ESTADIO DE YUMBO
Fire Sprinkler Reports

for

MUNICIPIO DE YUMBO

Prepared By:

CLARA PATIÑO / SANDRA MORENO
HIDROSOLUCIONES AMBIENTALES SAS

3002771593
Enero 24, 2025

General Project Data Report

General Data

Project Title:	ESTADIO DE YUMBO	Project File Name:	ESTADIO DE TUMBO.fiw
Designed By:	CLARA PATIÑO / SANDRA MORENO	Date:	Enero 24, 2025
Code Reference:	001	Approving Agency:	
Client Name:	MUNICIPIO DE YUMBO	Phone:	
Address:		City, State Zip Code:	
Company Name:	HIDROSOLUCIONES AMBIENTALES SAS	Representative:	ING SANDRA MILENA MORENO
Company Address:		City And State:	
Phone:	3002771593		
Building Name:	UNIDAD DEPORTIVA RAUL MIRANDA	Building Owner:	MUNICIPIO DE YUMBO
Contact at Building:		Phone at Building:	

Project Data

Description Of Hazard:	Light Hazard		Sprinkler System Type:		
Design Area Of Water Application:	1500	ft²	Maximum Area Per Sprinkler:	226	ft²
Default Sprinkler K-Factor:	5,60	K	Default Pipe Material:	SCHED 10 WET STEEL	
Inside Hose Stream Allowance:	0,00	gpm	Outside Hose Stream Allowance:	0,00	gpm
In Rack Sprinkler Allowance:	0,00	gpm			

Sprinkler Specifications

Make:		Model:	
Size:		Temperature Rating:	0 F

Water Supply Test Data

Source Of Information:			
Test Hydrant ID:		Date Of Test:	
Hydrant Elevation:	0 ft	Static Pressure:	0,00 psi
Test Flow Rate:	0,00 gpm	Test Residual Pressure:	0,00 psi

Calculation Project Data

Calculation Mode:	Supply		
System Inflow Number:	9,00	Specified Inflow Node Residual Pressure:	131,00 psi
Number Of Active Nodes:	22		
Number Of Active Pipes:	21	Number Of Inactive Pipes:	0
Number Of Active Sprinklers:	0	Number Of Inactive Sprinklers:	0

Fire Sprinkler Input Data

Node Input Data

Node No.	Node Description	Area Group	Sprinkler KFactor (K)	Pressure Estimate (psi)	Node Elevation (feet)	Non-Sprinkler Discharge (gpm)
1	No Discharge		N/A	122,61	-2,90	0,00
2	No Discharge		N/A	122,18	-1,90	0,00
3	No Discharge		N/A	125,38	-9,30	0,00
4	No Discharge		N/A	125,38	-9,30	0,00
5	No Discharge		N/A	125,38	-9,30	0,00
6	No Discharge		N/A	121,92	-1,30	0,00
7	No Discharge		N/A	122,05	-1,60	0,00
8	No Discharge		N/A	129,70	0,50	0,00
9	No Discharge		N/A	131,00	3,10	0,00
10	No Discharge		N/A	120,29	0,70	0,00
11	Non-Sprinkler		N/A	115,33	8,20	250,00
12	No Discharge		N/A	104,35	25,80	0,00
13	No Discharge		N/A	104,35	25,80	0,00
14	No Discharge		N/A	104,35	25,80	0,00
15	No Discharge		N/A	104,35	25,80	0,00
16	No Discharge		N/A	104,35	25,80	0,00
17	No Discharge		N/A	104,35	25,80	0,00
18	No Discharge		N/A	104,35	25,80	0,00
19	No Discharge		N/A	104,35	25,80	0,00
20	No Discharge		N/A	104,35	25,80	0,00
21	No Discharge		N/A	104,35	25,80	0,00
22	Non-Sprinkler		N/A	103,13	15,50	250,00

Fire Sprinkler Input Data

Pipe Input Data

Beg. Node	End. Node	Pipe Description	Nominal Diameter (inch)	Type Group	Fitting Data	Nominal Length (feet)	Fitting Length (feet)	Total Length (feet)	CFactor (gpm/inch-psi)
1	2	HDPE P100	4,000	0	E	17,80	15,10	32,90	150
2	3	SCHED 10 WET STEEL	4,000	0	2EG	11,20	29,00	40,20	120
3	4	Fire Pump	1,000	Pump					
4	5	SCHED 10 WET STEEL	4,000	0	TC	3,10	55,00	58,10	120
5	6	SCHED 10 WET STEEL	4,000	0	3EB	12,68	55,00	67,68	120
6	7	HDPE P100	4,000	0	ET	369,75	45,30	415,05	150
7	8	HDPE P100	4,000	0	2E	226,55	30,20	256,75	150
7	10	HDPE P100	4,000	0	E	7,60	15,10	22,70	150
8	9	SCHED 10 WET STEEL	4,000	0	EC	2,43	42,00	44,43	120
10	11	HDPE P100	4,000	0	TB	8,10	43,30	51,40	150
11	12	SCHED 10 WET STEEL	4,000	0	4ETBC	99,00	123,00	222,00	120
12	13	SCHED 10 WET STEEL	4,000	0	T	32,54	26,00	58,54	120
13	14	SCHED 10 WET STEEL	1,250	0	T	69,33	7,00	76,33	120
13	16	SCHED 10 WET STEEL	4,000	0	T	13,63	26,00	39,63	120
14	15	SCHED 10 WET STEEL	1,250	0	T	12,90	7,00	19,90	120
16	17	SCHED 10 WET STEEL	1,250	0	T	30,63	7,00	37,63	120
17	18	SCHED 10 WET STEEL	1,250	0	T	12,90	7,00	19,90	120
18	19	SCHED 10 WET STEEL	1,250	0	T	12,90	7,00	19,90	120
19	20	SCHED 10 WET STEEL	1,250	0	T	12,90	7,00	19,90	120
20	21	SCHED 10 WET STEEL	1,250	0	T	12,90	7,00	19,90	120
12	22	SCHED 10 WET STEEL	2,500	0	ET	12,17	24,00	36,17	120

Fire Sprinkler Output Data

Overall Node Groupings Output Data

Pipe Segment Beg. Node	Pipe Segment End. Node	Pipe Type Group	Pipe Flow Rate (gpm)	Sprinkler Flow At Beg. Node (gpm)	Non-Sprinkler Flow Out (+) (gpm)	Non-Sprinkler Flow In (-) (gpm)	Beg. Node Residual Pressure (psi)	Imbalance Flow At Beg. Node (gpm)
1	2	0	0,05	0,00	0,00	0,00	122,61	
2	1	0	-0,05	0,00	0,00	0,00	122,18	0,02155
2	3	0	0,07					
3	2	0	-0,07	0,00	0,00	0,00	125,38	0,55254
3	4	0	0,62					
4	3	0	-0,62	0,00	0,00	0,00	124,38	-0,62262
4	5	0	0,00					
5	4	0	0,00	0,00	0,00	0,00	124,38	0,07531
5	6	0	0,08					
6	5	0	-0,08	0,00	0,00	0,00	120,92	-0,07547
6	7	0	0,00					
7	6	0	0,00	0,00	0,00	0,00	121,05	-0,00066
7	8	0	-500,00					
7	10	0	500,00					
8	7	0	500,00	0,00	0,00	0,00	128,70	0,00000
8	9	0	-500,00					
9	8	0	500,00	0,00	0,00	-500,00	130,00	
10	7	0	-500,00	0,00	0,00	0,00	119,29	0,00000
10	11	0	500,00					
11	10	0	-500,00	0,00	250,00	0,00	114,33	0,00000
11	12	0	250,00					
12	11	0	-250,00	0,00	0,00	0,00	103,35	-0,00006
12	13	0	0,00					
12	22	0	250,00					
13	12	0	0,00	0,00	0,00	0,00	103,35	0,00001
13	14	0	0,00					
13	16	0	0,00					
14	13	0	0,00	0,00	0,00	0,00	103,35	-0,00070
14	15	0	0,00					
15	14	0	0,00	0,00	0,00	0,00	103,35	0,00071
16	13	0	0,00	0,00	0,00	0,00	103,35	0,00002
16	17	0	0,00					
17	16	0	0,00	0,00	0,00	0,00	103,35	0,00000
17	18	0	0,00					
18	17	0	0,00	0,00	0,00	0,00	103,35	0,00000
18	19	0	0,00					
19	18	0	0,00	0,00	0,00	0,00	103,35	0,00000
19	20	0	0,00					
20	19	0	0,00	0,00	0,00	0,00	103,35	-0,00069

Fire Sprinkler Output Data

Overall Node Groupings Output Data (cont'd)

Pipe Segment Beg. Node	Pipe Segment End. Node	Pipe Type Group	Pipe Flow Rate (gpm)	Sprinkler Flow At Beg. Node (gpm)	Non-Sprinkler Flow Out (+) (gpm)	Non-Sprinkler Flow In (-) (gpm)	Beg. Node Residual Pressure (psi)	Imbalance Flow At Beg. Node (gpm)
20	21	0	0,00					
21	20	0	0,00	0,00	0,00	0,00	103,35	0,00071
22	12	0	-250,00	0,00	250,00	0,00	102,13	0,00000

Fire Sprinkler Output Data

Overall Pipe Output Data

Beg. End. Node	Nodal KFactor (K)	Elevation (feet)	Spk/Hose Discharge (gpm)	Residual Pressure (psi)	Nom. Dia. Inside Dia. C-Value	Q (gpm) Velocity (fps)	F. L./ft (psi/ft) Fittings Type-Grp	Pipe-Len. Fit-Len. Tot-Len. (ft)	PF-(psi) PE-(psi) PV-(psi)
1	0,00	-2,90	0,00	122,61	4,00	0,05	0,00000	17,80	0,000
2	0,00	-1,90	0,00	122,18	4,330	0,00	E	15,10	0,433
		HDPE P100			150		0	32,90	0,000
2	0,00	-1,90	0,00	122,18	4,00	0,07	0,00000	11,20	0,000
3	0,00	-9,30	0,00	125,38	4,260	0,00	2EG	29,00	-3,204
		SCHED 10 WET STEEL			120		0	40,20	0,000
3	Fire Pump	-9,30		124,38		500,00			
4	1,00 psi	-9,30		125,38					
4	0,00	-9,30	0,00	124,38	4,00	0,00	0,00000	3,10	0,000
5	0,00	-9,30	0,00	124,38	4,260	0,00	TC	55,00	0,000
		SCHED 10 WET STEEL			120		0	58,10	0,000
5	0,00	-9,30	0,00	124,38	4,00	0,08	0,00000	12,68	0,000
6	0,00	-1,30	0,00	120,92	4,260	0,00	3EB	55,00	3,464
		SCHED 10 WET STEEL			120		0	67,68	0,000
6	0,00	-1,30	0,00	120,92	4,00	0,00	0,00000	369,75	0,000
7	0,00	-1,60	0,00	121,05	4,330	0,00	ET	45,30	-0,130
		HDPE P100			150		0	415,05	0,000
7	0,00	-1,60	0,00	121,05	4,00	500,00	0,03335	7,60	0,757
10	0,00	0,70	0,00	119,29	4,330	10,89	E	15,10	0,996
		HDPE P100			150		0	22,70	0,799
7	0,00	-1,60	0,00	121,05	4,00	500,00	0,03335	226,55	8,564
8	0,00	0,50	0,00	128,70	4,330	10,89	2E	30,20	-0,909
		HDPE P100			150		0	256,75	0,799
8	0,00	0,50	0,00	128,70	4,00	500,00	0,05456	2,43	2,424
9	0,00	3,10	0,00	130,00	4,260	11,25	EC	42,00	-1,126
		SCHED 10 WET STEEL			120		0	44,43	0,852
10	0,00	0,70	0,00	119,29	4,00	500,00	0,03335	8,10	1,714
11	0,00	8,20	250,00	114,33	4,330	10,89	TB	43,30	3,247
		HDPE P100			150		0	51,40	0,799
11	0,00	8,20	250,00	114,33	4,00	250,00	0,01513	99,00	3,360
12	0,00	25,80	0,00	103,35	4,260	5,63	4ETBC	123,00	7,621
		SCHED 10 WET STEEL			120		0	222,00	0,213
12	0,00	25,80	0,00	103,35	2,50	250,00	0,15703	12,17	5,680
22	0,00	15,50	250,00	102,13	2,635	14,71	ET	24,00	-4,460
		SCHED 10 WET STEEL			120		0	36,17	1,456
12	0,00	25,80	0,00	103,35	4,00	0,00	0,00000	32,54	0,000
13	0,00	25,80	0,00	103,35	4,260	0,00	T	26,00	0,000
		SCHED 10 WET STEEL			120		0	58,54	0,000
13	0,00	25,80	0,00	103,35	1,25	0,00	0,00000	69,33	0,000
14	0,00	25,80	0,00	103,35	1,442	0,00	T	7,00	0,000
		SCHED 10 WET STEEL			120		0	76,33	0,000
14	0,00	25,80	0,00	103,35	1,25	0,00	0,00000	12,90	0,000

Fire Sprinkler Output Data

Overall Pipe Output Data (cont'd)

Beg. End. Node	Nodal KFactor (K)	Elevation (feet)	Spk/Hose Discharge (gpm)	Residual Pressure (psi)	Nom. Dia. Inside Dia. C-Value	Q (gpm) Velocity (fps)	F. L./ft (psi/ft) Fittings Type-Grp	Pipe-Len. Fit-Len. Tot-Len. (ft)	PF-(psi) PE-(psi) PV-(psi)
15	0,00	25,80	0,00	103,35	1,442	0,00	T	7,00	0,000
	SCHED 10 WET STEEL				120		0	19,90	0,000
13	0,00	25,80	0,00	103,35	4,00	0,00	0,00000	13,63	0,000
16	0,00	25,80	0,00	103,35	4,260	0,00	T	26,00	0,000
	SCHED 10 WET STEEL				120		0	39,63	0,000
16	0,00	25,80	0,00	103,35	1,25	0,00	0,00000	30,63	0,000
17	0,00	25,80	0,00	103,35	1,442	0,00	T	7,00	0,000
	SCHED 10 WET STEEL				120		0	37,63	0,000
17	0,00	25,80	0,00	103,35	1,25	0,00	0,00000	12,90	0,000
18	0,00	25,80	0,00	103,35	1,442	0,00	T	7,00	0,000
	SCHED 10 WET STEEL				120		0	19,90	0,000
18	0,00	25,80	0,00	103,35	1,25	0,00	0,00000	12,90	0,000
19	0,00	25,80	0,00	103,35	1,442	0,00	T	7,00	0,000
	SCHED 10 WET STEEL				120		0	19,90	0,000
19	0,00	25,80	0,00	103,35	1,25	0,00	0,00000	12,90	0,000
20	0,00	25,80	0,00	103,35	1,442	0,00	T	7,00	0,000
	SCHED 10 WET STEEL				120		0	19,90	0,000
20	0,00	25,80	0,00	103,35	1,25	0,00	0,00000	12,90	0,000
21	0,00	25,80	0,00	103,35	1,442	0,00	T	7,00	0,000
	SCHED 10 WET STEEL				120		0	19,90	0,000

Fire Sprinkler Output Data

Overall Sprinkler Output Data

Flowing Sprinkler Node No.	Area Group Code	Sprinkler KFactor (K)	Sprinkler Elevation (feet)	Residual Pressure (psi)	Flowing Area (ft^2)	Flowing Density (gpm/ft^2)	Sprinkler Discharge (gpm)
Totals For All Groups					0,00	0,000	0,00

Fire Sprinkler Output Summary

Hydraulically Most Demanding Sprinkler Node

HMD Sprinkler Node Number:	0	
HMD Actual Residual Pressure:	0,00	psi
HMD Actual GPM:	0,00	gpm

Sprinkler Summary

Sprinkler System Type:		
Specified Area Of Application:	1500,00	ft²
Minimum Desired Density:	0,100	gpm/ft²
Application Average Density:	0,000	gpm/ft²
Application Average Area Per Sprinkler:	0,00	ft²
Sprinkler Flow:	0,00	gpm
Average Sprinkler Flow:	0,00	gpm

Flow Velocity And Imbalance Summary

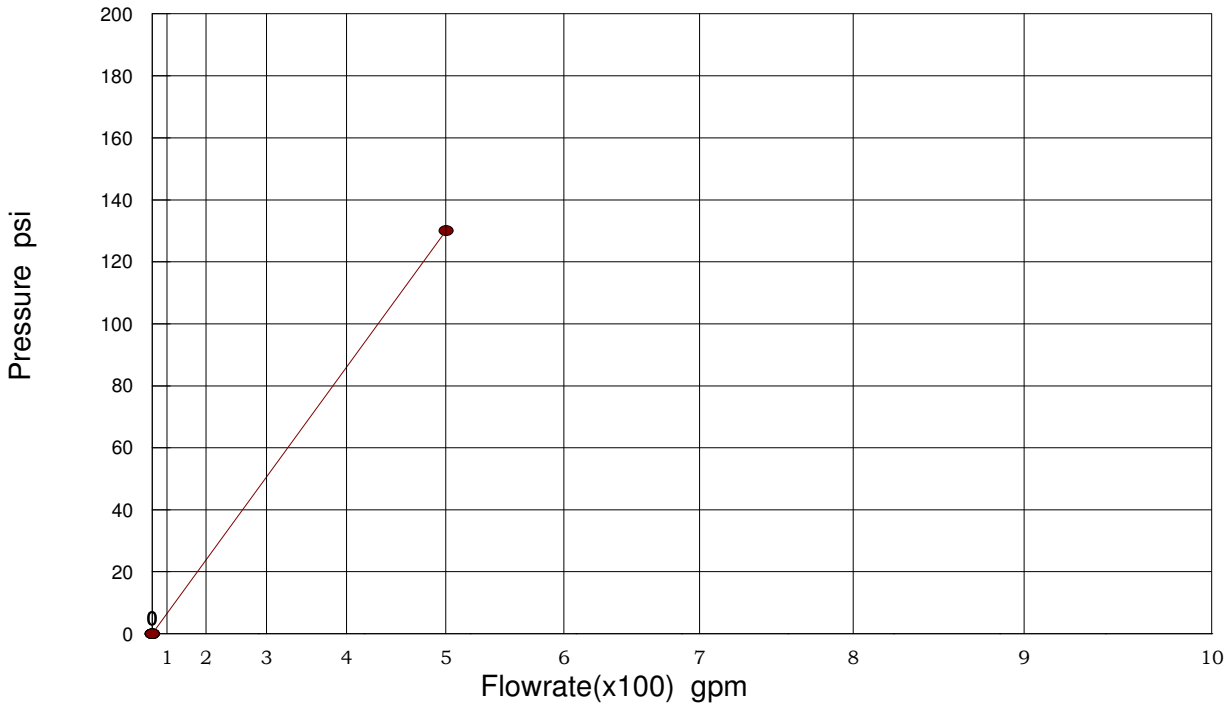
Maximum Flow Velocity (In Pipe 12 - 22)	14,71	ft/sec
Maximum Velocity Pressure (In Pipe 12 - 22)	1,46	psi
Allowable Maximum Nodal Pressure Imbalance:	0,1000	psi
Actual Maximum Nodal Pressure Imbalance:	0,0000	psi
Actual Average Nodal Pressure Imbalance:	0,0000	psi
Actual Maximum Nodal Flow Imbalance:	-0,6226	gpm
Actual Average Nodal Flow Imbalance:	0,0614	gpm

Overall Network Summary

Number Of Unique Pipe Sections:	21	
Number Of Flowing Sprinklers:	0	
Pipe System Water Volume:	628,43	gal
Sprinkler Flow:	0,00	gpm
Non-Sprinkler Flow:	500,00	gpm
Total System Demand Flow:	500,00	gpm
Specified Residual Pressure At System Inflow Node:	130,00	psi
Demand Flow At System Inflow Node:	500,00	gpm

Fire Sprinkler Output Data

Hydraulic Supply/Demand Graph



Adjusted Hydrant Data

Static Pressure: 0 psi
Test Residual Pressure: 0 psi
Test Flow Rate: 0 gpm

Demand Point Data

Calculated Residual Pressure: 130,00 psi
Calculated Flow Rate: 500,00 gpm
Excess Available Inflow Residual Pressure: -130 psi