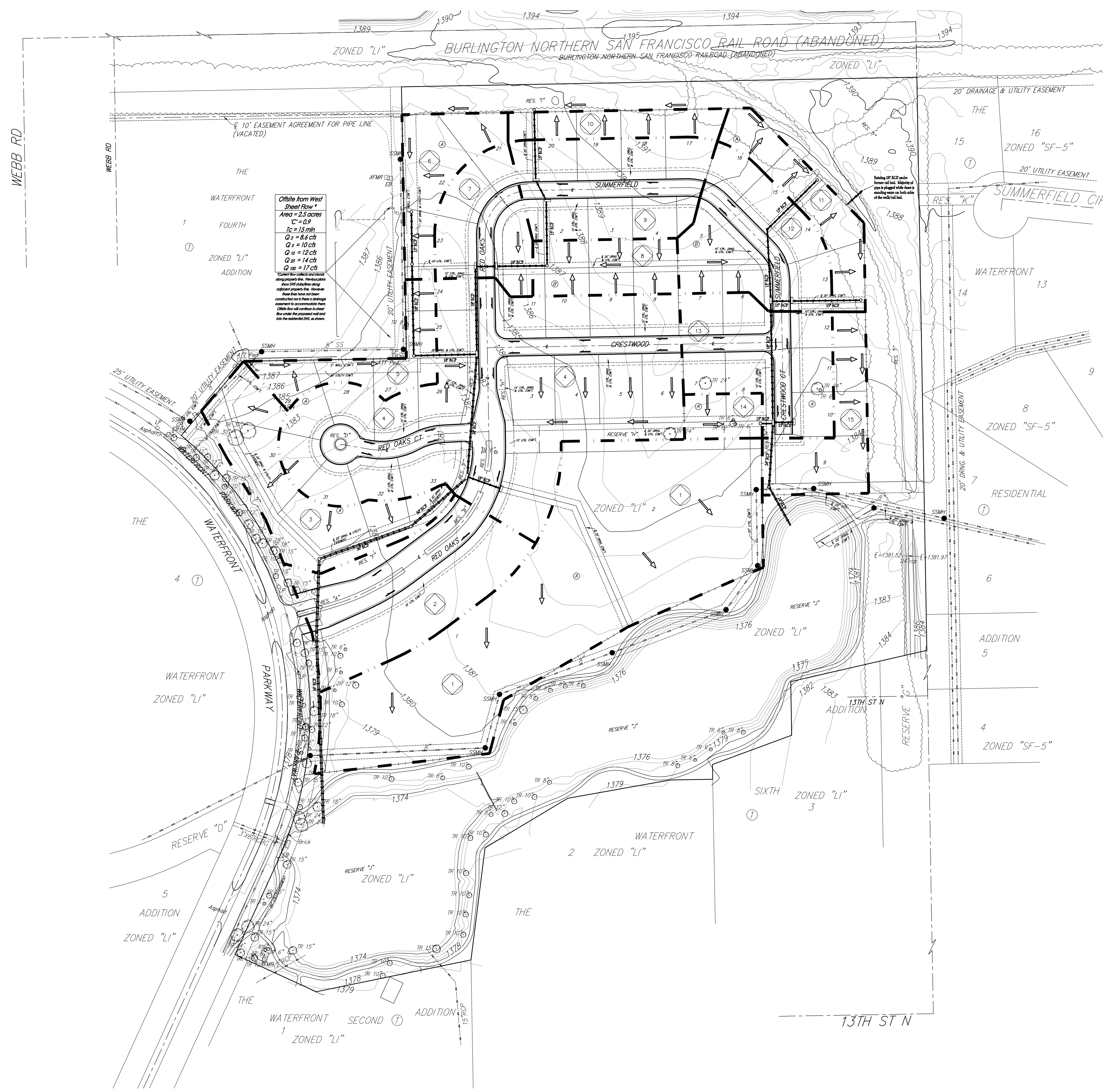


DRAINAGE PLAN

THE WATERFRONT SEVENTH ADDITION

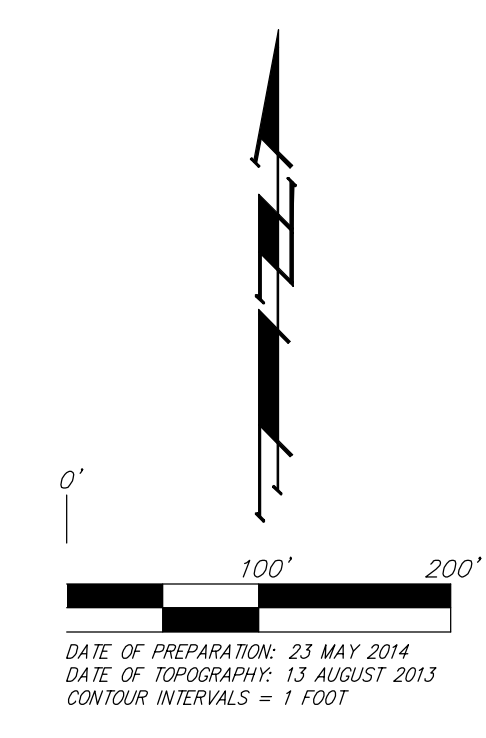
WICHITA, SEDGWICK COUNTY, KANSAS



Offsite from West Street Flow
 Area = 25 acres
 C = 0.9
 Tc = 15 min
 Q2 = 8.4 cfs
 Q3 = 10 cfs
 Q4 = 12 cfs
 Q5 = 14 cfs
 Q10 = 17 cfs

Developed Intensity	3.8	5.19	7.36
Rational C	0.55	0.67	0.8

Basin ID	Area acres	Developed Flowrates		
		2-yr cfs	10-yr cfs	100-yr cfs
1	4.8	10	17	28
2	1.7	3.6	5.9	10
3	1.2	2.6	4.2	7.1
4	4.7	9.8	16	28
5	0.6	1.3	2.1	3.5
6	0.7	1.5	2.4	4.1
7	0.8	1.7	2.8	4.7
8	0.6	1.3	2.1	3.5
9	1.4	2.9	4.9	8.2
10	0.5	1.0	1.7	2.9
11	0.7	1.5	2.4	4.1
12	1.2	2.5	4.2	7.1
13	1.2	2.5	4.2	7.1
14	0.3	0.6	1.0	1.8
15	0.6	1.2	2.0	3.4
TOTAL	21.2	44	74	125



- CB = Catch Basin
 - CP = Cable TV Pedestal
 - EB = Electric Box
 - GM = Gas Meter
 - LP = Light Pole
 - SSMH = Sanitary Sewer Manhole
 - ATT Ped = ATT Pedestal
 - WSMH = Stormwater Sewer Manhole
 - TR = Tree
 - TRFR = Transformer
- Legend for utility lines:
 AT&T
 GAS LINE
 CABLE TV
 FENCE
 SANITARY SEWER
 UNDERGROUND ELECTRIC LINE

TOTAL SITE FLOWS	
EXISTING (pre detention)	DEVELOPED (pre detention)
Area = 24.6 acres	Area = 24.6 acres
CN = 84	CN = 91
Tc = 50 min	Tc = 36 min
Q2 = 31 cfs	Q2 = 49 cfs
Q3 = 44 cfs	Q3 = 67 cfs
Q10 = 54 cfs	Q10 = 79 cfs
Q100 = 92 cfs	Q100 = 124 cfs

CN's and Tc's used are to match the approved Waterfront 7th Drainage Plan by MKEC to correspond to the original pond design. Developed curve numbers were originally for general office land cover.

Ponds located in Reserve C were sized and constructed in previous phases of Waterfront Additions. The ponds currently provide detention and water quality treatment. Downstream Channel Protection is provided by the Waterfront complex pond system (per approved Waterfront 7th Drainage Plan, MKEC 2012).

Stormwater Quality Management
 Appendix 3.3 contains the WQV calculations for the site, and for the remaining undeveloped tributary area to the south. Although some open areas are planned for the site, the calculations proceeded with the assumption that there would not be any post-developed wooded areas. For the area south of the Hotel Pond, this area will develop completely as commercial. Approximately 1.1-acre-ft of treatment volume is required for the site, and 1.0-acre-ft for the undeveloped tributary area to the south. Consequently, a total 2.1-acre-ft of WQV is needed. This treatment volume is obtained below the normal pool of the upper portion of the Hotel Pond. Table 3.2 below contains the volumetric calculations for the upper part of the Hotel Pond.

Table 3.2 - Normal Pool Volume

Elev. (ft)	Elev. Diff. (ft)	Area (sq.ft)	Inc. Vol. (cu.ft)	Com. Vol. (cu.ft)	Cum. Vol. (ac.ft)
1981		17,380		0	0.0
1980	1	26,137	65,276	0	1.6
1984	4	40,503	105,779	0	2.4
1985	1	54,968	138,853	0	2.4
1374.5	0.5	105,001	889,432	889,432	20.0

At the normal pool elevation of 1374.5 a permanent water quality pool volume of 20-acre-ft is provided. This pool will remove the required 80% of post-developed total suspended solids (TSS) load from the site and the remaining undeveloped area to the south. The upper pool of the Hotel Pond will act as a standard wet pond, with 100% of the WQV contained within the permanent pool volume.

DRAINAGE PLAN

THE WATERFRONT SEVENTH ADDITION

01 JULY 2014