C = 0.9	C = 0.9	Tc = 10	Q100 = 0.1784	60 min. Inflow 3207.6	60 min. Outflow 1589.18	70 min. Inflow 3207.6	70 min. Outflow 1589.18
C = 10	C = 10	Tc = 10	Q100 = 0.1044	80 min. Inflow 3516.48	80 min. Outflow 2043.232	90 min. Inflow 3742.2	90 min. Outflow 2270.258
C = 9.8	C = 9.8	Tc = 10	Q100 = 0.1188	100 min. Inflow 3920.4	100 min. Outflow 2497.283	110 min. Inflow 3789.72	110 min. Outflow 2724.309
Q100 = 0.757	Q100 = 0.3528	Q100 = 0.1784	Q100 = 0.1044				

Flow thru Orificed Drain Line at Pond

Tc=20 min	I	Acres	C	Q Allowable	Q Actual
110	5.8	0.30	0.35	0.61	0.81
125	6.7	0.30	0.35	0.70	0.73
150	7.5	0.30	0.35	0.79	0.81
1100	8.30	0.30	0.35	0.87	1.77

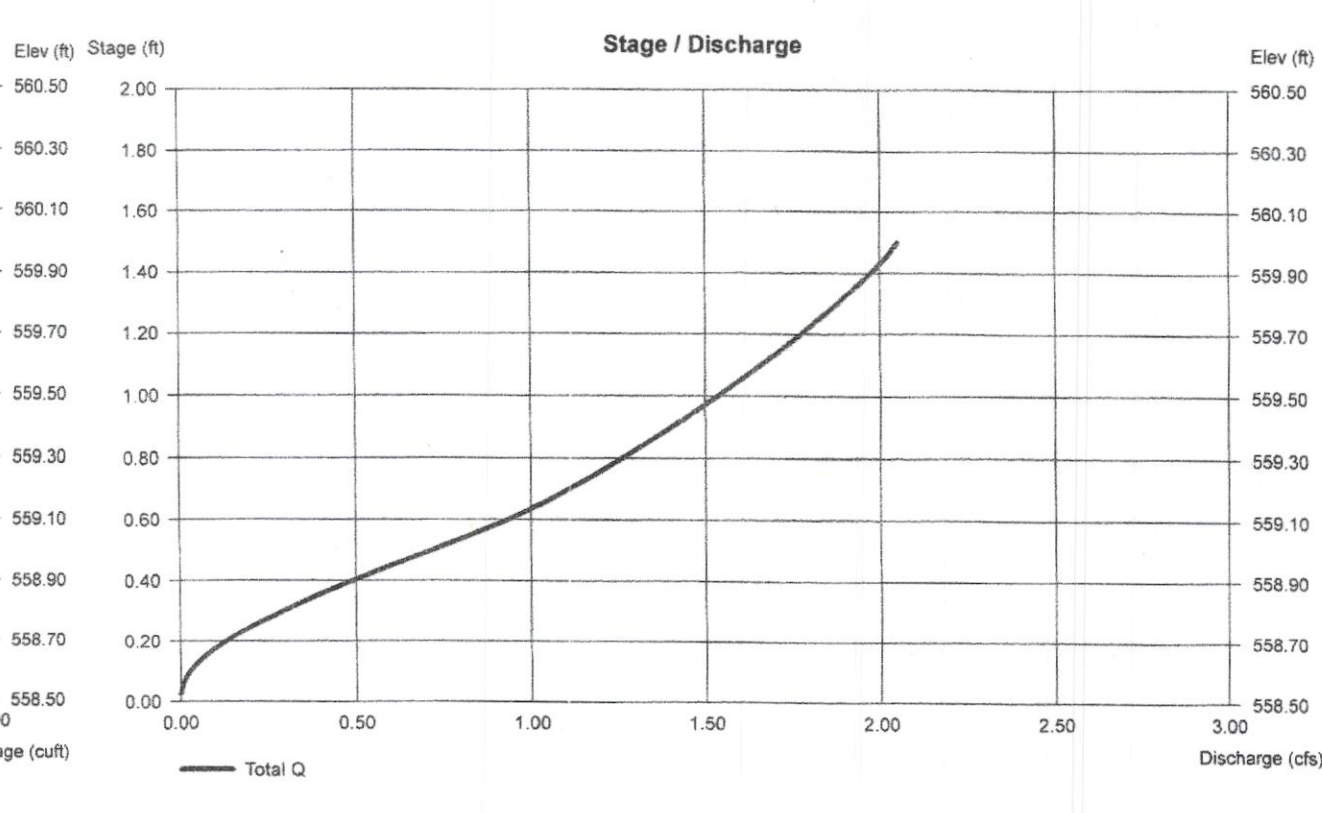
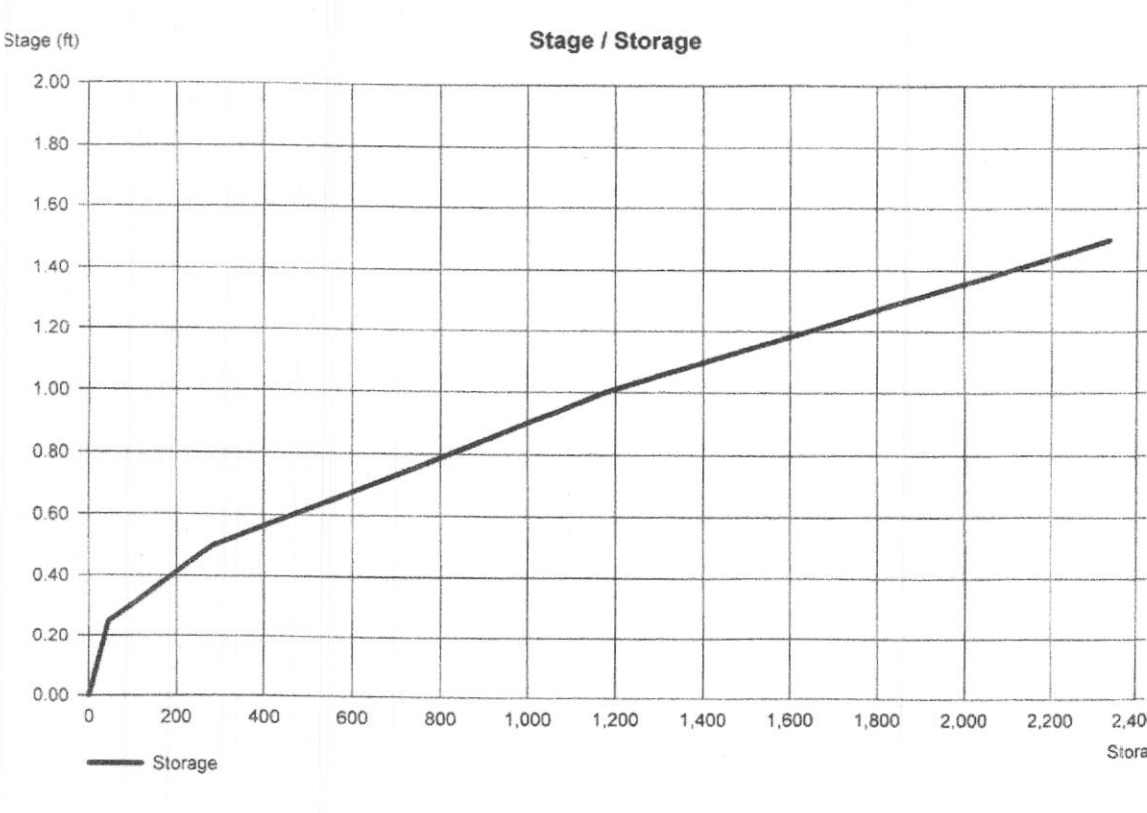
Time	I	C	Q
10 min.	9.8	0.9	1.5876
15 min.	9	0.9	1.458
20 min.	8.3	0.9	1.3448
30 min.	6.9	0.9	1.1178
40 min.	5.8	0.9	0.9396
50 min.	5	0.9	0.81
60 min.	4.5	0.9	0.729
70 min.	4	0.9	0.648
80 min.	3.7	0.9	0.5894
90 min.	3.5	0.9	0.567
100 min.	3.3	0.9	0.5346
110 min.	2.9	0.9	0.4698

Orifice Size Calculations

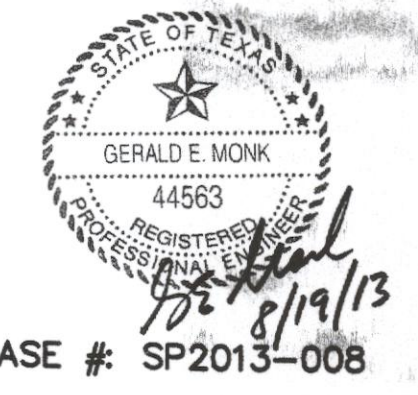
Existing Conditions	10yr	Existing Conditions	100yr
A = 0.29 acres	A = 0.29 acres	A = 0.29 acres	A = 0.29 acres
C = 0.35	C = 0.35	C = 0.35	C = 0.35
TC = 20.00 minutes	TC = 20.00 minutes	TC = 20.00 minutes	TC = 20.00 minutes
I10 = 5.80 in/hr	I100 = 8.30 in/hr	I10 = 5.80 in/hr	I100 = 8.30 in/hr
Q10 = 0.59 cfs	Q100 = 0.84 cfs	Q10 = 0.59 cfs	Q100 = 0.84 cfs

ORIFICE CALCULATION DETAIL

10yr	100yr
WSEL = 558.90	WSEL = 559.45
Orifice Elevation = 558.50	Orifice Elevation = 558.50
Q = CA(2gh) ^{1/2}	Q = CA(2gh) ^{1/2}
A = 0.19 sf	A = 0.18 sf total
Radius = 0.25 ft.	0.19 sf provided (hole in plate)
Diameter = 0.50 ft.	-0.01 sf additional
Diameter = 5.95 inches round	-1.99 sq inches additional
Use see 100yr	Use 7 1/4" x 11 1/2" Curb Leaveout



ONLY DRAWINGS STAMPED "RELEASED FOR CONSTRUCTION" BY THE CITY OF ROCKWALL TO BE USED FOR CONSTRUCTION.



CASE # SP2013-008

POND LAYOUT & DETAILS

CORRIGAN LAW OFFICE

805 Townsend Dr.
 CORRIGAN LAW OFFICE ADDITION
 LOT 1, BLK A, 0.31 ACRES
 City of Rockwall, Rockwall County, Texas

owner
BRIAN CORRIGAN
 815 Townsend, Suite 109
 Rockwall, TX 75087
 972-722-5300

prepared by
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date: 8/19/13 scale: 1"=10' sheet: C104A

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 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 _____

REG. NO.: F-2567