CITY OF ROCKWALL DETENTION BASIN DESIGN
100-yr Storm Event

GIVEN:
Area = 1.68
Prop C = 0.90
Prop Tc = 10.00 min
Max Q = 3.98 cfs

RESULT:
Maximum
Required Storage = ***16,804*** **cf**

100 Year

5 min.	I=	11.00	Q=	0.9	x	11.00	x	1.68	= 16.63 cfs
10 min.	I=	9.80	Q=	0.9	x	9.80	x	1.68	= 14.82 cfs
15 min.	I=	9.00	Q=	0.9	x	9.00	x	1.68	= 13.61 cfs
20 min.	I=	8.30	Q=	0.9	x	8.30	x	1.68	= 12.55 cfs
30 min.	I=	6.90	Q=	0.9	x	6.90	x	1.68	= 10.43 cfs
40 min.	I=	5.80	Q=	0.9	x	5.80	x	1.68	= 8.77 cfs
50 min.	I=	5.00	Q=	0.9	x	5.00	x	1.68	= 7.56 cfs
60 min.	I=	4.50	Q=	0.9	x	4.50	x	1.68	= 6.80 cfs
70 min.	I=	4.00	Q=	0.9	x	4.00	x	1.68	= 6.05 cfs
80 min.	I=	3.70	Q=	0.9	x	3.70	x	1.68	= 5.59 cfs
90 min.	I=	3.50	Q=	0.9	x	3.50	x	1.68	= 5.29 cfs
100 min.	I=	3.30	Q=	0.9	x	3.30	x	1.68	= 4.99 cfs
110 min.	I=	3.10	Q=	0.9	x	3.10	x	1.68	= 4.69 cfs

5	min Storm	In	5	x	16.63	x	60	=		4,990 cf
		Out	0.5	x	15	x	3.98	x	60 =	1,791 cf
									Storage =	3,199 cf
10	min Storm	In	10	x	14.82	x	60	=		8,891 cf
		Out	0.5	x	20	x	3.98	x	60 =	2,388 cf
									Storage =	6,503 cf
15	min Storm	In	15	x	13.61	x	60	=		12,247 cf
		Out	0.5	x	25	x	3.98	x	60 =	2,985 cf
									Storage =	9,262 cf
20	min Storm	In	20	x	12.55	x	60	=		15,060 cf
		Out	0.5	x	30	x	3.98	x	60 =	3,582 cf
									Storage =	11,478 cf
30	min Storm	In	30	x	10.43	x	60	=		18,779 cf
		Out	0.5	x	40	x	3.98	x	60 =	4,776 cf
									Storage =	14,003 cf
40	min Storm	In	40	x	8.77	x	60	=		21,047 cf
		Out	0.5	x	50	x	3.98	x	60 =	5,970 cf
									Storage =	15,077 cf
50	min Storm	In	50	x	7.56	x	60	=		22,680 cf
		Out	0.5	x	60	x	3.98	x	60 =	7,164 cf
									Storage =	15,516 cf
60	min Storm	In	60	x	6.80	x	60	=		24,494 cf
		Out	0.5	x	70	x	3.98	x	60 =	8,358 cf
									Storage =	***16,136*** cf
70	min Storm	In	70	x	6.05	x	60	=		25,402 cf
		Out	0.5	x	80	x	3.98	x	60 =	9,552 cf
									Storage =	15,850 cf
80	min Storm	In	80	x	5.59	x	60	=		26,853 cf
		Out	0.5	x	90	x	3.98	x	60 =	10,746 cf
									Storage =	16,107 cf
90	min Storm	In	90	x	5.29	x	60	=		28,577 cf
		Out	0.5	x	100	x	3.98	x	60 =	11,940 cf
									Storage =	16,637 cf
100	min Storm	In	100	x	4.99	x	60	=		29,938 cf
		Out	0.5	x	110	x	3.98	x	60 =	13,134 cf
									Storage =	16,804 cf
110	min Storm	In	110	x	4.7	x	60	=		30,936 cf
		Out	0.5	x	120	x	3.98	x	60 =	14,328 cf
									Storage =	16,608 cf

EXISTING DRAINAGE:
TOTAL AREA NOT ACCOUNTED FOR IN REGIONAL DETENTION= 1.82 acres
(AREA THAT MUST BE ACCOUNTED FOR IN ON-SITE DETENTION)
A=1.82 acres
C = 0.35
Tc = 10 minutes
I_{100} = 9.80 inch/hour
Q_{100} = 6.24 cfs

PROPOSED DRAINAGE:
FULLY DEVELOPED FLOW NOT ACCOUNTED
FOR IN REGIONAL DETENTION: 1.82 Acres
(AREA THAT MUST BE ACCOUNTED FOR IN ON-SITE DETENTION)

A=1.82 acres
C = 0.90
Tc = 10 minutes
I_{100} = 9.80 inch/hour
Q_{100} = 16.05 cfs

FULLY DEVELOPED FLOW TO DETENTION
POND: 1.68 Acres
C = 0.90
Tc = 10 minutes
I_{100} = 9.80 inch/hour
Q_{100} = 14.82 cfs

FULLY DEVELOPED FLOW TO BYPASS
DETENTION POND: 0.14 Acres
(DA #1 – AREA ALONG WEST PROPERTY LINE)
C = 0.90
Tc = 10 minutes
I_{100} = 9.80 inch/hour
Q_{100} = 1.23 cfs

ALLOWABLE FLOW FROM DETENTION POND=
(PRE-DEVELOPMENT FLOW) – (POST-DEVELOPMENT BYPASS)=
Q_{allow}= 6.24 cfs – 1.23 cfs = 5.01 cfs

ORIFICE SIZE CALCULATIONS
Q = CA$\sqrt{2gh}$
C = 0.7 (entrance coefficient)
A = AREA ORIFICE OPENING (sq ft)
g = 32.2 ft/sec
h = 100-YR WSEL – CENTERLINE OF PIPE
FL OUTFALL = 586.72
ALLOWABLE HEAD ELEVATION=591.44
h = 591.45–586.84 = 4.61
AREA ORIFICE OPENING = 0.274 sq ft
MAX Q THRU 5-yr ORIFICE = 3.30 cfs

100-yr WEIR CALCULATIONS
ADDITIONAL Q REQUIRED = 0.68 cfs
$Q = (\frac{2}{3}) * Cd * b * \sqrt{2g} * h^{(\frac{3}{2})}$
Cd=0.602+0.083*(h/P)=0.6058
h=0.2, P=4.40, g=32.2
b=required breadth of weir=2.35 feet

CITY OF ROCKWALL DETENTION BASIN DESIGN
25-yr Storm

GIVEN:
Area = 1.68
Prop C = 0.90
Prop Tc = 10.00 min
Max Q = 3.23 cfs

RESULT:
Maximum
Required Storage = ***12,887*** **cf**

100 Year

5 min.	I=	9.30	Q=	0.9	x	9.30	x	1.68	= 14.06 cfs
10 min.	I=	8.30	Q=	0.9	x	8.30	x	1.68	= 12.55 cfs
15 min.	I=	7.40	Q=	0.9	x	7.40	x	1.68	= 11.19 cfs
20 min.	I=	6.60	Q=	0.9	x	6.60	x	1.68	= 9.98 cfs
30 min.	I=	5.50	Q=	0.9	x	5.50	x	1.68	= 8.32 cfs
40 min.	I=	4.70	Q=	0.9	x	4.70	x	1.68	= 7.11 cfs
50 min.	I=	4.00	Q=	0.9	x	4.00	x	1.68	= 6.05 cfs
60 min.	I=	3.50	Q=	0.9	x	3.50	x	1.68	= 5.29 cfs
70 min.	I=	3.25	Q=	0.9	x	3.25	x	1.68	= 4.91 cfs
80 min.	I=	2.95	Q=	0.9	x	2.95	x	1.68	= 4.46 cfs
90 min.	I=	2.60	Q=	0.9	x	2.60	x	1.68	= 3.93 cfs
100 min.	I=	2.40	Q=	0.9	x	2.40	x	1.68	= 3.63 cfs
110 min.	I=	2.30	Q=	0.9	x	2.30	x	1.68	= 3.48 cfs

5	min Storm	In	5	x	14.06	x	60	=		4,218 cf
		Out	0.5	x	15	x	3.23	x	60 =	1,454 cf
									Storage =	2,765 cf
10	min Storm	In	10	x	12.55	x	60	=		7,530 cf
		Out	0.5	x	20	x	3.23	x	60 =	1,938 cf
									Storage =	5,592 cf
15	min Storm	In	15	x	11.19	x	60	=		10,070 cf
		Out	0.5	x	25	x	3.23	x	60 =	2,423 cf
									Storage =	7,647 cf
20	min Storm	In	20	x	9.98	x	60	=		11,975 cf
		Out	0.5	x	30	x	3.23	x	60 =	2,907 cf
									Storage =	9,068 cf
30	min Storm	In	30	x	8.32	x	60	=		14,969 cf
		Out	0.5	x	40	x	3.23	x	60 =	3,876 cf
									Storage =	11,093 cf
40	min Storm	In	40	x	7.11	x	60	=		17,055 cf
		Out	0.5	x	50	x	3.23	x	60 =	4,845 cf
									Storage =	12,210 cf
50	min Storm	In	50	x	6.05	x	60	=		18,144 cf
		Out	0.5	x	60	x	3.23	x	60 =	5,814 cf
									Storage =	12,330 cf
60	min Storm	In	60	x	5.29	x	60	=		19,051 cf
		Out	0.5	x	70	x	3.23	x	60 =	6,783 cf
									Storage =	12,268 cf
70	min Storm	In	70	x	4.91	x	60	=		20,639 cf
		Out	0.5	x	80	x	3.23	x	60 =	7,752 cf
									Storage =	12,887 cf
80	min Storm	In	80	x	4.46	x	60	=		21,410 cf
		Out	0.5	x	90	x	3.23	x	60 =	8,721 cf
									Storage =	12,689 cf
90	min Storm	In	90	x	3.93	x	60	=		21,228 cf
		Out	0.5	x	100	x	3.23	x	60 =	9,690 cf
									Storage =	11,538 cf
100	min Storm	In	100	x	3.63	x	60	=		21,773 cf
		Out	0.5	x	110	x	3.23	x	60 =	10,659 cf
									Storage =	***11,114*** cf
110	min Storm	In	110	x	3.5	x	60	=		22,952 cf
		Out	0.5	x	120	x	3.23	x	60 =	11,628 cf
									Storage =	11,324 cf

EXISTING DRAINAGE:
TOTAL AREA NOT ACCOUNTED FOR IN REGIONAL DETENTION= 1.82 acres
(AREA THAT MUST BE ACCOUNTED FOR IN ON-SITE DETENTION)
A=1.82 acres
C = 0.35
Tc = 10 minutes
I_{25} = 8.30 inch/hour
Q_{25} = 5.29 cfs

PROPOSED DRAINAGE:
FULLY DEVELOPED FLOW NOT ACCOUNTED
FOR IN REGIONAL DETENTION: 1.82 Acres
(AREA THAT MUST BE ACCOUNTED FOR IN ON-SITE DETENTION)

A=1,82 acres
C = 0.90
Tc = 10 minutes
I_{25} = 8.30 inch/hour
Q_{25} = 13.60 cfs

FULLY DEVELOPED FLOW TO DETENTION
POND: 1.68 Acres
C = 0.90
Tc = 10 minutes
I_{25} = 8.30 inch/hour
Q_{25} = 12.55 cfs

FULLY DEVELOPED FLOW TO BYPASS
DETENTION POND: 0.14 Acres
(DA #1 – AREA ALONG WEST PROPERTY LINE)
C = 0.90
Tc = 10 minutes
I_{25} = 8.30 inch/hour
Q_{25} = 1.05 cfs

ALLOWABLE FLOW FROM DETENTION POND=
(PRE-DEVELOPMENT FLOW) – (POST-DEVELOPMENT BYPASS)=
Q_{allow}= 5.29 cfs – 1.05 cfs = 4.24 cfs

ORIFICE SIZE CALCULATIONS
Q = CA$\sqrt{2gh}$
C = 0.7 (entrance coefficient)
A = AREA ORIFICE OPENING (sq ft)
g = 32.2 ft/sec
h = 100-YR WSEL – CENTERLINE OF PIPE
FL OUTFALL = 586.72
ALLOWABLE HEAD ELEVATION=591.24
h = 591.24–586.84 = 4.40
AREA ORIFICE OPENING = 0.274 sq ft
Q THRU 5-yr ORIFICE = 3.23 cfs (Over-detaining to 5-yr orifice)

CITY OF ROCKWALL DETENTION BASIN DESIGN
10-yr Storm

GIVEN:
Area = 1.68
Prop C = 0.90
Prop Tc = 10.00 min
Max Q = 3.20 cfs*

RESULT:
Maximum
Required Storage = ***10,116*** **cf**

*Note: Over-detaining 10-yr storm to shared outfall with 2-yr storm

100 Year

5 min.	I=	8.30	Q=	0.9	x	8.30	x	1.68	= 12.55 cfs
10 min.	I=	7.20	Q=	0.9	x	7.20	x	1.68	= 10.89 cfs
15 min.	I=	6.50	Q=	0.9	x	6.50	x	1.68	= 9.83 cfs
20 min.	I=	5.90	Q=	0.9	x	5.90	x	1.68	= 8.92 cfs
30 min.	I=	4.80	Q=	0.9	x	4.80	x	1.68	= 7.26 cfs
40 min.	I=	4.00	Q=	0.9	x	4.00	x	1.68	= 6.05 cfs
50 min.	I=	3.50	Q=	0.9	x	3.50	x	1.68	= 5.29 cfs
60 min.	I=	3.00	Q=	0.9	x	3.00	x	1.68	= 4.54 cfs
70 min.	I=	2.80	Q=	0.9	x	2.80	x	1.68	= 4.23 cfs
80 min.	I=	2.50	Q=	0.9	x	2.50	x	1.68	= 3.78 cfs
90 min.	I=	2.30	Q=	0.9	x	2.30	x	1.68	= 3.48 cfs
100 min.	I=	2.10	Q=	0.9	x	2.10	x	1.68	= 3.18 cfs
110 min.	I=	1.95	Q=	0.9	x	1.95	x	1.68	= 2.95 cfs

5	min Storm	In	5	x	12.55	x	60	=		3,765 cf
		Out	0.5	x	15	x	3.20	x	60 =	1,440 cf
									Storage =	2,325 cf
10	min Storm	In	10	x	10.89	x	60	=		6,532 cf
		Out	0.5	x	20	x	3.20	x	60 =	1,920 cf
									Storage =	4,612 cf
15	min Storm	In	15	x	9.83	x	60	=		8,845 cf
		Out	0.5	x	25	x	3.20	x	60 =	2,400 cf
									Storage =	6,445 cf
20	min Storm	In	20	x	8.92	x	60	=		10,705 cf
		Out	0.5	x	30	x	3.20	x	60 =	2,880 cf
									Storage =	7,825 cf
30	min Storm	In	30	x	7.26	x	60	=		13,064 cf
		Out	0.5	x	40	x	3.20	x	60 =	3,840 cf
									Storage =	9,224 cf
40	min Storm	In	40	x	6.05	x	60	=		14,515 cf
		Out	0.5	x	50	x	3.20	x	60 =	4,800 cf
									Storage =	9,715 cf
50	min Storm	In	50	x	5.29	x	60	=		15,876 cf
		Out	0.5	x	60	x	3.20	x	60 =	5,760 cf
									Storage =	10,116 cf
60	min Storm	In	60	x	4.54	x	60	=		16,330 cf
		Out	0.5	x	70	x	3.20	x	60 =	6,720 cf
									Storage =	9,610 cf
70	min Storm	In	70	x	4.23	x	60	=		17,781 cf
		Out	0.5	x	80	x	3.20	x	60 =	7,680 cf
									Storage =	10,101 cf
80	min Storm	In	80	x	3.78	x	60	=		18,144 cf
		Out	0.5	x	90	x	3.20	x	60 =	8,640 cf
									Storage =	9,504 cf
90	min Storm	In	90	x	3.48	x	60	=		18,779 cf
		Out	0.5	x	100	x	3.20	x	60 =	9,600 cf
									Storage =	9,179 cf
100	min Storm	In	100	x	3.18	x	60	=		19,051 cf
		Out	0.5	x	110	x	3.20	x	60 =	10,560 cf
									Storage =	8,491 cf
110	min Storm	In	110	x	2.9	x	60	=		19,459 cf
		Out	0.5	x	120	x	3.20	x	60 =	11,520 cf
									Storage =	7,939 cf

EXISTING DRAINAGE:
TOTAL AREA NOT ACCOUNTED FOR IN REGIONAL DETENTION= 1.82 acres
(AREA THAT MUST BE ACCOUNTED FOR IN ON-SITE DETENTION)
A=1.82 acres
C = 0.35
Tc = 10 minutes
I_{10} = 7.20 inch/hour
Q_{10} = 4.59 cfs

PROPOSED DRAINAGE:
FULLY DEVELOPED FLOW NOT ACCOUNTED
FOR IN REGIONAL DETENTION: 1.82 Acres
(AREA THAT MUST BE ACCOUNTED FOR IN ON-SITE DETENTION)

A=1.82 acres
C = 0.90
Tc = 10 minutes
I_{10} = 7.20 inch/hour
Q_{10} = 11.79 cfs

FULLY DEVELOPED FLOW TO DETENTION
POND: 1.68 Acres
C = 0.90
Tc = 10 minutes
I_{10} = 7.20 inch/hour
Q_{10} = 10.89 cfs

FULLY DEVELOPED FLOW TO BYPASS
DETENTION POND: 0.14 Acres
(DA #1 – AREA ALONG WEST PROPERTY LINE)
C = 0.90
Tc = 10 minutes
I_{10} = 7.20 inch/hour
Q_{10} = 0.91 cfs

ALLOWABLE FLOW FROM DETENTION POND=
(PRE-DEVELOPMENT FLOW) – (POST-DEVELOPMENT BYPASS)=
Q_{allow}= 4.59 cfs – 0.91 cfs = 3.68 cfs

ORIFICE SIZE CALCULATIONS
Q = CA$\sqrt{2gh}$
C = 0.7 (entrance coefficient)
A = AREA ORIFICE OPENING (sq ft)
g = 32.2 ft/sec
h = 100-YR WSEL – CENTERLINE OF PIPE
FL OUTFALL = 586.84
ALLOWABLE HEAD ELEVATION=591.19
h = 591.19–586.84 = 4.35
AREA ORIFICE OPENING = 0.274 sq ft
Q THRU 5yr ORIFICE = 3.21 cfs (Over-detaining to 5-yr orifice)

CITY OF ROCKWALL DETENTION BASIN DESIGN
5-yr Storm

GIVEN:
Area = 1.68
Prop C = 0.90
Prop Tc = 10.00 min
Max Q = 3.17 cfs

RESULT:
Maximum
Required Storage = ***7,764*** **cf**

100 Year

5 min.	I=	7.05	Q=	0.9	x	7.05	x	1.68	= 10.66 cfs
10 min.	I=	6.20	Q=	0.9	x	6.20	x	1.68	= 9.37 cfs
15 min.	I=	5.50	Q=	0.9	x	5.50	x	1.68	= 8.32 cfs
20 min.	I=	4.95	Q=	0.9	x	4.95	x	1.68	= 7.48 cfs
30 min.	I=	4.05	Q=	0.9	x	4.05	x	1.68	= 6.12 cfs
40 min.	I=	3.45	Q=	0.9	x	3.45	x	1.68	= 5.22 cfs
50 min.	I=	2.95	Q=	0.9	x	2.95	x	1.68	= 4.46 cfs
60 min.	I=	2.60	Q=	0.9	x	2.60	x	1.68	= 3.93 cfs
70 min.	I=	2.30	Q=	0.9	x	2.30	x	1.68	= 3.48 cfs
80 min.	I=	2.10	Q=	0.9	x	2.10	x	1.68	= 3.18 cfs
90 min.	I=	1.90	Q=	0.9	x	1.90	x	1.68	= 2.87 cfs
100 min.	I=	1.75	Q=	0.9	x	1.75	x	1.68	= 2.65 cfs
110 min.	I=	1.65	Q=	0.9	x	1.65	x	1.68	= 2.49 cfs

5	min Storm	In	5	x	10.66	x	60	=		3,198 cf
		Out	0.5	x	15	x	3.17	x	60 =	1,427 cf
									Storage =	1,771 cf
10	min Storm	In	10	x	9.37	x	60	=		5,625 cf
		Out	0.5	x	20	x	3.17	x	60 =	1,902 cf
									Storage =	3,723 cf
15	min Storm	In	15	x	8.32	x	60	=		7,484 cf
		Out	0.5	x	25	x	3.17	x	60 =	2,378 cf
									Storage =	5,107 cf
20	min Storm	In	20	x	7.48	x	60	=		8,981 cf
		Out	0.5	x	30	x	3.17	x	60 =	2,853 cf
									Storage =	6,128 cf
30	min Storm	In	30	x	6.12	x	60	=		11,022 cf
		Out	0.5	x	40	x	3.17	x	60 =	3,804 cf
									Storage =	7,218 cf
40	min Storm	In	40	x	5.22	x	60	=		12,519 cf
		Out	0.5	x	50	x	3.17	x	60 =	4,755 cf
									Storage =	7,764 cf
50	min Storm	In	50	x	4.46	x	60	=		13,381 cf
		Out	0.5	x	60	x	3.17	x	60 =	5,706 cf
									Storage =	7,675 cf
60	min Storm	In	60	x	3.93	x	60	=		14,152 cf
		Out	0.5	x	70	x	3.17	x	60 =	6,657 cf
									Storage =	7,495 cf
70	min Storm	In	70	x	3.48	x	60	=		14,606 cf
		Out	0.5	x	80	x	3.17	x	60 =	7,608 cf
									Storage =	6,998 cf
80	min Storm	In	80	x	3.18	x	60	=		15,241 cf
		Out	0.5	x	90	x	3.17	x	60 =	8,559 cf
									Storage =	6,682 cf
90	min Storm	In	90	x	2.87	x	60	=		15,513 cf
		Out	0.5	x	100	x	3.17	x	60 =	9,510 cf
									Storage =	6,003 cf
100	min Storm	In	100	x	2.65	x	60	=		15,876 cf
		Out	0.5	x	110	x	3.17	x	60 =	10,461 cf
									Storage =	***5,415*** cf
110	min Storm	In	110	x	2.5	x	60	=		16,466 cf
		Out	0.5	x	120	x	3.17	x	60 =	11,412 cf
									Storage =	5,054 cf

EXISTING DRAINAGE:
TOTAL AREA NOT ACCOUNTED FOR IN REGIONAL DETENTION= 1.82 acres
(AREA THAT MUST BE ACCOUNTED FOR IN ON-SITE DETENTION)
A=1.82 acres
C = 0.35
Tc = 10 minutes
I_5 = 6.20 inch/hour
Q_5 = 3.95 cfs

PROPOSED DRAINAGE:
FULLY DEVELOPED FLOW NOT ACCOUNTED
FOR IN REGIONAL DETENTION: 1.82 Acres
(AREA THAT MUST BE ACCOUNTED FOR IN ON-SITE DETENTION)

A=1.82 acres
C = 0.90
Tc = 10 minutes
I_5 = 6.20 inch/hour
Q_5 = 10.16 cfs

FULLY DEVELOPED FLOW TO DETENTION
POND: 1.68 Acres
C = 0.90
Tc = 10 minutes
I_5 = 6.20 inch/hour
Q_5 = 9.37 cfs

FULLY DEVELOPED FLOW TO BYPASS
DETENTION POND: 0.14 Acres
(DA #1 – AREA ALONG WEST PROPERTY LINE)
C = 0.90
Tc = 10 minutes
I_5 = 6.20 inch/hour
Q_5 = 0.78 cfs

ALLOWABLE FLOW FROM DETENTION POND=
(PRE-DEVELOPMENT FLOW) – (POST-DEVELOPMENT BYPASS)=
Q_{allow}= 3.95 cfs – 0.78 cfs = 3.17 cfs

ORIFICE SIZE CALCULATIONS
Q = CA$\sqrt{2gh}$
C = 0.7 (entrance coefficient)
A = AREA ORIFICE OPENING (sq ft)
g = 32.2 ft/sec
h = 100-YR WSEL – CENTERLINE OF PIPE
FL OUTFALL = 586.84
ALLOWABLE HEAD ELEVATION=591.08
h = 591.08–586.84 = 4.24
AREA ORIFICE OPENING = 0.274 sq ft
MAX Q THRU ORIFICE = 3.17 cfs

STATE OF TEXAS
GREGORY A. PETERS
105115
LICENSED
PROFESSIONAL ENGINEER

RECORD DRAWING ⚠

THIS DRAWING HAS BEEN REVISED TO REFLECT CONSTRUCTION RECORDS MAINTAINED AND PROVIDED BY THE CONTRACTOR FOR THIS PROJECT.

CONTRACTOR: HILL & WILKINSON

DATE REVISED: 08/30/2012

NO.	DATE	REVISION
⚠	8/30/2012	RECORD DRAWING

Pacheco Koch
8350 N. CENTRAL EXPWY. SUITE 1000
DALLAS, TX 75206 972.235.3031
TX REG. ENGINEERING FIRM F-469
DALLAS • FORT WORTH • HOUSTON TX REG. SURVEYING FIRM LS--100080-00

DETENTION CALCULATIONS
HATFIELD & COMPANY, INC.
DISCOVERY BLVD. & INNOVATION ST.
ROCKWALL
CITY OF ROCKWALL, ROCKWALL COUNTY, TX

DESIGN	DRAWN	DATE	SCALE	NOTES	FILE	NO.
GAP	GAP	MARCH 2012	N/A			C4.5

PK FILE: 2058-11.325

DWG FILE: 2058-11-325-ST_DELTA1_GAP.DWG
XREF FILE: 2058-11-325-BA.DWG

HATFIELD & COMPANY, INC.

KMINKLER
09/18/2012 – 12:30PM
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