Hydraulic Calculation and Fire Hydrant Flow Test

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Hydraulic Calculations Summary

for

Project Name: Corona South Mall
Location: 725 S Main St, Corona, CA 92882, ,
Drawing Name: 24X084.01 Corona South Mall_FP_R23.rvt_Jay.Pangi Calculation Date:9/3/2026

Design

Remote Area Name:	Most Remote Area
Occupancy Classification:	Light Hazard
Density	0.10 GPM/SF
Area of Application:	1500 SF (Actual Area: 1670 SF)
Coverage per Sprinkler:	130 SF (typical)
Type of Sprinklers Calculated:	
No. of Sprinklers Calculated:	16

Type of System:	Fire Protection	Volume of Dry or PreAction System:			0.0 gal
In-rack Demand:	N/A	at Node:	N/A		
Hose Streams:	100.00 GPM	at Node:	1	Type	Allowance at Source

Total Water Required (including Hose Streams where applicable)

FROM: Water Supply at Node 1:		100.00 GPM @ 60.09 psi
	Safety Margin:	29.90 psi
FROM: Water Supply at Node 1:		100.00 GPM @ 60.09 psi
	Safety Margin:	29.90 psi
FROM: Water Supply at Node 1:		100.00 GPM @ 60.09 psi
	Safety Margin:	29.90 psi
FROM: Water Supply at Node 1:		100.00 GPM @ 60.09 psi
	Safety Margin:	29.90 psi
FROM: Water Supply at Node 100:		100.00 GPM @ 120.09 psi
	Safety Margin:	29.90 psi
FROM: Water Supply at Node 100:		100.00 GPM @ 120.09 psi
	Safety Margin:	29.90 psi
FROM: Water Supply at Node 13:		425.19 GPM @ 59.97 psi
	Safety Margin:	29.90 psi

Applied Friction Loss Method:	Hazen-Williams
Darcy-Weisbach Suppression Agent:	None.

Hydraulic Calculations Summary

for

Project Name: Corona South Mall

Location: 725 S Main St, Corona, CA 92882, ,

Drawing Name: 24X084.01 Corona South Mall_FP_R23.rvt_Jay.Pangi

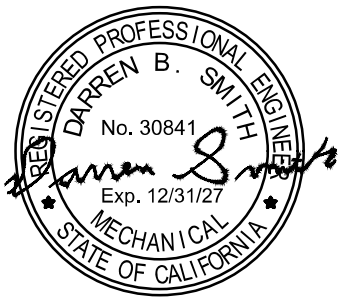
Calculation Date:9/3/2026

Contact Name CITY OF CORONA

Address: ,

Phone Number:

Name of Designer: IDS Group



Authority Having Jurisdiction:

Notes:

Automatic Peaking Results

Job Name: Corona South Mall

Remote Area Name: Most Remote Area

Date: 9/3/2026

Supply Analysis

Node	Name	Static (psi)	Residual (psi) @ Flow (GPM)		Available (psi) @ Total Demand (GPM)		Required Pressure (psi)
1	Water Supply	90.00 psi	83.00 psi	3000.00 GPM	90.00 psi	100.00 GPM	60.09 psi
1	Water Supply	90.00 psi	83.00 psi	3000.00 GPM	90.00 psi	100.00 GPM	60.09 psi
1	Water Supply	90.00 psi	83.00 psi	3000.00 GPM	90.00 psi	100.00 GPM	60.09 psi
1	Water Supply	90.00 psi	83.00 psi	3000.00 GPM	90.00 psi	100.00 GPM	60.09 psi
100	Water Supply	150.00 psi	149.00 psi	250.00 GPM	149.99 psi	100.00 GPM	120.09 psi
100	Water Supply	150.00 psi	149.00 psi	250.00 GPM	149.99 psi	100.00 GPM	120.09 psi
13	Water Supply	90.00 psi	83.00 psi	3000.00 GPM	89.87 psi	425.19 GPM	59.97 psi

Node Analysis

Node Number	Elevation (ft)	Node Type	Pressure at Node (psi)	Discharge at Node (GPM)	Notes
13	2' - 9"	Supply	59.97 psi	325.19 GPM	
101	12' - 0"	Sprinklers	13.31 psi	20.43 GPM	
102	12' - 0"	Sprinklers	14.98 psi	21.67 GPM	
103	16' - 3"	Sprinklers	18.53 psi	24.10 GPM	
104	16' - 3"	Sprinklers	19.10 psi	24.48 GPM	
105	16' - 5"	Sprinklers	18.24 psi	23.92 GPM	
106	16' - 7"	Sprinklers	13.52 psi	20.59 GPM	
107	16' - 7"	Sprinklers	14.02 psi	20.97 GPM	
108	16' - 7"	Sprinklers	11.71 psi	19.16 GPM	
109	16' - 7"	Sprinklers	20.64 psi	25.44 GPM	
110	16' - 10"	Sprinklers	10.75 psi	18.36 GPM	
111	16' - 10"	Sprinklers	9.20 psi	16.98 GPM	
112	16' - 10"	Sprinklers	10.66 psi	18.29 GPM	
113	16' - 10"	Sprinklers	9.93 psi	17.65 GPM	
114	16' - 10"	Sprinklers	10.18 psi	17.87 GPM	

Job Name: Corona South Mall

Remote Area Name: Most Remote Area

Date: 9/3/2026

Node Number	Elevation (ft)	Node Type	Pressure at Node (psi)	Discharge at Node (GPM)	Notes
115	17' - 0"	Sprinklers	7.00 psi	14.82 GPM	
116	16' - 3"	Sprinklers	13.35 psi	20.46 GPM	
5	11' - 8"		20.25 psi		
6	16' - 4"		35.50 psi		
7	16' - 4"		35.16 psi		
8	16' - 4"		34.88 psi		
9	16' - 4"		34.56 psi		
10	16' - 4"		34.23 psi		
11	16' - 4"		33.86 psi		
17	-4' - 10"		62.60 psi		
19	-4' - 10"		62.51 psi		
22	-1' - 6"		49.60 psi		
27	11' - 8"		15.91 psi		
28	15' - 3"		23.80 psi		
29	15' - 3"		39.68 psi		
30	15' - 3"		41.49 psi		
31	15' - 5"		24.64 psi		
32	15' - 6"		32.44 psi		
33	15' - 6"		30.44 psi		
34	15' - 6"		28.77 psi		
35	15' - 6"		28.41 psi		
36	15' - 6"		26.39 psi		
37	15' - 9"		23.89 psi		

Node Number	Elevation (ft)	Node Type	Pressure at Node (psi)	Discharge at Node (GPM)	Notes
38	15' - 9"		22.54 psi		
39	15' - 9"		18.92 psi		
40	15' - 9"		20.53 psi		
41	15' - 9"		20.37 psi		
42	15' - 10"		9.63 psi		
43	15' - 10"		12.15 psi		
44	15' - 10"		11.83 psi		
45	15' - 10"		10.52 psi		
46	15' - 10"		23.02 psi		
47	15' - 10"		15.41 psi		
48	15' - 10"		15.14 psi		
49	15' - 10"		13.12 psi		
50	15' - 10"		23.40 psi		
51	15' - 10"		14.75 psi		
52	15' - 10"		15.90 psi		
53	16' - 4"		38.85 psi		
54	16' - 4"		31.72 psi		
55	16' - 4"		29.73 psi		
56	16' - 4"		28.76 psi		
57	16' - 4"		27.70 psi		
58	16' - 4"		25.67 psi		
59	16' - 4"		24.95 psi		
60	16' - 4"		23.98 psi		

Node Number	Elevation (ft)	Node Type	Pressure at Node (psi)	Discharge at Node (GPM)	Notes
61	16' - 4"		23.54 psi		
62	16' - 4"		23.47 psi		
63	16' - 4"		23.28 psi		
64	16' - 4"		23.22 psi		
65	16' - 4"		23.22 psi		
66	-1' - 6"		50.29 psi		

Job Name: Corona South Mall
Remote Area Name: Most Remote Area
Date: 9/3/2026

Pipe Information

Node 1 / Node 2	Elev 1 / Elev 2 ft	K-Factor / Velocity	Flow added this step Q / Total Flow Q	Nominal ID / Actual ID	Fittings & Devices / Equiv. Length ft	Length ft / Fitting ft / Total ft	C Factor or Roughness / Pf Friction Loss Per Unit psi	Total(Pt) / Elev(Pe) / Friction(Pf)	Notes (Fitting/Device (Equivalent Length); Fixed Pressure Losses, when applicable, are added directly to (Pf) and shown as a negative value.)
115	17' - 0"	5.6	14.82 GPM	½	(See Notes)	1' - 3"	120	7.00 psi	• • • • • Route 1 • • • • • Sprinkler,
						1' - 0"	0.95 psi	0.52 psi	
42	15' - 10"	16 FPS	14.82 GPM	5/8"		2' - 3"		2.10 psi	E(1' - 0"), HW
42	15' - 10"			1	(See Notes)	9' - 11"	120	9.63 psi	
						2' - 0"	0.07 psi		
45	15' - 10"	6 FPS	14.82 GPM	1"		11' - 11"		0.89 psi	E(2' - 0"), Tr, HW
45	15' - 10"		16.98 GPM	1	(See Notes)	8' - 6"	120	10.52 psi	Flow (q) from Route 2
							0.31 psi		
49	15' - 10"	12 FPS	31.80 GPM	1"		8' - 6"		2.60 psi	Tr, HW
49	15' - 10"		19.16 GPM	1¼	(See Notes)	8' - 5"	120	13.12 psi	Flow (q) from Route 7
							0.19 psi		
51	15' - 10"	11 FPS	50.96 GPM	1 3/8"		8' - 5"		1.62 psi	Tr, HW
51	15' - 10"		20.46 GPM	1½	(See Notes)	2' - 9"	120	14.75 psi	Flow (q) from Route 9
						4' - 0"	0.17 psi		
52	15' - 10"	11 FPS	71.42 GPM	1 5/8"		6' - 9"		1.15 psi	E(4' - 0"), HW
52	15' - 10"			1	(See Notes)	0' - 6"	120	15.90 psi	
						5' - 0"	1.37 psi	-0.22 psi	
64	16' - 4"	27 FPS	71.42 GPM	1"		5' - 6"		7.54 psi	T(5' - 0"), HW
64	16' - 4"		42.11 GPM	4	(See Notes)	3' - 1"	120	23.22 psi	Flow (q) from Route 8
						10' - 0"	0.00 psi		
63	16' - 4"	3 FPS	113.53 GPM	4"		13' - 1"		0.06 psi	E(10' - 0"), HW
63	16' - 4"			4	(See Notes)	1' - 1"	120	23.28 psi	
						10' - 0"	0.00 psi	0.47 psi	
28	15' - 3"	3 FPS	113.53 GPM	4"		11' - 1"		0.05 psi	E(10' - 0"), HW
28	15' - 3"			4	(See Notes)	8' - 2"	120	23.80 psi	
						20' - 0"	0.00 psi	-0.47 psi	
62	16' - 4"	3 FPS	113.53 GPM	4"		28' - 2"		0.13 psi	2E(10' - 0"), HW
62	16' - 4"		81.67 GPM	4	(See Notes)	6' - 3"	120	23.47 psi	Flow (q) from Route 4
							0.01 psi		
61	16' - 4"	5 FPS	195.20 GPM	4"		6' - 3"		0.08 psi	Tr, HW
61	16' - 4"		80.63 GPM	4	(See Notes)	8' - 4"	120	23.54 psi	Flow (q) from Route 3
						10' - 0"	0.02 psi		
60	16' - 4"	7 FPS	275.83 GPM	4"		18' - 4"		0.44 psi	E(10' - 0"), HW

Pipe Information

Node 1 / Node 2	Elev 1 / Elev 2 ft	K-Factor / Velocity	Flow added this step / Total Flow Q	Nominal ID / Actual ID	Fittings & Devices / Equiv. Length ft	Length ft / Fitting ft / Total ft	C Factor or Roughness / Pf Friction Loss Per Unit psi	Total(Pt) / Elev(Pe) / Friction(Pf)	Notes (Fitting/Device (Equivalent Length); Fixed Pressure Losses, when applicable, are added directly to (Pf) and shown as a negative value.)
60	16' - 4"			4	(See Notes)	0' - 11"	120	23.98 psi	
						10' - 0"	0.02 psi	0.40 psi	
31	15' - 5"	7 FPS	275.83 GPM	4"		10' - 11"		0.26 psi	E(10' - 0"), HW
31	15' - 5"			4	(See Notes)	9' - 8"	120	24.64 psi	
						20' - 0"	0.02 psi	-0.40 psi	
59	16' - 4"	7 FPS	275.83 GPM	4"		29' - 8"		0.71 psi	2E(10' - 0"), Tr, HW
59	16' - 4"		49.36 GPM	4	(See Notes)	12' - 4"	120	24.95 psi	Flow (q) from Route 13
						10' - 0"	0.03 psi		
58	16' - 4"	8 FPS	325.19 GPM	4"		22' - 4"		0.72 psi	Tr, E(10' - 0"), HW
58	16' - 4"			4	(See Notes)	0' - 10"	120	25.67 psi	
						10' - 0"	0.03 psi	0.36 psi	
36	15' - 6"	8 FPS	325.19 GPM	4"		10' - 10"		0.35 psi	E(10' - 0"), HW
36	15' - 6"			4	(See Notes)	21' - 9"	120	26.39 psi	
						30' - 0"	0.03 psi	-0.36 psi	
57	16' - 4"	8 FPS	325.19 GPM	4"		51' - 9"		1.68 psi	3E(10' - 0"), 2Tr, HW
57	16' - 4"			4	(See Notes)	0' - 10"	120	27.70 psi	
						10' - 0"	0.03 psi	0.36 psi	
35	15' - 6"	8 FPS	325.19 GPM	4"		10' - 10"		0.35 psi	E(10' - 0"), HW
35	15' - 6"			4	(See Notes)	1' - 1"	120	28.41 psi	
						10' - 0"	0.03 psi		
34	15' - 6"	8 FPS	325.19 GPM	4"		11' - 1"		0.36 psi	E(10' - 0"), HW
34	15' - 6"			4	(See Notes)	0' - 10"	120	28.77 psi	
						10' - 0"	0.03 psi	-0.36 psi	
56	16' - 4"	8 FPS	325.19 GPM	4"		10' - 10"		0.35 psi	E(10' - 0"), HW
56	16' - 4"			4	(See Notes)	19' - 10"	120	28.76 psi	
						10' - 0"	0.03 psi		
55	16' - 4"	8 FPS	325.19 GPM	4"		29' - 10"		0.97 psi	Tr, E(10' - 0"), HW
55	16' - 4"			4	(See Notes)	0' - 10"	120	29.73 psi	
						10' - 0"	0.03 psi	0.36 psi	
33	15' - 6"	8 FPS	325.19 GPM	4"		10' - 10"		0.35 psi	E(10' - 0"), HW
33	15' - 6"			4	(See Notes)	20' - 10"	120	30.44 psi	
						30' - 0"	0.03 psi	-0.36 psi	
54	16' - 4"	8 FPS	325.19 GPM	4"		50' - 10"		1.65 psi	3E(10' - 0"), Tr, HW

Pipe Information

Node 1 / Node 2	Elev 1 / Elev 2 ft	K-Factor / Velocity	Flow added this step Q / Total Flow Q	Nominal ID / Actual ID	Fittings & Devices / Equiv. Length ft	Length ft / Fitting ft / Total ft	C Factor or Roughness / Pf Friction Loss Per Unit psi	Total(Pt) / Elev(Pe) / Friction(Pf)	Notes (Fitting/Device (Equivalent Length); Fixed Pressure Losses, when applicable, are added directly to (Pf) and shown as a negative value.)
54	16' - 4"			4	(See Notes)	0' - 10"	120	31.72 psi	
						10' - 0"	0.03 psi	0.36 psi	
32	15' - 6"	8 FPS	325.19 GPM	4"		10' - 10"		0.35 psi	E(10' - 0"), HW
32	15' - 6"			4	(See Notes)	15' - 1"	120	32.44 psi	
						40' - 0"	0.03 psi	-0.36 psi	
11	16' - 4"	8 FPS	325.19 GPM	4"		55' - 1"		1.78 psi	2E(10' - 0"), 2Tr, T(20' - 0"), HW
11	16' - 4"			4	(See Notes)	11' - 5"	120	33.86 psi	
							0.03 psi		
10	16' - 4"	8 FPS	325.19 GPM	4"		11' - 5"		0.37 psi	2Tr, HW
10	16' - 4"			4	(See Notes)	10' - 2"	120	34.23 psi	
							0.03 psi		
9	16' - 4"	8 FPS	325.19 GPM	4"		10' - 2"		0.33 psi	Tr, HW
9	16' - 4"			4	(See Notes)	10' - 1"	120	34.56 psi	
							0.03 psi		
8	16' - 4"	8 FPS	325.19 GPM	4"		10' - 1"		0.33 psi	Tr, HW
8	16' - 4"			4	(See Notes)	8' - 6"	120	34.88 psi	
							0.03 psi		
7	16' - 4"	8 FPS	325.19 GPM	4"		8' - 6"		0.28 psi	Tr, HW
7	16' - 4"			4	(See Notes)	10' - 5"	120	35.16 psi	
							0.03 psi		
6	16' - 4"	8 FPS	325.19 GPM	4"		10' - 5"		0.34 psi	Tr, HW
6	16' - 4"			4	(See Notes)	93' - 7"	120	35.50 psi	
						10' - 0"	0.03 psi		
53	16' - 4"	8 FPS	325.19 GPM	4"		103' - 7"		3.35 psi	6Tr, E(10' - 0"), HW
53	16' - 4"			4	(See Notes)	1' - 1"	120	38.85 psi	
						10' - 0"	0.03 psi	0.47 psi	
29	15' - 3"	8 FPS	325.19 GPM	4"		11' - 1"		0.36 psi	E(10' - 0"), HW
29	15' - 3"			4	(See Notes)	26' - 0"	120	39.68 psi	
						30' - 0"	0.03 psi		
30	15' - 3"	8 FPS	325.19 GPM	4"		56' - 0"		1.81 psi	3E(10' - 0"), Tr, HW
30	15' - 3"			4	(See Notes)	16' - 9"	120	41.49 psi	
						10' - 0"	0.03 psi	7.24 psi	
22	-1' - 6"	8 FPS	325.19 GPM	4"		26' - 9"		0.87 psi	E(10' - 0"), HW

Pipe Information

Node 1 / Node 2	Elev 1 / Elev 2 ft	K-Factor / Velocity	Flow added this step / Total Flow Q	Nominal ID / Actual ID	Fittings & Devices / Equiv. Length ft	Length / Fitting / Total ft	C Factor or Roughness / Pf Friction Loss Per Unit psi	Total(Pt) / Elev(Pe) / Friction(Pf)	Notes
22	-1' - 6"			4	(See Notes)	1' - 4"	120	49.60 psi	
						20' - 0"	0.03 psi		
66	-1' - 6"	8 FPS	325.19 GPM	4"		21' - 4"		0.69 psi	T(20' - 0"), HW
66	-1' - 6"			6	(See Notes)	56' - 2"	120	50.29 psi	
						114' - 0"	0.00 psi	1.47 psi	
19	-4' - 10"	4 FPS	325.19 GPM	6 1/8"		170' - 2"		10.75 psi	6E(14' - 0"), Tr, BFP(-10.00 psi), T(30' - 0"), HW
19	-4' - 10"			8	(See Notes)	42' - 5"	120	62.51 psi	
						35' - 0"	0.00 psi		
17	-4' - 10"	2 FPS	325.19 GPM	8"		77' - 5"		0.09 psi	T(35' - 0"), HW
17	-4' - 10"			4	(See Notes)	10' - 2"	120	62.60 psi	
						10' - 0"	0.03 psi	-3.29 psi	
13	2' - 9"	8 FPS	325.19 GPM	4"		20' - 2"		0.65 psi	E(10' - 0"), UNK, S, HW
			100.00 GPM					59.97 psi	Hose Allowance At Source
13			425.19 GPM						Total(Pt) Route 1
111	16' - 10"	5.6	16.98 GPM	1	(See Notes)	2' - 5"	120	9.20 psi	• • • • • **Route 2** • • • • •
						7' - 0"	0.10 psi	0.42 psi	Sprinkler,
45	15' - 10"	6 FPS	16.98 GPM	1"		9' - 5"		0.90 psi	E(2' - 0"), T(5' - 0"), HW
								10.52 psi	Total(Pt) Route 2
113	16' - 10"	5.6	17.65 GPM	1	(See Notes)	13' - 3"	120	9.93 psi	• • • • • **Route 3** • • • • •
						4' - 0"	0.10 psi	0.43 psi	Sprinkler,
43	15' - 10"	7 FPS	17.65 GPM	1"		17' - 3"		1.78 psi	2E(2' - 0"), Tr, HW
43	15' - 10"		18.29 GPM	1	(See Notes)	8' - 6"	120	12.15 psi	Flow (q) from Route 5
							0.38 psi		
47	15' - 10"	13 FPS	35.93 GPM	1"		8' - 6"		3.26 psi	Tr, HW
47	15' - 10"		20.59 GPM	1¼	(See Notes)	9' - 8"	120	15.41 psi	Flow (q) from Route 10
						12' - 0"	0.23 psi	0.05 psi	
40	15' - 9"	12 FPS	56.53 GPM	1 3/8"		21' - 8"		5.07 psi	4E(3' - 0"), Tr, HW
40	15' - 9"		24.10 GPM	1½	(See Notes)	3' - 5"	120	20.53 psi	Flow (q) from Route 14
						12' - 0"	0.21 psi	-0.26 psi	
61	16' - 4"	13 FPS	80.63 GPM	1 5/8"		15' - 5"		3.28 psi	E(4' - 0"), T(8' - 0"), HW
								23.54 psi	Total(Pt) Route 3

Pipe Information

Node 1 / Node 2	Elev 1 / Elev 2 ft	K-Factor / Velocity	Flow added this step Q / Total Flow Q	Nominal ID / Actual ID	Fittings & Devices / Equiv. Length ft	Length ft / Fitting ft / Total ft	C Factor or Roughness / Pf Friction Loss Per Unit psi	Total(Pt) / Elev(Pe) / Friction(Pf)	Notes (Fitting/Device (Equivalent Length); Fixed Pressure Losses, when applicable, are added directly to (Pf) and shown as a negative value.)
114	16' - 10"	5.6	17.87 GPM	1	(See Notes)	9' - 6"	120	10.18 psi	• • • • • **Route 4** • • • • •
						2' - 0"	0.11 psi	0.43 psi	Sprinkler,
44	15' - 10"	7 FPS	17.87 GPM	1"		11' - 6"		1.22 psi	E(2' - 0"), Tr, HW
44	15' - 10"		18.36 GPM	1	(See Notes)	8' - 6"	120	11.83 psi	Flow (q) from Route 6
							0.39 psi		
48	15' - 10"	13 FPS	36.23 GPM	1"		8' - 6"		3.31 psi	Tr, HW
48	15' - 10"		20.97 GPM	1¼	(See Notes)	9' - 8"	120	15.14 psi	Flow (q) from Route 11
						12' - 0"	0.24 psi	0.05 psi	
41	15' - 9"	12 FPS	57.19 GPM	1 3/8"		21' - 8"		5.18 psi	4E(3' - 0"), Tr, HW
41	15' - 9"		24.48 GPM	1½	(See Notes)	3' - 5"	120	20.37 psi	Flow (q) from Route 15
						12' - 0"	0.22 psi	-0.26 psi	
62	16' - 4"	13 FPS	81.67 GPM	1 5/8"		15' - 5"		3.36 psi	E(4' - 0"), T(8' - 0"), HW
								23.47 psi	Total(Pt) Route 4
112	16' - 10"	5.6	18.29 GPM	1	(See Notes)	2' - 7"	120	10.66 psi	• • • • • **Route 5** • • • • •
						7' - 0"	0.11 psi	0.42 psi	Sprinkler,
43	15' - 10"	7 FPS	18.29 GPM	1"		9' - 7"		1.06 psi	E(2' - 0"), T(5' - 0"), HW
								12.15 psi	Total(Pt) Route 5
110	16' - 10"	5.6	18.36 GPM	1	(See Notes)	1' - 0"	120	10.75 psi	• • • • • **Route 6** • • • • •
						5' - 0"	0.11 psi	0.42 psi	Sprinkler,
44	15' - 10"	7 FPS	18.36 GPM	1"		6' - 0"		0.66 psi	T(5' - 0"), HW
								11.83 psi	Total(Pt) Route 6
108	16' - 7"	5.6	19.16 GPM	1	(See Notes)	2' - 2"	120	11.71 psi	• • • • • **Route 7** • • • • •
						7' - 0"	0.12 psi	0.31 psi	Sprinkler,
49	15' - 10"	7 FPS	19.16 GPM	1"		9' - 2"		1.10 psi	E(2' - 0"), T(5' - 0"), HW
								13.12 psi	Total(Pt) Route 7
101	12' - 0"	5.6	20.43 GPM	1	(See Notes)	16' - 3"	120	13.31 psi	• • • • • **Route 8** • • • • •
						2' - 0"	0.14 psi	0.13 psi	Sprinkler,
27	11' - 8"	8 FPS	20.43 GPM	1"		18' - 3"		2.47 psi	E(2' - 0"), Tr, HW
27	11' - 8"		21.67 GPM	1	(See Notes)	6' - 5"	120	15.91 psi	Flow (q) from Route 12
						2' - 0"	0.52 psi		
5	11' - 8"	16 FPS	42.11 GPM	1"		8' - 5"		4.34 psi	E(2' - 0"), HW

Pipe Information

Node 1 / Node 2	Elev 1 / Elev 2 ft	K-Factor / Velocity	Flow added this step Q / Total Flow Q	Nominal ID / Actual ID	Fittings & Devices / Equiv. Length ft	Length ft / Fitting ft / Total ft	C Factor or Roughness / Pf Friction Loss Per Unit psi	Total(Pt) / Elev(Pe) / Friction(Pf)	Notes (Fitting/Device (Equivalent Length); Fixed Pressure Losses, when applicable, are added directly to (Pf) and shown as a negative value.)
5	11' - 8"			1	(See Notes)	4' - 8"	120	20.25 psi	
						5' - 0"	0.52 psi	-2.02 psi	
65	16' - 4"	16 FPS	42.11 GPM	1"		9' - 8"		4.98 psi	T(5' - 0"), HW
65	16' - 4"			4	(See Notes)	10' - 2"	120	23.22 psi	
							0.00 psi		
64	16' - 4"	1 FPS	42.11 GPM	4"		10' - 2"		0.01 psi	Tr, HW
								23.22 psi	Total(Pt) Route 8
116	16' - 3"	5.6	20.46 GPM	1	(See Notes)	1' - 10"	120	13.35 psi	• • • • • **Route 9** • • • • •
						7' - 0"	0.14 psi	0.19 psi	Sprinkler,
51	15' - 10"	8 FPS	20.46 GPM	1"		8' - 10"		1.20 psi	E(2' - 0"), T(5' - 0"), HW
								14.75 psi	Total(Pt) Route 9
106	16' - 7"	5.6	20.59 GPM	1	(See Notes)	4' - 6"	120	13.52 psi	• • • • • **Route 10** • • • • •
						7' - 0"	0.14 psi	0.31 psi	Sprinkler,
47	15' - 10"	8 FPS	20.59 GPM	1"		11' - 6"		1.58 psi	E(2' - 0"), T(5' - 0"), HW
								15.41 psi	Total(Pt) Route 10
107	16' - 7"	5.6	20.97 GPM	1	(See Notes)	0' - 9"	120	14.02 psi	• • • • • **Route 11** • • • • •
						5' - 0"	0.14 psi	0.31 psi	Sprinkler,
48	15' - 10"	8 FPS	20.97 GPM	1"		5' - 9"		0.81 psi	T(5' - 0"), HW
								15.14 psi	Total(Pt) Route 11
102	12' - 0"	5.6	21.67 GPM	1	(See Notes)	0' - 4"	120	14.98 psi	• • • • • **Route 12** • • • • •
						5' - 0"	0.15 psi	0.13 psi	Sprinkler,
27	11' - 8"	8 FPS	21.67 GPM	1"		5' - 4"		0.80 psi	T(5' - 0"), HW
								15.91 psi	Total(Pt) Route 12
105	16' - 5"	5.6	23.92 GPM	½	(See Notes)	0' - 9"	120	18.24 psi	• • • • • **Route 13** • • • • •
						1' - 0"	2.31 psi	0.31 psi	Sprinkler,
38	15' - 9"	25 FPS	23.92 GPM	5/8"		1' - 9"		3.99 psi	E(1' - 0"), HW
38	15' - 9"			1	(See Notes)	2' - 5"	120	22.54 psi	
						5' - 0"	0.18 psi		
37	15' - 9"	9 FPS	23.92 GPM	1"		7' - 5"		1.35 psi	T(5' - 0"), HW

Pipe Information

Node 1 / Node 2	Elev 1 / Elev 2 ft	K-Factor / Velocity	Flow added this step / Total Flow Q	Nominal ID / Actual ID	Fittings & Devices / Equiv. Length ft	Length ft / Fitting ft / Total ft	C Factor or Roughness / Pf Friction Loss Per Unit psi	Total(Pt) / Elev(Pe) / Friction(Pf)	Notes (Fitting/Device (Equivalent Length); Fixed Pressure Losses, when applicable, are added directly to (Pf) and shown as a negative value.)
37	15' - 9"		25.44 GPM	1½	(See Notes)	3' - 5"	120	23.89 psi	Flow (q) from Route 16
						12' - 0"	0.09 psi	-0.26 psi	
59	16' - 4"	8 FPS	49.36 GPM	1 5/8"		15' - 5"		1.32 psi	E(4' - 0"), T(8' - 0"), HW
								24.95 psi	Total(Pt) Route 13
103	16' - 3"	5.6	24.10 GPM	1¼	(See Notes)	0' - 6"	120	18.53 psi	• • • • • **Route 14** • • • • •
						3' - 0"	0.05 psi	0.22 psi	Sprinkler,
39	15' - 9"	5 FPS	24.10 GPM	1 3/8"		3' - 6"		0.17 psi	E(3' - 0"), HW
39	15' - 9"			1	(See Notes)	3' - 9"	120	18.92 psi	
						5' - 0"	0.18 psi		
40	15' - 9"	9 FPS	24.10 GPM	1"		8' - 9"		1.61 psi	T(5' - 0"), HW
								20.53 psi	Total(Pt) Route 14
104	16' - 3"	5.6	24.48 GPM	1	(See Notes)	0' - 6"	120	19.10 psi	• • • • • **Route 15** • • • • •
						5' - 0"	0.19 psi	0.22 psi	Sprinkler,
41	15' - 9"	9 FPS	24.48 GPM	1"		5' - 6"		1.04 psi	T(5' - 0"), HW
								20.37 psi	Total(Pt) Route 15
109	16' - 7"	5.6	25.44 GPM	1	(See Notes)	3' - 2"	120	20.64 psi	• • • • • **Route 16** • • • • •
						7' - 0"	0.20 psi	0.31 psi	Sprinkler,
46	15' - 10"	9 FPS	25.44 GPM	1"		10' - 2"		2.06 psi	E(2' - 0"), T(5' - 0"), HW
46	15' - 10"			1¼	(See Notes)	4' - 3"	120	23.02 psi	
						3' - 0"	0.05 psi		
50	15' - 10"	5 FPS	25.44 GPM	1 3/8"		7' - 3"		0.39 psi	E(3' - 0"), HW
50	15' - 10"			1½	(See Notes)	5' - 6"	120	23.40 psi	
						12' - 0"	0.03 psi	0.05 psi	
37	15' - 9"	4 FPS	25.44 GPM	1 5/8"		17' - 6"		0.44 psi	3E(4' - 0"), Tr, HW
								23.89 psi	Total(Pt) Route 16

Job Name: Corona South Mall
Remote Area Name: Most Remote Area
Date: 9/3/2026

Equivalent Pipe Lengths of Valves and Fittings (C=120 only)

(Actual Inside Diameter / Schedule 40 Steel Pipe Inside Diameter) 4.87 = Factor

C Value Multiplier

Value Of C	100	130	140	150
Multiplying Factor	0.713	1.16	1.33	1.51

Notes Legend

BFP	Backflow Preventer	E	90° Elbow	HW	Hazen-Williams
S	Supply	Spr	Sprinkler	T	Tee Flow Turn 90°
Tr	Tee run	UNK	Undefined Accessory		

Check Point Gauge Data

Job Number: 24X084.01
Report Description: Light Hazard

Gauge	Pressure(psi)	K-Factor(K)	Flow(GPM)	Inlet Static Pressure(psi)	Elevation(ft)
Gauge: 0	0.00 psi	0	0.00 GPM	90.00 psi	-4' - 10"
Gauge: 1	60.09 psi	0	0.00 GPM	90.00 psi	-4' - 10"

Hydraulic Calculations Summary

for

Project Name: XXXX

Location: 725 S Main St, Corona, CA 92882, ,

Drawing Name: 24X084.01 Corona South Mall_FP_R23_Jay.Pangilina Calculation Date:7/31/2026

Design

Remote Area Name:	STANDPIPE
Occupancy Classification:	HC-1 (Wet)
Density	0.10 GPM/SF
Area of Application:	2500 SF (Actual Area: 12 SF)
Coverage per Sprinkler:	100 SF
Type of Sprinklers Calculated:	
No. of Sprinklers Calculated:	0

Type of System:	N/A	Volume of Dry or PreAction System:			0.0 gal
In-rack Demand:	N/A	at Node:	N/A		
Hose Streams:	250.00 GPM	at Node:	1	Type	Allowance at Source
	250.00 GPM	at Node:	118	Type:	Hose

Total Water Required (including Hose Streams where applicable)

FROM: Water Supply at Node 1:		250.00 GPM @ 69.68 psi
	Safety Margin:	20.25 psi
FROM: Water Supply at Node 1:		250.00 GPM @ 69.68 psi
	Safety Margin:	20.25 psi
FROM: Water Supply at Node 100:		500.00 GPM @ 126.15 psi
	Safety Margin:	20.25 psi

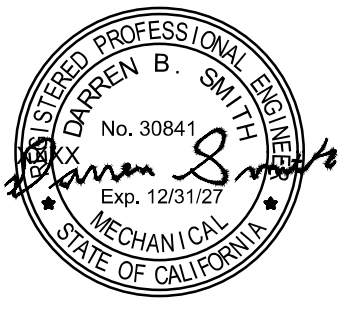
Applied Friction Loss Method:	Hazen-Williams
Darcy-Weisbach Suppression Agent:	None.

Contact Name CITY OF CORONA

Address: ,

Phone Number:

Name of Designer: XXXX



Authority Having Jurisdiction:

Notes:

Automatic Peaking Results

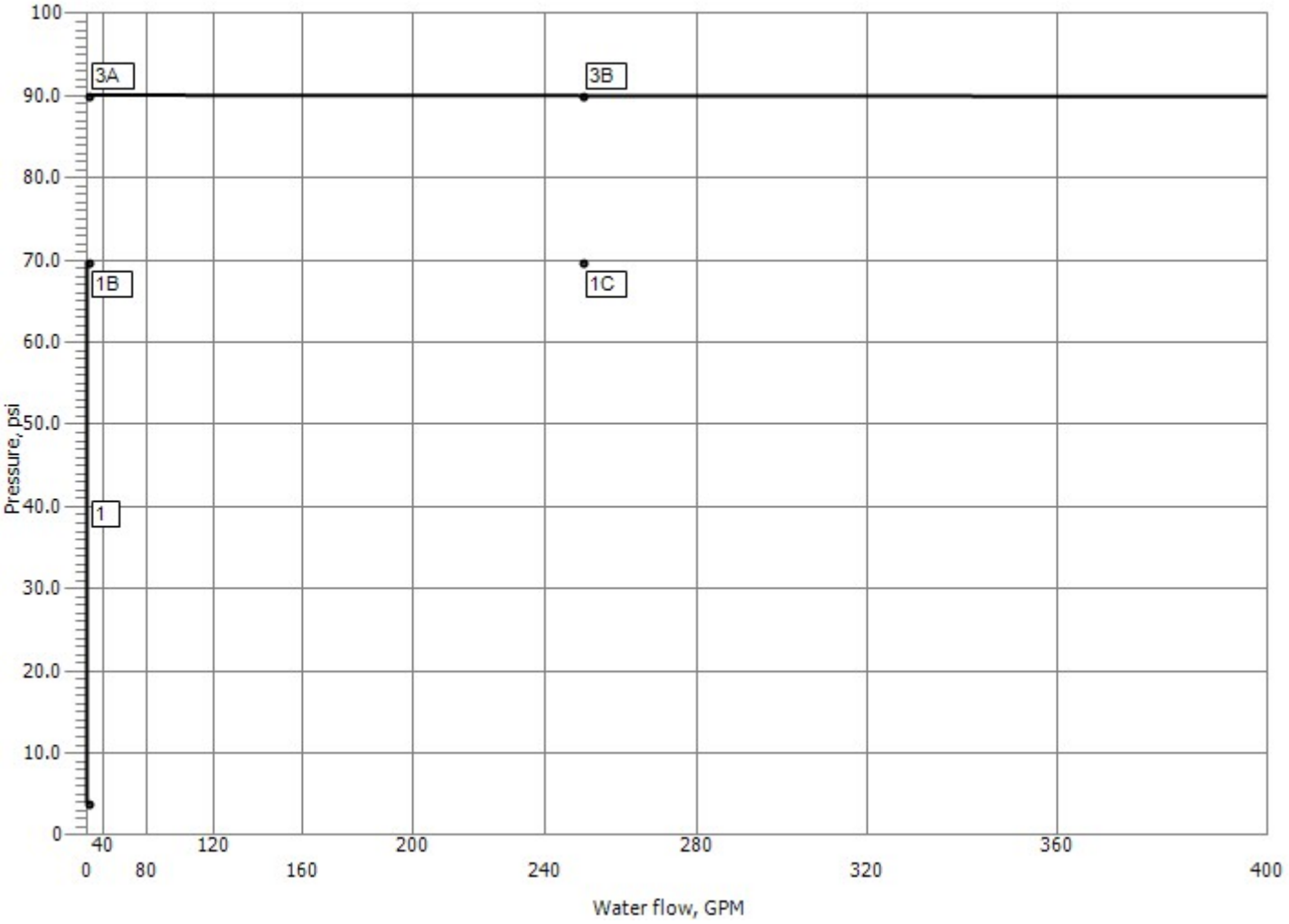
Hydraulic Graph

Water Supply - at Node: 1

Job Name: XXXX

Job Number: 24X084.01

Remote Area Number: STANDPIPE



Curve	Data Point	Hydraulic Calculation Results	Additional Data
1	1B	Required Pressure at System Demand: 69.68 psi @ 0.00 GPM	Available Flow @ 20 PSI 10402.11 GPM
	1C	Required Pressure at System Demand (Including Hose Allowance at Source): 69.68 psi @ 250.00 GPM	
3	3A	Available Static Pressure at Water Supply - at Node: 1: 90.00 psi	
	3B	Available Residual Pressure at System Demand: 89.93 psi @ 250.00 GPM	
	3C	Available Residual Pressure & Flow at Water Supply - at Node: 1: 83.00 psi @ 3000.00 GPM	

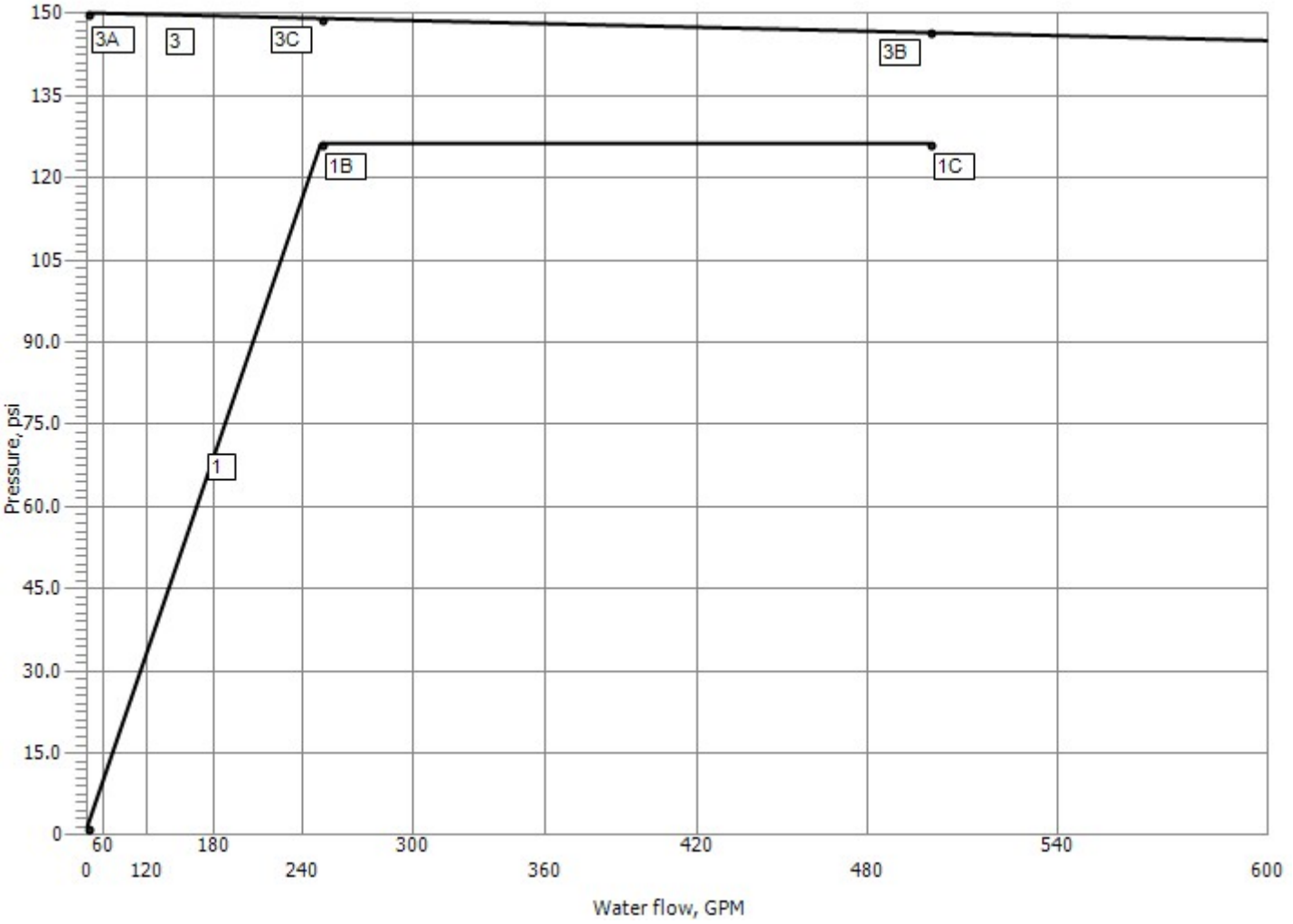
Hydraulic Graph

Water Supply - at Node: 100

Job Name: XXXX

Job Number: 24X084.01

Remote Area Number: STANDPIPE



Curve	Data Point	Hydraulic Calculation Results	Additional Data
1	1B	Required Pressure at System Demand: 126.15 psi @ 250.00 GPM	Available Flow @ 20 PSI 3463.13 GPM
	1C	Required Pressure at System Demand (Including Hose Allowance at Source): 126.15 psi @ 500.00 GPM	
3	3A	Available Static Pressure at Water Supply - at Node: 100: 150.00 psi	
	3B	Available Residual Pressure at System Demand: 146.39 psi @ 500.00 GPM	
	3C	Available Residual Pressure & Flow at Water Supply - at Node: 100: 149.00 psi @ 250.00 GPM	

Outflowing Devices

Job Number: 24X084.01
Report Description: HC-1 (Wet)

Device		Actual Flow (GPM)	Minimum Flow (GPM)	K-Factor (K)	Pressure (psi)		
Hose	118	250.00 GPM	250.00 GPM	25	100.00 psi		

Most Demanding Sprinkler Data

Job Name: XXXX

Remote Area Name: STANDPIPE

Date: 7/31/2026

Supply Analysis

Node	Name	Static (psi)	Residual (psi) @ Flow (GPM)		Available (psi) @ Total Demand (GPM)		Required Pressure (psi)
1	Water Supply	90.00 psi	83.00 psi	3000.00 GPM	89.93 psi	250.00 GPM	69.68 psi
1	Water Supply	90.00 psi	83.00 psi	3000.00 GPM	89.93 psi	250.00 GPM	69.68 psi
100	Water Supply	150.00 psi	149.00 psi	250.00 GPM	146.39 psi	500.00 GPM	126.15 psi

Node Analysis

Node Number	Elevation (ft)	Node Type	Pressure at Node (psi)	Discharge at Node (GPM)	Notes
100	0' - 11"	Supply	126.15 psi	250.00 GPM	
118	3' - 11"	Hose	100.00 psi	250.00 GPM	Hos
4	-4' - 10"		128.47 psi		
12	-4' - 10"		128.32 psi		
14	-1' - 4"		126.66 psi		
16	0' - 11"		126.04 psi		
116	-0' - 8"		126.40 psi		
117	0' - 11"		126.12 psi		
119	4' - 4"		124.13 psi		
120	14' - 1"		105.51 psi		
121	15' - 2"		112.41 psi		
122	15' - 2"		106.57 psi		

Job Name: XXXX
Remote Area Name: STANDPIPE

Date: 7/31/2026

Pipe Information

Node 1 / Node 2	Elev 1 / Elev 2 ft	K-Factor / Velocity	Flow added this step / Total Flow Q	Nominal ID / Actual ID	Fittings & Devices / Equiv. Length ft	Length ft / Fitting ft / Total ft	C Factor or Roughness / Pf Friction Loss Per Unit psi	Total(Pt) / Elev(Pe) / Friction(Pf)	Notes (Fitting/Device (Equivalent Length); Fixed Pressure Losses, when applicable, are added directly to (Pf) and shown as a negative value.)
118	3' - 11"		250.00 GPM	2½	(See Notes)	22' - 1"	120	100.00 psi	• • • • • Route 1 • • • • •
						24' - 0"	0.22 psi	-4.42 psi	Hose(-100.00 psi)
120	14' - 1"	17 FPS	250.00 GPM	2 1/2"		46' - 1"		9.93 psi	4E(6' - 0"), HW
120	14' - 1"			2½	(See Notes)	1' - 1"	120	105.51 psi	
						6' - 0"	0.22 psi	-0.47 psi	
122	15' - 2"	17 FPS	250.00 GPM	2 1/2"		7' - 1"		1.53 psi	E(6' - 0"), HW
122	15' - 2"			2½	(See Notes)	15' - 1"	120	106.57 psi	
						12' - 0"	0.22 psi		
121	15' - 2"	17 FPS	250.00 GPM	2 1/2"		27' - 1"		5.84 psi	T(12' - 0"), HW
121	15' - 2"			4	(See Notes)	301' - 4"	120	112.41 psi	
						50' - 0"	0.02 psi	4.73 psi	
119	4' - 4"	6 FPS	250.00 GPM	4"		351' - 4"		7.00 psi	3E(10' - 0"), 3Tr, T(20' - 0"), UNK, HW
119	4' - 4"			4	(See Notes)	4' - 11"	120	124.13 psi	
							0.02 psi	2.17 psi	
116	-0' - 8"	6 FPS	250.00 GPM	4"		4' - 11"		0.10 psi	Tr, UNK, red, HW
116	-0' - 8"			6	(See Notes)	0' - 7"	120	126.40 psi	
							0.00 psi	0.26 psi	
14	-1' - 4"	3 FPS	250.00 GPM	6 1/8"		0' - 7"		0.00 psi	Tr, HW
14	-1' - 4"			6	(See Notes)	4' - 7"	120	126.66 psi	
						42' - 0"	0.00 psi	1.53 psi	
12	-4' - 10"	3 FPS	250.00 GPM	6 1/8"		46' - 7"		0.13 psi	3E(14' - 0"), HW
12	-4' - 10"			6	(See Notes)	13' - 2"	120	128.32 psi	
						42' - 0"	0.00 psi		
4	-4' - 10"	3 FPS	250.00 GPM	6 1/8"		55' - 2"		0.15 psi	3E(14' - 0"), HW
4	-4' - 10"			6	(See Notes)	5' - 9"	120	128.47 psi	
						14' - 0"	0.00 psi	-2.48 psi	
16	0' - 11"	3 FPS	250.00 GPM	6 1/8"		19' - 9"		0.05 psi	E(14' - 0"), HW
16	0' - 11"			6	(See Notes)	1' - 4"	120	126.04 psi	
						30' - 0"	0.00 psi		
117	0' - 11"	3 FPS	250.00 GPM	6 1/8"		31' - 4"		0.08 psi	T(30' - 0"), HW
117	0' - 11"			4	(See Notes)	1' - 1"	120	126.12 psi	
							0.02 psi		
100	0' - 11"	6 FPS	250.00 GPM	4"		1' - 1"		0.02 psi	Water Supply, HW

Job Name: XXXX
Remote Area Name: STANDPIPE

Date: 7/31/2026

Pipe Information

Node 1	Elev 1 ft	K-Factor	Flow added this step Q	Nominal ID	Fittings & Devices	Length ft	C Factor or Roughness	Total(Pt)	Notes Fitting/Device (Equivalent Length)
						Fitting ft	Pf Friction Loss Per Unit psi	Elev(Pe)	Fixed Pressure Losses, when applicable, are added directly to (Pf) and shown as a negative value.
Node 2	Elev 2 ft	Velocity	Total Flow Q	Actual ID	Equiv. Length ft	Total ft		Friction(Pf)	

126.15 psi	Total(Pt) Route 1

Equivalent Pipe Lengths of Valves and Fittings (C=120 only)

(Actual Inside Diameter / Schedule 40 Steel Pipe Inside Diameter) 4.87 = Factor

C Value Multiplier

Value Of C	100	130	140	150
Multiplying Factor	0.713	1.16	1.33	1.51

Notes Legend

E	90° Elbow	Hose	Hose	HW	Hazen-Williams
red	Reducer/Adapter	S	Supply	T	Tee Flow Turn 90°
Tr	Tee run	UNK	Undefined Accessory		

FIRE FLOW REPORT
HYDRAULIC MODEL
CITY OF CORONA

Project Number
DWPF2026-0034
Date Issued
6/18/2026

APPLICANT INFORMATION

Name: **CITY OF CORONA - RACHEL MCLURE**

Phone:

Address: **400 S VICENTIA AVE CORONA CA 92882**

Email: **Rachel.McLure@coronaca.gov**

GENERAL INFORMATION

Site Address: **725 S MAIN ST**

Site Location: **Within City Limits**

Type: **Commercial**

Notes: **Overhead Fire Sprinklers**

TEST INFORMATION

Test Date: **6/17/2026**

Flow Hydrant No: **H749**

Main Size (in): **8**

20 psi Residual Flow (gpm): **3390**

Simulated Flow (gpm): **3000**

Static Pressure (psi): **90**

Residual Pressure for Simulated Flow (psi): **83**

ADDITIONAL INFORMATION FOR RIVERSIDE COUNTY UNINCORPORATED AREA

Hydrant Type:

Hydrant Make & Model:

Distance to Hydrant (ft):

Nozzel Count:

Nozzel Size (in):

Can the water system provide at least 1,000 gpm at a 20 psi residual pressure?



Fee:Account: 570 50000 31903

Approved by:

For inquiries concerning this report, please call **(951) 279 - 3592**

Printed: 6/18/2026

FIRE FLOW REPORT
HYDRAULIC MODEL
CITY OF CORONA

Project Number
DWPF2026-0034
Date Issued
6/18/2026

APPLICANT INFORMATION

Name: **CITY OF CORONA - RACHEL MCLURE**

Phone:

Address: **400 S VICENTIA AVE CORONA CA 92882**

Email: **Rachel.McLure@coronaca.gov**

GENERAL INFORMATION

Site Address: **725 S MAIN ST**

Site Location: **Within City Limits**

Type: **Commercial**

Notes: **Overhead Fire Sprinklers**

TEST INFORMATION

Test Date: **6/17/2026**

Flow Hydrant No: **H750**

Main Size (in): **8**

20 psi Residual Flow (gpm): **3390**

Simulated Flow (gpm): **3000**

Static Pressure (psi): **90**

Residual Pressure for Simulated Flow (psi): **83**

ADDITIONAL INFORMATION FOR RIVERSIDE COUNTY UNINCORPORATED AREA

Hydrant Type:

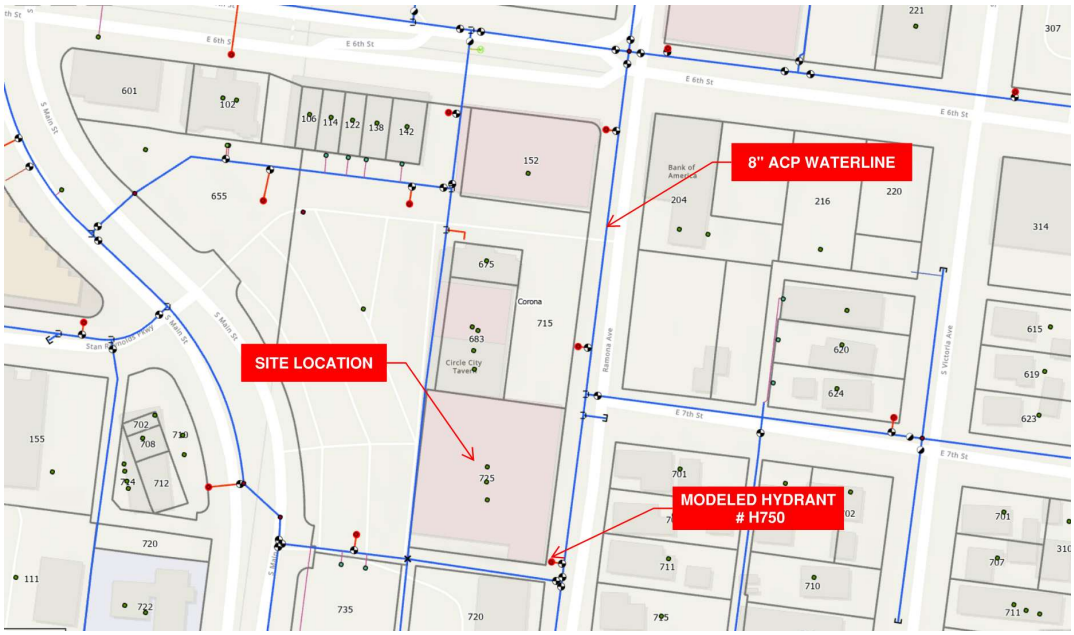
Hydrant Make & Model:

Distance to Hydrant (ft):

Nozzel Count:

Nozzel Size (in):

Can the water system provide at least 1,000 gpm at a 20 psi residual pressure?



Fee:Account: 570 50000 31903

Approved by:

For inquiries concerning this report, please call **(951) 279 - 3592**