

PROPOSED STORM SEWER RUNOFF TABLE

I.D.	TO STRUCTURE NO.	Total Area (ac.)	Impervious Area (ac.)	Pervious Area (ac.)	15Yr./20Min. Composite PI Factor (cfs/ac.)	15Yr./20Min. Total Q (cfs)	100Yr./20Min. Composite PI Factor (cfs/ac.)	100Yr./20Min. Total Q (cfs)
A	CI 1-8	0.07	0.07	0.000	3.540	0.248	4.770	0.334
B	CI 1-9	0.07	0.07	0.000	3.540	0.248	4.770	0.334
C	CI 1-11	0.17	0.17	0.000	3.540	0.602	4.770	0.811
D	CI 1-11	0.36	0.32	0.040	3.336	1.201	4.494	1.618
E	CI 1-7	0.11	0.10	0.010	3.373	0.371	4.545	0.500
F	CI 1-6	0.21	0.20	0.010	3.452	0.725	4.652	0.977
G	CI 1-4	0.14	0.13	0.010	3.409	0.477	4.593	0.643
H	CI 1-8	0.07	0.07	0.000	3.540	0.248	4.770	0.334
I	CI 1-9	0.18	0.18	0.000	3.540	0.637	4.770	0.859
J	CI 1-10	0.05	0.05	0.000	3.540	0.177	4.770	0.239
K	EX.CI PKWY	0.30	0.16	0.140	2.681	0.804	3.613	1.084
L	EX AI	0.16	0.00	0.160	1.700	0.272	2.290	0.366
M	EX.CI LOOP	0.41	0.21	0.200	2.642	1.083	3.560	1.460

(See Stormwater Management Facilities Report for Calculations)

= Drainage Area I.D.

DESIGN STORM

15 YEAR FREQUENCY / 20 MINUTE DURATION
 "Pi" Factor (5% Impervious) = 1.70 cfs/acre
 "Pi" Factor (100% Impervious) = 3.54 cfs/acre

100 YEAR FREQUENCY / 20 MINUTE DURATION
 "Pi" Factor (5% Impervious) = 2.29 cfs/acre
 "Pi" Factor (100% Impervious) = 4.77 cfs/acre

EXISTING RUNOFF CALCULATIONS:

TOTAL SITE AREA = 1.89 Acres
 IMPERVIOUS: 0.03 Ac. x 3.54 = 0.11 c.f.s.
 PERVIOUS: 1.86 Ac. x 1.70 = 3.16 c.f.s.
 EXISTING 15yr./20min. RUNOFF: 3.27 c.f.s.

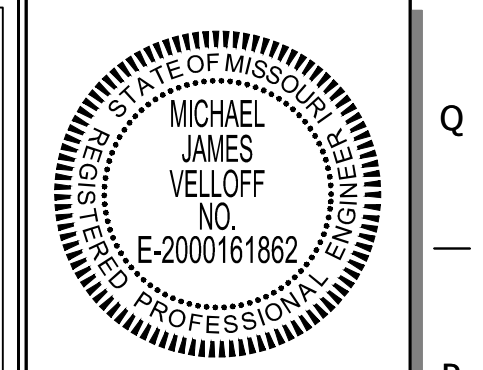
PROPOSED RUNOFF CALCULATIONS:

TOTAL SITE AREA = 1.89 Acres
 IMPERVIOUS: 1.38 Ac. x 3.54 = 4.89 c.f.s.
 PERVIOUS: 0.51 Ac. x 1.70 = 0.87 c.f.s.
 PROPOSED 15yr./20min. RUNOFF: 5.76 c.f.s.

DIFFERENTIAL RUNOFF CALCULATIONS:

TOTAL SITE AREA = 1.89 Acres
 DIFFERENTIAL=PROPOSED-EXISTING=5.76-3.27=+2.49
 NET INCREASE = 2.49 c.f.s.

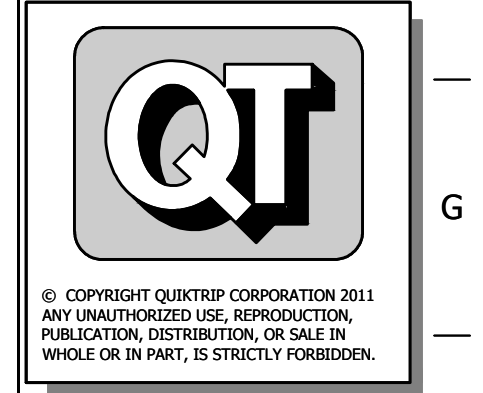
SITE DETENTION HAS ALREADY BEEN PROVIDED WITH ORIGINAL DEVELOPMENT PLANS.



PROJECT NO.: 151054
 NAME: MICHAEL J. VELLOFF
 LICENSE NUMBER: E-2000161862
 DISCIPLINE: CIVIL
 CORPORATION AUTHORITY NUMBER: 00194

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PROTOTYPE: P-87
 DIVISION: 06
 VERSION: 001
 DESIGNED BY: RKF
 DRAWN BY: RKF
 REVIEWED BY: MJV

REV	DATE	DESCRIPTION
18	05-16	BID SET
19	05-16	CONSTRUCTION SET

ORIGINAL ISSUE DATE: 04-14-16

SHEET TITLE:
 POST-DEVELOPED
 DRAINAGE MAP

SHEET NUMBER:
C401



FILE LOCATION: K:\151054 - QuikTrip #0675 - Highway K and Fallon Parkway\Civil\06-0675 Civil.dwg TAB NAME: C401 Post Dev Map USER: rkfyler SWED/8/31/2016 6:53 AM PLOTTED: 9/15/2016 9:06 AM