

SPILLED WINE ADDITION

AN ADDITION TO WICHITA, SEDGWICK COUNTY, KANSAS

DRAINAGE PLAN

SCALE: 1" = 100'
0 100 200

BENCHMARK LIST

BM R 39 - HELD FOR PROJECT DATUM BENCHMARK NGS BM "R 39" STANDARD DISK, ON THE NW CORNER OF THE RAILROAD BRIDGE. ELEV. = 1361.74 (NAVD 88)

BM 1 - CHISELED "d" AT THE SE CORNER OF THE E END OF THE CONCRETE DRIVEWAY, E OF WHERE THE DRIVE GOES S TO A HOUSE. ELEV. = 1363.725 (NAVD 88)

BM 2 - CHISELED "d" ON THE TOP FRONT CENTER OF THE STORM DRAIN CURB INLET ON THE E SIDE OF GREENWICH ROAD AND ON THE N SIDE OF THE RAILS TO TRAILS HIKING PATH FROM THE ABANDONED RAILROAD RIGHT OF WAY BETWEEN 13TH STREET AND 21ST STREET. ELEV. = 1367.13 (NAVD 88)

NOTES

Stormwater Detention:
Stormwater detention from the proposed redevelopment is not required since the site is directly adjacent to a water course that drains more than 10 times the area of the plot.

Downstream Channel Protection Volume:
Delaying runoff discharge volume for this stormwater regulation is not applicable since detention is not applicable.

Water Quality:
Site runoff from the first 1.2 inches of rainfall is displaced through the permanent pool volume of the existing pond on adjacent property owned by the applicant, north of Four Mile Creek. This volume is approximately 0.46 acre-feet. The pond surface area is approximately 3.0 acres. This results in an approximate depth of the water quality volume of 0.15 feet. The pond average depth is greater than 8 feet. The water quality requirement is met. See Tables 1 and 2 on this sheet.

FEMA Flood Hazard Zones:
FEMA floodplain and floodway locations and elevations based on information provided by the City of Wichita Stormwater Management (Proposed County-Wide Re-study)

No construction is proposed within the limits of the floodway.

LEGEND

- 2 BASIN IDENTIFIER
- MINOR BASIN BOUNDARY
- STORM WATER FLOW

TABLE 1
WATER QUALITY VOLUME CALCULATIONS

EXISTING IMPERVIOUS		EXISTING IMPERVIOUS AREA = 0.862 ACRES		TOTAL	
HSG=D	HSG = D	D			
Rvu	0.05				
U	0				
Rvd	0.25				
D	0.0000	0.000	0.000		
Rvi	0.95				
I	1.0000	0.950	0.950		
Rv=Rvu*U+Rvd*D+Rvi*I		Rv=	0.950		
REDEVELOP FACTOR		RC=	0.3		
DRAINAGE AREA		A=	0.862 ACRES		
RAINFALL		P=	1.2 INCHES		
WQ VOL = Rv*RC*A*P/12		WQ VOL=	0.024567 AF		
		WQ VOL=	1070.139 CF		

TABLE 2
WATER QUALITY VOLUME CALCULATIONS

PROPOSED CONDITIONS		SITE AREA = 16.3 ACRES		NEW IMPERVIOUS AREA = 1.408 ACRES	
		EX. IMPERVIOUS AREA = 0.862 ACRES	DEVELOPED AREA = 15.438 ACRES		
		D		TOTAL	
Rvu	0.05				
U	0				
Rvd	0.25				
D	0.85	0.212	0.212		
Rvi	0.95				
I	0.15	0.145	0.145		
Rv=Rvu*U+Rvd*D+Rvi*I		Rv=	0.357		
DEVELOPED AREA		A=	15.438 ACRES		
RAINFALL		P=	1.2 INCHES		
WQ VOL = Rv*A*P/12		WQ VOL=	0.55 AF		
		WQ VOL=	24014.24 CF		
TOTAL		WQ VOL=	0.58 AF		
TOTAL		WQ VOL=	25084.37 CF		
ACRES		FEET	8	24.00 AF >	0.58 AF
PERMANENT POND POOL VOLUME					
WATER QUALITY VOLUME MET					

TABLE 3
HYDROLOGY

PRE DEVELOPMENT		BASIN 1		CN * AC	
HSG	D	CN	ACRES	CN * AC	
EX. UNDISTURBED PERVIOUS	84	84	0	0	0
DISTURBED PERVIOUS	88	88	2.179	191.752	
IMPERVIOUS	98	98	0.124	12.152	
Tc=	10 MIN.	TOTAL	2.303	203.904	
		Weighted CN =		88.53843	

TABLE 3
HYDROLOGY

POST DEVELOPMENT		BASIN 2		CN * AC	
HSG	D	CN	ACRES	CN * AC	
EX. UNDISTURBED PERVIOUS	84	84	0	0	0
DISTURBED PERVIOUS	88	88	2.509	220.792	
IMPERVIOUS	98	98	0.277	27.146	
Tc=	10 MIN.	TOTAL	2.786	247.938	
		Weighted CN =		88.99426	

TABLE 3
HYDROLOGY

POST DEVELOPMENT		BASIN 3		CN * AC	
HSG	D	CN	ACRES	CN * AC	
EX. UNDISTURBED PERVIOUS	84	84	0	0	0
DISTURBED PERVIOUS	88	88	0.782	68.816	
IMPERVIOUS	98	98	0.107	10.486	
Tc=	15 MIN.	TOTAL	0.889	79.302	
		Weighted CN =		89.2036	

TABLE 3
HYDROLOGY

POST DEVELOPMENT		BASIN 4		CN * AC	
HSG	D	CN	ACRES	CN * AC	
EX. UNDISTURBED PERVIOUS	84	84	0	0	0
DISTURBED PERVIOUS	88	88	6.623	582.824	
IMPERVIOUS	98	98	0	0	0
Tc=	10 MIN.	TOTAL	6.623	582.824	
		Weighted CN =		91.44693	

TABLE 3
HYDROLOGY

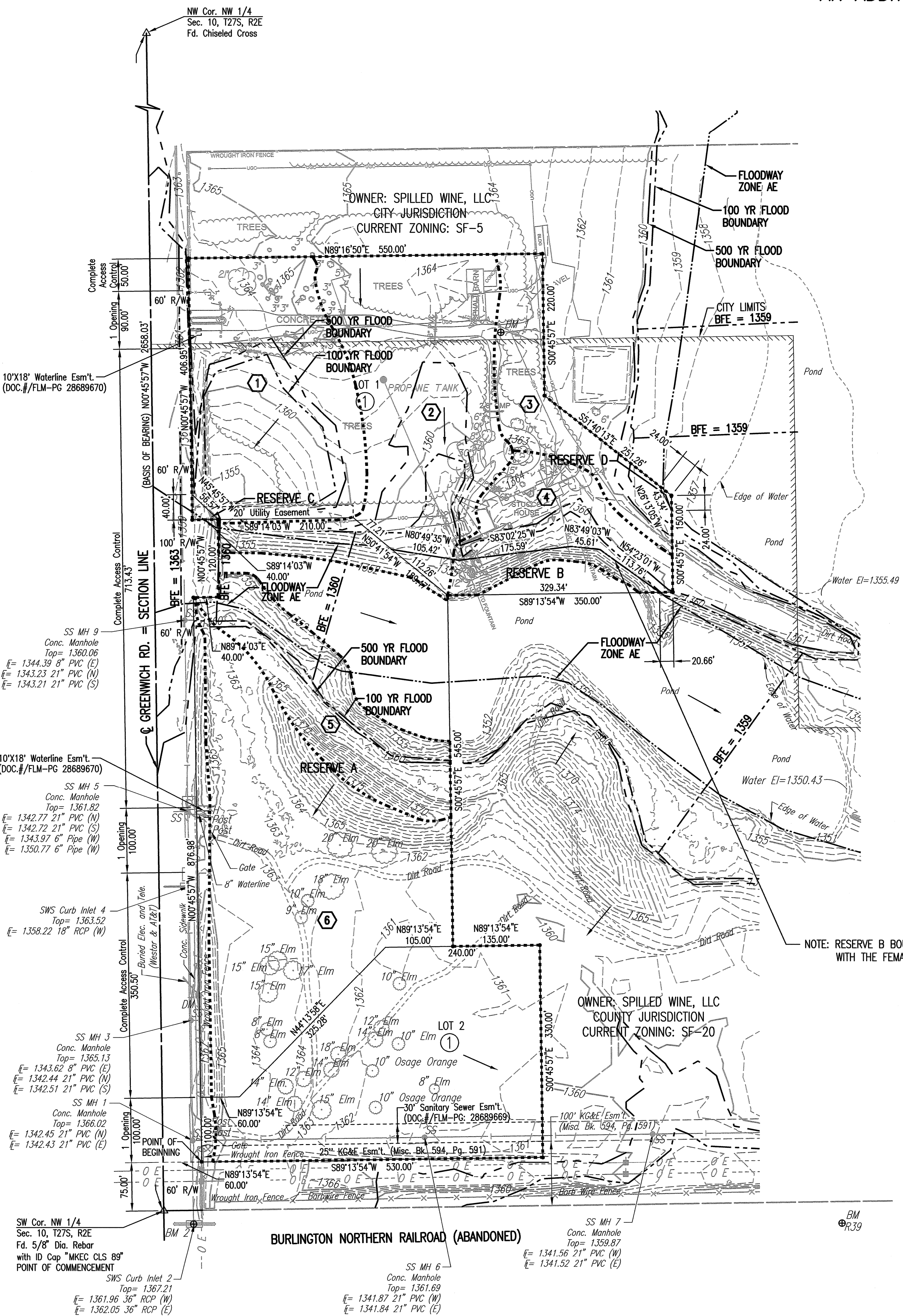
POST DEVELOPMENT		BASIN 5		CN * AC	
HSG	D	CN	ACRES	CN * AC	
EX. UNDISTURBED PERVIOUS	84	84	0	0	0
DISTURBED PERVIOUS	88	88	1.197	105.336	
IMPERVIOUS	98	98	0	0	0
Tc=	10 MIN.	TOTAL	1.197	105.336	
		Weighted CN =		88	

TABLE 3
HYDROLOGY

POST DEVELOPMENT		BASIN 6		CN * AC	
HSG	D	CN	ACRES	CN * AC	
EX. UNDISTURBED PERVIOUS	84	84	0	0	0
DISTURBED PERVIOUS	88	88	6.623	582.824	
IMPERVIOUS	98	98	0	0	0
Tc=	15 MIN.	TOTAL	6.623	582.824	
		Weighted CN =		89.18677	

TABLE 5

BASIN	2-YR		5-YR		10-YR		25-YR		100-YR	
	PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST
1	14.2	14.3	19.6	19.7	23.4	23.5	28.2	28.3	37.3	37.4
2	9.5	10.4	13.1	13.9	15.6	16.4	18.8	19.6	24.8	25.5
3	2.7	2.8	3.7	3.8	4.4	4.5	5.3	5.4	7.0	7.1
4	3.8	4.0	5.1	5.3	6.0	6.2	7.2	7.4	9.4	9.5
5	3.9	3.9	5.5	5.5	6.6	6.6	7.9	7.9	10.5	10.5
6	19.3	20.1	26.9	27.7	32.2	33.0	39.0	39.7	51.7	52.4



NOTE: RESERVE B BOUNDARY IS COINCIDENT WITH THE FEMA FLOODWAY



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 Plot Scale: 1"=100' 10-02-2013 12:56:38 PM by JIS
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