

SRSR RATIONAL METHOD
25-Year Design Storm

PROJECT: **25-4026**
Nolting - Strong Road

PROJECT INFORMATION

BASIN: **SITE**

Tot. Area **61,420** SF 1.41 Acres
 Imp. Area **34,764** SF C= **0.9**
 Perv. Area **26,656** SF C= **0.15**
 Wt. C = 0.57 PGIS Area = **19,764**

WCE Applicable Travel Time Ground Cover Coefficients			
Per Table 5-6 SRSM			
Type of Cover		K (ft/min)	
Short Pasture		420	
Nearly Bare Ground		600	
Small Roadside Ditch/ Grass		900	
Paved Area (use for parking lots)		1200	
Gutter - 4 inches deep		1500	
Gutter - 6 inches deep		2400	
Pipe - 12-inch PVC/DI		3000	
Pipe - 15/18-inch PVC/DI		3900	
Pipe - 24-inch PVC/DI		4700	
Reaches			
Reach 1	Offsite	also applicable for Pre-Developed Tc	
Length	50.00		
K	420.00		
Slope (ft/ft)	0.0200	be sure this is decimal equivalent slope 0.0000	
Travel Time	0.84	Minutes	
Reach 2	Finished Lot	from House to Street	
Length	65.00		
K	420.00		
Slope (ft/ft)	0.0200	be sure this is decimal equivalent slope 0.0000	
Travel Time	1.09	Minutes	
Reach 3	Gutter Flow to Inlet/Catch Basin		
Length	100.00		
K	2400.00		
Slope (ft/ft)	0.0200	be sure this is decimal equivalent slope 0.0000	
Travel Time	0.29	Minutes	
Reach 4	Pipe Flow 1	Pipe Reach One (only need one if no Diam change)	
Length	0.00		
K	3000.00	12-inch Pipe minimum	
Slope (ft/ft)	0.0050	Average Slope for total pipe run	
Travel Time	0.00	Minutes	
Reach 5	Pipe Flow 2	Add additional pipe reaches for other Diam	
Length	0.00		
K	3900.00	15/18-inch Pipe	
Slope (ft/ft)	0.0050	Average Slope for total pipe run	
Travel Time	0.00	Minutes	
Sum of Tc	2.23	Minutes	
Tc for Analysis	5.00	Minutes	

Whipple Consulting Engineers

BOWSTRING METHOD

PROJECT: 25-4026

BASIN: **SITE**

DESIGNER **trw**

DATE: 21-Jul-25

Time Increment (min) 5
 Time of Conc. (min) 5.00
 Outflow (cfs) **0.6**
 Design Year Flow 25
 Area (acres) 1.41
 Impervious Area (sq ft) 34764
 'C' Factor 0.57
 Area * C 0.810
 PGIS Area **19,764**

Rainfall Intensity Coefficients for **Spokane**
 taken from Table 5-7 SRSM
 M25 = 9.09
 N25 = 0.626

Flow (weighted C)
 Qwc= 2.69 cfs
 Flow (time of Concentration)
 Qtc= 2.69 cfs

Time (min)	Time Inc. (sec)	Intens. (in/hr)	Q Devel (cfs)	Vol.In (cu ft)	Vol.Out (cu ft)	Storage (cu ft)	
5.00	300	3.32	2.69	1081	180	901	<==
5	300	3.32	2.69	1081	180	901	<==
10	600	2.15	1.74	1223	360	863	
15	900	1.67	1.35	1354	540	814	
20	1200	1.39	1.13	1470	720	750	
25	1500	1.21	0.98	1573	900	673	
30	1800	1.08	0.88	1666	1080	586	
35	2100	0.98	0.80	1751	1260	491	
40	2400	0.90	0.73	1830	1440	390	
45	2700	0.84	0.68	1904	1620	284	
50	3000	0.79	0.64	1973	1800	173	
55	3300	0.74	0.60	2039	1980	59	
60	3600	0.70	0.57	2101	2160	-59	
65	3900	0.67	0.54	2160	2340	-180	
70	4200	0.64	0.52	2217	2520	-303	
75	4500	0.61	0.49	2271	2700	-429	
80	4800	0.59	0.47	2323	2880	-557	
85	5100	0.56	0.46	2374	3060	-686	
90	5400	0.54	0.44	2422	3240	-818	
95	5700	0.53	0.43	2469	3420	-951	
100	6000	0.51	0.41	2515	3600	-1085	

"1815A" TREATMENT REQUIREMENTS	
Minimum "1815A" Volume Required	824 cu ft
Provided Treatment Volume - Min.	1,028 cu ft
DRYWELL REQUIREMENTS - 25 YEAR DESIGN STORM	
Maximum Storage Required by Bowstring	901 cu ft
Provided Pond Storage Volume to Inlet - Min.	1,337 cu ft
Provided Drywell/Gallery Storage Volume	0 cu ft
Total Provided Volume	1,337 cu ft
Number and Type of Drywells Required	1 Single 0 Double