Hydraulic Calculations by HydraCALC

CAROLINA FIRE PROTECTION
4055 HODGES CHAPEL ROAD
DUNN, NC 28334
910-892-1700

Job Name	:	BAUCOM BUSINESS PLAZA STORAGE
Drawing	:	FP-102
Location	:	11132 US 401 N FUQUAY VARINA, NC 27526
Remote Area	:	2
Contract	:	
Data File	:	BAUCOM BUSINESS PLAZA STORAGE Area 2.WXF

HYDRAULIC CALCULATIONS
for

JOB NAME BAUCOM BUSINESS PLAZA STORAGE
Location 11132 US 401 N FUQUAY VARINA, NC 27526
Drawing # FP-102
Contract #
Date 10-02-24

DESIGN

Remote area # 2
Remote area location UPPER LEVEL
Occupancy classification OH-2 (STORAGE)
Density 0.2 - Gpm/SqFt
Area of application 1500 - SqFt
Coverage/sprinkler 125 - SqFt
Type of sprinkler calculated VICTAULIC (V2704) 1/2" 155 QR BR UPR
 # Sprinklers calculated 16
In-rack demand N/A - GPM
Hose streams 250 - GPM
Total water required (including hose streams) 628.19 - GPM @ 91.25 - Psi
Type of system WET
Volume of system (dry or pre-action) - Gal

WATER SUPPLY INFORMATION

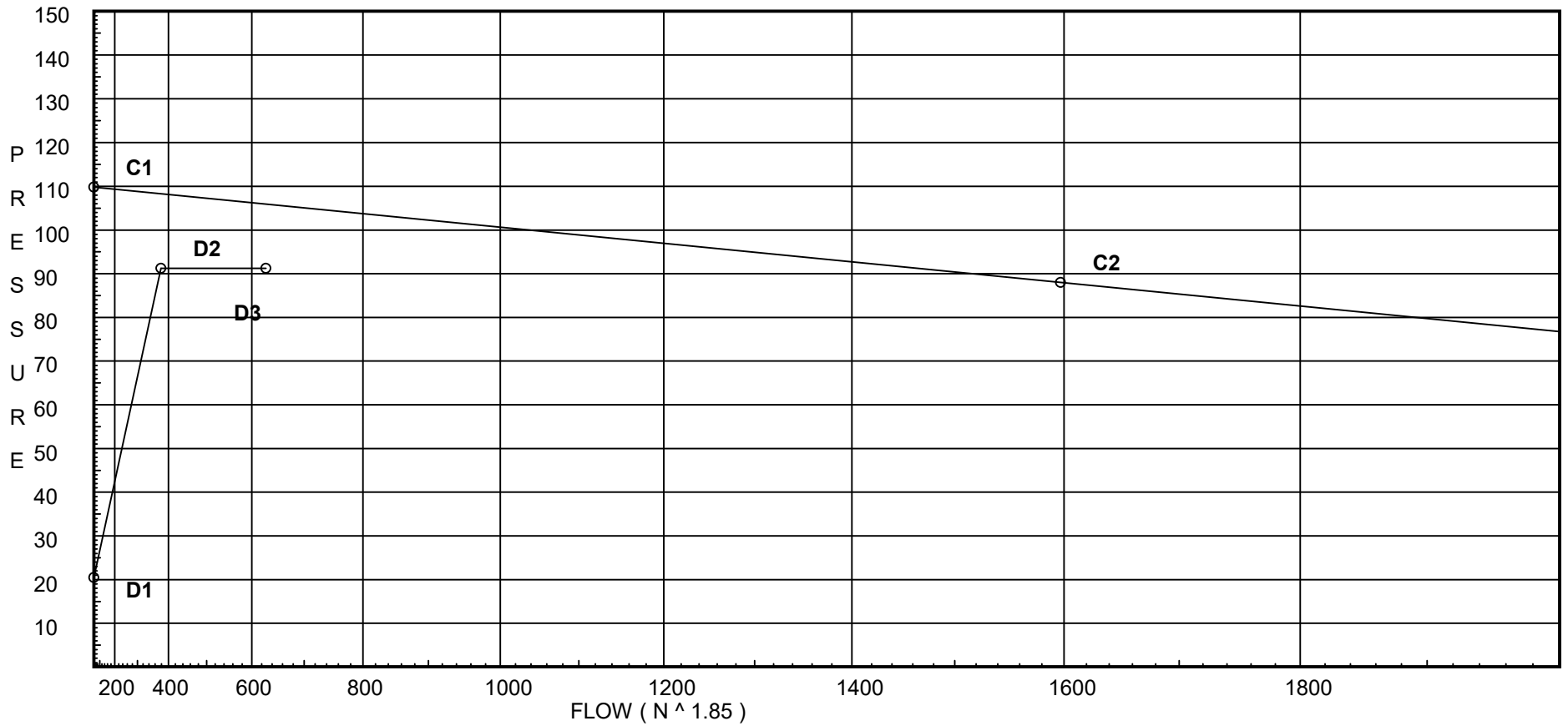
Test date 10-05-23
Location 11132 US 401 N, FUQUAY-VARINA, NC
Source of info ENGINEERING PLANNING AND MANAGEMENT

CONTRACTOR INFO CAROLINA FIRE PROTECTION
Address 4055 HODGES CHAPEL ROAD / DUNN, NC 28334
Phone # 910-892-1700
Name of designer IFPDC-GB
Authority having jurisdiction
NOTES:
SAFETY MARGIN 14.67 PSI

text1(35) - invisible

City Water Supply:
- C1 - Static Pressure : 109.8
- C2 - Residual Pressure: 88
- C2 - Residual Flow : 1597

Demand:
- D1 - Elevation : 20.455
- D2 - System Flow : 378.186
- D2 - System Pressure : 91.252
- Hose (Demand) : 250
- D3 - System Demand : 628.186
- Safety Margin : 14.668



Fittings Used Summary

Fitting Legend

Abbrev.	Name	½	¾	1	1¼	1½	2	2½	3	3½	4	5	6	8	10	12	14	16	18	20	24
Bvca	B Fly Vic 705						6	6	7		8	12	14	16	18	19					
E	NFPA 13 90' Standard Elbow	1	2	2	3	4	5	6	7	8	10	12	14	18	22	27	35	40	45	50	61
F	NFPA 13 45' Elbow	1	1	1	1	2	2	3	3	3	4	5	7	9	11	13	17	19	21	24	28
G	NFPA 13 Gate Valve	0	0	0	0	0	1	1	1	1	2	2	3	4	5	6	7	8	10	11	13
S	NFPA 13 Swing Check	0	0	5	7	9	11	14	16	19	22	27	32	45	55	65					
T	NFPA 13 90' Flow thru Tee	3	4	5	6	8	10	12	15	17	20	25	30	35	50	60	71	81	91	101	121
Zcj	Colt C500 Horz OSY	Fitting generates a Fixed Loss Based on Flow																			

Units Summary

Diameter Units	Inches
Length Units	Feet
Flow Units	US Gallons per Minute
Pressure Units	Pounds per Square Inch

Note: Fitting Legend provides equivalent pipe lengths for fittings types of various diameters. Equivalent lengths shown are standard for actual diameters of Sched 40 pipe and CFactors of 120 except as noted with *. The fittings marked with a * show equivalent lengths values supplied by manufacturers based on specific pipe diameters and CFactors and they require no adjustment. All values for fittings not marked with a * will be adjusted in the calculation for CFactors of other than 120 and diameters other than Sched 40 per NFPA.

SUPPLY ANALYSIS

Node at Source	Static Pressure	Residual Pressure	Flow	Available Pressure	Total Demand	Required Pressure
TEST	109.8	88	1597.0	105.92	628.19	91.252

NODE ANALYSIS

Node Tag	Elevation	Node Type	Pressure at Node	Discharge at Node	Notes	
WS	0.0		28.23			
200	22.9	5.6	16.95	23.05	0.2	115
201	24.16		17.41			
202	23.17		19.87			
203	23.17		20.14			
204	23.17		21.24			
205	23.17		23.68			
206	23.17		25.94			
207	23.17		27.8			
208	23.17		29.44			
209	23.17		30.94			
210	23.17		32.4			
211	23.17		33.83			
212	23.17		35.26			
213	23.17		36.69			
214	23.17		38.12			
215	23.17		39.53			
216	23.17		40.89			
217	23.17		42.15			
218	23.17		43.22			
219	23.17		44.03			
220	23.17		44.53			
221	24.17		47.48			
222	23.17		48.29			
223	23.17		50.96			
110	23.17		55.98			
TSR	23.17		56.18			
BSR	11.0		63.14			
RE	7.0		64.98			
UG1	-1.0		68.94	250.0		
PIT	-1.0		72.41			
CON	-1.0		82.34			
TEST	-21.0		91.25			
224	19.6	5.6	17.57	23.47	0.2	115
225	21.23	5.6	17.04	23.11	0.2	115
226	19.58	5.6	17.77	23.6	0.2	115
227	21.22	5.6	17.23	23.25	0.2	115
228	22.88	5.6	17.15	23.19	0.2	115
229	24.14		17.62			
230	19.59	5.6	18.5	24.09	0.2	115
231	21.24	5.6	17.97	23.74	0.2	115
232	22.9	5.6	17.92	23.7	0.2	115

NODE ANALYSIS (cont.)

Node Tag	*Elevation*	*Node Type*	*Pressure at Node*	*Discharge at Node*	*Notes*	
233	24.16		18.42			
234	24.56	5.6	17.25	23.26	0.2	115
235	26.23	5.6	16.87	23.0	0.2	115
236	24.16		23.42			
237	23.17		24.83			
238	23.17		24.92			
239	23.17		25.29			
240	23.17		26.06			
241	23.17		27.08			
242	23.17		28.28			
243	23.17		29.6			
244	23.17		30.98			
245	23.17		32.4			
246	23.17		33.83			
247	23.17		35.26			
248	23.17		36.69			
249	23.17		38.12			
250	23.17		39.56			
251	23.17		41.04			
252	23.17		42.57			
253	23.17		44.23			
254	23.17		46.1			
255	24.55	5.6	17.45	23.39	0.2	115
256	26.22	5.6	17.06	23.13	0.2	115
257	24.14		23.54			
258	24.56	5.6	18.25	23.93	0.2	115
259	26.24	5.6	17.82	23.64	0.2	115
260	24.16		23.96			
261	25.72	5.6	22.61	26.63	0.2	115
262	24.15		25.3			
263	24.17		26.53			
264	24.14		27.81			
265	24.14		29.16			
266	24.17		30.55			
267	24.15		31.98			
268	24.15		33.41			
269	24.15		34.84			
270	24.14		36.27			
271	24.15		37.7			
272	24.15		39.14			
273	24.15		40.6			
274	24.14		42.11			
275	24.14		43.71			
276	24.15		45.46			
277	23.17		44.7			
278	24.16		49.9			

Node1 to Node2	Elev1 Elev2	K Fact	Qa Qt	Nom Act	Fitting or Eqiv	Len	Pipe Ftngs Total	CFact Pf/Ft	Pt Pe Pf	*******	Notes	******
200	22.9	5.60	69.64	1.5			7.680	120	16.947			
to									-0.546			
201	24.16		69.64	1.682			7.680	0.1312	1.008	Vel = 10.06		
201	24.16		-10.30	1.5	2T	19.799	1.010	120	17.409			
to							19.799		0.429			
202	23.17		59.34	1.682			20.809	0.0976	2.031	Vel = 8.57		
202	23.17		0.0	2			9.370	120	19.869			
to									0.0			
203	23.17		59.34	2.157			9.370	0.0291	0.273	Vel = 5.21		
203	23.17		60.45	2			10.330	120	20.142			
to									0.0			
204	23.17		119.79	2.157			10.330	0.1066	1.101	Vel = 10.52		
204	23.17		64.82	2			10.270	120	21.243			
to									0.0			
205	23.17		184.61	2.157			10.270	0.2374	2.438	Vel = 16.21		
205	23.17		-4.90	2			10.020	120	23.681			
to									0.0			
206	23.17		179.71	2.157			10.020	0.2258	2.263	Vel = 15.78		
206	23.17		-17.84	2			10.000	120	25.944			
to									0.0			
207	23.17		161.87	2.157			10.000	0.1861	1.861	Vel = 14.21		
207	23.17		-11.15	2			10.000	120	27.805			
to									0.0			
208	23.17		150.72	2.157			10.000	0.1631	1.631	Vel = 13.23		
208	23.17		-6.24	2			10.000	120	29.436			
to									0.0			
209	23.17		144.48	2.157			10.000	0.1508	1.508	Vel = 12.69		
209	23.17		-2.92	2			10.000	120	30.944			
to									0.0			
210	23.17		141.56	2.157			10.000	0.1452	1.452	Vel = 12.43		
210	23.17		-0.99	2			10.000	120	32.396			
to									0.0			
211	23.17		140.57	2.157			10.000	0.1434	1.434	Vel = 12.34		
211	23.17		-0.17	2			10.000	120	33.830			
to									0.0			
212	23.17		140.4	2.157			10.000	0.1430	1.430	Vel = 12.33		
212	23.17		-0.01	2			10.000	120	35.260			
to									0.0			
213	23.17		140.39	2.157			10.000	0.1430	1.430	Vel = 12.33		
213	23.17		-0.13	2			10.000	120	36.690			
to									0.0			
214	23.17		140.26	2.157			10.000	0.1428	1.428	Vel = 12.31		
214	23.17		-0.87	2			10.000	120	38.118			
to									0.0			
215	23.17		139.39	2.157			10.000	0.1411	1.411	Vel = 12.24		
215	23.17		-2.70	2			10.000	120	39.529			
to									0.0			
216	23.17		136.69	2.157			10.000	0.1361	1.361	Vel = 12.00		

Node1 to Node2	Elev1 Elev2	K Fact	Qa Qt	Nom Act	Fitting or Eqiv	Len	Pipe Ftngs Total	CFact Pf/Ft	Pt Pe Pf	******* Notes ******
216	23.17		-5.86	2			10.000	120	40.890	
to									0.0	
217	23.17		130.83	2.157			10.000	0.1255	1.255	Vel = 11.49
217	23.17		-10.52	2			9.990	120	42.145	
to									0.0	
218	23.17		120.31	2.157			9.990	0.1075	1.074	Vel = 10.56
218	23.17		-16.77	2			9.980	120	43.219	
to									0.0	
219	23.17		103.54	2.157			9.980	0.0815	0.813	Vel = 9.09
219	23.17		-24.63	2			10.020	120	44.032	
to									0.0	
220	23.17		78.91	2.157			10.020	0.0492	0.493	Vel = 6.93
220	23.17		-44.85	1.5	3T	29.699	57.180	120	44.525	
to					2E	9.9	39.599		-0.433	
221	24.17		34.06	1.682			96.779	0.0350	3.384	Vel = 4.92
221	24.17		0.0	1.5	T	9.9	1.010	120	47.476	
to							9.900		0.433	
222	23.17		34.06	1.682			10.910	0.0349	0.381	Vel = 4.92
222	23.17		299.28	2.5			10.000	120	48.290	
to									0.0	
223	23.17		333.34	2.635			10.000	0.2672	2.672	Vel = 19.61
223	23.17		44.85	2.5	E	8.237	6.630	120	50.962	
to							8.237		0.0	
110	23.17		378.19	2.635			14.867	0.3375	5.017	Vel = 22.25
110	23.17		0.0	3			1.670	120	55.979	
to									0.0	
TSR	23.17		378.19	3.26			1.670	0.1198	0.200	Vel = 14.54
TSR	23.17		0.0	4	Bvca	10.534	12.625	120	56.179	
to					S	28.968	39.502		5.271	
BSR	11		378.19	4.26			52.127	0.0325	1.695	Vel = 8.51
BSR	11		0.0	6	E	17.603	4.000	120	63.145	
to							17.603		1.732	
RE	7		378.19	6.357			21.603	0.0046	0.100	Vel = 3.82
RE	7		0.0	6	E	22.063	60.000	140	64.977	
to					T	47.277	74.068		3.465	
UG1	-1		378.19	6.28	G	4.728	134.068	0.0037	0.495	Vel = 3.92
UG1	-1	H250	250.00	6	E	21.583	317.000	150	68.937	
to					2F	21.583	43.166		0.0	
PIT	-1		628.19	6.09			360.166	0.0097	3.478	Vel = 6.92
PIT	-1		0.0	6	2E	44.125	100.000	140	72.415	
to					T	47.277	100.857		8.030	* * Fixed Loss = 8.03
CON	-1		628.19	6.28	2G	9.455	200.857	0.0094	1.896	Vel = 6.51
					Zcj	0.0				
CON	-1		0.0	12	T	98.292	580.000	140	82.341	
to					3F	63.89	162.182		8.662	
TEST	-21		628.19	12.46			742.182	0.0003	0.249	Vel = 1.65
			0.0							
TEST			628.19						91.252	K Factor = 65.76

Node1 to Node2	Elev1 Elev2	K Fact	Qa Qt	Nom Act	Fitting or Eqiv	Len	Pipe Ftngs Total	CFact Pf/Ft	Pt Pe Pf	******* Notes ******
224	19.6	5.60	23.47	1.5			9.960	120	17.568	
to									-0.706	
225	21.23		23.47	1.682			9.960	0.0176	0.175	Vel = 3.39
225	21.23	5.60	23.12	1.5			10.150	120	17.037	
to									-0.723	
200	22.9		46.59	1.682			10.150	0.0624	0.633	Vel = 6.73
			0.0							
200			46.59						16.947	K Factor = 11.32
226	19.58	5.60	23.60	1.5			9.980	120	17.767	
to									-0.710	
227	21.22		23.6	1.682			9.980	0.0177	0.177	Vel = 3.41
227	21.22	5.60	23.25	1.5			10.140	120	17.234	
to									-0.719	
228	22.88		46.85	1.682			10.140	0.0630	0.639	Vel = 6.76
228	22.88	5.60	23.20	1.5			7.640	120	17.154	
to									-0.546	
229	24.14		70.05	1.682			7.640	0.1327	1.014	Vel = 10.11
229	24.14		-9.60	1.5	2T	19.799	0.980	120	17.622	
to							19.799		0.420	
203	23.17		60.45	1.682			20.779	0.1011	2.100	Vel = 8.73
			0.0							
203			60.45						20.142	K Factor = 13.47
230	19.59	5.60	24.09	1.5			9.960	120	18.500	
to									-0.715	
231	21.24		24.09	1.682			9.960	0.0185	0.184	Vel = 3.48
231	21.24	5.60	23.74	1.5			10.150	120	17.969	
to									-0.719	
232	22.9		47.83	1.682			10.150	0.0655	0.665	Vel = 6.91
232	22.9	5.60	23.70	1.5			7.640	120	17.915	
to									-0.546	
233	24.16		71.53	1.682			7.640	0.1380	1.054	Vel = 10.33
233	24.16		-6.71	1.5	2T	19.799	1.000	120	18.423	
to							19.799		0.429	
204	23.17		64.82	1.682			20.799	0.1150	2.391	Vel = 9.36
			0.0							
204			64.82						21.243	K Factor = 14.06
201	24.16		10.30	1.5			2.440	120	17.409	
to									-0.173	
234	24.56		10.3	1.682			2.440	0.0037	0.009	Vel = 1.49
234	24.56	5.60	23.26	1.5			10.190	120	17.245	
to									-0.723	
235	26.23		33.56	1.682			10.190	0.0341	0.347	Vel = 4.85
235	26.23	5.60	23.00	1.5	2E	9.9	43.540	120	16.869	
to					T	9.9	19.800		0.897	
236	24.16		56.56	1.682			63.340	0.0893	5.657	Vel = 8.17
236	24.16		0.0	1.5	T	9.9	1.010	120	23.423	
to							9.900		0.429	
237	23.17		56.56	1.682			10.910	0.0893	0.974	Vel = 8.17

Node1 to Node2	Elev1 Elev2	K Fact	Qa Qt	Nom Act	Fitting or Eqiv	Len	Pipe Ftngs Total	CFact Pf/Ft	Pt Pe Pf	******* Notes ******
237	23.17		0.0	2.5			9.370	120	24.826	
to									0.0	
238	23.17		56.56	2.635			9.370	0.0101	0.095	Vel = 3.33
238	23.17		56.12	2.5			10.330	120	24.921	
to									0.0	
239	23.17		112.68	2.635			10.330	0.0359	0.371	Vel = 6.63
239	23.17		54.27	2.5			10.270	120	25.292	
to									0.0	
240	23.17		166.95	2.635			10.270	0.0743	0.763	Vel = 9.82
240	23.17		31.53	2.5			10.020	120	26.055	
to									0.0	
241	23.17		198.48	2.635			10.020	0.1024	1.026	Vel = 11.68
241	23.17		17.83	2.5			10.000	120	27.081	
to									0.0	
242	23.17		216.31	2.635			10.000	0.1200	1.200	Vel = 12.73
242	23.17		11.15	2.5			10.000	120	28.281	
to									0.0	
243	23.17		227.46	2.635			10.000	0.1318	1.318	Vel = 13.38
243	23.17		6.25	2.5			10.000	120	29.599	
to									0.0	
244	23.17		233.71	2.635			10.000	0.1385	1.385	Vel = 13.75
244	23.17		2.92	2.5			10.000	120	30.984	
to									0.0	
245	23.17		236.63	2.635			10.000	0.1417	1.417	Vel = 13.92
245	23.17		0.99	2.5			10.000	120	32.401	
to									0.0	
246	23.17		237.62	2.635			10.000	0.1429	1.429	Vel = 13.98
246	23.17		0.16	2.5			10.000	120	33.830	
to									0.0	
247	23.17		237.78	2.635			10.000	0.1430	1.430	Vel = 13.99
247	23.17		0.01	2.5			10.000	120	35.260	
to									0.0	
248	23.17		237.79	2.635			10.000	0.1430	1.430	Vel = 13.99
248	23.17		0.14	2.5			10.000	120	36.690	
to									0.0	
249	23.17		237.93	2.635			10.000	0.1432	1.432	Vel = 14.00
249	23.17		0.87	2.5			10.000	120	38.122	
to									0.0	
250	23.17		238.8	2.635			10.000	0.1441	1.441	Vel = 14.05
250	23.17		2.70	2.5			10.000	120	39.563	
to									0.0	
251	23.17		241.5	2.635			10.000	0.1472	1.472	Vel = 14.21
251	23.17		5.86	2.5			10.000	120	41.035	
to									0.0	
252	23.17		247.36	2.635			10.000	0.1539	1.539	Vel = 14.55
252	23.17		10.52	2.5			9.990	120	42.574	
to									0.0	
253	23.17		257.88	2.635			9.990	0.1662	1.660	Vel = 15.17

Node1 to Node2	Elev1 Elev2	K Fact	Qa Qt	Nom Act	Fitting or Eqiv	Len	Pipe Ftngs Total	CFact Pf/Ft	Pt Pe Pf	******* Notes ******
253	23.17		16.77	2.5			9.980	120	44.234	
to									0.0	
254	23.17		274.65	2.635			9.980	0.1867	1.863	Vel = 16.16
254	23.17		24.62	2.5			10.020	120	46.097	
to									0.0	
222	23.17		299.27	2.635			10.020	0.2189	2.193	Vel = 17.61
			0.0							
222			299.27						48.290	K Factor = 43.07
229	24.14		9.59	1.5			2.490	120	17.622	
to									-0.178	
255	24.55		9.59	1.682			2.490	0.0036	0.009	Vel = 1.38
255	24.55	5.60	23.40	1.5			10.130	120	17.453	
to									-0.723	
256	26.22		32.99	1.682			10.130	0.0329	0.333	Vel = 4.76
256	26.22	5.60	23.13	1.5	2E	9.9	43.540	120	17.063	
to					T	9.9	19.800		0.901	
257	24.14		56.12	1.682			63.340	0.0881	5.578	Vel = 8.10
257	24.14		0.0	1.5	T	9.9	0.990	120	23.542	
to							9.900		0.420	
238	23.17		56.12	1.682			10.890	0.0881	0.959	Vel = 8.10
			0.0							
238			56.12						24.921	K Factor = 11.24
233	24.16		6.70	1.5			2.480	120	18.423	
to									-0.173	
258	24.56		6.7	1.682			2.480	0.0016	0.004	Vel = 0.97
258	24.56	5.60	23.93	1.5			10.150	120	18.254	
to									-0.728	
259	26.24		30.63	1.682			10.150	0.0288	0.292	Vel = 4.42
259	26.24	5.60	23.64	1.5	2E	9.9	43.530	120	17.818	
to					T	9.9	19.800		0.901	
260	24.16		54.27	1.682			63.330	0.0828	5.241	Vel = 7.84
260	24.16		0.0	1.5	T	9.9	1.010	120	23.960	
to							9.900		0.429	
239	23.17		54.27	1.682			10.910	0.0828	0.903	Vel = 7.84
			0.0							
239			54.27						25.292	K Factor = 10.79
205	23.17		4.91	1.5	2T	19.799	10.510	120	23.681	
to							19.799		-1.104	
261	25.72		4.91	1.682			30.309	0.0010	0.029	Vel = 0.71
261	25.72	5.60	26.62	1.5	2E	9.9	46.670	120	22.606	
to					T	9.9	19.800		0.680	
262	24.15		31.53	1.682			66.470	0.0303	2.014	Vel = 4.55
262	24.15		0.0	1.5	T	9.9	1.000	120	25.300	
to							9.900		0.424	
240	23.17		31.53	1.682			10.900	0.0304	0.331	Vel = 4.55
			0.0							
240			31.53						26.055	K Factor = 6.18

Node1 to Node2	Elev1 Elev2	K Fact	Qa Qt	Nom Act	Fitting or Eqiv	Len	Pipe Ftngs Total	CFact Pf/Ft	Pt Pe Pf	******* Notes ******
206	23.17		17.83	1.5	3T	29.699	57.190	120	25.944	
to					2E	9.9	39.599		-0.433	
263	24.17		17.83	1.682			96.789	0.0106	1.022	Vel = 2.57
263	24.17		0.0	1.5	T	9.9	1.010	120	26.533	
to							9.900		0.433	
241	23.17		17.83	1.682			10.910	0.0105	0.115	Vel = 2.57
			0.0							
241			17.83						27.081	K Factor = 3.43
207	23.17		11.15	1.5	3T	29.699	57.160	120	27.805	
to					2E	9.9	39.599		-0.420	
264	24.14		11.15	1.682			96.759	0.0044	0.428	Vel = 1.61
264	24.14		0.0	1.5	T	9.9	0.990	120	27.813	
to							9.900		0.420	
242	23.17		11.15	1.682			10.890	0.0044	0.048	Vel = 1.61
			0.0							
242			11.15						28.281	K Factor = 2.10
208	23.17		6.25	1.5	3T	29.699	57.160	120	29.436	
to					2E	9.9	39.599		-0.420	
265	24.14		6.25	1.682			96.759	0.0015	0.146	Vel = 0.90
265	24.14		0.0	1.5	T	9.9	0.990	120	29.162	
to							9.900		0.420	
243	23.17		6.25	1.682			10.890	0.0016	0.017	Vel = 0.90
			0.0							
243			6.25						29.599	K Factor = 1.15
209	23.17		2.93	1.5	3T	29.699	57.180	120	30.944	
to					2E	9.9	39.599		-0.433	
266	24.17		2.93	1.682			96.779	0.0004	0.036	Vel = 0.42
266	24.17		0.0	1.5	T	9.9	1.010	120	30.547	
to							9.900		0.433	
244	23.17		2.93	1.682			10.910	0.0004	0.004	Vel = 0.42
			0.0							
244			2.93						30.984	K Factor = 0.53
210	23.17		0.99	1.5	3T	29.699	57.150	120	32.396	
to					2E	9.9	39.599		-0.424	
267	24.15		0.99	1.682			96.749	0	0.004	Vel = 0.14
267	24.15		0.0	1.5	T	9.9	0.990	120	31.976	
to							9.900		0.424	
245	23.17		0.99	1.682			10.890	0.0001	0.001	Vel = 0.14
			0.0							
245			0.99						32.401	K Factor = 0.17
211	23.17		0.17	1.5	3T	29.699	57.160	120	33.830	
to					2E	9.9	39.599		-0.424	
268	24.15		0.17	1.682			96.759	0	-0.001	Vel = 0.02
268	24.15		0.0	1.5	T	9.9	0.990	120	33.405	
to							9.900		0.424	
246	23.17		0.17	1.682			10.890	0.0001	0.001	Vel = 0.02
			0.0							
246			0.17						33.830	K Factor = 0.03

Node1 to Node2	Elev1 Elev2	K Fact	Qa Qt	Nom Act	Fitting or Eqiv	Len	Pipe Ftngs Total	CFact Pf/Ft	Pt Pe Pf	******* Notes ******
212	23.17		0.01	1.5	3T	29.699	57.140	120	35.260	
to					2E	9.9	39.599		-0.424	
269	24.15		0.01	1.682			96.739	0	-0.001	Vel = 0
269	24.15		0.0	1.5	T	9.9	1.000	120	34.835	
to							9.900		0.424	
247	23.17		0.01	1.682			10.900	0.0001	0.001	Vel = 0
			0.0							
247			0.01						35.260	K Factor = 0
213	23.17		0.13	1.5	3T	29.699	57.140	120	36.690	
to					2E	9.9	39.599		-0.420	
270	24.14		0.13	1.682			96.739	0	0.0	Vel = 0.02
270	24.14		0.0	1.5	T	9.9	0.980	120	36.270	
to							9.900		0.420	
248	23.17		0.13	1.682			10.880	0	0.0	Vel = 0.02
			0.0							
248			0.13						36.690	K Factor = 0.02
214	23.17		0.87	1.5	3T	29.699	57.170	120	38.118	
to					2E	9.9	39.599		-0.424	
271	24.15		0.87	1.682			96.769	0	0.003	Vel = 0.13
271	24.15		0.0	1.5	T	9.9	1.000	120	37.697	
to							9.900		0.424	
249	23.17		0.87	1.682			10.900	0.0001	0.001	Vel = 0.13
			0.0							
249			0.87						38.122	K Factor = 0.14
215	23.17		2.70	1.5	3T	29.699	57.150	120	39.529	
to					2E	9.9	39.599		-0.424	
272	24.15		2.7	1.682			96.749	0.0003	0.031	Vel = 0.39
272	24.15		0.0	1.5	T	9.9	0.990	120	39.136	
to							9.900		0.424	
250	23.17		2.7	1.682			10.890	0.0003	0.003	Vel = 0.39
			0.0							
250			2.70						39.563	K Factor = 0.43
216	23.17		5.86	1.5	3T	29.699	57.160	120	40.890	
to					2E	9.9	39.599		-0.424	
273	24.15		5.86	1.682			96.759	0.0013	0.130	Vel = 0.85
273	24.15		0.0	1.5	T	9.9	1.000	120	40.596	
to							9.900		0.424	
251	23.17		5.86	1.682			10.900	0.0014	0.015	Vel = 0.85
			0.0							
251			5.86						41.035	K Factor = 0.91
217	23.17		10.52	1.5	3T	29.699	57.150	120	42.145	
to					2E	9.9	39.599		-0.420	
274	24.14		10.52	1.682			96.749	0.0040	0.385	Vel = 1.52
274	24.14		0.0	1.5	T	9.9	0.990	120	42.110	
to							9.900		0.420	
252	23.17		10.52	1.682			10.890	0.0040	0.044	Vel = 1.52
			0.0							

Node1 to Node2	Elev1 Elev2	K Fact	Qa Qt	Nom Act	Fitting or Eqiv	Len	Pipe Ftngs Total	CFact Pf/Ft	Pt Pe Pf	*******	Notes	******
252			10.52						42.574	K Factor = 1.61		
218	23.17		16.77	1.5	3T	29.699	57.150	120	43.219			
to					2E	9.9	39.599		-0.420			
275	24.14		16.77	1.682			96.749	0.0094	0.912	Vel = 2.42		
275	24.14		0.0	1.5	T	9.9	0.990	120	43.711			
to							9.900		0.420			
253	23.17		16.77	1.682			10.890	0.0095	0.103	Vel = 2.42		
			0.0									
253			16.77						44.234	K Factor = 2.52		
219	23.17		24.63	1.5	3T	29.699	57.160	120	44.032			
to					2E	9.9	39.599		-0.424			
276	24.15		24.63	1.682			96.759	0.0192	1.856	Vel = 3.56		
276	24.15		0.0	1.5	T	9.9	1.000	120	45.464			
to							9.900		0.424			
254	23.17		24.63	1.682			10.900	0.0192	0.209	Vel = 3.56		
			0.0									
254			24.63						46.097	K Factor = 3.63		
220	23.17		44.85	2			10.000	120	44.525			
to									0.0			
277	23.17		44.85	2.157			10.000	0.0173	0.173	Vel = 3.94		
277	23.17		0.0	1.5	3T	29.699	57.190	120	44.698			
to					2E	9.9	39.599		-0.429			
278	24.16		44.85	1.682			96.789	0.0582	5.630	Vel = 6.48		
278	24.16		0.0	1.5	T	9.9	1.000	120	49.899			
to							9.900		0.429			
223	23.17		44.85	1.682			10.900	0.0582	0.634	Vel = 6.48		
			0.0									
223			44.85						50.962	K Factor = 6.28		