

Water Basis of Design Report

118th & Jomax (80 Acres)

ACCEPTED AS NOTED

City of Scottsdale
Water Resources Administration
9379 E. San Salvador
Scottsdale, AZ 85258

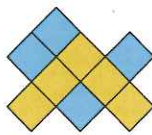
Rahman
10/03/2017.



prepared for:

Toll Brothers Inc.
8767 E. Via de Ventura, Suite 390
Scottsdale, Arizona 85258
480 951 0782

prepared by:



ARGUS CONSULTING
A CIVIL ENGINEERING COMPANY, PC
10115 E. Bell Road, Suite 107 - #104
Scottsdale, Arizona 85260
480 596 1131

September 2017

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CURVE



1.0 Introduction

This Water Basis of Design Report has been prepared for the 118th & Jomax (80 acre) single family residential development, which is being developed by Toll Brothers, an Arizona Corporation.

1.1 Project Location

The project is located in a portion of the Southeast 1/4 of Section 34 and the Southwest 1/4 of Section 35, Township 5 North, Range 5 East of the Gila and Salt River Baseline and Meridian, Maricopa County, Arizona. It is bound on south by Jomax Road Alignment, west by 118th Street Alignment and residential dwellings, north by RedBird Road and rural residential dwellings and east by McDowell Sonoran Preserve.

See Figure 1, Vicinity Map.

1.2 Property Description

The project is located within the City of Scottsdale, Arizona. The project is approximately 80 acres with a total of 51 dwelling units. The project is currently R1-35, R1-43, R1-70 (ESL), R1-130 and R1-190 zoning districts. The project Land use is 0.64 Dwelling units per acre. The property is located on rolling terrain. The northern and western portions of the property slope to the north and to the east. The southeast portion of the property slope to the east and to the south. The site is within the elevation range from 2750 to 2680.

1.3 Purpose

This Report has been prepared to satisfy the City of Scottsdale requirements for the Preliminary Plat submittal process for the property. This report provides design calculations to determine the amount of water this project is expected to use both during Average Day, Maximum Day, Peak Hour and Maximum Day with Fire Flow. The city of Scottsdale Water Resources Department approved a Water Basis of Design Report for the east 40 acres of this property and the Rezoning Water Basis of Design Report for this project. The report for the east 40 acres was approved January 30th. 2009 and was prepared by Wood Patel and Associates, Inc. The report for the Rezoning Basis of Design dated, Oct 6, 2016, prepared by Argus Consulting. This property is located within Quarter Section map 49-57 as C.O.S. project number 12 PP 2008. These reports were used as a reference for the proposed 118th & Jomax (80) acre development. This report was prepared in accordance with the City of Scottsdale Design Standards & Policies Manual, January 2010 (Reference 1).

2.0 Description of Existing Conditions

2.1 On-Site Current Conditions

The site is currently undeveloped desert land and has been rezoned as single family residential dwelling units. The development is to be supplied from existing City water system adjacent to the property. Based on Figure 6.1-3, Pressure Zone Map of the City of Scottsdale Design Standards and Policies Manual the project is located in pressure Zone 13 and pressure Zone 12. The majority of the property is within pressure Zone 13 with the remaining within pressure Zone 12. Zone 12 is located at the eastern portion of the property with only 5 lots are within this zone. The remaining 46 lots are within Zone 13. A Zone 13 16-inch transmission line is located within Jomax Road and 118th Street. There is an existing 6-inch Zone 13 water line within East Redbird Road. Located at the northwest corner of the intersection of East Redbird Road and North 120th Street is an existing water vault without a PRV. This PRV vault was intended to connect Zone 13 existing 12-inch pipe with the Zone 12 existing 12-inch pipe within East Redbird Road. A PRV will need to be installed within the existing vault to allow the connection of Zone 12 and Zone 13, but is not required for this development. *See Figure 2- Water Distribution Plan.*

2.2 Site 143 Service Area Water Source

The existing 3.0 million gallon Zone 12 (T-143) reservoir and Zone 13 BPS locates near 114th Street and Dixileta Drive (Site 143) will serve as the water source for the service area. Zone 13 lower elevation is 2,700 and upper elevation is 2,830, range 130 feet. Hydraulic grade line for Zone 13 is 2,965 feet. Pressure conditions will not exceed 120 psi at the hydraulic grade line of 2965. See Appendix A for analysis results. ✓

3.0 Proposed Water Distribution Plan

3.1 Design Criteria

As per the City of Scottsdale this Basis of Water Design Report was prepared according Design Standards & Policies Manual, dated January 2010. The following is a summary of the design criteria upon which this study is based.

Basis of Water Design

- The project is located in Zones 12 and 13 according to figure 6.1-3 pressure zone map
- The total number of dwelling units = 51
- Average day water demand calculations were analyzing using Figure 6.1-2 Average Day Water Demands in Gallons Per Day.

- Residual pressure between 50psi and 120psi at the highest finished floor level.
- Minimum of 30 psi under design fire flow requirements.

3.2 Proposed Condition

The development will consist of custom single family residential dwellings. The proposed distribution system will be 8-inch water pipes within development streets to provide service to each lot within the development. The existing 16-inch transmission line within Jomax Road will be extended from its current terminus to the west side of 120th Street. This extension will provide a completed loop for the development and provide a future extension into the State Land east of 120th Street. A 12-inch pipe will be connected to the existing 6-inch pipe within Redbird Road on the Zone 13 side of the existing PRV vault and extended south through the development along the 120th Street alignment connecting to the 16-inch transmission pipe. An 8-inch pipe in Zone 13 will be extended east from the 12-inch pipe in Redbird Road to the proposed easement adjacent to the lift station site and connect to a proposed 8-inch water pipe in 121st Street to provide looping for lots on the east side of the project. A sampling station is required for the new development and is to be located per Figure 2. All lots will be served from the Zone 13 distribution system.

Fire protection for the development shall follow the Design Standards & Policies Manual, dated January 2010 under section 6-1.500. Fire hydrants are to be used within the subdivision for fire protection. Fire sprinklers will be required for all dwelling units.

Domestic flow was calculated as follows:

Total units = 51 x 485.6 gallon/unit = 24,766 gallons per day

Total average day Flow = 17.20 gpm

Peak hour Flow = 3.5 * 17.20 = 60.19 gpm

Maximum day Demand = 2.0 * 17.20 = 34.4 gpm

3.3 Reimbursement Agreements

The proposed 12-inch line within the proposed 120th Street alignment is not eligible for over sizing reimbursement. Based on modeling data, the 16 inch line within the Jomax Road alignment is also not eligible for over sizing reimbursement. Therefore; no modeling for reimbursement is required.

4.0 Existing Basis of Design Reports

The Water Distribution System Basis of Design Report for 120th Street and Jomax Road prepared by Wood Patel, dated January 12, 2009, WP#073141, QS 49-57, 12 PP 2008. The existing and offsite hydraulic analysis was used to determine the existing conditions for the

water model. The report was approved by Doug Mann, P.E. dated, January 30, 2009. The Rezoning Basis of Design Report for 118th and Jomax (80 acres), prepared by Argus Consulting, dated Oct 6th, 2016.

5.0 Water Model

The system was modeled using the “EPANET” software and meet the design criteria noted above in section 3.1. A fire hydrant flow test was performed on August 16, 2017 at 11:15 am. The flow test was located along 118th Street using the fire hydrant locate at the northwest corner of the intersection of 118th Street and Jomax Road. Also, using the fire hydrant north 690 feet along 118th Street as the flow Hydrant. The Modeled Hydraulic Grade Line was calculated to be used with this model. See Appendix A for the Fire Hydrant Flow Test Results. Per the city’s requirement, the model utilized the pump curve generated from the flow test. A pump was included in the water model at the flow Hydrant location (J-OS8). Per the existing topography, the elevation for the fire hydrant located at the intersection of 118th Street and Jomax Road is 2746. The Static pressure is 84 PSI. As discussed with the city’s staff, all conditions for average day, maximum day and peak hour and maximum day plus fire flow were modeled using 84 psi static base pressure. See Appendix A for analysis results. Also per the city’s staff request, the maximum day plus fire flow was modeled with a modified pump curve using 72 psi static base pressure. This modification is per the NFPA 13 interpretation. See Appendix B for results. The following summarizes the modeling parameters used:

- | | |
|---|------------|
| • Hazen Williams ‘C’ Coefficient: | 130 |
| • Water Source for Zone 13: | Site T-143 |
| • Static Modeled Hydraulic Grade Line, Zone 13: | 2946 feet |
| • Fire flow Demand | 1150 gpm |
| • Calculated Available flow at 20 PSI | 1860 gpm |

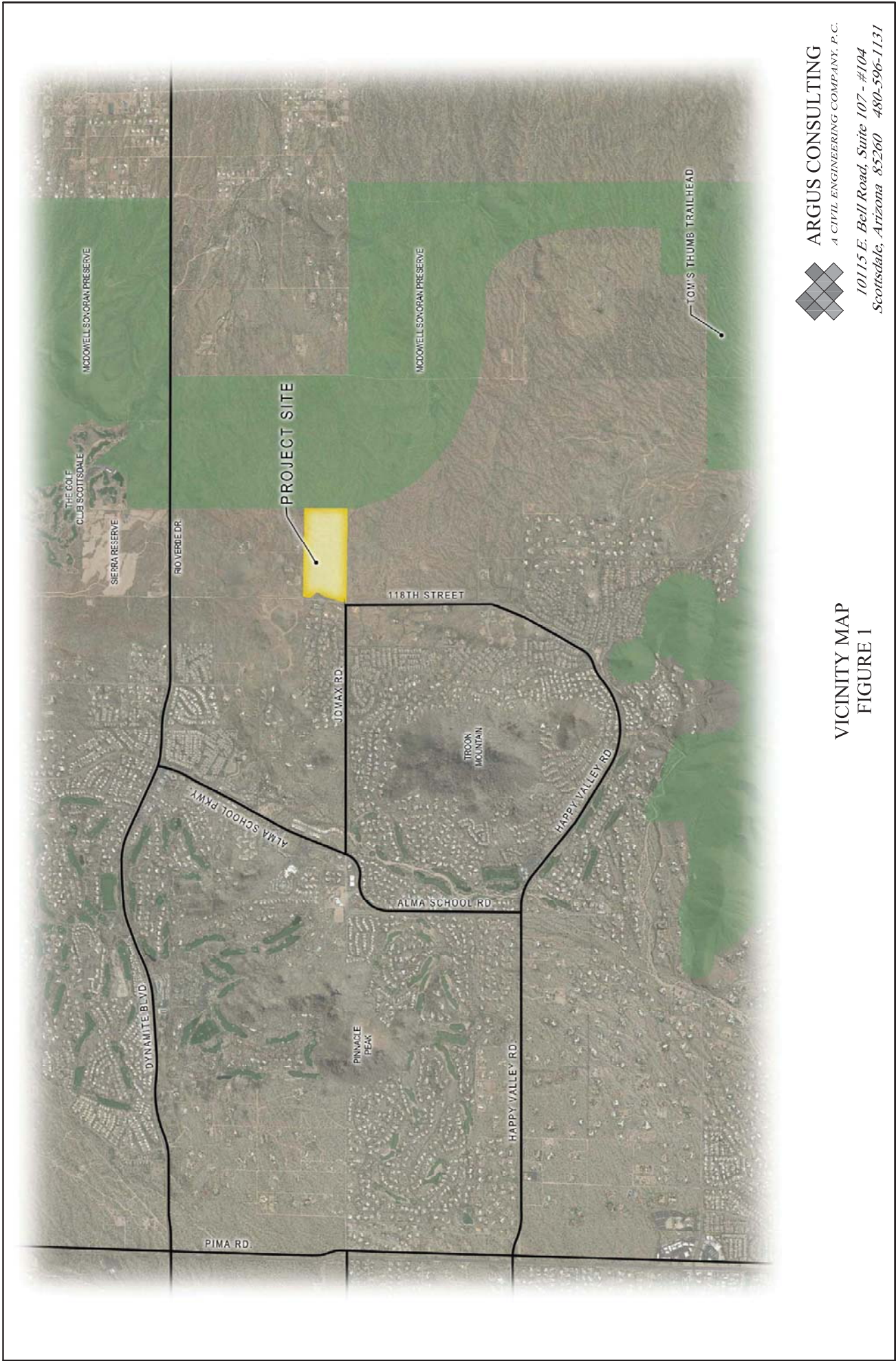
6.0 Conclusions

- The water system is to be designed, operation and pressures will be in accordance with the City of Scottsdale Design Standards and Policies.
- All dwelling units are to use fire sprinkler systems.

7.0 References

1. City of Scottsdale Design Standards & Policies Manual, *January 2010*.
2. *Water Distribution System Basis of Design Report for 120th Street and Jomax Road prepared by Wood Patel, dated 1-12-17. 12 PP 2008.*

Figure 1: Vicinity Map

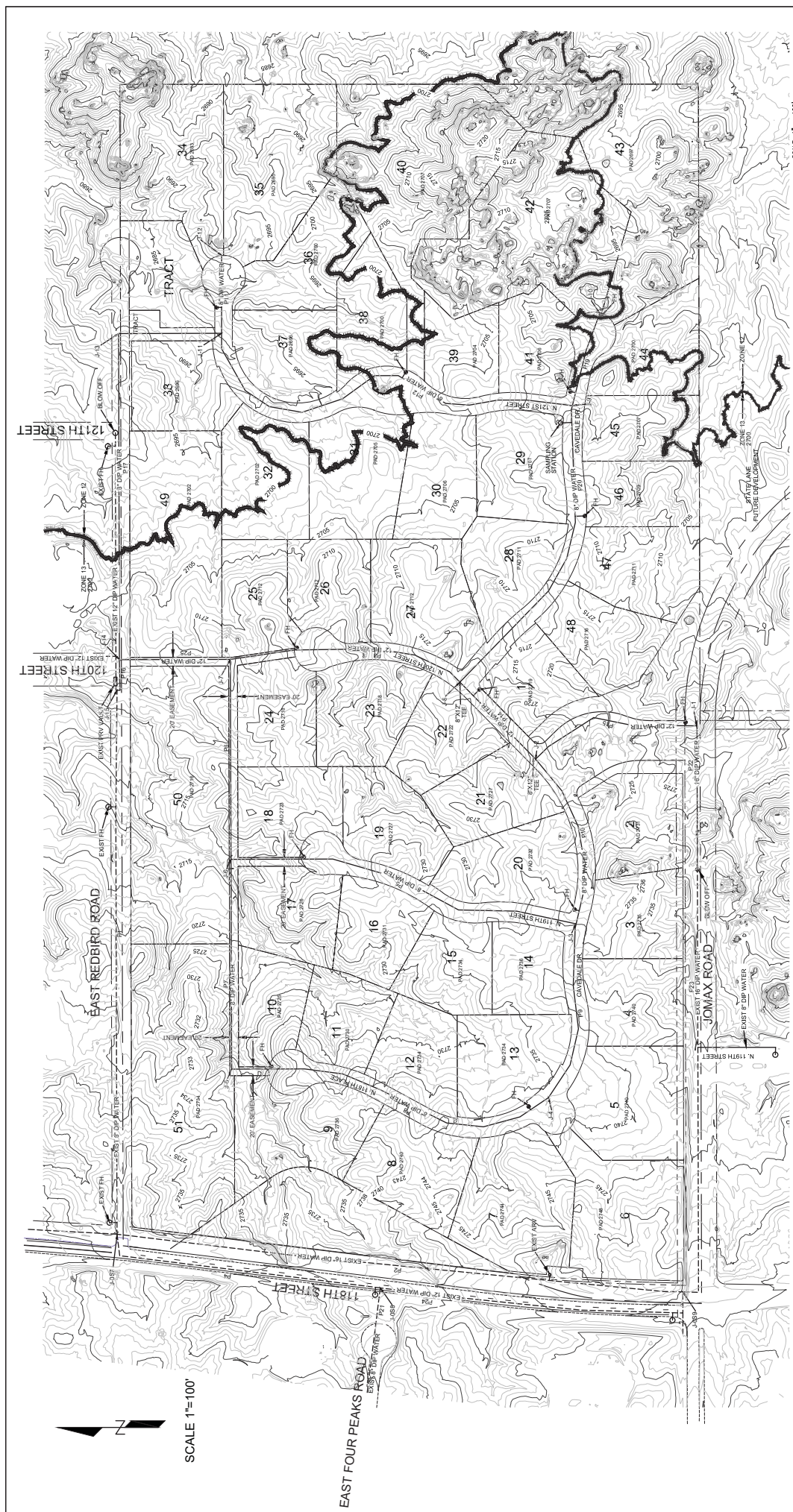


VICINITY MAP
FIGURE 1



ARGUS CONSULTING
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 Scottsdale, Arizona 85260 480-596-1131

Figure 2: Water Distribution Map



SCALE: 1" = 100'
0' 100' 200' 300'

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 10115 E. Bell Road, Suite 107 - #104
 Scottsdale, Arizona 85260 - 480-596-1131

118th & JOMAX (80 ACRES)

FIGURE 2
WATER DISTRIBUTION PLAN

Designed by: []
 Date: 5-2017
 Job No.: []
 Drawn by: []
 Sheet 1 of 1



Total units = 51 x 485.6 gallon/unit = 24,766 gpd
 Total average day flow = 17.20 gpm
 Peak hour flow = 3.5 * 17.20 = 60.19 gpm
 Maximum day demand = 2.0 * 17.20 = 34.4 gpm

ALL LOTS TO BE SERVED WITHIN ZONE 13
WATER QS 49-56, QS 49-57

P:\18th\Drawn\118th & Jomax\Water Distribution Plan.dwg 5/23/2017 11:18 AM

Appendix A

Table 1. - Domestic Water Demand Analysis

Project: 118th and JOMAX
 Location: Scottsdale AZ

Water Node	Elevation	Land Use	Lots per area	Total Units	ADD/UNIT (GPD)	Average Day Demand (GPD)	Average Day Demand (GPM)	Maximum Day Demand (GPD)	Maximum Day Demand (GPM)	Peak Hour Demand (GPD)	Peak Hour Demand (GPM)	Minimum PSI at Fire Flow Existing condition	Minimum PSI at Fire Flow at NFPA 13 condition
J-1	2720	Residential	0.00	0	486	0.00	0.00	0.00	0.00	0.00	0.00	53.73	41.72
J-2	2721.5	Residential	21	1	486	486.00	0.34	972.00	0.68	1,701.00	1.18	52.67	40.66
J-3	2731	Residential	2,3,4,14,15,20	6	486	2916.00	2.03	5832.00	4.05	10,206.00	7.09	47.13	35.12
J-4	2733.6	Residential	5,6,7,8,12,13	6	486	2916.00	2.03	5832.00	4.05	10,206.00	7.09	44.40	32.39
J-5	2724	Residential	9,10,11,51	4	486	1944.00	1.35	3888.00	2.70	6,804.00	4.73	48.33	36.32
J-6	2712.5	Residential	16,17,18,19	4	486	1944.00	1.35	3888.00	2.70	6,804.00	4.73	54.95	42.94
J-7	2711	Residential	23,24,25,26,50	5	486	2430.00	1.69	4860.00	3.38	8,505.00	5.91	56.96	44.95
J-8	2714.2	Residential	1,22,27,28,49	5	486	2430.00	1.69	4860.00	3.38	8,505.00	5.91	55.76	43.75
J-9	2701.7	Residential	29,30,41,42,46,47,48	7	486	3402.00	2.36	6804.00	4.73	11,907.00	8.27	58.07	46.06
J-10	2697	Residential	40,43,44,45	4	486	1944.00	1.35	3888.00	2.70	6,804.00	4.73	59.68	47.67
J-11	2692.2	Residential	31,32,33,39	4	486	1944.00	1.35	3888.00	2.70	6,804.00	4.73	61.60	49.59
J-12	2693.1	Residential	34,35,36,37,38	5	486	2430.00	1.69	4860.00	3.38	8,505.00	5.91	61.00	48.99
J-14	2703	Residential			486	0.00	0.00	0.00	0.00	0.00	0.00	60.05	48.04
J-15	2707.5	Residential			486	0.00	0.00	0.00	0.00	0.00	0.00	58.03	46.02
J-OS7	2739	Residential			486	0.00	0.00	0.00	0.00	0.00	0.00	45.50	33.49
J-OS8	2738.5	Residential			486	197280.00	137.00	394560.00	274.00	690,480.00	479.50	45.83	33.82
J-OS9	2745	Residential			486	0.00	0.00	0.00	0.00	0.00	0.00	45.48	33.47
REV 143	2965	3.0 mg tank											
					51	222,066.00	154.21	444,132.00	308.43	777,231.00	539.74		

J-OS8 demand from existing conditions to the west of project

Average Daily Water Use (indoor and outdoor), <2 DU/acre = 486 gpd/DU
 Maximum Day Demand Multiplier = 2.0 x Avg. Day
 Peak Hour Demand Multiplier = 3.5 x Avg. Day
 Fire Flow Demand = 1150 gpm

HYDRANT FLOW TEST

AERO AUTOMATIC SPRINKLER CO.



21605 N. Central Avenue PHONE: 623-580-7800
Phoenix, AZ 85024 FAX: 623-434-3154

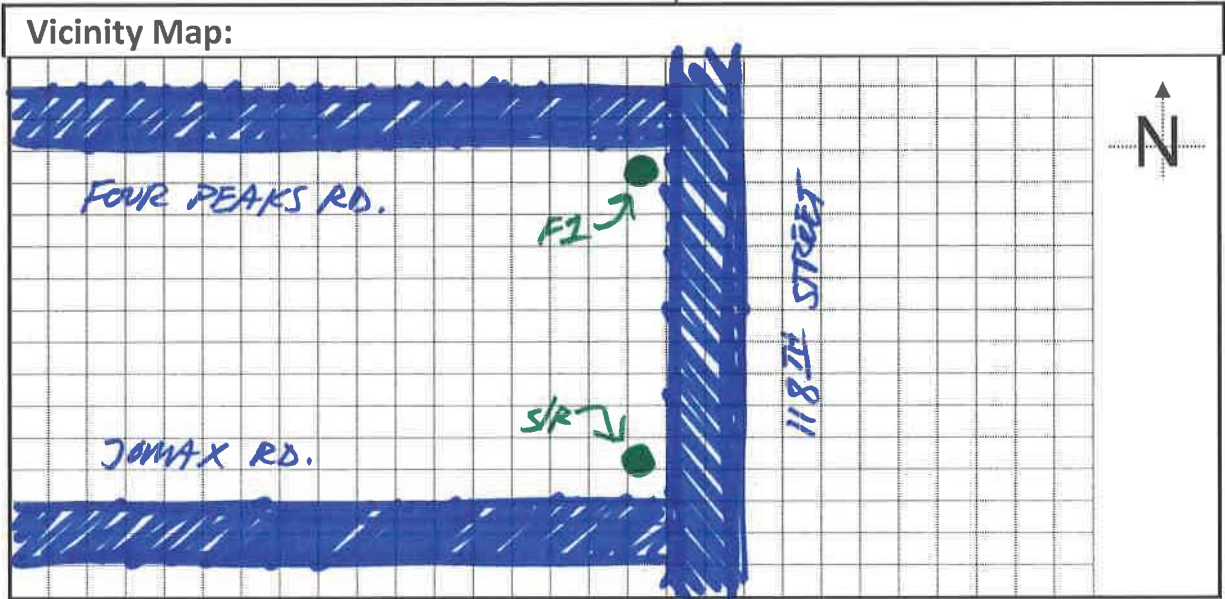
Project Description: N. SCOTTSDALE FLOW TEST FOR TOLLBROS. BUILDINGS

Property Address: 118TH ST. & JOMAX RD. AHJ: SCOTTSDALE

Test Conducted By: MARK DONNELLY

Test Witnessed By: Tim Demarbiex
Print Name

Company Requesting Test: AERO AUTOMATIC/TOLLBROS Project Ref:



Major Cross Streets: SEE "ADDRESSES" ABOVE

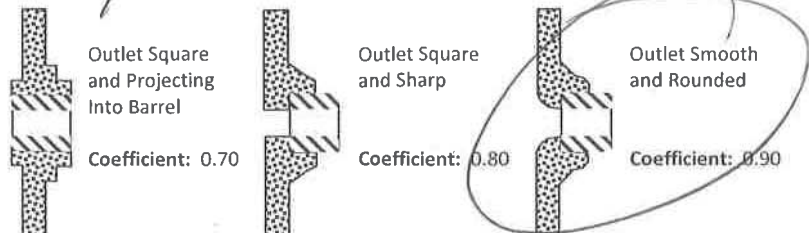
Hydrant Number	Opening Static	Closing Static	Residual PSIG	Pitot	Size	Outlet Coef	Adjusted GPM
S/R	84	84	64	—	2.5	0.9	—
F1	—	—	—	35	2.5	0.9	988

Performed By: [Signature]
Signature

Witness: [Signature]
Signature

Date of Test: 8/16/07

Time of Test: 11:15 AM



Aero Automatic Sprinkler Co follows the guidelines set forth in NFPA 291 as well as those of the local water purveyor. Results of this flow test identify water system characteristics for the date, time and specific location of the test only. Numerous factors affect each water system. These are not limited to policies and procedures set by the individual water purveyor for each test location. The following shall also be considered when preparing designs based on fire flow test data such as: water level fluctuations in reservoirs, operating pressure ranges at booster pump stations, elevation at point of use, daily demand fluctuations, seasonal demands, emergency demands, water treatment plant availability, increased demands due to growth, operation/maintenance schedules, etc.



HYDRANT FLOW TEST SUMMARY REPORT

21605 N Central Avenue Phone: 623-580-7800
Phoenix, AZ 85024 Fax: 623-434-3154

LOCATION: JOMAX ROAD & 118th STREET
SCOTTSDALE, AZ

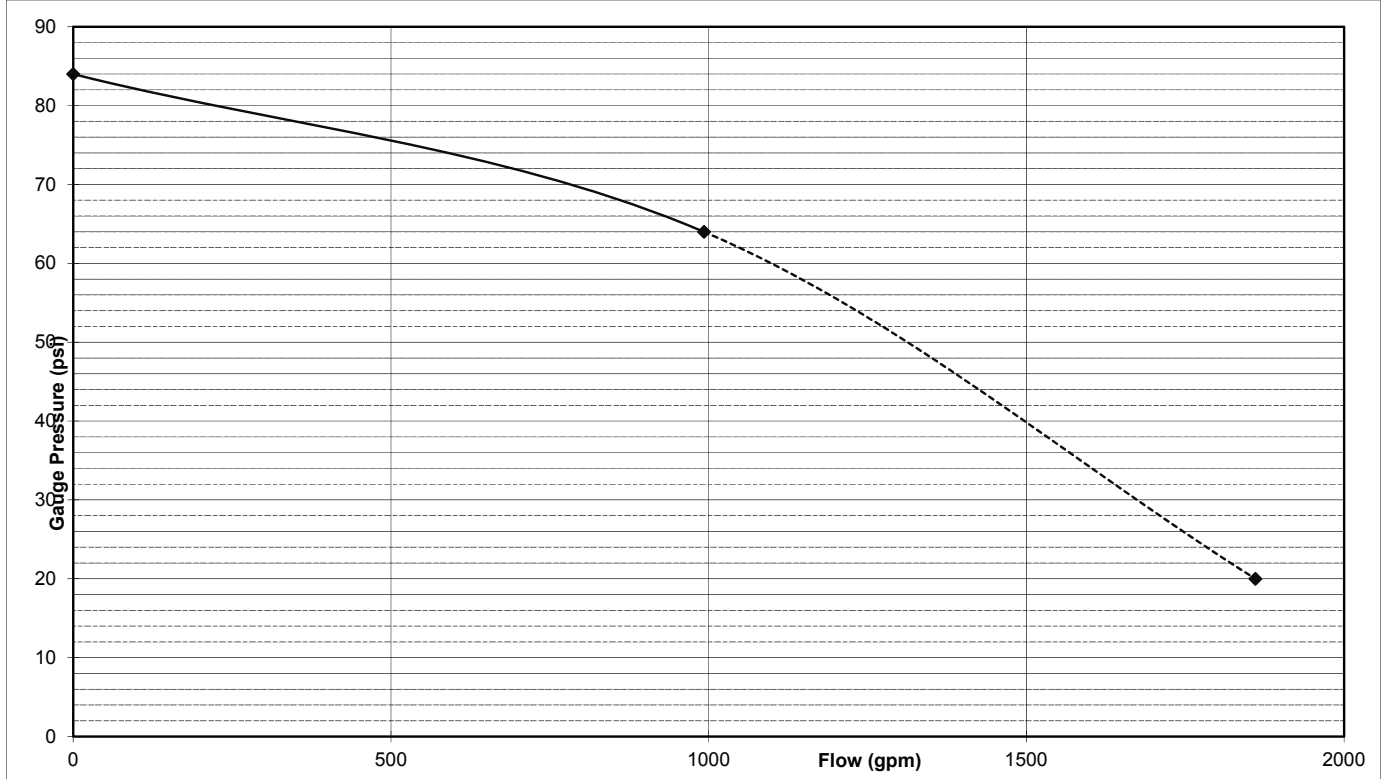
DATE: 08/16/17
TIME: 11:15 AM

Observed Test Data								
Hydrant Designation	Hydrant Number	Flow Opening	Static Pressure	Residual Pressure	Pitot Pressure	Coefficient	Steamer use .83	Flow (GPM)
Pressure; R			84	64				
Flow, F1		2 1/2			35	.9	1	993
Flow, F2								0
Flow, F3								0
Flow, F4								0
Total Flow								993

Note: If steamer connection was used for the flow test, it must be adjusted by a factor of .83. Otherwise use a factor of 1 for 2 1/2" outlets.

Static pressure of	84	psi @	0	gpm
Residual pressure of	64	psi @	993	gpm
Available flow @	20	psi --	1860	gpm

GRAPH:



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*                               E P A N E T                               *
*                               Hydraulic and Water Quality              *
*                               Analysis for Pipe Networks                *
*                               Version 2.0                              *
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Input File: average day 2965.net

118TH AND JOMAX 80 ACRES

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in
p1	J-15	J-0S7	1244	6
p2	J-0S7	J-0S9	1300	16
p4	J-0S7	J-0S8	649.4	12
p5	J-3	J-6	816.1	8
p6	J-7	J-6	457.2	8
p7	J-6	J-5	479.6	8
p8	J-5	J-4	766.8	8
p9	J-4	J-3	415.3	8
p10	J-3	J-2	409.6	8
p11	J-12	J-11	178.4	8
p12	J-11	J-9	946	8
p14	J-8	J-2	246.9	12
p15	J-2	J-1	401.6	12
p16	J-15	J-14	76.84	12
p17	J-14	J-11	980.8	8
p19	J-10	J-9	220.3	8
p20	J-9	J-8	728	8
p21	1	J-0S8	50	54
p22	J-16	J-1	327.66	16
p23	J-16	J-0S9	1002.5	16
p24	J-0S9	J-0S8	742.4	12
p25	J-14	J-7	253.5	12
p3	J-7	J-8	545.55	12

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-15	0.00	2965.00	111.57	0.00
J-0S7	0.00	2965.00	97.49	0.00

average day 2965.rpt

J-0S9	0.00	2965.00	97.49	0.00
J-0S8	137.00	2965.00	97.49	0.00
J-16	0.00	2965.00	106.16	0.00
J-3	2.03	2965.00	101.39	0.00
J-6	1.35	2965.00	109.41	0.00
J-7	2.03	2965.00	110.06	0.00



Page 2

118TH AND JOMAX 80 ACRES

Node Results: (continued)

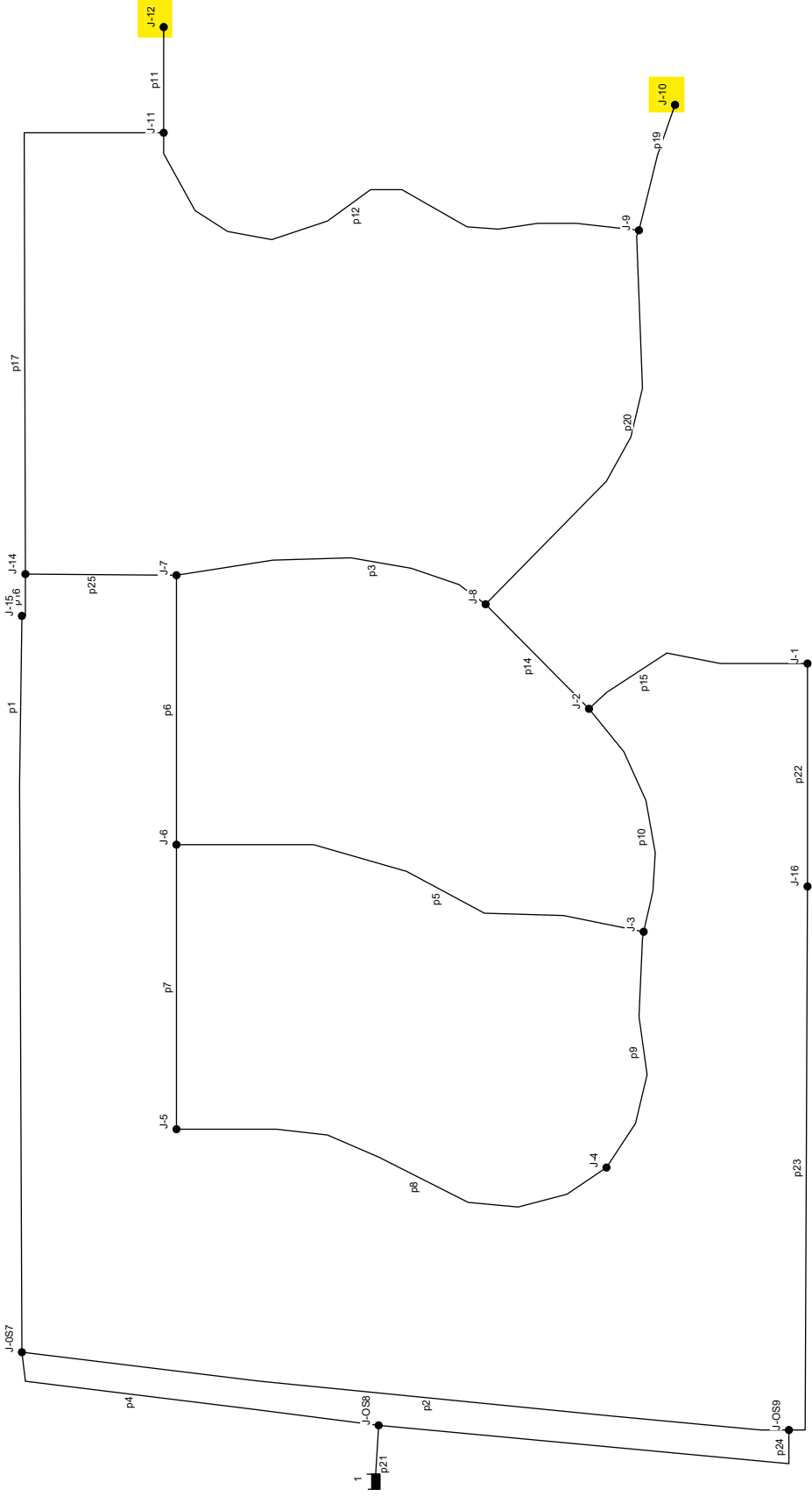
Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-5	1.35	2965.00	104.42	0.00
J-4	2.03	2965.00	100.26	0.00
J-2	0.34	2965.00	105.51	0.00
J-12	1.69	2965.00	117.81	0.00 ✓
J-11	1.35	2965.00	118.20	0.00 ✓
J-9	2.36	2965.00	114.09	0.00
J-14	0.00	2965.00	113.52	0.00
J-8	1.69	2965.00	108.67	0.00
J-1	0.00	2965.00	106.16	0.00
J-10	1.35	2965.00	116.12	0.00 ✓
1	-154.57	2965.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
p1	-2.19	0.02	0.00	Open
p2	6.32	0.01	0.00	Open
p4	-8.51	0.02	0.00	Open
p5	0.50	0.00	0.00	Open
p6	2.37	0.02	0.00	Open
p7	1.52	0.01	0.00	Open
p8	0.17	0.00	0.00	Open
p9	-1.86	0.01	0.00	Open
p10	-4.39	0.03	0.00	Open
p11	-1.69	0.01	0.00	Open
p12	-0.11	0.00	0.00	Open
p14	-10.65	0.03	0.00	Open
p15	-15.38	0.04	0.00	Open
p16	2.19	0.01	0.00	Open
p17	2.93	0.02	0.00	Open
p19	-1.35	0.01	0.00	Open
p20	-3.82	0.02	0.00	Open

		average	day	2965.rpt	
p21	154.57	0.02	0.00	Open	
p22	15.38	0.02	0.00	Open	
p23	-15.38	0.02	0.00	Open	
p24	-9.06	0.03	0.00	Open	
p25	-0.73	0.00	0.00	Open	
p3	-5.14	0.01	0.00	Open	

118TH AND JOMAX 80 ACRES



average day 9-29-17

Page 1

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*                               E P A N E T                               *
*                               Hydraulic and Water Quality                 *
*                               Analysis for Pipe Networks                   *
*                               Version 2.0                                 *
*****

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Input File: average day 9-29-17.net

118TH AND JOMAX 80 ACRES

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in	
p1	J-15	J-0S7	1244	6	
p2	J-0S7	J-0S9	1300	16	
p4	J-0S7	J-0S8	649.4	12	
p5	J-3	J-6	816.1	8	
p6	J-7	J-6	457.2	8	
p7	J-6	J-5	479.6	8	
p8	J-5	J-4	766.8	8	
p9	J-4	J-3	415.3	8	
p10	J-3	J-2	409.6	8	
p11	J-12	J-11	178.4	8	
p12	J-11	J-9	946	8	
p14	J-8	J-2	246.9	12	
p15	J-2	J-1	401.6	12	
p16	J-15	J-14	76.84	12	
p17	J-14	J-11	980.8	8	
p19	J-10	J-9	220.3	8	
p20	J-9	J-8	728	8	
p22	J-16	J-1	327.66	16	
p23	J-16	J-0S9	1002.5	16	
p24	J-0S9	J-0S8	742.4	12	
p25	J-14	J-7	253.5	12	
p3	J-7	J-8	545.55	12	
1	1	J-0S8	#N/A	#N/A	Pump

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
1	100.00	75.00	806.65	7.48	7.48	0.00

Head = 2938.57-2746=
192.57'=83.4 psi. Per
pump curve, head is
~81 psi @ ~155 gpm.

average day 9-29-17

Demand Charge: 0.00
Total Cost: 0.00



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118TH AND JOMAX 80 ACRES

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-15	0.00	2938.57	100.12	0.00
J-0S7	0.00	2938.57	86.47	0.00
J-0S9	0.00	2938.57	83.87	0.00
J-0S8	137.00	2938.57	86.69	0.00
J-16	0.00	2938.57	94.71	0.00
J-3	2.03	2938.57	89.94	0.00
J-6	1.35	2938.57	97.96	0.00
J-7	2.03	2938.57	98.61	0.00
J-5	1.35	2938.57	92.97	0.00
J-4	2.03	2938.57	88.81	0.00
J-2	0.34	2938.57	94.06	0.00
J-12	1.69	2938.57	106.36	0.00
J-11	1.35	2938.57	106.75	0.00
J-9	2.36	2938.57	102.63	0.00
J-14	0.00	2938.57	102.07	0.00
J-8	1.69	2938.57	97.22	0.00
J-1	0.00	2938.57	94.71	0.00
J-10	1.35	2938.57	104.67	0.00
1	-154.57	2746.00	0.00	0.00 Reservoir

These analyses are based on raw data from fire hydrant flow test.

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
p1	-2.19	0.02	0.00	Open
p2	6.32	0.01	0.00	Open
p4	-8.51	0.02	0.00	Open
p5	0.50	0.00	0.00	Open
p6	2.37	0.02	0.00	Open
p7	1.52	0.01	0.00	Open
p8	0.17	0.00	0.00	Open
p9	-1.86	0.01	0.00	Open
p10	-4.39	0.03	0.00	Open
p11	-1.69	0.01	0.00	Open
p12	-0.11	0.00	0.00	Open
p14	-10.65	0.03	0.00	Open

average day 9-29-17

p15	-15.38	0.04	0.00	Open
p16	2.19	0.01	0.00	Open
p17	2.93	0.02	0.00	Open
p19	-1.35	0.01	0.00	Open
p20	-3.82	0.02	0.00	Open
p22	15.38	0.02	0.00	Open
p23	-15.38	0.02	0.00	Open
p24	-9.06	0.03	0.00	Open
p25	-0.73	0.00	0.00	Open
p3	-5.14	0.01	0.00	Open



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118TH AND JOMAX 80 ACRES

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
1	154.57	0.00	-192.57	Open Pump

 * E P A N E T *
 * Hydraulic and Water Quality *
 * Analysis for Pipe Networks *
 * Version 2.0 *

Input File: Max day 9-29-17.net

118TH AND JOMAX 80 ACRES-Max Day

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in	
p1	J-15	J-0S7	1244	6	
p2	J-0S7	J-0S9	1300	16	
p4	J-0S7	J-0S8	649.4	12	
p5	J-3	J-6	816.1	8	
p6	J-7	J-6	457.2	8	
p7	J-6	J-5	479.6	8	
p8	J-5	J-4	766.8	8	
p9	J-4	J-3	415.3	8	
p10	J-3	J-2	409.6	8	
p11	J-12	J-11	178.4	8	
p12	J-11	J-9	946	8	
p14	J-8	J-2	246.9	12	
p15	J-2	J-1	401.6	12	
p16	J-15	J-14	76.84	12	
p17	J-14	J-11	980.8	8	
p19	J-10	J-9	220.3	8	
p20	J-9	J-8	728	8	
p22	J-16	J-1	327.66	16	
p23	J-16	J-0S9	1002.5	16	
p24	J-0S9	J-0S8	742.4	12	
p25	J-14	J-7	253.5	12	
p3	J-7	J-8	545.55	12	
1	1	J-0S8	#N/A	#N/A	Pump

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
1	100.00	75.00	790.55	14.66	14.66	0.00

Head = 81.7psi. Per pump curve, head is ~78.7 psi @ ~309 gpm.

Max day 9-29-17

Demand Charge: 0.00
Total Cost: 0.00



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118TH AND JOMAX 80 ACRES-Max Day

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-15	0.00	2934.72	98.46	0.00
J-0S7	0.00	2934.73	84.37	0.00
J-0S9	0.00	2934.73	84.37	0.00
J-0S8	274.00	2934.73	84.38	0.00
J-16	0.00	2934.72	93.04	0.00
J-3	4.05	2934.72	88.27	0.00
J-6	2.70	2934.72	96.29	0.00
J-7	4.05	2934.72	96.94	0.00
J-5	2.70	2934.72	91.31	0.00
J-4	4.05	2934.72	87.15	0.00
J-2	0.68	2934.72	92.39	0.00
J-12	3.38	2934.72	104.69	0.00
J-11	2.70	2934.72	105.08	0.00
J-9	4.73	2934.72	100.97	0.00
J-14	0.00	2934.72	100.41	0.00
J-8	3.38	2934.72	95.55	0.00
J-1	0.00	2934.72	93.04	0.00
J-10	2.70	2934.72	103.00	0.00
1	-309.12	2746.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
p1	-4.38	0.05	0.00	Open
p2	12.63	0.02	0.00	Open
p4	-17.01	0.05	0.00	Open
p5	1.01	0.01	0.00	Open
p6	4.73	0.03	0.00	Open
p7	3.04	0.02	0.00	Open
p8	0.34	0.00	0.00	Open
p9	-3.71	0.02	0.00	Open
p10	-8.77	0.06	0.00	Open
p11	-3.38	0.02	0.00	Open
p12	-0.22	0.00	0.00	Open
p14	-21.29	0.06	0.00	Open

		Max day 9-29-17		
p15	-30.74	0.09	0.00	Open
p16	4.38	0.01	0.00	Open
p17	5.86	0.04	0.00	Open
p19	-2.70	0.02	0.00	Open
p20	-7.65	0.05	0.00	Open
p22	30.74	0.05	0.00	Open
p23	-30.74	0.05	0.00	Open
p24	-18.11	0.05	0.00	Open
p25	-1.48	0.00	0.00	Open
p3	-10.26	0.03	0.00	Open



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118TH AND JOMAX 80 ACRES-Max Day

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
1	309.12	0.00	-188.73	Open Pump

 * E P A N E T *
 * Hydraulic and Water Quality *
 * Analysis for Pipe Networks *
 * Version 2.0 *

Input File: Peak Hour 9-29-17.net

118TH AND JOMAX 80 ACRES-Max Day

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in	
p1	J-15	J-0S7	1244	6	
p2	J-0S7	J-0S9	1300	16	
p4	J-0S7	J-0S8	649.4	12	
p5	J-3	J-6	816.1	8	
p6	J-7	J-6	457.2	8	
p7	J-6	J-5	479.6	8	
p8	J-5	J-4	766.8	8	
p9	J-4	J-3	415.3	8	
p10	J-3	J-2	409.6	8	
p11	J-12	J-11	178.4	8	
p12	J-11	J-9	946	8	
p14	J-8	J-2	246.9	12	
p15	J-2	J-1	401.6	12	
p16	J-15	J-14	76.84	12	
p17	J-14	J-11	980.8	8	
p19	J-10	J-9	220.3	8	
p20	J-9	J-8	728	8	
p22	J-16	J-1	327.66	16	
p23	J-16	J-0S9	1002.5	16	
p24	J-0S9	J-0S8	742.4	12	
p25	J-14	J-7	253.5	12	
p3	J-7	J-8	545.55	12	
1	1	J-0S8	#N/A	#N/A	Pump

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
1	100.00	75.00	735.60	23.88	23.88	0.00

Head = 76.01 psi. Per pump curve, head is ~74 psi @ ~540 gpm.

Peak Hour 9-29-17

Demand Charge: 0.00
Total Cost: 0.00



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118TH AND JOMAX 80 ACRES-Max Day

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-15	0.00	2921.59	92.77	0.00
J-0S7	0.00	2921.61	78.69	0.00
J-0S9	0.00	2921.61	78.69	0.00
J-0S8	479.50	2921.61	78.69	0.00
J-16	0.00	2921.60	87.35	0.00
J-3	7.09	2921.59	82.58	0.00
J-6	4.73	2921.59	90.60	0.00
J-7	7.09	2921.59	91.25	0.00
J-5	4.73	2921.59	85.62	0.00
J-4	7.09	2921.59	81.46	0.00
J-2	1.18	2921.60	86.70	0.00
J-12	5.91	2921.59	99.01	0.00
J-11	4.73	2921.59	99.40	0.00
J-9	8.27	2921.59	95.28	0.00
J-14	0.00	2921.59	94.72	0.00
J-8	5.91	2921.60	89.86	0.00
J-1	0.00	2921.60	87.35	0.00
J-10	4.73	2921.59	97.32	0.00
1	-540.96	2746.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
p1	-7.67	0.09	0.01	Open
p2	22.10	0.04	0.00	Open
p4	-29.77	0.08	0.00	Open
p5	1.77	0.01	0.00	Open
p6	8.29	0.05	0.00	Open
p7	5.33	0.03	0.00	Open
p8	0.60	0.00	0.00	Open
p9	-6.49	0.04	0.00	Open
p10	-15.35	0.10	0.01	Open
p11	-5.91	0.04	0.00	Open
p12	-0.39	0.00	0.00	Open
p14	-37.26	0.11	0.01	Open

		Peak Hour 9-29-17		
p15	-53.79	0.15	0.01	Open
p16	7.67	0.02	0.00	Open
p17	10.25	0.07	0.00	Open
p19	-4.73	0.03	0.00	Open
p20	-13.39	0.09	0.01	Open
p22	53.79	0.09	0.00	Open
p23	-53.79	0.09	0.00	Open
p24	-31.69	0.09	0.00	Open
p25	-2.58	0.01	0.00	Open
p3	-17.96	0.05	0.00	Open



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118TH AND JOMAX 80 ACRES-Max Day

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
1	540.96	0.00	-175.61	Open Pump

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*****
*                               E P A N E T                               *
*                               Hydraulic and Water Quality              *
*                               Analysis for Pipe Networks                *
*                               Version 2.0                              *
*****
```

Input File: Max day plus fire flow 9-29-17.net J-1

118TH AND JOMAX 80 ACRES-Max Day

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in	
p1	J-15	J-0S7	1244	6	
p2	J-0S7	J-0S9	1300	16	
p4	J-0S7	J-0S8	649.4	12	
p5	J-3	J-6	816.1	8	
p6	J-7	J-6	457.2	8	
p7	J-6	J-5	479.6	8	
p8	J-5	J-4	766.8	8	
p9	J-4	J-3	415.3	8	
p10	J-3	J-2	409.6	8	
p11	J-12	J-11	178.4	8	
p12	J-11	J-9	946	8	
p14	J-8	J-2	246.9	12	
p15	J-2	J-1	401.6	12	
p16	J-15	J-14	76.84	12	
p17	J-14	J-11	980.8	8	
p19	J-10	J-9	220.3	8	
p20	J-9	J-8	728	8	
p22	J-16	J-1	327.66	16	
p23	J-16	J-0S9	1002.5	16	
p24	J-0S9	J-0S8	742.4	12	
p25	J-14	J-7	253.5	12	
p3	J-7	J-8	545.55	12	
1	1	J-0S8	#N/A	#N/A	Pump

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
1	100.00	75.00	417.89	36.58	36.58	0.00

Max day plus fire flow 9-29-17 J1

Demand Charge: 0.00
Total Cost: 0.00

Head = 2845.76-2746=
99.76=43.2psi. OK.



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118TH AND JOMAX 80 ACRES-Max Day

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-15	0.00	2844.03	59.16	0.00
J-0S7	0.00	2845.19	45.58	0.00
J-0S9	0.00	2844.99	45.49	0.00
J-0S8	274.00	2845.76 ✓	45.83	0.00
J-16	0.00	2844.25	53.84	0.00
J-3	4.05	2844.02	48.97	0.00
J-6	2.70	2844.02	56.99	0.00
J-7	4.05	2844.03	57.64	0.00
J-5	2.70	2844.02	52.00	0.00
J-4	4.05	2844.02	47.84	0.00
J-2	0.68	2844.02	53.09	0.00
J-12	3.38	2844.02	65.39	0.00
J-11	2.70	2844.02	65.78	0.00
J-9	4.73	2844.02	61.67	0.00
J-14	0.00	2844.03	61.11	0.00
J-8	3.38	2844.02	56.25	0.00
J-1	1150.00	2844.01	53.73	0.00
J-10	2.70	2844.02	63.70	0.00
1	-1459.12	2746.00	0.00	0.00 Reservoir

These analyses are based on raw data from fire hydrant flow test.

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
p1	-93.94	1.07	0.93	Open
p2	471.78	0.75	0.16	Open
p4	-565.72	1.60	0.88	Open
p5	-8.80	0.06	0.00	Open
p6	19.97	0.13	0.01	Open
p7	8.47	0.05	0.00	Open
p8	5.77	0.04	0.00	Open
p9	1.72	0.01	0.00	Open
p10	6.47	0.04	0.00	Open
p11	-3.38	0.02	0.00	Open
p12	9.85	0.06	0.00	Open
p14	53.02	0.15	0.01	Open

Max day plus fire flow 9-29-17 J1

p15	58.82	0.17	0.01	Open
p16	93.94	0.27	0.03	Open
p17	15.93	0.10	0.01	Open
p19	-2.70	0.02	0.00	Open
p20	2.42	0.02	0.00	Open
p22	1091.18	1.74	0.73	Open
p23	-1091.18	1.74	0.73	Open
p24	-619.40	1.76	1.04	Open
p25	78.00	0.22	0.02	Open
p3	53.98	0.15	0.01	Open



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118TH AND JOMAX 80 ACRES-Max Day

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
1	1459.12	0.00	-99.76	Open Pump

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*****
*                               E P A N E T                               *
*                               Hydraulic and Water Quality                 *
*                               Analysis for Pipe Networks                   *
*                               Version 2.0                                 *
*****
```

Input File: Max day plus fire flow 9-29-17.net J-2

118TH AND JOMAX 80 ACRES-Max Day

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in	
p1	J-15	J-0S7	1244	6	
p2	J-0S7	J-0S9	1300	16	
p4	J-0S7	J-0S8	649.4	12	
p5	J-3	J-6	816.1	8	
p6	J-7	J-6	457.2	8	
p7	J-6	J-5	479.6	8	
p8	J-5	J-4	766.8	8	
p9	J-4	J-3	415.3	8	
p10	J-3	J-2	409.6	8	
p11	J-12	J-11	178.4	8	
p12	J-11	J-9	946	8	
p14	J-8	J-2	246.9	12	
p15	J-2	J-1	401.6	12	
p16	J-15	J-14	76.84	12	
p17	J-14	J-11	980.8	8	
p19	J-10	J-9	220.3	8	
p20	J-9	J-8	728	8	
p22	J-16	J-1	327.66	16	
p23	J-16	J-0S9	1002.5	16	
p24	J-0S9	J-0S8	742.4	12	
p25	J-14	J-7	253.5	12	
p3	J-7	J-8	545.55	12	
1	1	J-0S8	#N/A	#N/A	Pump

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
1	100.00	75.00	418.23	36.60	36.60	0.00

Max day plus fire flow 9-29-17 J2

Demand Charge: 0.00
 Total Cost: 0.00



Page 2

118TH AND JOMAX 80 ACRES-Max Day

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-15	0.00	2843.09	58.75	0.00
J-0S7	0.00	2845.26	45.61	0.00
J-0S9	0.00	2845.08	45.53	0.00
J-0S8	274.00	2845.84 ✓	45.86	0.00
J-16	0.00	2844.40	53.90	0.00
J-3	4.05	2843.05	48.55	0.00
J-6	2.70	2843.06	56.57	0.00
J-7	4.05	2843.07	57.23	0.00
J-5	2.70	2843.06	51.59	0.00
J-4	4.05	2843.05	47.43 ✓	0.00
J-2	1150.00	2843.05	52.67 ✓	0.00
J-12	3.38	2843.07	64.98	0.00
J-11	2.70	2843.07	65.37	0.00
J-9	4.73	2843.06	61.25	0.00
J-14	0.00	2843.08	60.70	0.00
J-8	3.38	2843.06	55.83	0.00
J-1	0.00	2844.17	53.80	0.00
J-10	2.70	2843.06	63.29	0.00
1	-1458.44	2746.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
p1	-132.14	1.50	1.75	Open
p2	439.19	0.70	0.14	Open
p4	-571.32	1.62	0.90	Open
p5	-13.35	0.09	0.01	Open
p6	27.78	0.18	0.02	Open
p7	11.73	0.07	0.00	Open
p8	9.03	0.06	0.00	Open
p9	4.98	0.03	0.00	Open
p10	14.28	0.09	0.01	Open
p11	-3.38	0.02	0.00	Open
p12	15.23	0.10	0.01	Open
p14	83.41	0.24	0.03	Open

Max day plus fire flow 9-29-17 J2				
p15	-1052.30	2.99	2.79	Open
p16	132.14	0.37	0.06	Open
p17	21.31	0.14	0.01	Open
p19	-2.70	0.02	0.00	Open
p20	7.80	0.05	0.00	Open
p22	1052.30	1.68	0.69	Open
p23	-1052.30	1.68	0.69	Open
p24	-613.12	1.74	1.02	Open
p25	110.82	0.31	0.04	Open
p3	78.99	0.22	0.02	Open



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118TH AND JOMAX 80 ACRES-Max Day

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
1	1458.44	0.00	-99.84	Open Pump

 * E P A N E T *
 * Hydraulic and Water Quality *
 * Analysis for Pipe Networks *
 * Version 2.0 *

Input File: Max day plus fire flow 9-29-17.net J-3

118TH AND JOMAX 80 ACRES-Max Day

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in	
p1	J-15	J-0S7	1244	6	
p2	J-0S7	J-0S9	1300	16	
p4	J-0S7	J-0S8	649.4	12	
p5	J-3	J-6	816.1	8	
p6	J-7	J-6	457.2	8	
p7	J-6	J-5	479.6	8	
p8	J-5	J-4	766.8	8	
p9	J-4	J-3	415.3	8	
p10	J-3	J-2	409.6	8	
p11	J-12	J-11	178.4	8	
p12	J-11	J-9	946	8	
p14	J-8	J-2	246.9	12	
p15	J-2	J-1	401.6	12	
p16	J-15	J-14	76.84	12	
p17	J-14	J-11	980.8	8	
p19	J-10	J-9	220.3	8	
p20	J-9	J-8	728	8	
p22	J-16	J-1	327.66	16	
p23	J-16	J-0S9	1002.5	16	
p24	J-0S9	J-0S8	742.4	12	
p25	J-14	J-7	253.5	12	
p3	J-7	J-8	545.55	12	
1	1	J-0S8	#N/A	#N/A	Pump

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
1	100.00	75.00	419.92	36.66	36.66	0.00

Max day plus fire flow 9-29-17 J3

Demand Charge: 0.00
 Total Cost: 0.00



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118TH AND JOMAX 80 ACRES-Max Day

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-15	0.00	2843.28	58.83	0.00
J-0S7	0.00	2845.66	45.78	0.00
J-0S9	0.00	2845.49	45.71	0.00
J-0S8	274.00	2846.25 ✓	46.04	0.00
J-16	0.00	2844.82	54.08	0.00
J-3	1150.00	2839.77	47.13 ✓	0.00
J-6	2.70	2841.16	55.75	0.00
J-7	4.05	2843.25	57.30	0.00
J-5	2.70	2840.75	50.59	0.00
J-4	4.05	2840.11	46.15 ✓	0.00
J-2	0.68	2843.50	52.86	0.00
J-12	3.38	2843.31	65.09	0.00
J-11	2.70	2843.31	65.48	0.00
J-9	4.73	2843.36	61.38	0.00
J-14	0.00	2843.28	60.78	0.00
J-8	3.38	2843.40	55.98	0.00
J-1	0.00	2844.60	53.99	0.00
J-10	2.70	2843.36	63.42	0.00
1	-1455.07	2746.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
p1	-138.81	1.58	1.91	Open
p2	431.94	0.69	0.13	Open
p4	-570.76	1.62	0.90	Open
p5	-278.08	1.77	1.71	Open
p6	473.13	3.02	4.57	Open
p7	192.34	1.23	0.86	Open
p8	189.64	1.21	0.84	Open
p9	185.59	1.18	0.81	Open
p10	-686.32	4.38	9.10	Open
p11	-3.38	0.02	0.00	Open
p12	-40.35	0.26	0.05	Open
p14	-355.25	1.01	0.37	Open

Max day plus fire flow 9-29-17 J3

p15	-1042.26	2.96	2.74	Open
p16	138.81	0.39	0.07	Open
p17	-34.27	0.22	0.04	Open
p19	-2.70	0.02	0.00	Open
p20	-47.78	0.30	0.07	Open
p22	1042.26	1.66	0.67	Open
p23	-1042.26	1.66	0.67	Open
p24	-610.31	1.73	1.02	Open
p25	173.09	0.49	0.10	Open
p3	-304.09	0.86	0.28	Open



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118TH AND JOMAX 80 ACRES-Max Day

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
1	1455.07	0.00	-100.25	Open Pump

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Input File: Max day plus fire flow 9-29-17.net J-4

118TH AND JOMAX 80 ACRES-Max Day

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in	
p1	J-15	J-0S7	1244	6	
p2	J-0S7	J-0S9	1300	16	
p4	J-0S7	J-0S8	649.4	12	
p5	J-3	J-6	816.1	8	
p6	J-7	J-6	457.2	8	
p7	J-6	J-5	479.6	8	
p8	J-5	J-4	766.8	8	
p9	J-4	J-3	415.3	8	
p10	J-3	J-2	409.6	8	
p11	J-12	J-11	178.4	8	
p12	J-11	J-9	946	8	
p14	J-8	J-2	246.9	12	
p15	J-2	J-1	401.6	12	
p16	J-15	J-14	76.84	12	
p17	J-14	J-11	980.8	8	
p19	J-10	J-9	220.3	8	
p20	J-9	J-8	728	8	
p22	J-16	J-1	327.66	16	
p23	J-16	J-0S9	1002.5	16	
p24	J-0S9	J-0S8	742.4	12	
p25	J-14	J-7	253.5	12	
p3	J-7	J-8	545.55	12	
1	1	J-0S8	#N/A	#N/A	Pump

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
1	100.00	75.00	419.92	36.66	36.66	0.00

Max day plus fire flow 9-29-17 J4

Demand Charge: 0.00
 Total Cost: 0.00



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118TH AND JOMAX 80 ACRES-Max Day

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-15	0.00	2843.22	58.81	0.00
J-0S7	0.00	2845.66	45.78 ✓	0.00
J-0S9	0.00	2845.49	45.71 ✓	0.00
J-0S8	274.00	2846.25 ✓	46.04	0.00
J-16	0.00	2844.82	54.08	0.00
J-3	4.05	2840.34	47.38	0.00
J-6	2.70	2840.59	55.50	0.00
J-7	4.05	2843.18	57.27	0.00
J-5	2.70	2838.84	49.76	0.00
J-4	1150.00	2836.07	44.40 ✓	0.00
J-2	0.68	2843.50	52.86	0.00
J-12	3.38	2843.26	65.06	0.00
J-11	2.70	2843.26	65.45	0.00
J-9	4.73	2843.32	61.36	0.00
J-14	0.00	2843.21	60.75	0.00
J-8	3.38	2843.38	55.98	0.00
J-1	0.00	2844.60	53.99	0.00
J-10	2.70	2843.32	63.40	0.00
1	-1455.07	2746.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
p1	-140.88	1.60	1.97	Open
p2	430.19	0.69	0.13	Open
p4	-571.07	1.62	0.90	Open
p5	-109.48	0.70	0.30	Open
p6	531.51	3.39	5.67	Open
p7	419.33	2.68	3.65	Open
p8	416.63	2.66	3.61	Open
p9	-733.37	4.68	10.29	Open
p10	-627.94	4.01	7.72	Open
p11	-3.38	0.02	0.00	Open
p12	-47.72	0.30	0.07	Open
p14	-411.57	1.17	0.49	Open

Max day plus fire flow 9-29-17 J4

p15	-1040.19	2.95	2.73	Open
p16	140.88	0.40	0.07	Open
p17	-41.64	0.27	0.05	Open
p19	-2.70	0.02	0.00	Open
p20	-55.15	0.35	0.09	Open
p22	1040.19	1.66	0.67	Open
p23	-1040.19	1.66	0.67	Open
p24	-610.00	1.73	1.01	Open
p25	182.52	0.52	0.11	Open
p3	-353.04	1.00	0.37	Open



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118TH AND JOMAX 80 ACRES-Max Day

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
1	1455.07	0.00	-100.25	Open Pump

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*****
*                               E P A N E T                               *
*                               Hydraulic and Water Quality              *
*                               Analysis for Pipe Networks                *
*                               Version 2.0                              *
*****
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Input File: Max day plus fire flow 9-29-17.net J-5

118TH AND JOMAX 80 ACRES-Max Day

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in	
p1	J-15	J-0S7	1244	6	
p2	J-0S7	J-0S9	1300	16	
p4	J-0S7	J-0S8	649.4	12	
p5	J-3	J-6	816.1	8	
p6	J-7	J-6	457.2	8	
p7	J-6	J-5	479.6	8	
p8	J-5	J-4	766.8	8	
p9	J-4	J-3	415.3	8	
p10	J-3	J-2	409.6	8	
p11	J-12	J-11	178.4	8	
p12	J-11	J-9	946	8	
p14	J-8	J-2	246.9	12	
p15	J-2	J-1	401.6	12	
p16	J-15	J-14	76.84	12	
p17	J-14	J-11	980.8	8	
p19	J-10	J-9	220.3	8	
p20	J-9	J-8	728	8	
p22	J-16	J-1	327.66	16	
p23	J-16	J-0S9	1002.5	16	
p24	J-0S9	J-0S8	742.4	12	
p25	J-14	J-7	253.5	12	
p3	J-7	J-8	545.55	12	
1	1	J-0S8	#N/A	#N/A	Pump

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
1	100.00	75.00	419.24	36.64	36.64	0.00

Max day plus fire flow 9-29-17 J5

Demand Charge: 0.00
 Total Cost: 0.00



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118TH AND JOMAX 80 ACRES-Max Day

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-15	0.00	2843.01	58.72	0.00
J-0S7	0.00	2845.50	45.71	0.00
J-0S9	0.00	2845.33	45.64	0.00
J-0S8	274.00	2846.08 ✓	45.97	0.00
J-16	0.00	2844.66	54.01	0.00
J-3	4.05	2840.47	47.43	0.00
J-6	2.70	2840.08	55.28	0.00
J-7	4.05	2842.97	57.18	0.00
J-5	1150.00	2835.54	48.33 ✓	0.00
J-4	4.05	2838.72	45.55 ✓	0.00
J-2	0.68	2843.34	52.79	0.00
J-12	3.38	2843.06	64.98	0.00
J-11	2.70	2843.06	65.37	0.00
J-9	4.73	2843.13	61.28	0.00
J-14	0.00	2843.00	60.66	0.00
J-8	3.38	2843.20	55.90	0.00
J-1	0.00	2844.44	53.92	0.00
J-10	2.70	2843.13	63.32	0.00
1	-1456.42	2746.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
p1	-142.28	1.61	2.00	Open
p2	429.63	0.69	0.13	Open
p4	-571.90	1.62	0.90	Open
p5	139.58	0.89	0.48	Open
p6	564.23	3.60	6.33	Open
p7	701.11	4.48	9.46	Open
p8	-448.89	2.87	4.14	Open
p9	-452.94	2.89	4.21	Open
p10	-596.57	3.81	7.02	Open
p11	-3.38	0.02	0.00	Open
p12	-51.78	0.33	0.08	Open
p14	-442.90	1.26	0.56	Open

Max day plus fire flow 9-29-17 J5

p15	-1040.14	2.95	2.73	Open
p16	142.28	0.40	0.07	Open
p17	-45.70	0.29	0.06	Open
p19	-2.70	0.02	0.00	Open
p20	-59.21	0.38	0.10	Open
p22	1040.14	1.66	0.67	Open
p23	-1040.14	1.66	0.67	Open
p24	-610.52	1.73	1.02	Open
p25	187.97	0.53	0.11	Open
p3	-380.31	1.08	0.42	Open



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118TH AND JOMAX 80 ACRES-Max Day

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
1	1456.42	0.00	-100.08	Open Pump

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Input File: Max day plus fire flow 9-29-17.net J-6

118TH AND JOMAX 80 ACRES-Max Day

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in	
p1	J-15	J-0S7	1244	6	
p2	J-0S7	J-0S9	1300	16	
p4	J-0S7	J-0S8	649.4	12	
p5	J-3	J-6	816.1	8	
p6	J-7	J-6	457.2	8	
p7	J-6	J-5	479.6	8	
p8	J-5	J-4	766.8	8	
p9	J-4	J-3	415.3	8	
p10	J-3	J-2	409.6	8	
p11	J-12	J-11	178.4	8	
p12	J-11	J-9	946	8	
p14	J-8	J-2	246.9	12	
p15	J-2	J-1	401.6	12	
p16	J-15	J-14	76.84	12	
p17	J-14	J-11	980.8	8	
p19	J-10	J-9	220.3	8	
p20	J-9	J-8	728	8	
p22	J-16	J-1	327.66	16	
p23	J-16	J-0S9	1002.5	16	
p24	J-0S9	J-0S8	742.4	12	
p25	J-14	J-7	253.5	12	
p3	J-7	J-8	545.55	12	
1	1	J-0S8	#N/A	#N/A	Pump

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
1	100.00	75.00	419.24	36.64	36.64	0.00

Max day plus fire flow 9-29-17 J6

Demand Charge: 0.00
 Total Cost: 0.00



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118TH AND JOMAX 80 ACRES-Max Day

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-15	0.00	2842.92	58.68	0.00
J-0S7	0.00	2845.50	45.71	0.00
J-0S9	0.00	2845.33	45.64	0.00
J-0S8	274.00	2846.08 ✓	45.97	0.00
J-16	0.00	2844.66	54.02	0.00
J-3	4.05	2841.04	47.68	0.00
J-6	1150.00	2839.33	54.95 ✓	0.00
J-7	4.05	2842.88	57.14	0.00
J-5	2.70	2839.81	50.18	0.00
J-4	4.05	2840.60	46.36 ✓	0.00
J-2	0.68	2843.35	52.80	0.00
J-12	3.38	2842.99	64.95	0.00
J-11	2.70	2842.99	65.34	0.00
J-9	4.73	2843.09	61.26	0.00
J-14	0.00	2842.91	60.62	0.00
J-8	3.38	2843.18	55.89	0.00
J-1	0.00	2844.44	53.92	0.00
J-10	2.70	2843.09	63.30	0.00
1	-1456.42	2746.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
p1	-145.02	1.65	2.08	Open
p2	427.29	0.68	0.13	Open
p4	-572.31	1.62	0.90	Open
p5	310.90	1.98	2.10	Open
p6	630.27	4.02	7.77	Open
p7	-208.83	1.33	1.00	Open
p8	-211.53	1.35	1.03	Open
p9	-215.58	1.38	1.07	Open
p10	-530.53	3.39	5.65	Open
p11	-3.38	0.02	0.00	Open
p12	-59.94	0.38	0.10	Open
p14	-506.19	1.44	0.72	Open

Max day plus fire flow 9-29-17 J6

p15	-1037.40	2.94	2.71	Open
p16	145.02	0.41	0.07	Open
p17	-53.86	0.34	0.08	Open
p19	-2.70	0.02	0.00	Open
p20	-67.37	0.43	0.12	Open
p22	1037.40	1.66	0.67	Open
p23	-1037.40	1.66	0.67	Open
p24	-610.11	1.73	1.01	Open
p25	198.88	0.56	0.13	Open
p3	-435.43	1.24	0.54	Open



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118TH AND JOMAX 80 ACRES-Max Day

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
1	1456.42	0.00	-100.08	Open Pump

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Input File: Max day plus fire flow 9-29-17.net J-7

118TH AND JOMAX 80 ACRES-Max Day

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in	
p1	J-15	J-0S7	1244	6	
p2	J-0S7	J-0S9	1300	16	
p4	J-0S7	J-0S8	649.4	12	
p5	J-3	J-6	816.1	8	
p6	J-7	J-6	457.2	8	
p7	J-6	J-5	479.6	8	
p8	J-5	J-4	766.8	8	
p9	J-4	J-3	415.3	8	
p10	J-3	J-2	409.6	8	
p11	J-12	J-11	178.4	8	
p12	J-11	J-9	946	8	
p14	J-8	J-2	246.9	12	
p15	J-2	J-1	401.6	12	
p16	J-15	J-14	76.84	12	
p17	J-14	J-11	980.8	8	
p19	J-10	J-9	220.3	8	
p20	J-9	J-8	728	8	
p22	J-16	J-1	327.66	16	
p23	J-16	J-0S9	1002.5	16	
p24	J-0S9	J-0S8	742.4	12	
p25	J-14	J-7	253.5	12	
p3	J-7	J-8	545.55	12	
1	1	J-0S8	#N/A	#N/A	Pump

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
1	100.00	75.00	419.92	36.66	36.66	0.00

Max day plus fire flow 9-29-17 J7

Demand Charge: 0.00
 Total Cost: 0.00



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118TH AND JOMAX 80 ACRES-Max Day

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-15	0.00	2842.51	58.50	0.00
J-0S7	0.00	2845.66	45.78	0.00
J-0S9	0.00	2845.50	45.71	0.00
J-0S8	274.00	2846.25 ✓	46.04	0.00
J-16	0.00	2844.85	54.10	0.00
J-3	4.05	2843.16	48.60	0.00
J-6	2.70	2842.87	56.49	0.00
J-7	1150.00	2842.45	56.96 ✓	0.00
J-5	2.70	2842.95	51.54	0.00
J-4	4.05	2843.08	47.44 ✓	0.00
J-2	0.68	2843.58	52.90	0.00
J-12	3.38	2842.72	64.83	0.00
J-11	2.70	2842.72	65.22	0.00
J-9	4.73	2842.95	61.21	0.00
J-14	0.00	2842.50	60.45	0.00
J-8	3.38	2843.16	55.88	0.00
J-1	0.00	2844.64	54.01	0.00
J-10	2.70	2842.95	63.24	0.00
1	-1455.07	2746.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
p1	-161.42	1.83	2.53	Open
p2	412.66	0.66	0.12	Open
p4	-574.09	1.63	0.91	Open
p5	120.96	0.77	0.37	Open
p6	-197.68	1.26	0.91	Open
p7	-79.43	0.51	0.17	Open
p8	-82.13	0.52	0.18	Open
p9	-86.18	0.55	0.19	Open
p10	-211.18	1.35	1.03	Open
p11	-3.38	0.02	0.00	Open
p12	-98.41	0.63	0.25	Open
p14	-807.78	2.29	1.71	Open

Max day plus fire flow 9-29-17 J7

p15	-1019.65	2.89	2.63	Open
p16	161.42	0.46	0.09	Open
p17	-92.33	0.59	0.22	Open
p19	-2.70	0.02	0.00	Open
p20	-105.84	0.68	0.29	Open
p22	1019.65	1.63	0.65	Open
p23	-1019.65	1.63	0.65	Open
p24	-606.98	1.72	1.01	Open
p25	253.76	0.72	0.20	Open
p3	-698.56	1.98	1.30	Open



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118TH AND JOMAX 80 ACRES-Max Day

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
1	1455.07	0.00	-100.25	Open Pump


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*                               E P A N E T                               *
*                               Hydraulic and Water Quality                *
*                               Analysis for Pipe Networks                 *
*                               Version 2.0                               *
*****
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Input File: Max day plus fire flow 9-29-17.net J-8

118TH AND JOMAX 80 ACRES-Max Day

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in	
p1	J-15	J-0S7	1244	6	
p2	J-0S7	J-0S9	1300	16	
p4	J-0S7	J-0S8	649.4	12	
p5	J-3	J-6	816.1	8	
p6	J-7	J-6	457.2	8	
p7	J-6	J-5	479.6	8	
p8	J-5	J-4	766.8	8	
p9	J-4	J-3	415.3	8	
p10	J-3	J-2	409.6	8	
p11	J-12	J-11	178.4	8	
p12	J-11	J-9	946	8	
p14	J-8	J-2	246.9	12	
p15	J-2	J-1	401.6	12	
p16	J-15	J-14	76.84	12	
p17	J-14	J-11	980.8	8	
p19	J-10	J-9	220.3	8	
p20	J-9	J-8	728	8	
p22	J-16	J-1	327.66	16	
p23	J-16	J-0S9	1002.5	16	
p24	J-0S9	J-0S8	742.4	12	
p25	J-14	J-7	253.5	12	
p3	J-7	J-8	545.55	12	
1	1	J-0S8	#N/A	#N/A	Pump

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
1	100.00	75.00	419.58	36.65	36.65	0.00

Max day plus fire flow 9-29-17 J8

Demand Charge: 0.00
 Total Cost: 0.00



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118TH AND JOMAX 80 ACRES-Max Day

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-15	0.00	2843.01	58.72	0.00
J-0S7	0.00	2845.58	45.75	0.00
J-0S9	0.00	2845.41	45.68	0.00
J-0S8	274.00	2846.17 ✓	46.00	0.00
J-16	0.00	2844.74	54.05	0.00
J-3	4.05	2843.27	48.65	0.00
J-6	2.70	2843.15	56.61	0.00
J-7	4.05	2843.00	57.19	0.00
J-5	2.70	2843.18	51.64	0.00
J-4	4.05	2843.23	47.50 ✓	0.00
J-2	0.68	2843.44	52.83	0.00
J-12	3.38	2842.96	64.93	0.00
J-11	2.70	2842.96	65.32	0.00
J-9	4.73	2842.93	61.19	0.00
J-14	0.00	2843.01	60.66	0.00
J-8	1150.00	2842.91	55.77 ✓	0.00
J-1	0.00	2844.53	53.96	0.00
J-10	2.70	2842.93	63.23	0.00
1	-1455.74	2746.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
p1	-144.65	1.64	2.07	Open
p2	427.29	0.68	0.13	Open
p4	-571.94	1.62	0.90	Open
p5	72.44	0.46	0.14	Open
p6	-116.10	0.74	0.34	Open
p7	-46.36	0.30	0.06	Open
p8	-49.06	0.31	0.07	Open
p9	-53.11	0.34	0.08	Open
p10	-129.60	0.83	0.41	Open
p11	-3.38	0.02	0.00	Open
p12	33.29	0.21	0.03	Open
p14	-906.81	2.57	2.11	Open

Max day plus fire flow 9-29-17 J8

p15	-1037.09	2.94	2.71	Open
p16	144.65	0.41	0.07	Open
p17	39.37	0.25	0.05	Open
p19	-2.70	0.02	0.00	Open
p20	25.86	0.17	0.02	Open
p22	1037.09	1.65	0.67	Open
p23	-1037.09	1.65	0.67	Open
p24	-609.80	1.73	1.01	Open
p25	105.27	0.30	0.04	Open
p3	217.33	0.62	0.15	Open



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118TH AND JOMAX 80 ACRES-Max Day

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
1	1455.74	0.00	-100.17	Open Pump

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*****
*                               E P A N E T                               *
*                               Hydraulic and Water Quality                 *
*                               Analysis for Pipe Networks                 *
*                               Version 2.0                               *
*****
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Input File: Max day plus fire flow 9-29-17.net J-9

118TH AND JOMAX 80 ACRES-Max Day

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in	
p1	J-15	J-0S7	1244	6	
p2	J-0S7	J-0S9	1300	16	
p4	J-0S7	J-0S8	649.4	12	
p5	J-3	J-6	816.1	8	
p6	J-7	J-6	457.2	8	
p7	J-6	J-5	479.6	8	
p8	J-5	J-4	766.8	8	
p9	J-4	J-3	415.3	8	
p10	J-3	J-2	409.6	8	
p11	J-12	J-11	178.4	8	
p12	J-11	J-9	946	8	
p14	J-8	J-2	246.9	12	
p15	J-2	J-1	401.6	12	
p16	J-15	J-14	76.84	12	
p17	J-14	J-11	980.8	8	
p19	J-10	J-9	220.3	8	
p20	J-9	J-8	728	8	
p22	J-16	J-1	327.66	16	
p23	J-16	J-0S9	1002.5	16	
p24	J-0S9	J-0S8	742.4	12	
p25	J-14	J-7	253.5	12	
p3	J-7	J-8	545.55	12	
1	1	J-0S8	#N/A	#N/A	Pump

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
1	100.00	75.00	420.26	36.67	36.67	0.00

Max day plus fire flow 9-29-17 J9

Demand Charge: 0.00
 Total Cost: 0.00



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118TH AND JOMAX 80 ACRES-Max Day

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-15	0.00	2843.02	58.72	0.00
J-0S7	0.00	2845.74	45.82	0.00
J-0S9	0.00	2845.58	45.75	0.00
J-0S8	274.00	2846.33 ✓	46.07	0.00
J-16	0.00	2844.92	54.13	0.00
J-3	4.05	2843.41	48.71	0.00
J-6	2.70	2843.27	56.66	0.00
J-7	4.05	2843.08	57.23	0.00
J-5	2.70	2843.31	51.70	0.00
J-4	4.05	2843.37	47.56 ✓	0.00
J-2	0.68	2843.62	52.92	0.00
J-12	3.38	2839.26	63.33	0.00
J-11	2.70	2839.26	63.72	0.00
J-9	1150.00	2835.73	58.07 ✓	0.00
J-14	0.00	2843.02	60.67	0.00
J-8	3.38	2843.12	55.86	0.00
J-1	0.00	2844.70	54.03	0.00
J-10	2.70	2835.73	60.11	0.00
1	-1454.39	2746.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
p1	-149.16	1.69	2.19	Open
p2	422.82	0.67	0.13	Open
p4	-571.98	1.62	0.90	Open
p5	81.24	0.52	0.17	Open
p6	-130.90	0.84	0.42	Open
p7	-52.36	0.33	0.08	Open
p8	-55.06	0.35	0.09	Open
p9	-59.11	0.38	0.10	Open
p10	-144.40	0.92	0.51	Open
p11	-3.38	0.02	0.00	Open
p12	424.27	2.71	3.73	Open
p14	-886.15	2.51	2.03	Open

Max day plus fire flow 9-29-17 J9

p15	-1031.23	2.93	2.68	Open
p16	149.16	0.42	0.08	Open
p17	430.35	2.75	3.83	Open
p19	-2.70	0.02	0.00	Open
p20	-728.43	4.65	10.16	Open
p22	1031.23	1.65	0.66	Open
p23	-1031.23	1.65	0.66	Open
p24	-608.41	1.73	1.01	Open
p25	-281.18	0.80	0.24	Open
p3	-154.34	0.44	0.08	Open



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118TH AND JOMAX 80 ACRES-Max Day

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
1	1454.39	0.00	-100.33	Open Pump

 * E P A N E T *
 * Hydraulic and Water Quality *
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 * Version 2.0 *

Input File: Max day plus fire flow 9-29-17.net J-10

118TH AND JOMAX 80 ACRES-Max Day

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in	
p1	J-15	J-0S7	1244	6	
p2	J-0S7	J-0S9	1300	16	
p4	J-0S7	J-0S8	649.4	12	
p5	J-3	J-6	816.1	8	
p6	J-7	J-6	457.2	8	
p7	J-6	J-5	479.6	8	
p8	J-5	J-4	766.8	8	
p9	J-4	J-3	415.3	8	
p10	J-3	J-2	409.6	8	
p11	J-12	J-11	178.4	8	
p12	J-11	J-9	946	8	
p14	J-8	J-2	246.9	12	
p15	J-2	J-1	401.6	12	
p16	J-15	J-14	76.84	12	
p17	J-14	J-11	980.8	8	
p19	J-10	J-9	220.3	12	
p20	J-9	J-8	728	8	
p22	J-16	J-1	327.66	16	
p23	J-16	J-0S9	1002.5	16	
p24	J-0S9	J-0S8	742.4	12	
p25	J-14	J-7	253.5	12	
p3	J-7	J-8	545.55	12	
1	1	J-0S8	#N/A	#N/A	Pump

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
1	100.00	75.00	419.24	36.64	36.64	0.00

Max day plus fire flow 9-29-17 J10

Demand Charge: 0.00

Total Cost: 0.00



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118TH AND JOMAX 80 ACRES-Max Day

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-15	0.00	2842.77	58.61	0.00
J-0S7	0.00	2845.50	45.71	0.00
J-0S9	0.00	2845.33	45.64	0.00
J-0S8	274.00	2846.08	45.97	0.00
J-16	0.00	2844.67	54.02	0.00
J-3	4.05	2843.16	48.60	0.00
J-6	2.70	2843.02	56.55	0.00
J-7	4.05	2842.82	57.12	0.00
J-5	2.70	2843.06	51.59	0.00
J-4	4.05	2843.12	47.46	0.00
J-2	0.68	2843.37	52.81	0.00
J-12	3.38	2838.99	63.22	0.00
J-11	2.70	2838.99	63.61	0.00
J-9	4.73	2835.45	57.95	0.00
J-14	0.00	2842.76	60.56	0.00
J-8	3.38	2842.87	55.75	0.00
J-1	0.00	2844.45	53.92	0.00
J-10	1150.00	2834.73	59.68	0.00
1	-1456.42	2746.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
p1	-149.42	1.70	2.19	Open
p2	423.54	0.68	0.13	Open
p4	-572.96	1.63	0.90	Open
p5	81.38	0.52	0.18	Open
p6	-131.13	0.84	0.42	Open
p7	-52.45	0.33	0.08	Open
p8	-55.15	0.35	0.09	Open
p9	-59.20	0.38	0.10	Open
p10	-144.63	0.92	0.51	Open
p11	-3.38	0.02	0.00	Open
p12	425.02	2.71	3.74	Open
p14	-887.69	2.52	2.03	Open

Max day plus fire flow 9-29-17 J10

p15	-1033.00	2.93	2.69	Open
p16	149.42	0.42	0.08	Open
p17	431.10	2.75	3.84	Open
p19	-1150.00	3.26	3.28	Open
p20	-729.71	4.66	10.19	Open
p22	1033.00	1.65	0.66	Open
p23	-1033.00	1.65	0.66	Open
p24	-609.46	1.73	1.01	Open
p25	-281.68	0.80	0.24	Open
p3	-154.59	0.44	0.08	Open



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118TH AND JOMAX 80 ACRES-Max Day

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
1	1456.42	0.00	-100.08	Open Pump

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*                               E P A N E T                               *
*                               Hydraulic and Water Quality                 *
*                               Analysis for Pipe Networks                   *
*                               Version 2.0                                 *
*****
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Input File: Max day plus fire flow 9-29-17.net J-11

118TH AND JOMAX 80 ACRES-Max Day

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in	
p1	J-15	J-0S7	1244	6	
p2	J-0S7	J-0S9	1300	16	
p4	J-0S7	J-0S8	649.4	12	
p5	J-3	J-6	816.1	8	
p6	J-7	J-6	457.2	8	
p7	J-6	J-5	479.6	8	
p8	J-5	J-4	766.8	8	
p9	J-4	J-3	415.3	8	
p10	J-3	J-2	409.6	8	
p11	J-12	J-11	178.4	8	
p12	J-11	J-9	946	8	
p14	J-8	J-2	246.9	12	
p15	J-2	J-1	401.6	12	
p16	J-15	J-14	76.84	12	
p17	J-14	J-11	980.8	8	
p19	J-10	J-9	220.3	12	
p20	J-9	J-8	728	8	
p22	J-16	J-1	327.66	16	
p23	J-16	J-0S9	1002.5	16	
p24	J-0S9	J-0S8	742.4	12	
p25	J-14	J-7	253.5	12	
p3	J-7	J-8	545.55	12	
1	1	J-0S8	#N/A	#N/A	Pump

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
1	100.00	75.00	419.24	36.64	36.64	0.00

Max day plus fire flow 9-29-17 J11

Demand Charge: 0.00

Total Cost: 0.00



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118TH AND JOMAX 80 ACRES-Max Day

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-15	0.00	2842.54	58.51	0.00
J-0S7	0.00	2845.50	45.71	0.00
J-0S9	0.00	2845.34	45.64	0.00
J-0S8	274.00	2846.08 ✓	45.97	0.00
J-16	0.00	2844.68	54.02	0.00
J-3	4.05	2843.14	48.59	0.00
J-6	2.70	2842.96	56.53	0.00
J-7	4.05	2842.72	57.07	0.00
J-5	2.70	2843.01	51.57	0.00
J-4	4.05	2843.09	47.44 ✓	0.00
J-2	0.68	2843.40	52.82	0.00
J-12	3.38	2834.37	61.21	0.00
J-11	1150.00	2834.37	61.60 ✓	0.00
J-9	4.73	2839.14	59.55	0.00
J-14	0.00	2842.54	60.46	0.00
J-8	3.38	2842.92	55.77	0.00
J-1	0.00	2844.46	53.93	0.00
J-10	2.70	2839.14	61.59	0.00
1	-1456.42	2746.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
p1	-155.87	1.77	2.37	Open
p2	418.04	0.67	0.12	Open
p4	-573.91	1.63	0.91	Open
p5	91.67	0.59	0.22	Open
p6	-148.44	0.95	0.53	Open
p7	-59.47	0.38	0.10	Open
p8	-62.17	0.40	0.11	Open
p9	-66.22	0.42	0.12	Open
p10	-161.94	1.03	0.63	Open
p11	-3.38	0.02	0.00	Open
p12	-499.12	3.19	5.04	Open
p14	-863.93	2.45	1.93	Open

Max day plus fire flow 9-29-17 J11

p15	-1026.55	2.91	2.66	Open
p16	155.87	0.44	0.08	Open
p17	654.26	4.18	8.33	Open
p19	-2.70	0.01	0.00	Open
p20	-506.55	3.23	5.18	Open
p22	1026.55	1.64	0.65	Open
p23	-1026.55	1.64	0.66	Open
p24	-608.51	1.73	1.01	Open
p25	-498.39	1.41	0.70	Open
p3	-353.99	1.00	0.37	Open



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118TH AND JOMAX 80 ACRES-Max Day

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
1	1456.42	0.00	-100.08	Open Pump

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Input File: Max day plus fire flow 9-29-17.net J-12

118TH AND JOMAX 80 ACRES-Max Day

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in	
p1	J-15	J-0S7	1244	6	
p2	J-0S7	J-0S9	1300	16	
p4	J-0S7	J-0S8	649.4	12	
p5	J-3	J-6	816.1	8	
p6	J-7	J-6	457.2	8	
p7	J-6	J-5	479.6	8	
p8	J-5	J-4	766.8	8	
p9	J-4	J-3	415.3	8	
p10	J-3	J-2	409.6	8	
p11	J-12	J-11	178.4	12	
p12	J-11	J-9	946	8	
p14	J-8	J-2	246.9	12	
p15	J-2	J-1	401.6	12	
p16	J-15	J-14	76.84	12	
p17	J-14	J-11	980.8	8	
p19	J-10	J-9	220.3	12	
p20	J-9	J-8	728	8	
p22	J-16	J-1	327.66	16	
p23	J-16	J-0S9	1002.5	16	
p24	J-0S9	J-0S8	742.4	12	
p25	J-14	J-7	253.5	12	
p3	J-7	J-8	545.55	12	
1	1	J-0S8	#N/A	#N/A	Pump

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
1	100.00	75.00	419.58	36.65	36.65	0.00

Max day plus fire flow 9-29-17 J12

Demand Charge: 0.00

Total Cost: 0.00



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118TH AND JOMAX 80 ACRES-Max Day

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-15	0.00	2842.63	58.55	0.00
J-0S7	0.00	2845.58	45.75	0.00
J-0S9	0.00	2845.42	45.68	0.00
J-0S8	274.00	2846.17 ✓	46.00	0.00
J-16	0.00	2844.76	54.06	0.00
J-3	4.05	2843.22	48.63	0.00
J-6	2.70	2843.04	56.56	0.00
J-7	4.05	2842.80	57.11	0.00
J-5	2.70	2843.09	51.60	0.00
J-4	4.05	2843.17	47.48 ✓	0.00
J-2	0.68	2843.48	52.85	0.00
J-12	1150.00	2833.88	61.00 ✓	0.00
J-11	2.70	2834.47	61.64	0.00
J-9	4.73	2839.23	59.59	0.00
J-14	0.00	2842.62	60.50	0.00
J-8	3.38	2843.00	55.81	0.00
J-1	0.00	2844.55	53.97	0.00
J-10	2.70	2839.23	61.63	0.00
1	-1455.74	2746.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
p1	-155.78	1.77	2.37	Open
p2	417.80	0.67	0.12	Open
p4	-573.58	1.63	0.91	Open
p5	91.62	0.58	0.22	Open
p6	-148.35	0.95	0.53	Open
p7	-59.43	0.38	0.10	Open
p8	-62.13	0.40	0.11	Open
p9	-66.18	0.42	0.12	Open
p10	-161.85	1.03	0.63	Open
p11	-1150.00	3.26	3.28	Open
p12	-498.83	3.18	5.04	Open
p14	-863.43	2.45	1.93	Open

Max day plus fire flow 9-29-17 J12

p15	-1025.96	2.91	2.66	Open
p16	155.78	0.44	0.08	Open
p17	653.87	4.17	8.32	Open
p19	-2.70	0.01	0.00	Open
p20	-506.26	3.23	5.18	Open
p22	1025.96	1.64	0.65	Open
p23	-1025.96	1.64	0.65	Open
p24	-608.16	1.73	1.01	Open
p25	-498.09	1.41	0.70	Open
p3	-353.79	1.00	0.37	Open



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118TH AND JOMAX 80 ACRES-Max Day

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
1	1455.74	0.00	-100.17	Open Pump

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 * Version 2.0 *

Input File: Max day plus fire flow 9-29-17.net J-14

118TH AND JOMAX 80 ACRES-Max Day

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in	
p1	J-15	J-0S7	1244	6	
p2	J-0S7	J-0S9	1300	16	
p4	J-0S7	J-0S8	649.4	12	
p5	J-3	J-6	816.1	8	
p6	J-7	J-6	457.2	8	
p7	J-6	J-5	479.6	8	
p8	J-5	J-4	766.8	8	
p9	J-4	J-3	415.3	8	
p10	J-3	J-2	409.6	8	
p11	J-12	J-11	178.4	12	
p12	J-11	J-9	946	8	
p14	J-8	J-2	246.9	12	
p15	J-2	J-1	401.6	12	
p16	J-15	J-14	76.84	12	
p17	J-14	J-11	980.8	8	
p19	J-10	J-9	220.3	12	
p20	J-9	J-8	728	8	
p22	J-16	J-1	327.66	16	
p23	J-16	J-0S9	1002.5	16	
p24	J-0S9	J-0S8	742.4	12	
p25	J-14	J-7	253.5	12	
p3	J-7	J-8	545.55	12	
1	1	J-0S8	#N/A	#N/A	Pump

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
1	100.00	75.00	417.89	36.58	36.58	0.00

Max day plus fire flow 9-29-17 J14

Demand Charge: 0.00

Total Cost: 0.00



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118TH AND JOMAX 80 ACRES-Max Day

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-15	0.00	2841.59	58.10	0.00
J-0S7	0.00	2845.17	45.57	0.00
J-0S9	0.00	2845.01	45.50	0.00
J-0S8	274.00	2845.76 ✓	45.83	0.00
J-16	0.00	2844.37	53.89	0.00
J-3	4.05	2842.73	48.41	0.00
J-6	2.70	2842.45	56.31	0.00
J-7	4.05	2842.06	56.79	0.00
J-5	2.70	2842.52	51.36	0.00
J-4	4.05	2842.65	47.25 ✓	0.00
J-2	0.68	2843.12	52.70	0.00
J-12	3.38	2841.96	64.50	0.00
J-11	2.70	2841.96	64.89	0.00
J-9	4.73	2842.36	60.95	0.00
J-14	1150.00	2841.58	60.05 ✓	0.00
J-8	3.38	2842.70	55.68	0.00
J-1	0.00	2844.17	53.80	0.00
J-10	2.70	2842.36	62.99	0.00
1	-1459.12	2746.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
p1	-173.01	1.96	2.88	Open
p2	404.63	0.65	0.12	Open
p4	-577.64	1.64	0.92	Open
p5	117.20	0.75	0.34	Open
p6	-191.37	1.22	0.85	Open
p7	-76.87	0.49	0.16	Open
p8	-79.57	0.51	0.17	Open
p9	-83.62	0.53	0.18	Open
p10	-204.87	1.31	0.97	Open
p11	-3.38	0.01	0.00	Open
p12	-131.24	0.84	0.42	Open
p14	-806.56	2.29	1.70	Open

Max day plus fire flow 9-29-17 J14

p15	-1012.11	2.87	2.59	Open
p16	173.01	0.49	0.10	Open
p17	-125.16	0.80	0.39	Open
p19	-2.70	0.01	0.00	Open
p20	-138.67	0.89	0.47	Open
p22	1012.11	1.62	0.64	Open
p23	-1012.11	1.62	0.64	Open
p24	-607.48	1.72	1.01	Open
p25	-851.83	2.42	1.88	Open
p3	-664.51	1.89	1.19	Open



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118TH AND JOMAX 80 ACRES-Max Day

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
1	1459.12	0.00	-99.76	Open Pump

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 * Version 2.0 *

Input File: Max day plus fire flow 9-29-17.net J-15

118TH AND JOMAX 80 ACRES-Max Day

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in	
p1	J-15	J-0S7	1244	6	
p2	J-0S7	J-0S9	1300	16	
p4	J-0S7	J-0S8	649.4	12	
p5	J-3	J-6	816.1	8	
p6	J-7	J-6	457.2	8	
p7	J-6	J-5	479.6	8	
p8	J-5	J-4	766.8	8	
p9	J-4	J-3	415.3	8	
p10	J-3	J-2	409.6	8	
p11	J-12	J-11	178.4	12	
p12	J-11	J-9	946	8	
p14	J-8	J-2	246.9	12	
p15	J-2	J-1	401.6	12	
p16	J-15	J-14	76.84	12	
p17	J-14	J-11	980.8	8	
p19	J-10	J-9	220.3	12	
p20	J-9	J-8	728	8	
p22	J-16	J-1	327.66	16	
p23	J-16	J-0S9	1002.5	16	
p24	J-0S9	J-0S8	742.4	12	
p25	J-14	J-7	253.5	12	
p3	J-7	J-8	545.55	12	
1	1	J-0S8	#N/A	#N/A	Pump

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
1	100.00	75.00	417.89	36.58	36.58	0.00

Max day plus fire flow 9-29-17 J15

Demand Charge: 0.00

Total Cost: 0.00



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118TH AND JOMAX 80 ACRES-Max Day

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-15	1150.00	2841.42	58.03 ✓	0.00
J-0S7	0.00	2845.17	45.57	0.00
J-0S9	0.00	2845.02	45.50	0.00
J-0S8	274.00	2845.76 ✓	45.83	0.00
J-16	0.00	2844.38	53.89	0.00
J-3	4.05	2842.75	48.42	0.00
J-6	2.70	2842.47	56.31	0.00
J-7	4.05	2842.08	56.80	0.00
J-5	2.70	2842.54	51.36	0.00
J-4	4.05	2842.67	47.26 ✓	0.00
J-2	0.68	2843.14	52.71	0.00
J-12	3.38	2841.98	64.51	0.00
J-11	2.70	2841.98	64.90	0.00
J-9	4.73	2842.38	60.96	0.00
J-14	0.00	2841.61	60.06	0.00
J-8	3.38	2842.72	55.69	0.00
J-1	0.00	2844.17	53.80	0.00
J-10	2.70	2842.38	62.99	0.00
1	-1459.12	2746.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
p1	-177.23	2.01	3.01	Open
p2	401.01	0.64	0.11	Open
p4	-578.24	1.64	0.92	Open
p5	116.70	0.74	0.34	Open
p6	-190.53	1.22	0.85	Open
p7	-76.53	0.49	0.16	Open
p8	-79.23	0.51	0.17	Open
p9	-83.28	0.53	0.18	Open
p10	-204.03	1.30	0.96	Open
p11	-3.38	0.01	0.00	Open
p12	-130.68	0.83	0.42	Open
p14	-803.18	2.28	1.69	Open

Max day plus fire flow 9-29-17 J15				
p15	-1007.89	2.86	2.57	Open
p16	-972.77	2.76	2.41	Open
p17	-124.60	0.80	0.39	Open
p19	-2.70	0.01	0.00	Open
p20	-138.11	0.88	0.47	Open
p22	1007.89	1.61	0.63	Open
p23	-1007.89	1.61	0.63	Open
p24	-606.88	1.72	1.00	Open
p25	-848.17	2.41	1.87	Open
p3	-661.69	1.88	1.18	Open



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118TH AND JOMAX 80 ACRES-Max Day

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
1	1459.12	0.00	-99.76	Open Pump

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Input File: Max day plus fire flow 9-29-17.net J-0S7

118TH AND JOMAX 80 ACRES-Max Day

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in	
p1	J-15	J-0S7	1244	6	
p2	J-0S7	J-0S9	1300	16	
p4	J-0S7	J-0S8	649.4	12	
p5	J-3	J-6	816.1	8	
p6	J-7	J-6	457.2	8	
p7	J-6	J-5	479.6	8	
p8	J-5	J-4	766.8	8	
p9	J-4	J-3	415.3	8	
p10	J-3	J-2	409.6	8	
p11	J-12	J-11	178.4	12	
p12	J-11	J-9	946	8	
p14	J-8	J-2	246.9	12	
p15	J-2	J-1	401.6	12	
p16	J-15	J-14	76.84	12	
p17	J-14	J-11	980.8	8	
p19	J-10	J-9	220.3	12	
p20	J-9	J-8	728	8	
p22	J-16	J-1	327.66	16	
p23	J-16	J-0S9	1002.5	16	
p24	J-0S9	J-0S8	742.4	12	
p25	J-14	J-7	253.5	12	
p3	J-7	J-8	545.55	12	
1	1	J-0S8	#N/A	#N/A	Pump

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
1	100.00	75.00	417.89	36.58	36.58	0.00

Max day plus fire flow 9-29-17 JOS7

Demand Charge: 0.00
 Total Cost: 0.00



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118TH AND JOMAX 80 ACRES-Max Day

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-15	0.00	2845.17	59.65	0.00
J-0S7	1150.00	2845.00	45.50 ✓	0.00
J-0S9	0.00	2845.19	45.58	0.00
J-0S8	274.00	2845.76 ✓	45.83	0.00
J-16	0.00	2845.19	54.24	0.00
J-3	4.05	2845.17	49.47	0.00
J-6	2.70	2845.17	57.49	0.00
J-7	4.05	2845.17	58.14	0.00
J-5	2.70	2845.17	52.50	0.00
J-4	4.05	2845.17	48.34 ✓	0.00
J-2	0.68	2845.18	53.59	0.00
J-12	3.38	2845.17	65.89	0.00
J-11	2.70	2845.17	66.28	0.00
J-9	4.73	2845.17	62.17	0.00
J-14	0.00	2845.17	61.60	0.00
J-8	3.38	2845.18	56.75	0.00
J-1	0.00	2845.18	54.24	0.00
J-10	2.70	2845.17	64.20	0.00
1	-1459.12	2746.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
p1	33.41	0.38	0.14	Open
p2	-456.94	0.73	0.15	Open
p4	-659.66	1.87	1.17	Open
p5	5.93	0.04	0.00	Open
p6	-3.61	0.02	0.00	Open
p7	-0.38	0.00	0.00	Open
p8	-3.08	0.02	0.00	Open
p9	-7.13	0.05	0.00	Open
p10	-17.11	0.11	0.01	Open
p11	-3.38	0.01	0.00	Open
p12	-4.36	0.03	0.00	Open
p14	-50.74	0.14	0.01	Open

Max day plus fire flow 9-29-17 JOS7

p15	-68.53	0.19	0.02	Open
p16	-33.41	0.09	0.00	Open
p17	1.72	0.01	0.00	Open
p19	-2.70	0.01	0.00	Open
p20	-11.79	0.08	0.00	Open
p22	68.53	0.11	0.00	Open
p23	-68.53	0.11	0.00	Open
p24	-525.46	1.49	0.77	Open
p25	-35.13	0.10	0.00	Open
p3	-35.56	0.10	0.01	Open



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118TH AND JOMAX 80 ACRES-Max Day

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
1	1459.12	0.00	-99.76	Open Pump

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Input File: Max day plus fire flow 9-29-17.net J-OS8

118TH AND JOMAX 80 ACRES-Max Day

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in	
p1	J-15	J-0S7	1244	6	
p2	J-0S7	J-0S9	1300	16	
p4	J-0S7	J-0S8	649.4	12	
p5	J-3	J-6	816.1	8	
p6	J-7	J-6	457.2	8	
p7	J-6	J-5	479.6	8	
p8	J-5	J-4	766.8	8	
p9	J-4	J-3	415.3	8	
p10	J-3	J-2	409.6	8	
p11	J-12	J-11	178.4	12	
p12	J-11	J-9	946	8	
p14	J-8	J-2	246.9	12	
p15	J-2	J-1	401.6	12	
p16	J-15	J-14	76.84	12	
p17	J-14	J-11	980.8	8	
p19	J-10	J-9	220.3	12	
p20	J-9	J-8	728	8	
p22	J-16	J-1	327.66	16	
p23	J-16	J-0S9	1002.5	16	
p24	J-0S9	J-0S8	742.4	12	
p25	J-14	J-7	253.5	12	
p3	J-7	J-8	545.55	12	
1	1	J-0S8	#N/A	#N/A	Pump

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
1	100.00	75.00	417.89	36.58	36.58	0.00

Max day plus fire flow 9-29-17 JOS8

Demand Charge: 0.00
 Total Cost: 0.00



Page 2

118TH AND JOMAX 80 ACRES-Max Day

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-15	0.00	2845.76	59.91	0.00
J-0S7	0.00	2845.76	45.83	0.00
J-0S9	0.00	2845.76	45.83	0.00
J-0S8	1424.00	2845.76 ✓	45.83 ✓	0.00
J-16	0.00	2845.76	54.49	0.00
J-3	4.05	2845.76	49.72	0.00
J-6	2.70	2845.76	57.74	0.00
J-7	4.05	2845.76	58.39	0.00
J-5	2.70	2845.76	52.76	0.00
J-4	4.05	2845.76	48.60 ✓	0.00
J-2	0.68	2845.76	53.84	0.00
J-12	3.38	2845.76	66.15	0.00
J-11	2.70	2845.76	66.54	0.00
J-9	4.73	2845.76	62.42	0.00
J-14	0.00	2845.76	61.86	0.00
J-8	3.38	2845.76	57.00	0.00
J-1	0.00	2845.76	54.49	0.00
J-10	2.70	2845.76	64.46	0.00
1	-1459.12	2746.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
p1	-4.38	0.05	0.00	Open
p2	12.63	0.02	0.00	Open
p4	-17.01	0.05	0.00	Open
p5	1.01	0.01	0.00	Open
p6	4.73	0.03	0.00	Open
p7	3.04	0.02	0.00	Open
p8	0.34	0.00	0.00	Open
p9	-3.71	0.02	0.00	Open
p10	-8.77	0.06	0.00	Open
p11	-3.38	0.01	0.00	Open
p12	-0.22	0.00	0.00	Open
p14	-21.29	0.06	0.00	Open

Max day plus fire flow 9-29-17 JOS8

p15	-30.74	0.09	0.00	Open
p16	4.38	0.01	0.00	Open
p17	5.86	0.04	0.00	Open
p19	-2.70	0.01	0.00	Open
p20	-7.65	0.05	0.00	Open
p22	30.74	0.05	0.00	Open
p23	-30.74	0.05	0.00	Open
p24	-18.11	0.05	0.00	Open
p25	-1.48	0.00	0.00	Open
p3	-10.26	0.03	0.00	Open



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118TH AND JOMAX 80 ACRES-Max Day

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
1	1459.12	0.00	-99.76	Open Pump

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 * Version 2.0 *

Input File: Max day plus fire flow 9-29-17.net J-OS9

118TH AND JOMAX 80 ACRES-Max Day

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in	
p1	J-15	J-0S7	1244	6	
p2	J-0S7	J-OS9	1300	16	
p4	J-0S7	J-OS8	649.4	12	
p5	J-3	J-6	816.1	8	
p6	J-7	J-6	457.2	8	
p7	J-6	J-5	479.6	8	
p8	J-5	J-4	766.8	8	
p9	J-4	J-3	415.3	8	
p10	J-3	J-2	409.6	8	
p11	J-12	J-11	178.4	12	
p12	J-11	J-9	946	8	
p14	J-8	J-2	246.9	12	
p15	J-2	J-1	401.6	12	
p16	J-15	J-14	76.84	12	
p17	J-14	J-11	980.8	8	
p19	J-10	J-9	220.3	12	
p20	J-9	J-8	728	8	
p22	J-16	J-1	327.66	16	
p23	J-16	J-OS9	1002.5	16	
p24	J-OS9	J-OS8	742.4	12	
p25	J-14	J-7	253.5	12	
p3	J-7	J-8	545.55	12	
1	1	J-OS8	#N/A	#N/A	Pump

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
1	100.00	75.00	417.89	36.58	36.58	0.00

Max day plus fire flow 9-29-17 JOS9

Demand Charge: 0.00
 Total Cost: 0.00



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118TH AND JOMAX 80 ACRES-Max Day

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-15	0.00	2844.97	59.57	0.00
J-0S7	0.00	2845.21	45.59	0.00
J-0S9	1150.00	2844.97	45.48 ✓	0.00
J-0S8	274.00	2845.76 ✓	45.83	0.00
J-16	0.00	2844.97	54.15	0.00
J-3	4.05	2844.97	49.38	0.00
J-6	2.70	2844.97	57.40	0.00
J-7	4.05	2844.97	58.05	0.00
J-5	2.70	2844.97	52.41	0.00
J-4	4.05	2844.97	48.25 ✓	0.00
J-2	0.68	2844.97	53.50	0.00
J-12	3.38	2844.97	65.80	0.00
J-11	2.70	2844.97	66.19	0.00
J-9	4.73	2844.97	62.08	0.00
J-14	0.00	2844.97	61.51	0.00
J-8	3.38	2844.97	56.66	0.00
J-1	0.00	2844.97	54.15	0.00
J-10	2.70	2844.97	64.11	0.00
1	-1459.12	2746.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
p1	-39.88	0.45	0.19	Open
p2	516.96	0.82	0.18	Open
p4	-556.84	1.58	0.86	Open
p5	-2.14	0.01	0.00	Open
p6	8.61	0.05	0.00	Open
p7	3.77	0.02	0.00	Open
p8	1.07	0.01	0.00	Open
p9	-2.98	0.02	0.00	Open
p10	-4.89	0.03	0.00	Open
p11	-3.38	0.01	0.00	Open
p12	2.24	0.01	0.00	Open
p14	10.33	0.03	0.00	Open

Max day plus fire flow 9-29-17 JOS9

p15	4.76	0.01	0.00	Open
p16	39.88	0.11	0.01	Open
p17	8.32	0.05	0.00	Open
p19	-2.70	0.01	0.00	Open
p20	-5.19	0.03	0.00	Open
p22	-4.76	0.01	0.00	Open
p23	4.76	0.01	0.00	Open
p24	-628.28	1.78	1.07	Open
p25	31.56	0.09	0.00	Open
p3	18.90	0.05	0.00	Open



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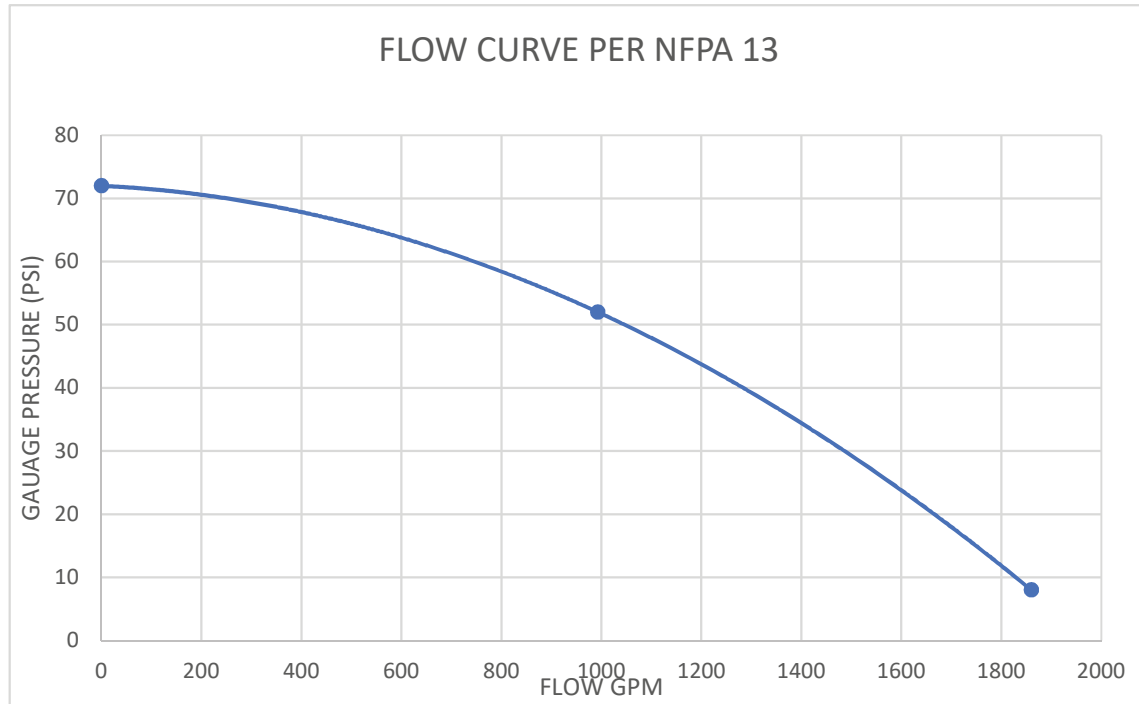
118TH AND JOMAX 80 ACRES-Max Day

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
1	1459.12	0.00	-99.76	Open Pump

Appendix B

FLOW	PSI
0	72
993	52
1860	8



Max day plus fire flow 9-29-17 J1 NFPA

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9/29/2017 12:49:15 PM

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*****
*                               E P A N E T                               *
*                               Hydraulic and Water Quality                 *
*                               Analysis for Pipe Networks                   *
*                               Version 2.0                                 *
*****
```

Input File: Max day plus fire flow 9-29-17.net J-1 NFPA

118TH AND JOMAX 80 ACRES-Max Day

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in	
p1	J-15	J-0S7	1244	6	
p2	J-0S7	J-0S9	1300	16	
p4	J-0S7	J-0S8	649.4	12	
p5	J-3	J-6	816.1	8	
p6	J-7	J-6	457.2	8	
p7	J-6	J-5	479.6	8	
p8	J-5	J-4	766.8	8	
p9	J-4	J-3	415.3	8	
p10	J-3	J-2	409.6	8	
p11	J-12	J-11	178.4	12	
p12	J-11	J-9	946	8	
p14	J-8	J-2	246.9	12	
p15	J-2	J-1	401.6	12	
p16	J-15	J-14	76.84	12	
p17	J-14	J-11	980.8	8	
p19	J-10	J-9	220.3	12	
p20	J-9	J-8	728	8	
p22	J-16	J-1	327.66	16	
p23	J-16	J-0S9	1002.5	16	
p24	J-0S9	J-0S8	742.4	12	
p25	J-14	J-7	253.5	12	
p3	J-7	J-8	545.55	12	
1	1	J-0S8	#N/A	#N/A	Pump

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
1	100.00	75.00	301.77	26.42	26.42	0.00

Max day plus fire flow 9-29-17 J1 NFPA

Demand Charge: 0.00

Total Cost: 0.00

Head = 2818.04-2746=
72.04=31.2psi. OK.



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118TH AND JOMAX 80 ACRES-Max Day

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-15	0.00	2816.31	47.15	0.00
J-0S7	0.00	2817.47	33.57	0.00
J-0S9	0.00	2817.27	33.48	0.00
J-0S8	274.00	2818.04 ✓	33.82	0.00
J-16	0.00	2816.53	41.83	0.00
J-3	4.05	2816.30	36.96	0.00
J-6	2.70	2816.30	44.98	0.00
J-7	4.05	2816.31	45.63	0.00
J-5	2.70	2816.30	39.99	0.00
J-4	4.05	2816.30	35.83 ✓	0.00
J-2	0.68	2816.30	41.08	0.00
J-12	3.38	2816.30	53.38	0.00
J-11	2.70	2816.30	53.77	0.00
J-9	4.73	2816.30	49.66	0.00
J-14	0.00	2816.31	49.10	0.00
J-8	3.38	2816.30	44.24	0.00
J-1	1150.00	2816.29	41.72 ✓	0.00
J-10	2.70	2816.30	51.69	0.00
1	-1459.12	2746.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
p1	-93.94	1.07	0.93	Open
p2	471.78	0.75	0.16	Open
p4	-565.72	1.60	0.88	Open
p5	-8.80	0.06	0.00	Open
p6	19.97	0.13	0.01	Open
p7	8.47	0.05	0.00	Open
p8	5.77	0.04	0.00	Open
p9	1.72	0.01	0.00	Open
p10	6.47	0.04	0.00	Open
p11	-3.38	0.01	0.00	Open
p12	9.85	0.06	0.00	Open
p14	53.02	0.15	0.01	Open

	Max day plus fire flow 9-29-17 J1 NFPA			
p15	58.82	0.17	0.01	Open
p16	93.94	0.27	0.03	Open
p17	15.93	0.10	0.01	Open
p19	-2.70	0.01	0.00	Open
p20	2.42	0.02	0.00	Open
p22	1091.18	1.74	0.73	Open
p23	-1091.18	1.74	0.73	Open
p24	-619.40	1.76	1.04	Open
p25	78.00	0.22	0.02	Open
p3	53.98	0.15	0.01	Open



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118TH AND JOMAX 80 ACRES-Max Day

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
1	1459.12	0.00	-72.04	Open Pump

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*****
*                               E P A N E T                               *
*                               Hydraulic and Water Quality                *
*                               Analysis for Pipe Networks                  *
*                               Version 2.0                                *
*****
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Input File: Max day plus fire flow 9-29-17.net J2 NFPA

118TH AND JOMAX 80 ACRES-Max Day

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in	
p1	J-15	J-0S7	1244	6	
p2	J-0S7	J-0S9	1300	16	
p4	J-0S7	J-0S8	649.4	12	
p5	J-3	J-6	816.1	8	
p6	J-7	J-6	457.2	8	
p7	J-6	J-5	479.6	8	
p8	J-5	J-4	766.8	8	
p9	J-4	J-3	415.3	8	
p10	J-3	J-2	409.6	8	
p11	J-12	J-11	178.4	12	
p12	J-11	J-9	946	8	
p14	J-8	J-2	246.9	12	
p15	J-2	J-1	401.6	12	
p16	J-15	J-14	76.84	12	
p17	J-14	J-11	980.8	8	
p19	J-10	J-9	220.3	12	
p20	J-9	J-8	728	8	
p22	J-16	J-1	327.66	16	
p23	J-16	J-0S9	1002.5	16	
p24	J-0S9	J-0S8	742.4	12	
p25	J-14	J-7	253.5	12	
p3	J-7	J-8	545.55	12	
1	1	J-0S8	#N/A	#N/A	Pump

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
1	100.00	75.00	302.11	26.44	26.44	0.00

Max day plus fire flow 9-29-17 J2 NFPA

Demand Charge: 0.00
 Total Cost: 0.00



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118TH AND JOMAX 80 ACRES-Max Day

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-15	0.00	2815.37	46.74	0.00
J-0S7	0.00	2817.54	33.60	0.00
J-0S9	0.00	2817.36	33.52 ✓	0.00
J-0S8	274.00	2818.12 ✓	33.85 ✓	0.00
J-16	0.00	2816.68	41.89	0.00
J-3	4.05	2815.33	36.54	0.00
J-6	2.70	2815.34	44.56	0.00
J-7	4.05	2815.35	45.22	0.00
J-5	2.70	2815.34	39.58	0.00
J-4	4.05	2815.33	35.42 ✓	0.00
J-2	1150.00	2815.33	40.66 ✓	0.00
J-12	3.38	2815.35	52.97	0.00
J-11	2.70	2815.35	53.36	0.00
J-9	4.73	2815.34	49.24	0.00
J-14	0.00	2815.36	48.69	0.00
J-8	3.38	2815.34	43.82	0.00
J-1	0.00	2816.45	41.79	0.00
J-10	2.70	2815.34	51.28	0.00
1	-1458.44	2746.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
p1	-132.14	1.50	1.75	Open
p2	439.19	0.70	0.14	Open
p4	-571.32	1.62	0.90	Open
p5	-13.35	0.09	0.01	Open
p6	27.78	0.18	0.02	Open
p7	11.73	0.07	0.00	Open
p8	9.03	0.06	0.00	Open
p9	4.98	0.03	0.00	Open
p10	14.28	0.09	0.01	Open
p11	-3.38	0.01	0.00	Open
p12	15.23	0.10	0.01	Open
p14	83.41	0.24	0.03	Open

	Max day plus fire flow 9-29-17 J2 NFPA			
p15	-1052.30	2.99	2.79	Open
p16	132.14	0.37	0.06	Open
p17	21.31	0.14	0.01	Open
p19	-2.70	0.01	0.00	Open
p20	7.80	0.05	0.00	Open
p22	1052.30	1.68	0.69	Open
p23	-1052.30	1.68	0.69	Open
p24	-613.12	1.74	1.02	Open
p25	110.82	0.31	0.04	Open
p3	78.99	0.22	0.02	Open



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118TH AND JOMAX 80 ACRES-Max Day

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
1	1458.44	0.00	-72.12	Open Pump

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 * Hydraulic and Water Quality *
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Input File: Max day plus fire flow 9-29-17.net J-3 NFPA

118TH AND JOMAX 80 ACRES-Max Day

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in	
p1	J-15	J-0S7	1244	6	
p2	J-0S7	J-0S9	1300	16	
p4	J-0S7	J-0S8	649.4	12	
p5	J-3	J-6	816.1	8	
p6	J-7	J-6	457.2	8	
p7	J-6	J-5	479.6	8	
p8	J-5	J-4	766.8	8	
p9	J-4	J-3	415.3	8	
p10	J-3	J-2	409.6	8	
p11	J-12	J-11	178.4	12	
p12	J-11	J-9	946	8	
p14	J-8	J-2	246.9	12	
p15	J-2	J-1	401.6	12	
p16	J-15	J-14	76.84	12	
p17	J-14	J-11	980.8	8	
p19	J-10	J-9	220.3	12	
p20	J-9	J-8	728	8	
p22	J-16	J-1	327.66	16	
p23	J-16	J-0S9	1002.5	16	
p24	J-0S9	J-0S8	742.4	12	
p25	J-14	J-7	253.5	12	
p3	J-7	J-8	545.55	12	
1	1	J-0S8	#N/A	#N/A	Pump

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
1	100.00	75.00	303.80	26.52	26.52	0.00

Max day plus fire flow 9-29-17 J3 NFPA

Demand Charge: 0.00
 Total Cost: 0.00



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118TH AND JOMAX 80 ACRES-Max Day

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-15	0.00	2815.56	46.82	0.00
J-0S7	0.00	2817.94	33.77	0.00
J-0S9	0.00	2817.77	33.70 ✓	0.00
J-0S8	274.00	2818.53 ✓	34.03 ✓	0.00
J-16	0.00	2817.10	42.07	0.00
J-3	1150.00	2812.05	35.12 ✓	0.00
J-6	2.70	2813.44	43.74	0.00
J-7	4.05	2815.53	45.29	0.00
J-5	2.70	2813.03	38.58	0.00
J-4	4.05	2812.39	34.14 ✓	0.00
J-2	0.68	2815.78	40.85	0.00
J-12	3.38	2815.59	53.08	0.00
J-11	2.70	2815.59	53.47	0.00
J-9	4.73	2815.64	49.37	0.00
J-14	0.00	2815.56	48.77	0.00
J-8	3.38	2815.68	43.97	0.00
J-1	0.00	2816.88	41.98	0.00
J-10	2.70	2815.64	51.41	0.00
1	-1455.07	2746.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
p1	-138.81	1.58	1.91	Open
p2	431.94	0.69	0.13	Open
p4	-570.76	1.62	0.90	Open
p5	-278.08	1.77	1.71	Open
p6	473.13	3.02	4.57	Open
p7	192.34	1.23	0.86	Open
p8	189.64	1.21	0.84	Open
p9	185.59	1.18	0.81	Open
p10	-686.32	4.38	9.10	Open
p11	-3.38	0.01	0.00	Open
p12	-40.35	0.26	0.05	Open
p14	-355.25	1.01	0.37	Open

	Max day plus fire flow 9-29-17 J3 NFPA			
p15	-1042.26	2.96	2.74	Open
p16	138.81	0.39	0.06	Open
p17	-34.27	0.22	0.04	Open
p19	-2.70	0.01	0.00	Open
p20	-47.78	0.30	0.07	Open
p22	1042.26	1.66	0.67	Open
p23	-1042.26	1.66	0.67	Open
p24	-610.31	1.73	1.02	Open
p25	173.09	0.49	0.10	Open
p3	-304.09	0.86	0.28	Open



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118TH AND JOMAX 80 ACRES-Max Day

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
1	1455.07	0.00	-72.53	Open Pump

Max day plus fire flow 9-29-17 J4 NFPA

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9/29/2017 12:53:13 PM

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*****
*                               E P A N E T                               *
*                               Hydraulic and Water Quality                 *
*                               Analysis for Pipe Networks                   *
*                               Version 2.0                                 *
*****
```

Input File: Max day plus fire flow 9-29-17.net J-4 NFPA

118TH AND JOMAX 80 ACRES-Max Day

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in	
p1	J-15	J-0S7	1244	6	
p2	J-0S7	J-0S9	1300	16	
p4	J-0S7	J-0S8	649.4	12	
p5	J-3	J-6	816.1	8	
p6	J-7	J-6	457.2	8	
p7	J-6	J-5	479.6	8	
p8	J-5	J-4	766.8	8	
p9	J-4	J-3	415.3	8	
p10	J-3	J-2	409.6	8	
p11	J-12	J-11	178.4	12	
p12	J-11	J-9	946	8	
p14	J-8	J-2	246.9	12	
p15	J-2	J-1	401.6	12	
p16	J-15	J-14	76.84	12	
p17	J-14	J-11	980.8	8	
p19	J-10	J-9	220.3	12	
p20	J-9	J-8	728	8	
p22	J-16	J-1	327.66	16	
p23	J-16	J-0S9	1002.5	16	
p24	J-0S9	J-0S8	742.4	12	
p25	J-14	J-7	253.5	12	
p3	J-7	J-8	545.55	12	
1	1	J-0S8	#N/A	#N/A	Pump

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
1	100.00	75.00	303.80	26.52	26.52	0.00

Max day plus fire flow 9-29-17 J4 NFPA

Demand Charge: 0.00
 Total Cost: 0.00



Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-15	0.00	2815.50	46.79	0.00
J-0S7	0.00	2817.94	33.77	0.00
J-0S9	0.00	2817.77	33.70 ✓	0.00
J-0S8	274.00	2818.53 ✓	34.03	0.00
J-16	0.00	2817.10	42.07	0.00
J-3	4.05	2812.62	35.37	0.00
J-6	2.70	2812.87	43.49	0.00
J-7	4.05	2815.46	45.26	0.00
J-5	2.70	2811.12	37.75	0.00
J-4	1150.00	2808.35	32.39 ✓	0.00
J-2	0.68	2815.78	40.85	0.00
J-12	3.38	2815.54	53.05	0.00
J-11	2.70	2815.54	53.44	0.00
J-9	4.73	2815.60	49.35	0.00
J-14	0.00	2815.49	48.74	0.00
J-8	3.38	2815.66	43.96	0.00
J-1	0.00	2816.88	41.98	0.00
J-10	2.70	2815.60	51.39	0.00
1	-1455.07	2746.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
p1	-140.88	1.60	1.97	Open
p2	430.19	0.69	0.13	Open
p4	-571.07	1.62	0.90	Open
p5	-109.48	0.70	0.30	Open
p6	531.51	3.39	5.67	Open
p7	419.33	2.68	3.65	Open
p8	416.63	2.66	3.61	Open
p9	-733.37	4.68	10.29	Open
p10	-627.94	4.01	7.72	Open
p11	-3.38	0.01	0.00	Open
p12	-47.72	0.30	0.07	Open
p14	-411.57	1.17	0.49	Open

	Max day plus fire flow 9-29-17 J4 NFPA			
p15	-1040.19	2.95	2.73	Open
p16	140.88	0.40	0.07	Open
p17	-41.64	0.27	0.05	Open
p19	-2.70	0.01	0.00	Open
p20	-55.15	0.35	0.09	Open
p22	1040.19	1.66	0.67	Open
p23	-1040.19	1.66	0.67	Open
p24	-610.00	1.73	1.01	Open
p25	182.52	0.52	0.11	Open
p3	-353.04	1.00	0.37	Open



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118TH AND JOMAX 80 ACRES-Max Day

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
1	1455.07	0.00	-72.53	Open Pump

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Input File: Max day plus fire flow 9-29-17.net J-5 NFPA

118TH AND JOMAX 80 ACRES-Max Day

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in	
p1	J-15	J-0S7	1244	6	
p2	J-0S7	J-0S9	1300	16	
p4	J-0S7	J-0S8	649.4	12	
p5	J-3	J-6	816.1	8	
p6	J-7	J-6	457.2	8	
p7	J-6	J-5	479.6	8	
p8	J-5	J-4	766.8	8	
p9	J-4	J-3	415.3	8	
p10	J-3	J-2	409.6	8	
p11	J-12	J-11	178.4	12	
p12	J-11	J-9	946	8	
p14	J-8	J-2	246.9	12	
p15	J-2	J-1	401.6	12	
p16	J-15	J-14	76.84	12	
p17	J-14	J-11	980.8	8	
p19	J-10	J-9	220.3	12	
p20	J-9	J-8	728	8	
p22	J-16	J-1	327.66	16	
p23	J-16	J-0S9	1002.5	16	
p24	J-0S9	J-0S8	742.4	12	
p25	J-14	J-7	253.5	12	
p3	J-7	J-8	545.55	12	
1	1	J-0S8	#N/A	#N/A	Pump

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
1	100.00	75.00	303.13	26.49	26.49	0.00

Max day plus fire flow 9-29-17 J-5 NFPA

Demand Charge: 0.00
 Total Cost: 0.00



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118TH AND JOMAX 80 ACRES-Max Day

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-15	0.00	2815.29	46.70	0.00
J-0S7	0.00	2817.78	33.70	0.00
J-0S9	0.00	2817.61	33.63	0.00
J-0S8	274.00	2818.36	33.96	0.00
J-16	0.00	2816.94	42.00	0.00
J-3	4.05	2812.75	35.42	0.00
J-6	2.70	2812.36	43.27	0.00
J-7	4.05	2815.25	45.17	0.00
J-5	1150.00	2807.82	36.32	0.00
J-4	4.05	2811.00	33.54	0.00
J-2	0.68	2815.62	40.78	0.00
J-12	3.38	2815.34	52.97	0.00
J-11	2.70	2815.34	53.36	0.00
J-9	4.73	2815.41	49.27	0.00
J-14	0.00	2815.28	48.65	0.00
J-8	3.38	2815.48	43.89	0.00
J-1	0.00	2816.72	41.91	0.00
J-10	2.70	2815.41	51.31	0.00
1	-1456.42	2746.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
p1	-142.28	1.61	2.00	Open
p2	429.63	0.69	0.13	Open
p4	-571.90	1.62	0.90	Open
p5	139.58	0.89	0.48	Open
p6	564.23	3.60	6.33	Open
p7	701.11	4.48	9.46	Open
p8	-448.89	2.87	4.14	Open
p9	-452.94	2.89	4.21	Open
p10	-596.57	3.81	7.02	Open
p11	-3.38	0.01	0.00	Open
p12	-51.78	0.33	0.08	Open
p14	-442.90	1.26	0.56	Open

Max day plus fire flow 9-29-17 J-5 NFPA

p15	-1040.14	2.95	2.73	Open
p16	142.28	0.40	0.07	Open
p17	-45.70	0.29	0.06	Open
p19	-2.70	0.01	0.00	Open
p20	-59.21	0.38	0.10	Open
p22	1040.14	1.66	0.67	Open
p23	-1040.14	1.66	0.67	Open
p24	-610.52	1.73	1.02	Open
p25	187.97	0.53	0.11	Open
p3	-380.31	1.08	0.42	Open



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118TH AND JOMAX 80 ACRES-Max Day

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
1	1456.42	0.00	-72.36	Open Pump

 * E P A N E T *
 * Hydraulic and Water Quality *
 * Analysis for Pipe Networks *
 * Version 2.0 *

Input File: Max day plus fire flow 9-29-17.net J-6 NFPA

118TH AND JOMAX 80 ACRES-Max Day

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in	
p1	J-15	J-0S7	1244	6	
p2	J-0S7	J-0S9	1300	16	
p4	J-0S7	J-0S8	649.4	12	
p5	J-3	J-6	816.1	8	
p6	J-7	J-6	457.2	8	
p7	J-6	J-5	479.6	8	
p8	J-5	J-4	766.8	8	
p9	J-4	J-3	415.3	8	
p10	J-3	J-2	409.6	8	
p11	J-12	J-11	178.4	12	
p12	J-11	J-9	946	8	
p14	J-8	J-2	246.9	12	
p15	J-2	J-1	401.6	12	
p16	J-15	J-14	76.84	12	
p17	J-14	J-11	980.8	8	
p19	J-10	J-9	220.3	12	
p20	J-9	J-8	728	8	
p22	J-16	J-1	327.66	16	
p23	J-16	J-0S9	1002.5	16	
p24	J-0S9	J-0S8	742.4	12	
p25	J-14	J-7	253.5	12	
p3	J-7	J-8	545.55	12	
1	1	J-0S8	#N/A	#N/A	Pump

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
1	100.00	75.00	303.13	26.49	26.49	0.00

Max day plus fire flow 9-29-17 J6 NFPA

Demand Charge: 0.00
 Total Cost: 0.00



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118TH AND JOMAX 80 ACRES-Max Day

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-15	0.00	2815.20	46.67	0.00
J-0S7	0.00	2817.78	33.70	0.00
J-0S9	0.00	2817.61	33.63 ✓	0.00
J-0S8	274.00	2818.36 ✓	33.96	0.00
J-16	0.00	2816.94	42.00	0.00
J-3	4.05	2813.32	35.67	0.00
J-6	1150.00	2811.61	42.94 ✓	0.00
J-7	4.05	2815.16	45.13	0.00
J-5	2.70	2812.09	38.17	0.00
J-4	4.05	2812.88	34.35 ✓	0.00
J-2	0.68	2815.63	40.79	0.00
J-12	3.38	2815.27	52.94	0.00
J-11	2.70	2815.27	53.33	0.00
J-9	4.73	2815.37	49.25	0.00
J-14	0.00	2815.19	48.61	0.00
J-8	3.38	2815.46	43.87	0.00
J-1	0.00	2816.72	41.91	0.00
J-10	2.70	2815.37	51.29	0.00
1	-1456.42	2746.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
p1	-145.02	1.65	2.08	Open
p2	427.29	0.68	0.13	Open
p4	-572.31	1.62	0.90	Open
p5	310.90	1.98	2.10	Open
p6	630.27	4.02	7.77	Open
p7	-208.83	1.33	1.00	Open
p8	-211.53	1.35	1.03	Open
p9	-215.58	1.38	1.07	Open
p10	-530.53	3.39	5.65	Open
p11	-3.38	0.01	0.00	Open
p12	-59.94	0.38	0.10	Open
p14	-506.19	1.44	0.72	Open

	Max day plus fire flow 9-29-17 J6 NFPA			
p15	-1037.40	2.94	2.71	Open
p16	145.02	0.41	0.07	Open
p17	-53.86	0.34	0.08	Open
p19	-2.70	0.01	0.00	Open
p20	-67.37	0.43	0.12	Open
p22	1037.40	1.66	0.67	Open
p23	-1037.40	1.66	0.67	Open
p24	-610.11	1.73	1.01	Open
p25	198.88	0.56	0.13	Open
p3	-435.43	1.24	0.54	Open



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118TH AND JOMAX 80 ACRES-Max Day

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
1	1456.42	0.00	-72.36	Open Pump

Max day plus fire flow 9-29-17 J7 NFPA

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9/29/2017 12:56:53 PM

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*****
*                               E P A N E T                               *
*                               Hydraulic and Water Quality                 *
*                               Analysis for Pipe Networks                   *
*                               Version 2.0                                 *
*****
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Input File: Max day plus fire flow 9-29-17.net J-7 NFPA

118TH AND JOMAX 80 ACRES-Max Day

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in	
p1	J-15	J-0S7	1244	6	
p2	J-0S7	J-0S9	1300	16	
p4	J-0S7	J-0S8	649.4	12	
p5	J-3	J-6	816.1	8	
p6	J-7	J-6	457.2	8	
p7	J-6	J-5	479.6	8	
p8	J-5	J-4	766.8	8	
p9	J-4	J-3	415.3	8	
p10	J-3	J-2	409.6	8	
p11	J-12	J-11	178.4	12	
p12	J-11	J-9	946	8	
p14	J-8	J-2	246.9	12	
p15	J-2	J-1	401.6	12	
p16	J-15	J-14	76.84	12	
p17	J-14	J-11	980.8	8	
p19	J-10	J-9	220.3	12	
p20	J-9	J-8	728	8	
p22	J-16	J-1	327.66	16	
p23	J-16	J-0S9	1002.5	16	
p24	J-0S9	J-0S8	742.4	12	
p25	J-14	J-7	253.5	12	
p3	J-7	J-8	545.55	12	
1	1	J-0S8	#N/A	#N/A	Pump

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
1	100.00	75.00	303.80	26.52	26.52	0.00

Max day plus fire flow 9-29-17 J7 NFPA

Demand Charge: 0.00
 Total Cost: 0.00



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118TH AND JOMAX 80 ACRES-Max Day

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-15	0.00	2814.79	46.49	0.00
J-0S7	0.00	2817.94	33.77	0.00
J-0S9	0.00	2817.78	33.70	0.00
J-0S8	274.00	2818.53	34.03	0.00
J-16	0.00	2817.13	42.09	0.00
J-3	4.05	2815.44	36.59	0.00
J-6	2.70	2815.15	44.48	0.00
J-7	1150.00	2814.73	44.95	0.00
J-5	2.70	2815.23	39.53	0.00
J-4	4.05	2815.36	35.43	0.00
J-2	0.68	2815.86	40.89	0.00
J-12	3.38	2815.00	52.82	0.00
J-11	2.70	2815.00	53.21	0.00
J-9	4.73	2815.23	49.19	0.00
J-14	0.00	2814.78	48.44	0.00
J-8	3.38	2815.44	43.87	0.00
J-1	0.00	2816.92	42.00	0.00
J-10	2.70	2815.23	51.23	0.00
1	-1455.07	2746.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
p1	-161.42	1.83	2.53	Open
p2	412.66	0.66	0.12	Open
p4	-574.09	1.63	0.91	Open
p5	120.96	0.77	0.37	Open
p6	-197.68	1.26	0.91	Open
p7	-79.43	0.51	0.17	Open
p8	-82.13	0.52	0.18	Open
p9	-86.18	0.55	0.19	Open
p10	-211.18	1.35	1.03	Open
p11	-3.38	0.01	0.00	Open
p12	-98.41	0.63	0.25	Open
p14	-807.78	2.29	1.71	Open

Max day plus fire flow 9-29-17 J7 NFPA

p15	-1019.65	2.89	2.63	Open
p16	161.42	0.46	0.09	Open
p17	-92.33	0.59	0.22	Open
p19	-2.70	0.01	0.00	Open
p20	-105.84	0.68	0.29	Open
p22	1019.65	1.63	0.65	Open
p23	-1019.65	1.63	0.65	Open
p24	-606.98	1.72	1.01	Open
p25	253.76	0.72	0.20	Open
p3	-698.56	1.98	1.30	Open



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118TH AND JOMAX 80 ACRES-Max Day

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
1	1455.07	0.00	-72.53	Open Pump

 * E P A N E T *
 * Hydraulic and Water Quality *
 * Analysis for Pipe Networks *
 * Version 2.0 *

Input File: Max day plus fire flow 9-29-17.net J-8 NFPA

118TH AND JOMAX 80 ACRES-Max Day

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in	
p1	J-15	J-0S7	1244	6	
p2	J-0S7	J-0S9	1300	16	
p4	J-0S7	J-0S8	649.4	12	
p5	J-3	J-6	816.1	8	
p6	J-7	J-6	457.2	8	
p7	J-6	J-5	479.6	8	
p8	J-5	J-4	766.8	8	
p9	J-4	J-3	415.3	8	
p10	J-3	J-2	409.6	8	
p11	J-12	J-11	178.4	12	
p12	J-11	J-9	946	8	
p14	J-8	J-2	246.9	12	
p15	J-2	J-1	401.6	12	
p16	J-15	J-14	76.84	12	
p17	J-14	J-11	980.8	8	
p19	J-10	J-9	220.3	12	
p20	J-9	J-8	728	8	
p22	J-16	J-1	327.66	16	
p23	J-16	J-0S9	1002.5	16	
p24	J-0S9	J-0S8	742.4	12	
p25	J-14	J-7	253.5	12	
p3	J-7	J-8	545.55	12	
1	1	J-0S8	#N/A	#N/A	Pump

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
1	100.00	75.00	303.47	26.51	26.51	0.00

Max day plus fire flow 9-29-17 J8 NFPA

Demand Charge: 0.00
 Total Cost: 0.00



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118TH AND JOMAX 80 ACRES-Max Day

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-15	0.00	2815.29	46.71	0.00
J-0S7	0.00	2817.86	33.74	0.00
J-0S9	0.00	2817.69	33.66	0.00
J-0S8	274.00	2818.45	33.99	0.00
J-16	0.00	2817.02	42.04	0.00
J-3	4.05	2815.55	36.63	0.00
J-6	2.70	2815.43	44.60	0.00
J-7	4.05	2815.28	45.18	0.00
J-5	2.70	2815.46	39.63	0.00
J-4	4.05	2815.51	35.49	0.00
J-2	0.68	2815.72	40.82	0.00
J-12	3.38	2815.24	52.92	0.00
J-11	2.70	2815.24	53.31	0.00
J-9	4.73	2815.21	49.18	0.00
J-14	0.00	2815.29	48.65	0.00
J-8	1150.00	2815.19	43.76	0.00
J-1	0.00	2816.81	41.95	0.00
J-10	2.70	2815.21	51.22	0.00
1	-1455.74	2746.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
p1	-144.65	1.64	2.07	Open
p2	427.29	0.68	0.13	Open
p4	-571.94	1.62	0.90	Open
p5	72.44	0.46	0.14	Open
p6	-116.10	0.74	0.34	Open
p7	-46.36	0.30	0.06	Open
p8	-49.06	0.31	0.07	Open
p9	-53.11	0.34	0.08	Open
p10	-129.60	0.83	0.41	Open
p11	-3.38	0.01	0.00	Open
p12	33.29	0.21	0.03	Open
p14	-906.81	2.57	2.11	Open

	Max day plus fire flow 9-29-17 J8 NFPA			
p15	-1037.09	2.94	2.71	Open
p16	144.65	0.41	0.07	Open
p17	39.37	0.25	0.05	Open
p19	-2.70	0.01	0.00	Open
p20	25.86	0.17	0.02	Open
p22	1037.09	1.65	0.67	Open
p23	-1037.09	1.65	0.67	Open
p24	-609.80	1.73	1.01	Open
p25	105.27	0.30	0.04	Open
p3	217.33	0.62	0.15	Open



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118TH AND JOMAX 80 ACRES-Max Day

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
1	1455.74	0.00	-72.45	Open Pump

 * E P A N E T *
 * Hydraulic and Water Quality *
 * Analysis for Pipe Networks *
 * Version 2.0 *

Input File: Max day plus fire flow 9-29-17.net J-9 NFPA

118TH AND JOMAX 80 ACRES-Max Day

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in	
p1	J-15	J-0S7	1244	6	
p2	J-0S7	J-0S9	1300	16	
p4	J-0S7	J-0S8	649.4	12	
p5	J-3	J-6	816.1	8	
p6	J-7	J-6	457.2	8	
p7	J-6	J-5	479.6	8	
p8	J-5	J-4	766.8	8	
p9	J-4	J-3	415.3	8	
p10	J-3	J-2	409.6	8	
p11	J-12	J-11	178.4	12	
p12	J-11	J-9	946	8	
p14	J-8	J-2	246.9	12	
p15	J-2	J-1	401.6	12	
p16	J-15	J-14	76.84	12	
p17	J-14	J-11	980.8	8	
p19	J-10	J-9	220.3	12	
p20	J-9	J-8	728	8	
p22	J-16	J-1	327.66	16	
p23	J-16	J-0S9	1002.5	16	
p24	J-0S9	J-0S8	742.4	12	
p25	J-14	J-7	253.5	12	
p3	J-7	J-8	545.55	12	
1	1	J-0S8	#N/A	#N/A	Pump

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
1	100.00	75.00	304.14	26.54	26.54	0.00

Max day plus fire flow 9-29-17 J9 NFPA

Demand Charge: 0.00
 Total Cost: 0.00



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118TH AND JOMAX 80 ACRES-Max Day

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-15	0.00	2815.30	46.71	0.00
J-0S7	0.00	2818.02	33.81	0.00
J-0S9	0.00	2817.86	33.74 ✓	0.00
J-0S8	274.00	2818.61 ✓	34.06	0.00
J-16	0.00	2817.20	42.11	0.00
J-3	4.05	2815.69	36.70	0.00
J-6	2.70	2815.55	44.65	0.00
J-7	4.05	2815.36	45.22	0.00
J-5	2.70	2815.59	39.69	0.00
J-4	4.05	2815.65	35.55 ✓	0.00
J-2	0.68	2815.90	40.90	0.00
J-12	3.38	2811.54	51.32	0.00
J-11	2.70	2811.54	51.71	0.00
J-9	1150.00	2808.01	46.06 ✓	0.00
J-14	0.00	2815.30	48.66	0.00
J-8	3.38	2815.40	43.85	0.00
J-1	0.00	2816.98	42.02	0.00
J-10	2.70	2808.01	48.10	0.00
1	-1454.39	2746.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
p1	-149.16	1.69	2.19	Open
p2	422.82	0.67	0.13	Open
p4	-571.98	1.62	0.90	Open
p5	81.24	0.52	0.17	Open
p6	-130.90	0.84	0.42	Open
p7	-52.36	0.33	0.08	Open
p8	-55.06	0.35	0.09	Open
p9	-59.11	0.38	0.10	Open
p10	-144.40	0.92	0.51	Open
p11	-3.38	0.01	0.00	Open
p12	424.27	2.71	3.73	Open
p14	-886.15	2.51	2.03	Open

	Max day plus fire flow 9-29-17 J9 NFPA			
p15	-1031.23	2.93	2.68	Open
p16	149.16	0.42	0.08	Open
p17	430.35	2.75	3.83	Open
p19	-2.70	0.01	0.00	Open
p20	-728.43	4.65	10.16	Open
p22	1031.23	1.65	0.66	Open
p23	-1031.23	1.65	0.66	Open
p24	-608.41	1.73	1.01	Open
p25	-281.18	0.80	0.24	Open
p3	-154.34	0.44	0.08	Open



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118TH AND JOMAX 80 ACRES-Max Day

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
1	1454.39	0.00	-72.61	Open Pump

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*****
*                               E P A N E T                               *
*                               Hydraulic and Water Quality                 *
*                               Analysis for Pipe Networks                   *
*                               Version 2.0                                 *
*****
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Input File: Max day plus fire flow 9-29-17.net J-10 NFPA

118TH AND JOMAX 80 ACRES-Max Day

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in	
p1	J-15	J-0S7	1244	6	
p2	J-0S7	J-0S9	1300	16	
p4	J-0S7	J-0S8	649.4	12	
p5	J-3	J-6	816.1	8	
p6	J-7	J-6	457.2	8	
p7	J-6	J-5	479.6	8	
p8	J-5	J-4	766.8	8	
p9	J-4	J-3	415.3	8	
p10	J-3	J-2	409.6	8	
p11	J-12	J-11	178.4	12	
p12	J-11	J-9	946	8	
p14	J-8	J-2	246.9	12	
p15	J-2	J-1	401.6	12	
p16	J-15	J-14	76.84	12	
p17	J-14	J-11	980.8	8	
p19	J-10	J-9	220.3	12	
p20	J-9	J-8	728	8	
p22	J-16	J-1	327.66	16	
p23	J-16	J-0S9	1002.5	16	
p24	J-0S9	J-0S8	742.4	12	
p25	J-14	J-7	253.5	12	
p3	J-7	J-8	545.55	12	
1	1	J-0S8	#N/A	#N/A	Pump

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
1	100.00	75.00	303.13	26.49	26.49	0.00

Max day plus fire flow 9-29-17 J10 NFPA

Demand Charge: 0.00
 Total Cost: 0.00



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118TH AND JOMAX 80 ACRES-Max Day

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-15	0.00	2815.05	46.60	0.00
J-0S7	0.00	2817.78	33.70	0.00
J-0S9	0.00	2817.61	33.63 ✓	0.00
J-0S8	274.00	2818.36 ✓	33.96	0.00
J-16	0.00	2816.95	42.01	0.00
J-3	4.05	2815.44	36.59	0.00
J-6	2.70	2815.30	44.54	0.00
J-7	4.05	2815.10	45.11	0.00
J-5	2.70	2815.34	39.58	0.00
J-4	4.05	2815.40	35.44 ✓	0.00
J-2	0.68	2815.65	40.80	0.00
J-12	3.38	2811.27	51.20	0.00
J-11	2.70	2811.27	51.59	0.00
J-9	4.73	2807.73	45.94	0.00
J-14	0.00	2815.04	48.55	0.00
J-8	3.38	2815.15	43.74	0.00
J-1	0.00	2816.73	41.91	0.00
J-10	1150.00	2807.01	47.67 ✓	0.00
1	-1456.42	2746.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
p1	-149.42	1.70	2.19	Open
p2	423.54	0.68	0.13	Open
p4	-572.96	1.63	0.90	Open
p5	81.38	0.52	0.18	Open
p6	-131.13	0.84	0.42	Open
p7	-52.45	0.33	0.08	Open
p8	-55.15	0.35	0.09	Open
p9	-59.20	0.38	0.10	Open
p10	-144.63	0.92	0.51	Open
p11	-3.38	0.01	0.00	Open
p12	425.02	2.71	3.74	Open
p14	-887.69	2.52	2.03	Open

	Max day plus fire flow 9-29-17 J10 NFPA			
p15	-1033.00	2.93	2.69	Open
p16	149.42	0.42	0.08	Open
p17	431.10	2.75	3.84	Open
p19	-1150.00	3.26	3.28	Open
p20	-729.71	4.66	10.19	Open
p22	1033.00	1.65	0.66	Open
p23	-1033.00	1.65	0.66	Open
p24	-609.46	1.73	1.01	Open
p25	-281.68	0.80	0.24	Open
p3	-154.59	0.44	0.08	Open



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118TH AND JOMAX 80 ACRES-Max Day

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
1	1456.42	0.00	-72.36	Open Pump

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*****
*                               E P A N E T                               *
*                               Hydraulic and Water Quality               *
*                               Analysis for Pipe Networks                 *
*                               Version 2.0                               *
*****
```

Input File: Max day plus fire flow 9-29-17.net J-11 NFPA

118TH AND JOMAX 80 ACRES-Max Day

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in	
p1	J-15	J-0S7	1244	6	
p2	J-0S7	J-0S9	1300	16	
p4	J-0S7	J-0S8	649.4	12	
p5	J-3	J-6	816.1	8	
p6	J-7	J-6	457.2	8	
p7	J-6	J-5	479.6	8	
p8	J-5	J-4	766.8	8	
p9	J-4	J-3	415.3	8	
p10	J-3	J-2	409.6	8	
p11	J-12	J-11	178.4	12	
p12	J-11	J-9	946	8	
p14	J-8	J-2	246.9	12	
p15	J-2	J-1	401.6	12	
p16	J-15	J-14	76.84	12	
p17	J-14	J-11	980.8	8	
p19	J-10	J-9	220.3	12	
p20	J-9	J-8	728	8	
p22	J-16	J-1	327.66	16	
p23	J-16	J-0S9	1002.5	16	
p24	J-0S9	J-0S8	742.4	12	
p25	J-14	J-7	253.5	12	
p3	J-7	J-8	545.55	12	
1	1	J-0S8	#N/A	#N/A	Pump

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
1	100.00	75.00	303.13	26.49	26.49	0.00

Max day plus fire flow 9-29-17 J11 NFPA

Demand Charge: 0.00
 Total Cost: 0.00



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118TH AND JOMAX 80 ACRES-Max Day

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-15	0.00	2814.82	46.50	0.00
J-0S7	0.00	2817.78	33.70	0.00
J-0S9	0.00	2817.62	33.63	0.00
J-0S8	274.00	2818.36	33.96	0.00
J-16	0.00	2816.96	42.01	0.00
J-3	4.05	2815.42	36.58	0.00
J-6	2.70	2815.24	44.52	0.00
J-7	4.05	2815.00	45.06	0.00
J-5	2.70	2815.29	39.55	0.00
J-4	4.05	2815.37	35.43	0.00
J-2	0.68	2815.68	40.81	0.00
J-12	3.38	2806.65	49.20	0.00
J-11	1150.00	2806.65	49.59	0.00
J-9	4.73	2811.42	47.54	0.00
J-14	0.00	2814.82	48.45	0.00
J-8	3.38	2815.20	43.76	0.00
J-1	0.00	2816.74	41.92	0.00
J-10	2.70	2811.42	49.58	0.00
1	-1456.42	2746.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
p1	-155.87	1.77	2.37	Open
p2	418.04	0.67	0.12	Open
p4	-573.91	1.63	0.91	Open
p5	91.67	0.59	0.22	Open
p6	-148.44	0.95	0.53	Open
p7	-59.47	0.38	0.10	Open
p8	-62.17	0.40	0.11	Open
p9	-66.22	0.42	0.12	Open
p10	-161.94	1.03	0.63	Open
p11	-3.38	0.01	0.00	Open
p12	-499.12	3.19	5.04	Open
p14	-863.93	2.45	1.93	Open

	Max day plus fire flow 9-29-17 J11 NFPA			
p15	-1026.55	2.91	2.66	Open
p16	155.87	0.44	0.08	Open
p17	654.26	4.18	8.33	Open
p19	-2.70	0.01	0.00	Open
p20	-506.55	3.23	5.18	Open
p22	1026.55	1.64	0.65	Open
p23	-1026.55	1.64	0.66	Open
p24	-608.51	1.73	1.01	Open
p25	-498.39	1.41	0.70	Open
p3	-353.99	1.00	0.37	Open



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118TH AND JOMAX 80 ACRES-Max Day

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
1	1456.42	0.00	-72.36	Open Pump

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*****
*                               E P A N E T                               *
*                               Hydraulic and Water Quality                 *
*                               Analysis for Pipe Networks                   *
*                               Version 2.0                                 *
*****
```

Input File: Max day plus fire flow 9-29-17.net J-12 NFPA

118TH AND JOMAX 80 ACRES-Max Day

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in	
p1	J-15	J-0S7	1244	6	
p2	J-0S7	J-0S9	1300	16	
p4	J-0S7	J-0S8	649.4	12	
p5	J-3	J-6	816.1	8	
p6	J-7	J-6	457.2	8	
p7	J-6	J-5	479.6	8	
p8	J-5	J-4	766.8	8	
p9	J-4	J-3	415.3	8	
p10	J-3	J-2	409.6	8	
p11	J-12	J-11	178.4	12	
p12	J-11	J-9	946	8	
p14	J-8	J-2	246.9	12	
p15	J-2	J-1	401.6	12	
p16	J-15	J-14	76.84	12	
p17	J-14	J-11	980.8	8	
p19	J-10	J-9	220.3	12	
p20	J-9	J-8	728	8	
p22	J-16	J-1	327.66	16	
p23	J-16	J-0S9	1002.5	16	
p24	J-0S9	J-0S8	742.4	12	
p25	J-14	J-7	253.5	12	
p3	J-7	J-8	545.55	12	
1	1	J-0S8	#N/A	#N/A	Pump

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
1	100.00	75.00	303.47	26.51	26.51	0.00

Max day plus fire flow 9-29-17 J12 NFPA

Demand Charge: 0.00
 Total Cost: 0.00



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118TH AND JOMAX 80 ACRES-Max Day

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-15	0.00	2814.91	46.54	0.00
J-0S7	0.00	2817.86	33.74	0.00
J-0S9	0.00	2817.70	33.67	0.00
J-0S8	274.00	2818.45	33.99	0.00
J-16	0.00	2817.04	42.05	0.00
J-3	4.05	2815.50	36.62	0.00
J-6	2.70	2815.32	44.55	0.00
J-7	4.05	2815.08	45.10	0.00
J-5	2.70	2815.37	39.59	0.00
J-4	4.05	2815.45	35.47	0.00
J-2	0.68	2815.76	40.84	0.00
J-12	1150.00	2806.16	48.99	0.00
J-11	2.70	2806.75	49.63	0.00
J-9	4.73	2811.51	47.58	0.00
J-14	0.00	2814.90	48.49	0.00
J-8	3.38	2815.28	43.80	0.00
J-1	0.00	2816.83	41.95	0.00
J-10	2.70	2811.51	49.62	0.00
1	-1455.74	2746.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
p1	-155.78	1.77	2.37	Open
p2	417.80	0.67	0.12	Open
p4	-573.58	1.63	0.91	Open
p5	91.62	0.58	0.22	Open
p6	-148.35	0.95	0.53	Open
p7	-59.43	0.38	0.10	Open
p8	-62.13	0.40	0.11	Open
p9	-66.18	0.42	0.12	Open
p10	-161.85	1.03	0.63	Open
p11	-1150.00	3.26	3.28	Open
p12	-498.83	3.18	5.04	Open
p14	-863.43	2.45	1.93	Open

	Max day plus fire flow 9-29-17 J12 NFPA			
p15	-1025.96	2.91	2.66	Open
p16	155.78	0.44	0.08	Open
p17	653.87	4.17	8.32	Open
p19	-2.70	0.01	0.00	Open
p20	-506.26	3.23	5.18	Open
p22	1025.96	1.64	0.65	Open
p23	-1025.96	1.64	0.65	Open
p24	-608.16	1.73	1.01	Open
p25	-498.09	1.41	0.70	Open
p3	-353.79	1.00	0.37	Open



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118TH AND JOMAX 80 ACRES-Max Day

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
1	1455.74	0.00	-72.45	Open Pump

 * E P A N E T *
 * Hydraulic and Water Quality *
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 * Version 2.0 *

Input File: Max day plus fire flow 9-29-17.net J-14 NFPA

118TH AND JOMAX 80 ACRES-Max Day

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in	
p1	J-15	J-0S7	1244	6	
p2	J-0S7	J-0S9	1300	16	
p4	J-0S7	J-0S8	649.4	12	
p5	J-3	J-6	816.1	8	
p6	J-7	J-6	457.2	8	
p7	J-6	J-5	479.6	8	
p8	J-5	J-4	766.8	8	
p9	J-4	J-3	415.3	8	
p10	J-3	J-2	409.6	8	
p11	J-12	J-11	178.4	12	
p12	J-11	J-9	946	8	
p14	J-8	J-2	246.9	12	
p15	J-2	J-1	401.6	12	
p16	J-15	J-14	76.84	12	
p17	J-14	J-11	980.8	8	
p19	J-10	J-9	220.3	12	
p20	J-9	J-8	728	8	
p22	J-16	J-1	327.66	16	
p23	J-16	J-0S9	1002.5	16	
p24	J-0S9	J-0S8	742.4	12	
p25	J-14	J-7	253.5	12	
p3	J-7	J-8	545.55	12	
1	1	J-0S8	#N/A	#N/A	Pump

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
1	100.00	75.00	301.77	26.42	26.42	0.00

Max day plus fire flow 9-29-17 J14 NFPA

Demand Charge: 0.00
 Total Cost: 0.00



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118TH AND JOMAX 80 ACRES-Max Day

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-15	0.00	2813.87	46.09	0.00
J-0S7	0.00	2817.45	33.56	0.00
J-0S9	0.00	2817.29	33.49 ✓	0.00
J-0S8	274.00	2818.04 ✓	33.82 ✓	0.00
J-16	0.00	2816.65	41.88	0.00
J-3	4.05	2815.01	36.40	0.00
J-6	2.70	2814.73	44.29	0.00
J-7	4.05	2814.34	44.78	0.00
J-5	2.70	2814.80	39.34	0.00
J-4	4.05	2814.93	35.24 ✓	0.00
J-2	0.68	2815.40	40.69	0.00
J-12	3.38	2814.24	52.49	0.00
J-11	2.70	2814.24	52.88	0.00
J-9	4.73	2814.64	48.94	0.00
J-14	1150.00	2813.86	48.03 ✓	0.00
J-8	3.38	2814.98	43.67	0.00
J-1	0.00	2816.45	41.79	0.00
J-10	2.70	2814.64	50.97	0.00
1	-1459.12	2746.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
p1	-173.01	1.96	2.88	Open
p2	404.63	0.65	0.12	Open
p4	-577.64	1.64	0.92	Open
p5	117.20	0.75	0.34	Open
p6	-191.37	1.22	0.85	Open
p7	-76.87	0.49	0.16	Open
p8	-79.57	0.51	0.17	Open
p9	-83.62	0.53	0.18	Open
p10	-204.87	1.31	0.97	Open
p11	-3.38	0.01	0.00	Open
p12	-131.24	0.84	0.42	Open

Max day plus fire flow 9-29-17 J14 NFPA

p14	-806.56	2.29	1.70	Open
p15	-1012.11	2.87	2.59	Open
p16	173.01	0.49	0.10	Open
p17	-125.16	0.80	0.39	Open
p19	-2.70	0.01	0.00	Open
p20	-138.67	0.89	0.47	Open
p22	1012.11	1.62	0.64	Open
p23	-1012.11	1.62	0.64	Open
p24	-607.48	1.72	1.01	Open
p25	-851.83	2.42	1.88	Open
p3	-664.51	1.89	1.19	Open



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118TH AND JOMAX 80 ACRES-Max Day

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
1	1459.12	0.00	-72.04	Open Pump

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*****
*                               E P A N E T                               *
*                               Hydraulic and Water Quality                 *
*                               Analysis for Pipe Networks                 *
*                               Version 2.0                               *
*****
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Input File: Max day plus fire flow 9-29-17.net J-15 NFPA

118TH AND JOMAX 80 ACRES-Max Day

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in	
p1	J-15	J-0S7	1244	6	
p2	J-0S7	J-0S9	1300	16	
p4	J-0S7	J-0S8	649.4	12	
p5	J-3	J-6	816.1	8	
p6	J-7	J-6	457.2	8	
p7	J-6	J-5	479.6	8	
p8	J-5	J-4	766.8	8	
p9	J-4	J-3	415.3	8	
p10	J-3	J-2	409.6	8	
p11	J-12	J-11	178.4	12	
p12	J-11	J-9	946	8	
p14	J-8	J-2	246.9	12	
p15	J-2	J-1	401.6	12	
p16	J-15	J-14	76.84	12	
p17	J-14	J-11	980.8	8	
p19	J-10	J-9	220.3	12	
p20	J-9	J-8	728	8	
p22	J-16	J-1	327.66	16	
p23	J-16	J-0S9	1002.5	16	
p24	J-0S9	J-0S8	742.4	12	
p25	J-14	J-7	253.5	12	
p3	J-7	J-8	545.55	12	
1	1	J-0S8	#N/A	#N/A	Pump

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
1	100.00	75.00	301.77	26.42	26.42	0.00

Max day plus fire flow 9-29-17 J15 NFPA

Demand Charge: 0.00
 Total Cost: 0.00



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118TH AND JOMAX 80 ACRES-Max Day

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-15	1150.00	2813.70	46.02 ✓	0.00
J-0S7	0.00	2817.45	33.56	0.00
J-0S9	0.00	2817.30	33.49 ✓	0.00
J-0S8	274.00	2818.04 ✓	33.82	0.00
J-16	0.00	2816.66	41.88	0.00
J-3	4.05	2815.03	36.41	0.00
J-6	2.70	2814.75	44.30	0.00
J-7	4.05	2814.36	44.79	0.00
J-5	2.70	2814.82	39.35	0.00
J-4	4.05	2814.95	35.25 ✓	0.00
J-2	0.68	2815.42	40.70	0.00
J-12	3.38	2814.26	52.50	0.00
J-11	2.70	2814.26	52.89	0.00
J-9	4.73	2814.66	48.95	0.00
J-14	0.00	2813.89	48.05	0.00
J-8	3.38	2815.00	43.68	0.00
J-1	0.00	2816.45	41.79	0.00
J-10	2.70	2814.66	50.98	0.00
1	-1459.12	2746.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
p1	-177.23	2.01	3.01	Open
p2	401.01	0.64	0.11	Open
p4	-578.24	1.64	0.92	Open
p5	116.70	0.74	0.34	Open
p6	-190.53	1.22	0.85	Open
p7	-76.53	0.49	0.16	Open
p8	-79.23	0.51	0.17	Open
p9	-83.28	0.53	0.18	Open
p10	-204.03	1.30	0.96	Open
p11	-3.38	0.01	0.00	Open
p12	-130.68	0.83	0.42	Open
p14	-803.18	2.28	1.69	Open

	Max day plus fire flow 9-29-17 J15 NFPA			
p15	-1007.89	2.86	2.57	Open
p16	-972.77	2.76	2.41	Open
p17	-124.60	0.80	0.39	Open
p19	-2.70	0.01	0.00	Open
p20	-138.11	0.88	0.47	Open
p22	1007.89	1.61	0.63	Open
p23	-1007.89	1.61	0.63	Open
p24	-606.88	1.72	1.01	Open
p25	-848.17	2.41	1.87	Open
p3	-661.69	1.88	1.18	Open



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118TH AND JOMAX 80 ACRES-Max Day

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
1	1459.12	0.00	-72.04	Open Pump

 * E P A N E T *
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 * Version 2.0 *

Input File: Max day plus fire flow 9-29-17.net J-OS7 NFPA

118TH AND JOMAX 80 ACRES-Max Day

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in	
p1	J-15	J-0S7	1244	6	
p2	J-0S7	J-0S9	1300	16	
p4	J-0S7	J-0S8	649.4	12	
p5	J-3	J-6	816.1	8	
p6	J-7	J-6	457.2	8	
p7	J-6	J-5	479.6	8	
p8	J-5	J-4	766.8	8	
p9	J-4	J-3	415.3	8	
p10	J-3	J-2	409.6	8	
p11	J-12	J-11	178.4	12	
p12	J-11	J-9	946	8	
p14	J-8	J-2	246.9	12	
p15	J-2	J-1	401.6	12	
p16	J-15	J-14	76.84	12	
p17	J-14	J-11	980.8	8	
p19	J-10	J-9	220.3	12	
p20	J-9	J-8	728	8	
p22	J-16	J-1	327.66	16	
p23	J-16	J-0S9	1002.5	16	
p24	J-0S9	J-0S8	742.4	12	
p25	J-14	J-7	253.5	12	
p3	J-7	J-8	545.55	12	
1	1	J-0S8	#N/A	#N/A	Pump

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
1	100.00	75.00	301.77	26.42	26.42	0.00

Max day plus fire flow 9-29-17 JOS7 NFPA

Demand Charge: 0.00
 Total Cost: 0.00



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118TH AND JOMAX 80 ACRES-Max Day

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-15	0.00	2817.45	47.64	0.00
J-0S7	1150.00	2817.28	33.49 ✓	0.00
J-0S9	0.00	2817.47	33.57 ✓	0.00
J-0S8	274.00	2818.04 ✓	33.82	0.00
J-16	0.00	2817.47	42.23	0.00
J-3	4.05	2817.45	37.46	0.00
J-6	2.70	2817.45	45.48	0.00
J-7	4.05	2817.45	46.13	0.00
J-5	2.70	2817.45	40.49	0.00
J-4	4.05	2817.45	36.33 ✓	0.00
J-2	0.68	2817.46	41.58	0.00
J-12	3.38	2817.45	53.88	0.00
J-11	2.70	2817.45	54.27	0.00
J-9	4.73	2817.45	50.16	0.00
J-14	0.00	2817.45	49.59	0.00
J-8	3.38	2817.46	44.74	0.00
J-1	0.00	2817.46	42.23	0.00
J-10	2.70	2817.45	52.19	0.00
1	-1459.12	2746.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
p1	33.41	0.38	0.14	Open
p2	-456.94	0.73	0.15	Open
p4	-659.66	1.87	1.17	Open
p5	5.93	0.04	0.00	Open
p6	-3.61	0.02	0.00	Open
p7	-0.38	0.00	0.00	Open
p8	-3.08	0.02	0.00	Open
p9	-7.13	0.05	0.00	Open
p10	-17.11	0.11	0.01	Open
p11	-3.38	0.01	0.00	Open
p12	-4.36	0.03	0.00	Open
p14	-50.74	0.14	0.01	Open

	Max day plus fire flow 9-29-17 JOS7 NFPA			
p15	-68.53	0.19	0.02	Open
p16	-33.41	0.09	0.00	Open
p17	1.72	0.01	0.00	Open
p19	-2.70	0.01	0.00	Open
p20	-11.79	0.08	0.01	Open
p22	68.53	0.11	0.00	Open
p23	-68.53	0.11	0.00	Open
p24	-525.46	1.49	0.77	Open
p25	-35.13	0.10	0.00	Open
p3	-35.56	0.10	0.01	Open



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118TH AND JOMAX 80 ACRES-Max Day

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
1	1459.12	0.00	-72.04	Open Pump

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 * Version 2.0 *

Input File: Max day plus fire flow 9-29-17.net J-OS8 NFPA

118TH AND JOMAX 80 ACRES-Max Day

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in	
p1	J-15	J-0S7	1244	6	
p2	J-0S7	J-0S9	1300	16	
p4	J-0S7	J-0S8	649.4	12	
p5	J-3	J-6	816.1	8	
p6	J-7	J-6	457.2	8	
p7	J-6	J-5	479.6	8	
p8	J-5	J-4	766.8	8	
p9	J-4	J-3	415.3	8	
p10	J-3	J-2	409.6	8	
p11	J-12	J-11	178.4	12	
p12	J-11	J-9	946	8	
p14	J-8	J-2	246.9	12	
p15	J-2	J-1	401.6	12	
p16	J-15	J-14	76.84	12	
p17	J-14	J-11	980.8	8	
p19	J-10	J-9	220.3	12	
p20	J-9	J-8	728	8	
p22	J-16	J-1	327.66	16	
p23	J-16	J-0S9	1002.5	16	
p24	J-0S9	J-0S8	742.4	12	
p25	J-14	J-7	253.5	12	
p3	J-7	J-8	545.55	12	
1	1	J-0S8	#N/A	#N/A	Pump

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
1	100.00	75.00	301.77	26.42	26.42	0.00

Max day plus fire flow 9-29-17 JOS8 NFPA

Demand Charge: 0.00
 Total Cost: 0.00



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118TH AND JOMAX 80 ACRES-Max Day

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-15	0.00	2818.04	47.90	0.00
J-0S7	0.00	2818.04	33.82	0.00
J-0S9	0.00	2818.04	33.82	0.00
J-0S8	1424.00	2818.04	33.82	0.00
J-16	0.00	2818.04	42.48	0.00
J-3	4.05	2818.04	37.71	0.00
J-6	2.70	2818.04	45.73	0.00
J-7	4.05	2818.04	46.38	0.00
J-5	2.70	2818.04	40.75	0.00
J-4	4.05	2818.04	36.59	0.00
J-2	0.68	2818.04	41.83	0.00
J-12	3.38	2818.04	54.13	0.00
J-11	2.70	2818.04	54.52	0.00
J-9	4.73	2818.04	50.41	0.00
J-14	0.00	2818.04	49.85	0.00
J-8	3.38	2818.04	44.99	0.00
J-1	0.00	2818.04	42.48	0.00
J-10	2.70	2818.04	52.44	0.00
1	-1459.12	2746.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
p1	-4.38	0.05	0.00	Open
p2	12.63	0.02	0.00	Open
p4	-17.01	0.05	0.00	Open
p5	1.01	0.01	0.00	Open
p6	4.73	0.03	0.00	Open
p7	3.04	0.02	0.00	Open
p8	0.34	0.00	0.00	Open
p9	-3.71	0.02	0.00	Open
p10	-8.77	0.06	0.00	Open
p11	-3.38	0.01	0.00	Open
p12	-0.22	0.00	0.00	Open
p14	-21.29	0.06	0.00	Open

	Max day plus fire flow 9-29-17 JOS8 NFPA			
p15	-30.74	0.09	0.00	Open
p16	4.38	0.01	0.00	Open
p17	5.86	0.04	0.00	Open
p19	-2.70	0.01	0.00	Open
p20	-7.65	0.05	0.00	Open
p22	30.74	0.05	0.00	Open
p23	-30.74	0.05	0.00	Open
p24	-18.11	0.05	0.00	Open
p25	-1.48	0.00	0.00	Open
p3	-10.26	0.03	0.00	Open



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118TH AND JOMAX 80 ACRES-Max Day

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
1	1459.12	0.00	-72.04	Open Pump

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 * Version 2.0 *

Input File: Max day plus fire flow 9-29-17.net J-OS9 NFPA

118TH AND JOMAX 80 ACRES-Max Day

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in	
p1	J-15	J-0S7	1244	6	
p2	J-0S7	J-0S9	1300	16	
p4	J-0S7	J-0S8	649.4	12	
p5	J-3	J-6	816.1	8	
p6	J-7	J-6	457.2	8	
p7	J-6	J-5	479.6	8	
p8	J-5	J-4	766.8	8	
p9	J-4	J-3	415.3	8	
p10	J-3	J-2	409.6	8	
p11	J-12	J-11	178.4	12	
p12	J-11	J-9	946	8	
p14	J-8	J-2	246.9	12	
p15	J-2	J-1	401.6	12	
p16	J-15	J-14	76.84	12	
p17	J-14	J-11	980.8	8	
p19	J-10	J-9	220.3	12	
p20	J-9	J-8	728	8	
p22	J-16	J-1	327.66	16	
p23	J-16	J-0S9	1002.5	16	
p24	J-0S9	J-0S8	742.4	12	
p25	J-14	J-7	253.5	12	
p3	J-7	J-8	545.55	12	
1	1	J-0S8	#N/A	#N/A	Pump

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
1	100.00	75.00	301.77	26.42	26.42	0.00

Max day plus fire flow 9-29-17 JOS9 NFPA

Demand Charge: 0.00
 Total Cost: 0.00



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118TH AND JOMAX 80 ACRES-Max Day

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-15	0.00	2817.25	47.55	0.00
J-0S7	0.00	2817.49	33.57	0.00
J-0S9	1150.00	2817.25	33.47 ✓	0.00
J-0S8	274.00	2818.04 ✓	33.82	0.00
J-16	0.00	2817.25	42.14	0.00
J-3	4.05	2817.25	37.37	0.00
J-6	2.70	2817.25	45.39	0.00
J-7	4.05	2817.25	46.04	0.00
J-5	2.70	2817.25	40.40	0.00
J-4	4.05	2817.25	36.24 ✓	0.00
J-2	0.68	2817.25	41.49	0.00
J-12	3.38	2817.25	53.79	0.00
J-11	2.70	2817.25	54.18	0.00
J-9	4.73	2817.25	50.07	0.00
J-14	0.00	2817.25	49.50	0.00
J-8	3.38	2817.25	44.65	0.00
J-1	0.00	2817.25	42.14	0.00
J-10	2.70	2817.25	52.10	0.00
1	-1459.12	2746.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
p1	-39.88	0.45	0.19	Open
p2	516.96	0.82	0.18	Open
p4	-556.84	1.58	0.86	Open
p5	-2.14	0.01	0.00	Open
p6	8.61	0.05	0.00	Open
p7	3.77	0.02	0.00	Open
p8	1.07	0.01	0.00	Open
p9	-2.98	0.02	0.00	Open
p10	-4.89	0.03	0.00	Open
p11	-3.38	0.01	0.00	Open
p12	2.24	0.01	0.00	Open
p14	10.33	0.03	0.00	Open

	Max day	plus fire	flow	9-29-17	JOS9	NFPA
p15	4.76	0.01	0.00			Open
p16	39.88	0.11	0.01			Open
p17	8.32	0.05	0.00			Open
p19	-2.70	0.01	0.00			Open
p20	-5.19	0.03	0.00			Open
p22	-4.76	0.01	0.00			Open
p23	4.76	0.01	0.00			Open
p24	-628.28	1.78	1.07			Open
p25	31.56	0.09	0.00			Open
p3	18.90	0.05	0.00			Open



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118TH AND JOMAX 80 ACRES-Max Day

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
1	1459.12	0.00	-72.04	Open Pump