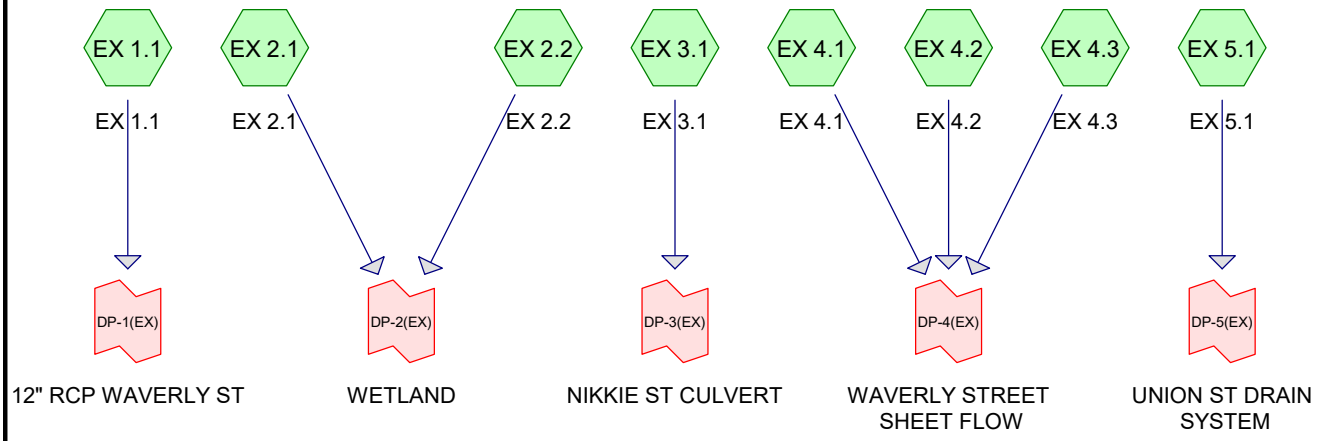

Subcat Reach Pond Link

Routing Diagram for 61 Waverly St Hydrology
Prepared by Symmes, Maini & McKee, Printed 2/6/2026

Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.031	61	>75% Grass cover, Good, HSG B (EX 1.1)
0.851	30	Meadow, non-grazed, HSG A (EX 2.1, EX 4.1)
0.081	58	Meadow, non-grazed, HSG B (EX 4.1)
0.059	98	Paved parking, HSG A (EX 1.1, EX 4.1)
8.240	30	Woods, Good, HSG A (EX 2.1, EX 2.2, EX 3.1, EX 4.1, EX 4.2, EX 4.3, EX 5.1)
0.867	55	Woods, Good, HSG B (EX 4.2, EX 4.3)
10.128	**33**	**TOTAL AREA**

Ground Covers (selected nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.031	0.000	0.000	0.000	0.031	>75% Grass cover, Good	EX 1.1
0.851	0.081	0.000	0.000	0.000	0.932	Meadow, non-grazed	EX 2.1, EX 4.1
0.059	0.000	0.000	0.000	0.000	0.059	Paved parking	EX 1.1, EX 4.1
8.240	0.867	0.000	0.000	0.000	9.107	Woods, Good	EX 2.1, EX 2.2, EX 3.1, EX 4.1, EX 4.2, EX 4.3, EX 5.1
9.149	**0.978**	**0.000**	**0.000**	**0.000**	**10.128**	**TOTAL AREA**	

Time span=0.00-96.00 hrs, dt=0.01 hrs, 9601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment EX 1.1: EX 1.1 Runoff Area=2,705 sf 50.28% Impervious Runoff Depth=1.51"
Tc=6.0 min CN=80 Runoff=0.11 cfs 0.008 af

Subcatchment EX 2.1: EX 2.1 Runoff Area=114,208 sf 0.00% Impervious Runoff Depth=0.00"
Flow Length=320' Tc=12.7 min CN=30 Runoff=0.00 cfs 0.000 af

Subcatchment EX 2.2: EX 2.2 Runoff Area=26,810 sf 0.00% Impervious Runoff Depth=0.00"
Flow Length=181' Tc=13.9 min CN=30 Runoff=0.00 cfs 0.000 af

Subcatchment EX 3.1: EX 3.1 Runoff Area=12,253 sf 0.00% Impervious Runoff Depth=0.00"
Tc=6.0 min CN=30 Runoff=0.00 cfs 0.000 af

Subcatchment EX 4.1: EX 4.1 Runoff Area=93,822 sf 1.27% Impervious Runoff Depth=0.00"
Flow Length=535' Tc=14.2 min CN=32 Runoff=0.00 cfs 0.000 af

Subcatchment EX 4.2: EX 4.2 Runoff Area=162,791 sf 0.00% Impervious Runoff Depth=0.00"
Flow Length=133' Tc=14.0 min CN=36 Runoff=0.00 cfs 0.000 af

Subcatchment EX 4.3: EX 4.3 Runoff Area=18,374 sf 0.00% Impervious Runoff Depth=0.00"
Flow Length=193' Tc=10.4 min CN=30 Runoff=0.00 cfs 0.000 af

Subcatchment EX 5.1: EX 5.1 Runoff Area=10,198 sf 0.00% Impervious Runoff Depth=0.00"
Flow Length=50' Slope=0.0400 '/' Tc=9.3 min CN=30 Runoff=0.00 cfs 0.000 af

Link DP-1(EX): 12" RCP WAVERLY ST Inflow=0.11 cfs 0.008 af
Primary=0.11 cfs 0.008 af

Link DP-2(EX): WETLAND Inflow=0.00 cfs 0.000 af
Primary=0.00 cfs 0.000 af

Link DP-3(EX): NIKKIE ST CULVERT Inflow=0.00 cfs 0.000 af
Primary=0.00 cfs 0.000 af

Link DP-4(EX): WAVERLY STREET SHEET FLOW Inflow=0.00 cfs 0.000 af
Primary=0.00 cfs 0.000 af

Link DP-5(EX): UNION ST DRAIN SYSTEM Inflow=0.00 cfs 0.000 af
Primary=0.00 cfs 0.000 af

Total Runoff Area = 10.128 ac Runoff Volume = 0.008 af Average Runoff Depth = 0.01"
99.42% Pervious = 10.069 ac 0.58% Impervious = 0.059 ac

Time span=0.00-96.00 hrs, dt=0.01 hrs, 9601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment EX 1.1: EX 1.1 Runoff Area=2,705 sf 50.28% Impervious Runoff Depth=3.09"
Tc=6.0 min CN=80 Runoff=0.23 cfs 0.016 af

Subcatchment EX 2.1: EX 2.1 Runoff Area=114,208 sf 0.00% Impervious Runoff Depth=0.01"
Flow Length=320' Tc=12.7 min CN=30 Runoff=0.01 cfs 0.003 af

Subcatchment EX 2.2: EX 2.2 Runoff Area=26,810 sf 0.00% Impervious Runoff Depth=0.01"
Flow Length=181' Tc=13.9 min CN=30 Runoff=0.00 cfs 0.001 af

Subcatchment EX 3.1: EX 3.1 Runoff Area=12,253 sf 0.00% Impervious Runoff Depth=0.01"
Tc=6.0 min CN=30 Runoff=0.00 cfs 0.000 af

Subcatchment EX 4.1: EX 4.1 Runoff Area=93,822 sf 1.27% Impervious Runoff Depth=0.04"
Flow Length=535' Tc=14.2 min CN=32 Runoff=0.01 cfs 0.008 af

Subcatchment EX 4.2: EX 4.2 Runoff Area=162,791 sf 0.00% Impervious Runoff Depth=0.14"
Flow Length=133' Tc=14.0 min CN=36 Runoff=0.07 cfs 0.045 af

Subcatchment EX 4.3: EX 4.3 Runoff Area=18,374 sf 0.00% Impervious Runoff Depth=0.01"
Flow Length=193' Tc=10.4 min CN=30 Runoff=0.00 cfs 0.000 af

Subcatchment EX 5.1: EX 5.1 Runoff Area=10,198 sf 0.00% Impervious Runoff Depth=0.01"
Flow Length=50' Slope=0.0400 '/' Tc=9.3 min CN=30 Runoff=0.00 cfs 0.000 af

Link DP-1(EX): 12" RCP WAVERLY ST Inflow=0.23 cfs 0.016 af
Primary=0.23 cfs 0.016 af

Link DP-2(EX): WETLAND Inflow=0.01 cfs 0.004 af
Primary=0.01 cfs 0.004 af

Link DP-3(EX): NIKKIE ST CULVERT Inflow=0.00 cfs 0.000 af
Primary=0.00 cfs 0.000 af

Link DP-4(EX): WAVERLY STREET SHEET FLOW Inflow=0.08 cfs 0.053 af
Primary=0.08 cfs 0.053 af

Link DP-5(EX): UNION ST DRAIN SYSTEM Inflow=0.00 cfs 0.000 af
Primary=0.00 cfs 0.000 af

Total Runoff Area = 10.128 ac Runoff Volume = 0.073 af Average Runoff Depth = 0.09"
99.42% Pervious = 10.069 ac 0.58% Impervious = 0.059 ac

Time span=0.00-96.00 hrs, dt=0.01 hrs, 9601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment EX 1.1: EX 1.1 Runoff Area=2,705 sf 50.28% Impervious Runoff Depth=5.83"
Tc=6.0 min CN=80 Runoff=0.42 cfs 0.030 af

Subcatchment EX 2.1: EX 2.1 Runoff Area=114,208 sf 0.00% Impervious Runoff Depth=0.47"
Flow Length=320' Tc=12.7 min CN=30 Runoff=0.35 cfs 0.103 af

Subcatchment EX 2.2: EX 2.2 Runoff Area=26,810 sf 0.00% Impervious Runoff Depth=0.47"
Flow Length=181' Tc=13.9 min CN=30 Runoff=0.08 cfs 0.024 af

Subcatchment EX 3.1: EX 3.1 Runoff Area=12,253 sf 0.00% Impervious Runoff Depth=0.47"
Tc=6.0 min CN=30 Runoff=0.04 cfs 0.011 af

Subcatchment EX 4.1: EX 4.1 Runoff Area=93,822 sf 1.27% Impervious Runoff Depth=0.62"
Flow Length=535' Tc=14.2 min CN=32 Runoff=0.50 cfs 0.112 af

Subcatchment EX 4.2: EX 4.2 Runoff Area=162,791 sf 0.00% Impervious Runoff Depth=0.97"
Flow Length=133' Tc=14.0 min CN=36 Runoff=1.83 cfs 0.302 af

Subcatchment EX 4.3: EX 4.3 Runoff Area=18,374 sf 0.00% Impervious Runoff Depth=0.47"
Flow Length=193' Tc=10.4 min CN=30 Runoff=0.06 cfs 0.017 af

Subcatchment EX 5.1: EX 5.1 Runoff Area=10,198 sf 0.00% Impervious Runoff Depth=0.47"
Flow Length=50' Slope=0.0400 '/' Tc=9.3 min CN=30 Runoff=0.03 cfs 0.009 af

Link DP-1(EX): 12" RCP WAVERLY ST Inflow=0.42 cfs 0.030 af
Primary=0.42 cfs 0.030 af

Link DP-2(EX): WETLAND Inflow=0.43 cfs 0.127 af
Primary=0.43 cfs 0.127 af

Link DP-3(EX): NIKKIE ST CULVERT Inflow=0.04 cfs 0.011 af
Primary=0.04 cfs 0.011 af

Link DP-4(EX): WAVERLY STREET SHEET FLOW Inflow=2.33 cfs 0.431 af
Primary=2.33 cfs 0.431 af

Link DP-5(EX): UNION ST DRAIN SYSTEM Inflow=0.03 cfs 0.009 af
Primary=0.03 cfs 0.009 af

Total Runoff Area = 10.128 ac Runoff Volume = 0.608 af Average Runoff Depth = 0.72"
99.42% Pervious = 10.069 ac 0.58% Impervious = 0.059 ac

Summary for Subcatchment EX 1.1: EX 1.1

Runoff = 0.23 cfs @ 12.09 hrs, Volume= 0.016 af, Depth= 3.09"
Routed to Link DP-1(EX) : 12" RCP WAVERLY ST

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=5.23"

Area (sf)	CN	Description
1,345	61	>75% Grass cover, Good, HSG B
1,360	98	Paved parking, HSG A
2,705	80	Weighted Average
1,345		49.72% Pervious Area
1,360		50.28% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment EX 2.1: EX 2.1

Runoff = 0.01 cfs @ 22.59 hrs, Volume= 0.003 af, Depth= 0.01"
Routed to Link DP-2(EX) : WETLAND

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=5.23"

Area (sf)	CN	Description
7,532	30	Meadow, non-grazed, HSG A
106,676	30	Woods, Good, HSG A
114,208	30	Weighted Average
114,208		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.3	50	0.0400	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
3.4	270	0.0700	1.32		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
12.7	320	Total			

Summary for Subcatchment EX 2.2: EX 2.2

Runoff = 0.00 cfs @ 22.53 hrs, Volume= 0.001 af, Depth= 0.01"
Routed to Link DP-2(EX) : WETLAND

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=5.23"

Area (sf)	CN	Description
26,810	30	Woods, Good, HSG A
26,810		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3	50	0.0200	0.07		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
1.6	131	0.0750	1.37		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
13.9	181	Total			

Summary for Subcatchment EX 3.1: EX 3.1

Runoff = 0.00 cfs @ 22.46 hrs, Volume= 0.000 af, Depth= 0.01"
Routed to Link DP-3(EX) : NIKKIE ST CULVERT

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=5.23"

Area (sf)	CN	Description
12,253	30	Woods, Good, HSG A
12,253		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment EX 4.1: EX 4.1

Runoff = 0.01 cfs @ 17.02 hrs, Volume= 0.008 af, Depth= 0.04"
Routed to Link DP-4(EX) : WAVERLY STREET SHEET FLOW

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=5.23"

Area (sf)	CN	Description
1,192	98	Paved parking, HSG A
29,531	30	Meadow, non-grazed, HSG A
3,519	58	Meadow, non-grazed, HSG B
59,580	30	Woods, Good, HSG A
93,822	32	Weighted Average
92,630		98.73% Pervious Area
1,192		1.27% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.9	50	0.0350	0.08		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
3.5	333	0.1000	1.58		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.8	152	0.0400	3.22		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
14.2	535	Total			

Summary for Subcatchment EX 4.2: EX 4.2

Runoff = 0.07 cfs @ 14.70 hrs, Volume= 0.045 af, Depth= 0.14"
Routed to Link DP-4(EX) : WAVERLY STREET SHEET FLOW

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=5.23"

Area (sf)	CN	Description
125,242	30	Woods, Good, HSG A
37,549	55	Woods, Good, HSG B
162,791	36	Weighted Average
162,791		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3	50	0.0200	0.07		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
1.7	83	0.0250	0.79		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
14.0	133	Total			

Summary for Subcatchment EX 4.3: EX 4.3

Runoff = 0.00 cfs @ 22.50 hrs, Volume= 0.000 af, Depth= 0.01"
Routed to Link DP-4(EX) : WAVERLY STREET SHEET FLOW

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=5.23"

Area (sf)	CN	Description
18,168	30	Woods, Good, HSG A
206	55	Woods, Good, HSG B
18,374	30	Weighted Average
18,374		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.5	50	0.0500	0.10		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
1.9	143	0.0650	1.27		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
10.4	193	Total			

Summary for Subcatchment EX 5.1: EX 5.1

Runoff = 0.00 cfs @ 22.56 hrs, Volume= 0.000 af, Depth= 0.01"
Routed to Link DP-5(EX) : UNION ST DRAIN SYSTEM

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=5.23"

Area (sf)	CN	Description
10,198	30	Woods, Good, HSG A
10,198		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.3	50	0.0400	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"

Summary for Link DP-1(EX): 12" RCP WAVERLY ST

Inflow Area = 0.062 ac, 50.28% Impervious, Inflow Depth = 3.09" for 10-yr event
Inflow = 0.23 cfs @ 12.09 hrs, Volume= 0.016 af
Primary = 0.23 cfs @ 12.09 hrs, Volume= 0.016 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

Summary for Link DP-2(EX): WETLAND

Inflow Area = 3.237 ac, 0.00% Impervious, Inflow Depth = 0.01" for 10-yr event
Inflow = 0.01 cfs @ 22.59 hrs, Volume= 0.004 af
Primary = 0.01 cfs @ 22.59 hrs, Volume= 0.004 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

Summary for Link DP-3(EX): NIKKIE ST CULVERT

Inflow Area = 0.281 ac, 0.00% Impervious, Inflow Depth = 0.01" for 10-yr event
Inflow = 0.00 cfs @ 22.46 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 22.46 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

Summary for Link DP-4(EX): WAVERLY STREET SHEET FLOW

Inflow Area = 6.313 ac, 0.43% Impervious, Inflow Depth = 0.10" for 10-yr event
Inflow = 0.08 cfs @ 15.10 hrs, Volume= 0.053 af
Primary = 0.08 cfs @ 15.10 hrs, Volume= 0.053 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

Summary for Link DP-5(EX): UNION ST DRAIN SYSTEM

Inflow Area = 0.234 ac, 0.00% Impervious, Inflow Depth = 0.01" for 10-yr event
Inflow = 0.00 cfs @ 22.56 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 22.56 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs