

# DRAINAGE PLAN CRYSTAL CREEK ADDITION WICHITA, SEDGWICK COUNTY, KANSAS

Crystal Creek Addition - Rational Method - Q = CIA - tc = 18 min.

Basin	Area	C <sub>1</sub>	C <sub>2</sub>	C <sub>10</sub>	Q <sub>1</sub> (cfs)	Q <sub>2</sub> (cfs)	Q <sub>10</sub> (cfs)
1	3.55	0.48	0.50	0.73	6.3	8.1	18.1
2	3.43	0.48	0.50	0.73	6.0	7.8	18.5
3	1.44	0.48	0.50	0.73	2.5	3.3	7.7
4	1.18	0.48	0.50	0.73	2.1	2.7	6.3
5	1.97	0.48	0.50	0.73	3.5	4.5	10.8
6	2.79	0.48	0.50	0.73	4.9	6.4	15.0
7	0.78	0.48	0.50	0.73	1.3	1.7	4.1
8	0.82	0.48	0.50	0.73	1.4	1.9	4.4
9	4.68	0.48	0.50	0.73	8.2	10.7	25.2
10	1.00	0.48	0.50	0.73	1.8	2.3	5.4
11	1.74	0.48	0.50	0.73	3.1	4.0	9.4
12	2.28	0.48	0.50	0.73	4.0	5.2	12.3
13	2.10	0.48	0.50	0.73	3.7	4.8	11.3
14	2.14	0.48	0.50	0.73	3.8	4.9	11.5
15	9.47	0.48	0.50	0.73	18.7	21.8	50.9
16	2.40	0.67	0.70	0.83	6.2	7.7	14.7
17	1.91	0.67	0.70	0.83	4.9	6.1	11.7
18	1.72	0.67	0.70	0.83	4.4	5.5	10.5
19	1.95	0.48	0.50	0.73	3.4	4.4	10.5
20	0.64	0.48	0.50	0.73	1.1	1.3	3.4

DATE OF PREPARATION: APRIL 28, 2003  
 BENCHMARK: COW Benchmark 400' north of Harry on Todd Street, northeast corner of RRCC, Elevation = 157.34 City Datum (134.64 NGVD29)

Off-site Dmg. D.A. = 145 oc, Tc = 41 min, CN = 80, Q<sub>1</sub> = 160 cfs, Q<sub>2</sub> = 244 cfs, Q<sub>10</sub> = 548 cfs

Off-site Dmg. D.A. = 146 oc, Tc = 63 min, CN = 80, Q<sub>1</sub> = 119 cfs, Q<sub>2</sub> = 192 cfs, Q<sub>10</sub> = 411 cfs

Construct Trapezoidal Channel Section A-A

Runoff to be re-directed by new channel

Off-site Dmg. D.A. = 80 oc, Tc = 44 min, CN = 80, Q<sub>1</sub> = 84 cfs, Q<sub>2</sub> = 128 cfs, Q<sub>10</sub> = 208 cfs

Construct Trapezoidal Channel Section B-B

5' ROAD R/W ESMT. (MISC. BOOK 156, PG. 33) (MISC. BOOK 156, PG. 34)

Trapezoidal Channel 10' Bottom Width, 4:1 Side Slopes, 0.18' Bed Slope, Uniform Flow, Capacity = 1,016 cfs at 6.5' depth

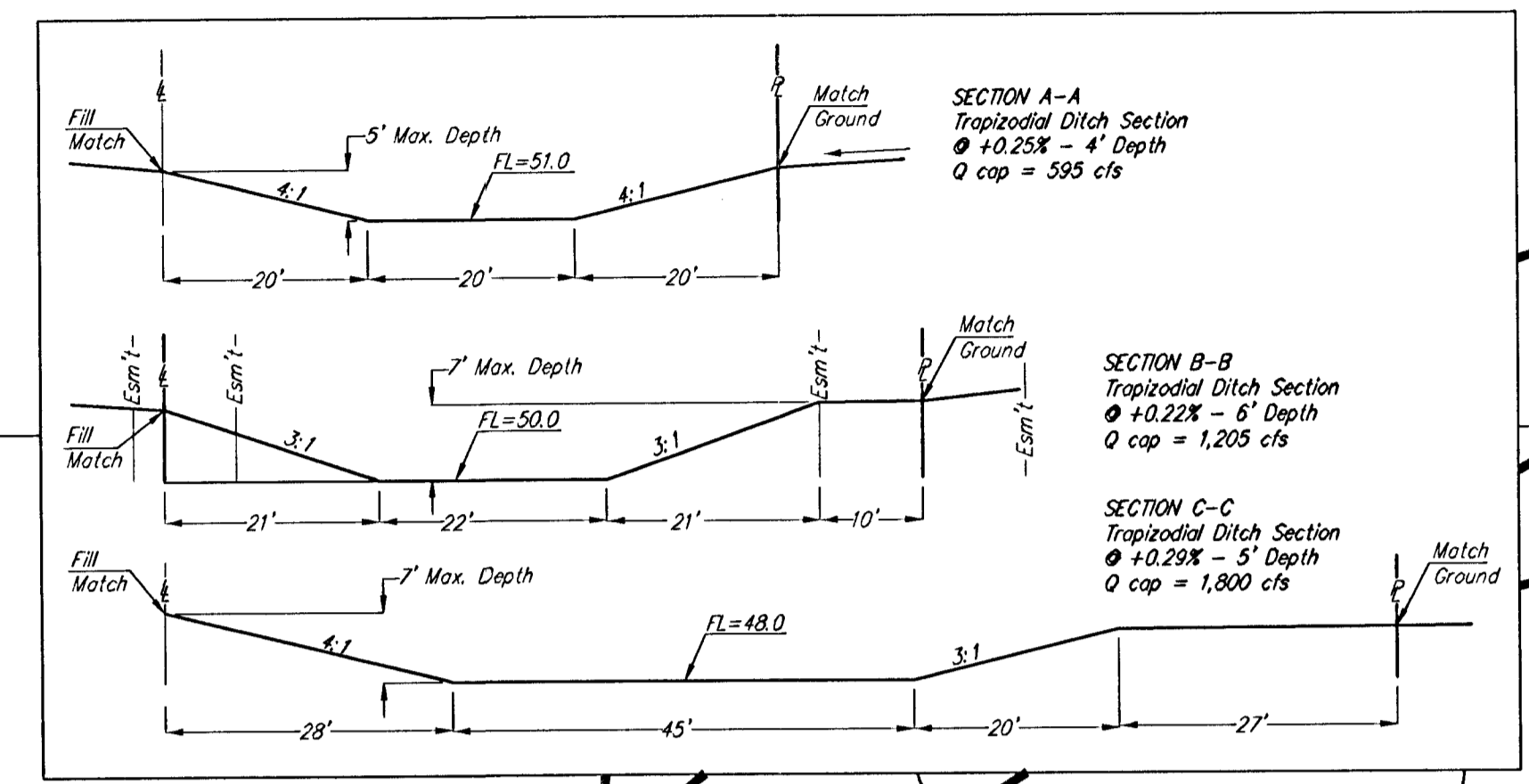
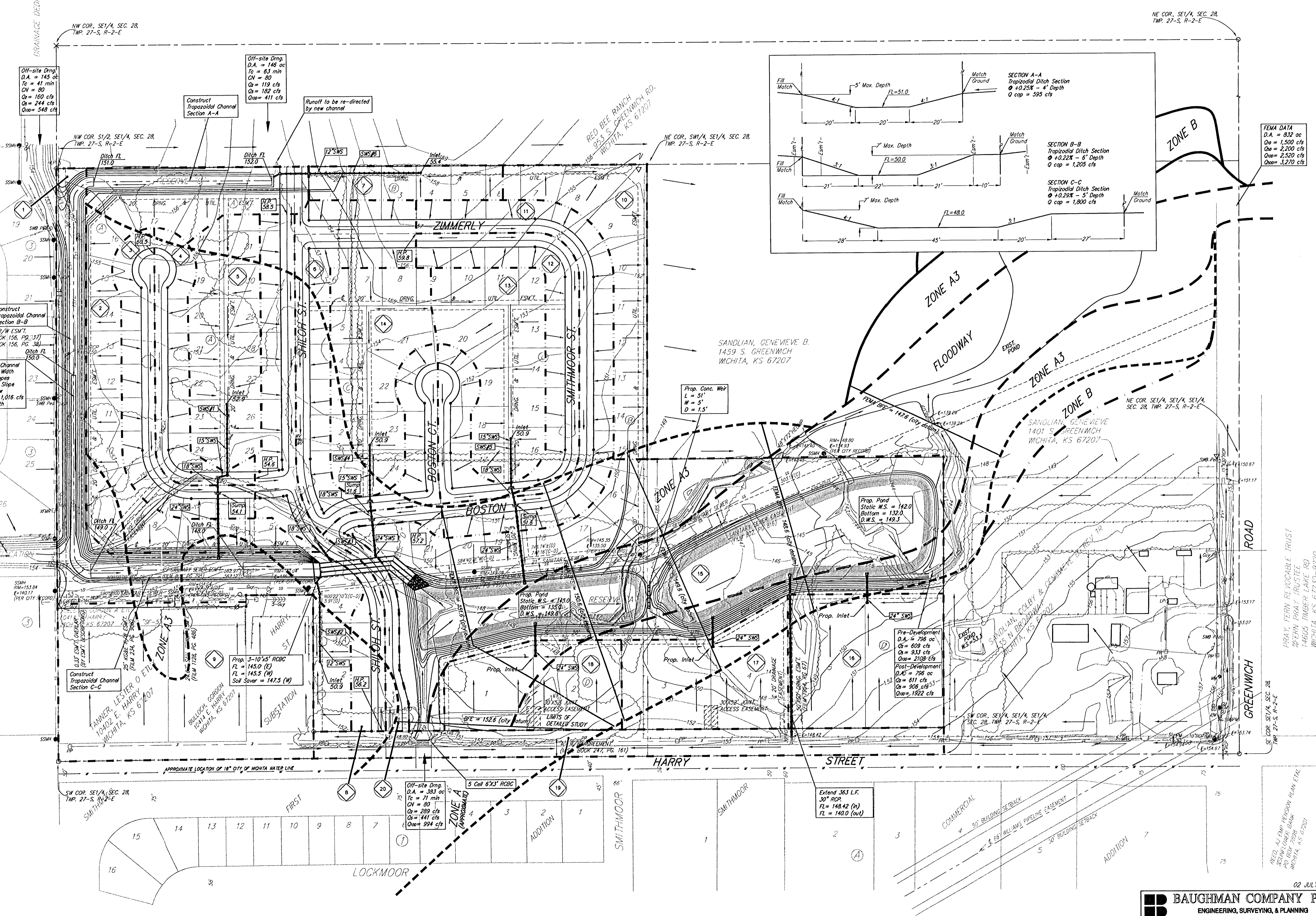
Trapezoidal Channel 30' Bottom Width, 7:1 Side Slopes, 1.0' Bed Slope, Uniform Flow, Capacity = 1,900 cfs at 4' depth

Off-site Dmg. D.A. = 80 oc, Tc = 44 min, CN = 80, Q<sub>1</sub> = 84 cfs, Q<sub>2</sub> = 128 cfs, Q<sub>10</sub> = 208 cfs

MINIMUM BUILDING PAD ELEVATIONS FOR LOWEST OPENING TO THE STRUCTURES

LOT	BLOCK	ELEVATION CITY DATUM
4	A	154.5
5	A	154.5
6	A	154.5
7	A	155.2
8	A	155.8
9	A	156.0
10	A	157.5
11	A	158.0
12	A	158.2
13	A	158.4
14	A	158.6
15	A	158.8
16	A	159.0
17, 18, 32	A	159.2
15-21	B	152.0
1-3	D	152.0
4-6	D	151.3

• = #4 REBAR W/ "BAUGHMAN" CAP (SET)  
 ○ = 1/4" PINNED IRON (FOUND)  
 ○ = 1/2" IRON (FOUND)  
 ○ = 1/2" IRON IN TRIMBLE (FOUND)  
 ○ = #5 REBAR W/ "BAUGHMAN" END-CAP (FOUND)  
 ○ = CROSS ON FENCE POST FOOTING (FOUND)  
 ○ = "P-K" NAIL W/ "BAUGHMAN" CAP (SET)  
 IN SW COR. OF CONC. FENCE POST FOOTING



FEMA DATA  
 D.A. = 832 oc  
 Q<sub>1</sub> = 1,500 cfs  
 Q<sub>2</sub> = 2,200 cfs  
 Q<sub>10</sub> = 2,520 cfs  
 Q<sub>100</sub> = 3,270 cfs