

Water Basis of Design Report

Sereno Canyon



FINAL Basis of Design Report

- ☒ APPROVED
☐ APPROVED AS NOTED
☐ REVISE AND RESUBMIT



Disclaimer: If approved; the approval is granted under the condition that the final construction documents submitted for city review will match the information herein. Any subsequent changes in the water or sewer design that materially impact design criteria or standards will require re-analysis, re-submittal, and approval of a revised basis of design report prior to the plan review submission.; this approval is not a guarantee of construction document acceptance. For questions or clarifications contact the Water Resources Planning and Engineering Department at 480-312-5685.

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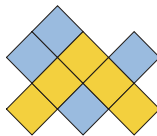
DATE 11/5/2019

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

April 2018

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1.0 Introduction

This Water Basis of Design Report has been prepared for the Sereno Canyon Phase 4, a single family residential and Resort Casita development, which is being developed by Toll Brothers, an Arizona Corporation. This is the final phase of the Sereno Canyon Development that was developed by Crown Development in 2005. The development was to be subdivided into four phases. Phase 1 improvements have been completed. Phase 2 and Phase 3 will be completed in the future.

1.1 Project Location

The project is located in Section 11, Township 4 North, Range 5 East of the Gila and Salt River Baseline and Meridian, Maricopa County, Arizona. It is bound on south by Pinnacle Peak Road Alignment, west by 122nd Street and Phase 2 of Sereno Canyon, and on the north by Phase 1 and Phase 3 of Sereno Canyon and the East Alameda Road and east by N. 128th Street and rural residential parcels.

See Figure 1, Vicinity Map.

1.2 Property Description

The project is located within the City of Scottsdale, Arizona. Phase 4 of the project is approximately 121.65 acres with a total of 268 residential dwelling units and 29 Resort Casitas. The property is located on rolling terrain. The southern and western portions of the property slope to the north and to the east. The southeast portion of the property slope to the northeast and to the east. The site is within the elevation range from 2688 to 2855.

1.3 Purpose

This Report has been prepared to satisfy the City of Scottsdale requirements for the Preliminary Plat submittal process for Sereno Canyon Phase 4. 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 project in 2005. The property has been rezoned for more units and an amendment to the Master Water Report for Sereno Canyon. The Master Water Report for Sereno Canyon was prepared by Wood Patel and Associates, Inc. The amendment to the Master Water report for the Rezoning Basis of Design on Feb. 18, 2014, prepared by LD Team. This property is located within Quarter Section map 45-57, and 45-58. These reports were used as a reference for the proposed Sereno Canyon Phase 4 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 Phase 4 site is currently undeveloped desert land and has been rezoned as single family residential dwelling units, and 29 Resort Casitas. 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 a small portion in pressure Zone 14. The majority of the property is within pressure Zone 13 with the remaining site within pressure Zone 14. A Zone 13 12-inch transmission line is located within East Alameda Road and the existing 124th Street. The 12 inch line connects to the north to a 12 inch line in East La Junta Road Alignment. This 12 inch line continues to the west to the section line, then continues to the north to East Ranch Gate Road. From this point the system continues to the 3 million gallon tank and booster station located at site 143. The existing booster station site (145) is located at the East Alameda Road entrance to the Sereno Canyon development. It is located south and adjacent to the E. Alameda Rd alignment. *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 Dixelela 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. The existing booster station (Site 145) will be required to be in operation for this development to be serviced by the city. 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 13 and 14 according to figure 6.1-3 pressure zone map
- The total number of dwelling units = 268
- The total number of rooms for the Resort = 29

- 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 single family residential dwellings and a 29 casita Resort. The proposed distribution system will be 8-inch water pipes within development streets with a 12 inch distribution line in the proposed collector street that traverses the site from the west to the east starting at the 124th Street and East Mariposa Grande Drive intersection continuing to the east and ending at the 128th Street alignment. The existing booster station at site 145 will provide the needed flow and pressures for the development. This booster station is located south of the E. Alameda Road along the western boundary of the Sereno Canyon Phase 1 and Phase 2. This booster station has four pumps servicing this area. The first three pumps are for the average day, maximum day and peak hour flows and the fourth pump is the fire flow pump. See Appendix A for the pump curves supplied by Scott Anderson with the City of Scottsdale. Pumps 1-3 are 50 horsepower and pump 4 (fire flow pump) is 150 horsepower. Phase 4 water lines will connect to the existing phase 1, 2 and 3. A 8 inch line will need to be constructed within the 125th Street alignment in phase 3 of Sereno Canyon. The water lines are existing within phases 1 and 2 of Sereno Canyon.

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 and the Resort.

Domestic flow was calculated as follows:

Total residential units 3-7.9 du/ac = 261×248.2 gallon/unit = 64,780 gallons per day

Total residential units <2 du/ac = 7×486 gallons/unit = 3402 gallons per day

Total Resort Rooms = 29×446.3 gallon/room = 12,943 gallons per day

Total Resort Spa = $14500 \text{ sf} \times 1.3$ = 18,850 gallons per day

Total Average Day Flow (Phase 4) = 69.43 gpm

Total Average Day Flow (Phase 1-3) = 32.40 gpm

Total Model Domestic Flows: Includes Phases 1-4 onsite and offsite demands.

Total average day Flow = 201.69 gpm

Peak hour Flow = 3.5×201.69 = 705.90 gpm

Maximum day Demand = 2.0×201.69 = 403.37 gpm

4.0 Existing Basis of Design Reports

The Design Concept Report for Sereno Canyon, Zone 13 Pump Station at Site 145, Scottsdale, Arizona prepared by Wood Patel, dated December 20, 2005, WP#052484. The Design Concept report was used to determine the existing conditions for the water area water system. Also, the Sereno Canyon Amended Master Water Report, prepared by LVA, dated February 18, 2014 was used to aid in the development of the water model.

5.0 Water Model

The system was modeled using the “EPANET” software and meet the design criteria noted above in section 3.1. The existing Booster Station Site 145 pump curves were supplied by Scott Anderson from the City of Scottsdale and were used to perform the water modeling. The elevation of the existing booster station is 2715. See Appendix A for the pump curves used for the modeling of the development. There are four pumps used at the booster site 145. Three 50 horsepower pumps are utilized for the average day, maximum day and the peak hour flows. The fourth pump is a 150 horsepower fire flow pump. During the Average Day demands, pump 1 is used. The remaining pumps are not used. Because of the horsepower size of pump 1, the pressures at the lower elevations of pressure zone 12 can be above the 120 psi limit. An individual pressure reducing valve will be constructed for each home that has pressures greater than 120 psi. The pumps at the booster station have variable frequency drives (VFD) set at 103 psi to control the pressures in zones 14,13 and zone 12. During fire flow conditions the fire flow pump will be on to provide the needed pressures for dwelling units, resort and casitas. An individual dwelling unit jockey pumps are to be provided for dwelling units, resort and casitas that do not meet the required pressures during fire flow conditions. See Appendix A-E for analysis results. The booster Site 145 is specifically designed to provide the area and the Sereno Canyon development with required pressures and flows. Without this booster station, the development would not be able to meet the city’s requirements for pressure and flow. 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: 2717 feet
- Fire Flow Demand Residential 1000 gpm
- Fire Flow Demand Resort 1500 gpm
- Per Fire Flow Pump curve at 20 PSI 2800+ gpm

The Average Day hydraulic model analysis is in Appendix B. The Maximum Day hydraulic model analysis is in Appendix C. The Peak Hour hydraulic model analysis is in Appendix

D. The Maximum Day plus fire flow hydraulic model analysis was completed for each junction node for Phase 4 of the development and are found in Appendix E. Each Input file will list the junction node being analyzed for fire flow. Table 1 summarizes the junction nodes and pipes with critical parameters that achieve compliance with the design criteria in Section 3.1.

Scenario	Flow (gpm)	Pressure (psig)				Maximum Velocity (fps)	Pipe ID
		Minimum	Node	Maximum	Node		
Average Day	210.25	50.73	J-25	119.5	J-122	0.60	PRV
Maximum Day	420.50	50.60	J-25	119.32	J-122	1.19	PRV
Peak Hour	735.80	50.93	J-37	126.06	J-122	2.09	PRV
Max Day + Fire Flow (1,500 gpm)	1917.42	43.22	J-23	NA	NA	NA	NA

Table 1-Results of EPAnet Hydraulic Analysis

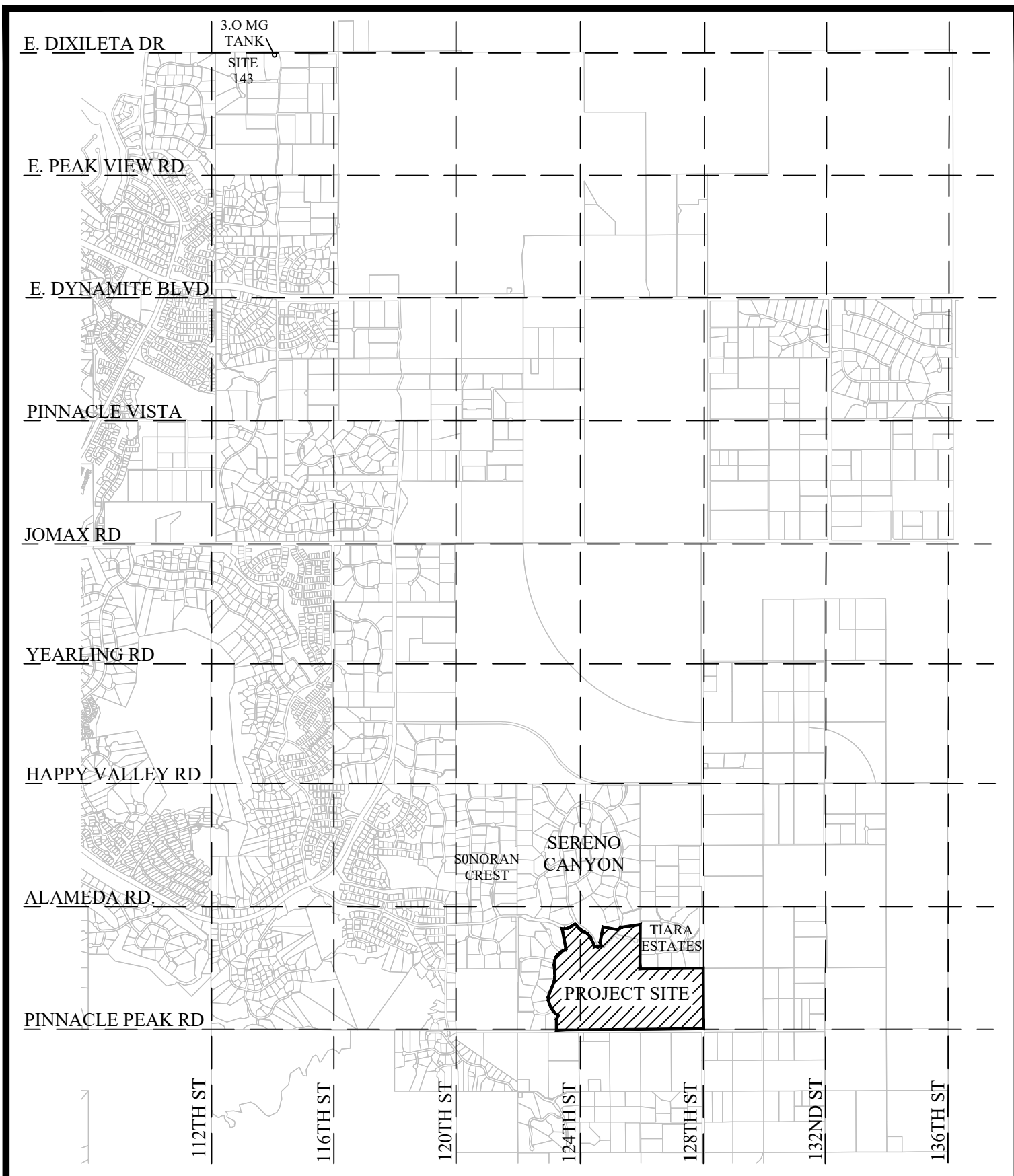
6.0 Conclusions

- 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.
- The booster station site 145 is required to be in operation for the development.

7.0 References

1. City of Scottsdale Design Standards & Policies Manual, *January 2010*.
2. *Design Concept Report for Sereno Canyon Zone 13 Pump Station at Site 145, prepared by Wood Patel, dated 12-20-05. WP#052484.*
3. *Sereno Canyon Amended Master Water Report. Prepared by LVA, dated February 18, 2014.*

Figure 1: Vicinity Map



SERENO CANYON
PHASE 4
SCOTTSDALE, AZ

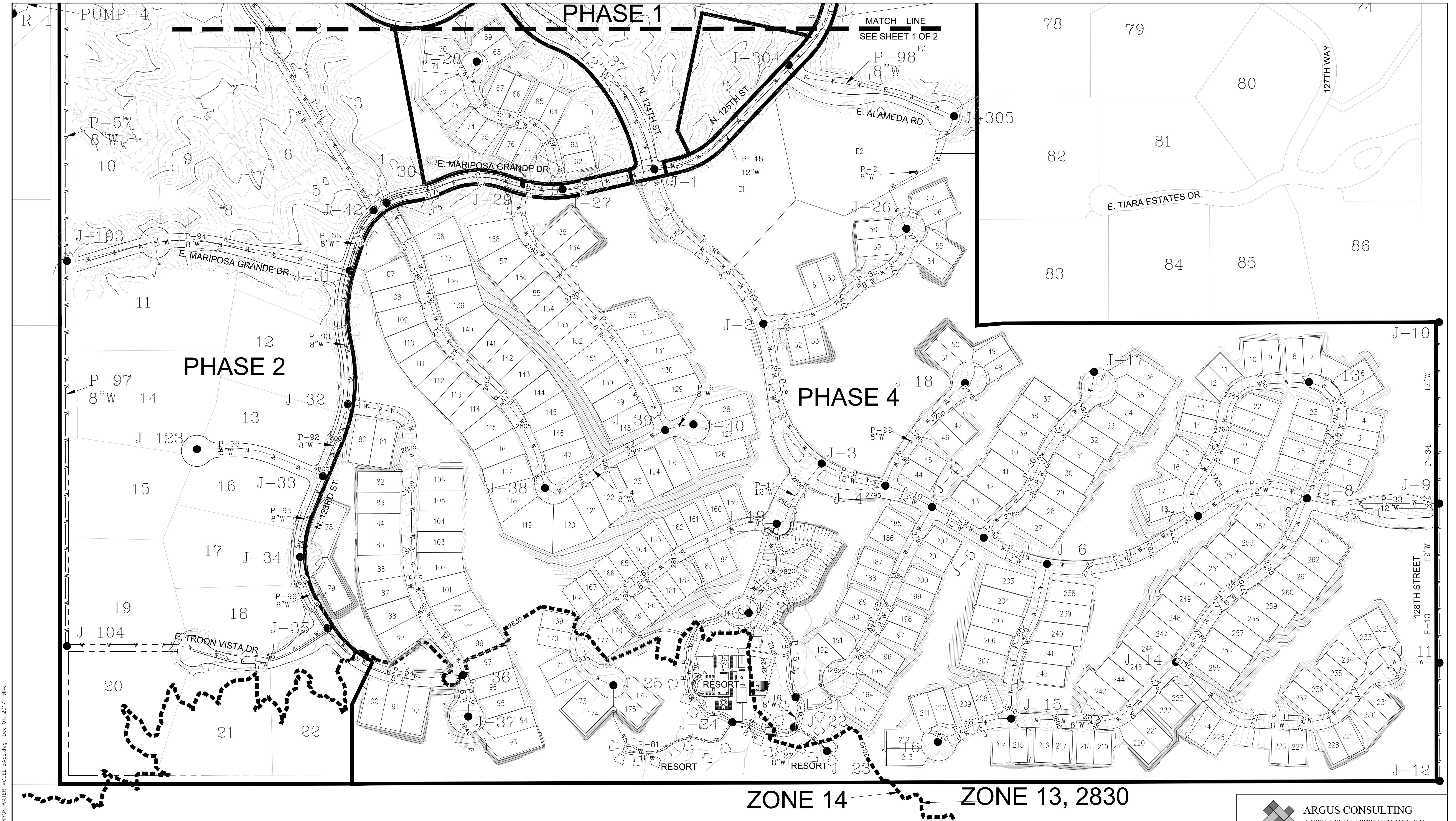
VICINITY MAP
FIGURE 1



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A CIVIL ENGINEERING COMPANY, P.C.

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

Figure 2: Water Distribution Map



F:\Civil\3D\Argus\Sereno Canyon\SERENO CANYON WATER MODEL BASE.dwg Dec 01, 2017 alive

SCALE:1=120'



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

SERENO CANYON PHASE 4

FIGURE 2
WATER DISTRIBUTION PLAN

Designed by	Drawn by
Date 6-2017	Job No.
	Sheet 2 of 2

Appendix A

Table 1. - Domestic Water Demand Analysis

Project: Sereno Canyon Phase 4
Location: Scottsdale AZ

Water Node	Elevation	Land Use	Phase	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
J-1	2777	Residential	4	0	248.2	0.00	0.00	0.00	0.00	0.00	0.00	95.19
J-2	2779	Residential	4	4	248.2	992.80	0.69	1985.60	1.38	3,474.80	2.41	93.75
J-3	2794.6	Residential	4	0	248.2	0.00	0.00	0.00	0.00	0.00	0.00	86.24
J-4	2792.5	Residential	4	4	248.2	992.80	0.69	1985.60	1.38	3,474.80	2.41	86.97
J-5	2789	Residential	4	8	248.2	1985.60	1.38	3971.20	2.76	6,949.60	4.83	88.16
J-6	2788	Residential	4	6	248.2	1489.20	1.03	2978.40	2.07	5,212.20	3.62	88.29
J-7	2766	Residential	4	12	248.2	2978.40	2.07	5956.80	4.14	10,424.40	7.24	97.46
J-8	2756	Residential	4	11	248.2	2730.20	1.90	5460.40	3.79	9,555.70	6.64	101.60
J-9	2747	Residential	4	0	248.2	0.00	0.00	0.00	0.00	0.00	0.00	105.02
J-10	2731	Residential	offsite	71	485.6	34477.60	23.94	68955.20	47.89	120,671.60	83.80	113.28
J-11	2767	Residential	4	12	248.2	2978.40	2.07	5956.80	4.14	10,424.40	7.24	96.25
J-12	2781	Residential	offsite	74	485.6	35934.40	24.95	71868.80	49.91	125,770.40	87.34	91.65
J-13	2742	Residential	4	10	248.2	2482.00	1.72	4964.00	3.45	8,687.00	6.03	106.74
J-14	2783	Residential	4	20	248.2	4964.00	3.45	9928.00	6.89	17,374.00	12.07	89.43
J-15	2807.5	Residential	4	10	248.2	2482.00	1.72	4964.00	3.45	8,687.00	6.03	78.50
J-16	2818	Residential	4	6	248.2	1489.20	1.03	2978.40	2.07	5,212.20	3.62	72.12
J-17	2759	Residential	4	9	248.2	2233.80	1.55	4467.60	3.10	7,818.30	5.43	96.52
J-18	2773	Residential	4	4	248.2	992.80	0.69	1985.60	1.38	3,474.80	2.41	92.42
J-19	2807	Residential	4	10	248.2	2482.00	1.72	4964.00	3.45	8,687.00	6.03	79.99
J-20	2825.5	Resort Building		14500	1.3	18850.00	13.09	37700.00	26.18	65,975.00	45.82	68.67
J-21	2825.5	Resort		0	446.3	0.00	0.00	0.00	0.00	0.00	0.00	48.36
J-22	2826	Resort		8	446.3	3570.40	2.48	7140.80	4.96	12,496.40	8.68	47.21
J-23	2831	Resort		8	446.3	3570.40	2.48	7140.80	4.96	12,496.40	8.68	43.22
J-24	2831	Resort		13	446.3	5801.90	4.03	11603.80	8.06	20,306.65	14.10	56.95
J-25	2835.5	Residential	4	16	248.2	3971.20	2.76	7942.40	5.52	13,899.20	9.65	66.01
J-26	2766	Residential	4	6	248.2	1489.20	1.03	2978.40	2.07	5,212.20	3.62	98.18
J-27	2788	Residential	4	6	248.2	1489.20	1.03	2978.40	2.07	5,212.20	3.62	90.07
J-28	2761	Residential	4	10	248.2	2482.00	1.72	4964.00	3.45	8,687.00	6.03	97.81
J-29	2780.5	Residential	4	8	248.2	1985.60	1.38	3971.20	2.76	6,949.60	4.83	93.34
J-30	2770.5	Residential	4	13	248.2	3226.60	2.24	6453.20	4.48	11,293.10	7.84	97.95
J-31	2776	Residential	4	0	248.2	0.00	0.00	0.00	0.00	0.00	0.00	95.09
J-32	2791	Residential	4	10	248.2	2482.00	1.72	4964.00	3.45	8,687.00	6.03	87.25
J-33	2803	Residential	4	0	248.2	0.00	0.00	0.00	0.00	0.00	0.00	81.29
J-34	2808	Residential	4	2	248.2	496.40	0.34	992.80	0.69	1,737.40	1.21	79.00
J-35	2821	Residential	4	0	248.2	0.00	0.00	0.00	0.00	0.00	0.00	73.53
J-36	2827	Residential	4	11	248.2	2730.20	1.90	5460.40	3.79	9,555.70	6.64	70.24
J-37	2835	Residential	4	5	248.2	1241.00	0.86	2482.00	1.72	4,343.50	3.02	65.73
J-38	2809	Residential	4	16	248.2	3971.20	2.76	7942.40	5.52	13,899.20	9.65	79.02
J-39	2794	Residential	4	10	248.2	2482.00	1.72	4964.00	3.45	8,687.00	6.03	85.49
J-40	2794.5	Residential	4	6	248.2	1489.20	1.03	2978.40	2.07	5,212.20	3.62	84.56
J-41	2790.2	Residential	4	16	248.2	3971.20	2.76	7942.40	5.52	13,899.20	9.65	87.98
J-42	2769	Residential	4	0	248.2	0.00	0.00	0.00	0.00	0.00	0.00	98.52
J-100	2719	Residential	1	0	486	0.00	0.00	0.00	0.00	0.00	0.00	121.73
J-101	2733.5	Residential	2	7	486	3402.00	2.36	6804.00	4.73	11,907.00	8.27	115.07
J-102	2765	Residential	1	4	486	1944.00	1.35	3888.00	2.70	6,804.00	4.73	100.78
J-103	2747	Residential	2	5	486	2430.00	1.69	4860.00	3.38	8,505.00	5.91	107.48

Table 1. - Domestic Water Demand Analysis

Project: Sereno Canyon Phase 4
Location: Scottsdale AZ

Water Node	Elevation	Land Use	Phase	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
J-104	2802	Residential	2	5	486	2430.00	1.69	4860.00	3.38	8,505.00	5.91	81.41
J-105	2747	Residential	1	5	486	2430.00	1.69	4860.00	3.38	8,505.00	5.91	108.15
J-106	2729	Residential	1	5	486	2430.00	1.69	4860.00	3.38	8,505.00	5.91	109.61
J-107	2736	Residential	1	7	486	3402.00	2.36	6804.00	4.73	11,907.00	8.27	112.78
J-108	2748	Residential	1	3	486	1458.00	1.01	2916.00	2.03	5,103.00	3.54	107.58
J-109	2750	Residential	1	3	486	1458.00	1.01	2916.00	2.03	5,103.00	3.54	101.35
J-110	2747	Residential	1	6	486	2916.00	2.03	5832.00	4.05	10,206.00	7.09	100.81
J-111	2729	Residential	1	6	486	2916.00	2.03	5832.00	4.05	10,206.00	7.09	115.55
J-112	2709	Residential	1	2	486	972.00	0.68	1944.00	1.35	3,402.00	2.36	122.76
J-113	2711	Residential	1	2	486	972.00	0.68	1944.00	1.35	3,402.00	2.36	120.38
J-114	2706	Residential	1	2	486	972.00	0.68	1944.00	1.35	3,402.00	2.36	123.78
J-115	2703	Residential	1	2	486	972.00	0.68	1944.00	1.35	3,402.00	2.36	124.95
J-116	2704	Residential	1	1	486	486.00	0.34	972.00	0.68	1,701.00	1.18	123.12
J-117	2713	Residential	1	3	486	1458.00	1.01	2916.00	2.03	5,103.00	3.54	116.23
J-118	2702	Residential	1	2	486	972.00	0.68	1944.00	1.35	3,402.00	2.36	125.37
J-119	2693	Residential	1	0	486	0.00	0.00	0.00	0.00	0.00	0.00	127.60
J-120	2683	Residential	1	3	486	1458.00	1.01	2916.00	2.03	5,103.00	3.54	130.55
J-121	2683	Residential	1	0	486	0.00	0.00	0.00	0.00	0.00	0.00	130.83
J-122	2677	Residential	offsite	68	486	33048.00	22.95	66096.00	45.90	115,668.00	80.33	
J-123	2784	Residential	2	5	486	2430.00	1.69	4860.00	3.38	8,505.00	5.91	86.69
J-200	2709	Residential	offsite	11	486	5346.00	3.71	10692.00	7.43	18,711.00	12.99	
J-201	2685	Residential	offsite	3	486	1458.00	1.01	2916.00	2.03	5,103.00	3.54	
J-202	2728	Residential	offsite	15	486	7290.00	5.06	14580.00	10.13	25,515.00	17.72	
J-203	2719	Residential	offsite	19	486	9234.00	6.41	18468.00	12.83	32,319.00	22.44	
J-204	2701	Residential	offsite	4	486	1944.00	1.35	3888.00	2.70	6,804.00	4.73	
J-205	2720	Residential	offsite	4	486	1944.00	1.35	3888.00	2.70	6,804.00	4.73	
J-206	2685	Residential	offsite	1	486	486.00	0.34	972.00	0.68	1,701.00	1.18	
J-207	2735	Residential	offsite	4	486	1944.00	1.35	3888.00	2.70	6,804.00	4.73	
J-208	2729	Residential	offsite	1	486	486.00	0.34	972.00	0.68	1,701.00	1.18	
J-209	2686	Residential	offsite	1	486	486.00	0.34	972.00	0.68	1,701.00	1.18	
J-210	2681	Residential	offsite	3	486	1458.00	1.01	2916.00	2.03	5,103.00	3.54	
J-211	2727	Residential	offsite	0	486	0.00	0.00	0.00	0.00	0.00	0.00	
J-300	2727	Residential	3	11	486	5346.00	3.71	10692.00	7.43	18,711.00	12.99	114.36
J-301	2729	Residential	3	3	486	1458.00	1.01	2916.00	2.03	5,103.00	3.54	111.87
J-302	2745	Residential	3	4	486	1944.00	1.35	3888.00	2.70	6,804.00	4.73	108.45
J-303	2740	Residential	offsite	17	486	8262.00	5.74	16524.00	11.48	28,917.00	20.08	110.47
J-304	2761	Residential	4	4	486	1944.00	1.35	3888.00	2.70	6,804.00	4.73	101.81
J-305	2759	Residential	4	3	486	1458.00	1.01	2916.00	2.03	5,103.00	3.54	101.27

TOTAL			689			290,428.90	201.69	580,857.80	403.37	1,016,501.15	705.90	
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REV 143	2965	3.0 mg tank
S145	2715	PUMP SITE
PUMP1	2715	
PUMP2	2715	
PUMP3	2715	
PUMP4	2715	

Phase 1	56		18.90	37.80	66.15
Phase 2	22		7.43	14.85	25.99
Phase 3	18		6.08	12.15	21.26
Phase 4	268		47.35	94.70	165.72
offsite	296		99.86	199.72	349.51
Resort	29		22.08	44.16	77.27
	689		201.69	403.37	705.90

Average Daily Water Use (indoor and outdoor), <2 DU/acre = 486 gpd/DU
Average Daily Water Use (indoor and outdoor), <3-7.9 DU/acre = 248.2 gpd/DU
Maximum Day Demand Multiplier = 2.0 x Avg. Day
Peak Hour Demand Multiplier = 3.5 x Avg. Day
Residential Fire Flow Demand = 1000 gpm
Resort Fire Flow Demand = 1500 gpm
Resort Building flow demand = building SF x 1.3

Site #145

Address 12199 E. Alameda Rd

Elevation 2717 Ft.

Service Region

Station Number BPS-145

RTU Load last modified 01/14/2014

Booster Information

Firm station =

Total station =

Pump Name	Station Name	Type	HP	Flow High	Schematic ID	HydId	Status	Amps
BPS-145-P01	BPS-145	VS	50	500	BPS-145-1	BPS-145-1	Inactive	195
BPS-145-P02	BPS-145	VS	50	500	BPS-145-2	BPS-145-2	Inactive	195
BPS-145-P03	BPS-145	VS	50	500	BPS-145-3	BPS-145-3	Inactive	195
BPS-145-P04	BPS-145	VS	150	1750	BPS-145-4	BPS-145-4	Inactive	N/A

Generator 594 KVA, 475 KW, 714 Amps, 480 Volts, 636 HP Engine, # of pumps generator can run is N/A. But the 50 HP pumps are 195 Amps each.

Hydro pneumatic tank and air compressor.

Utility: APS

Meter # P67226

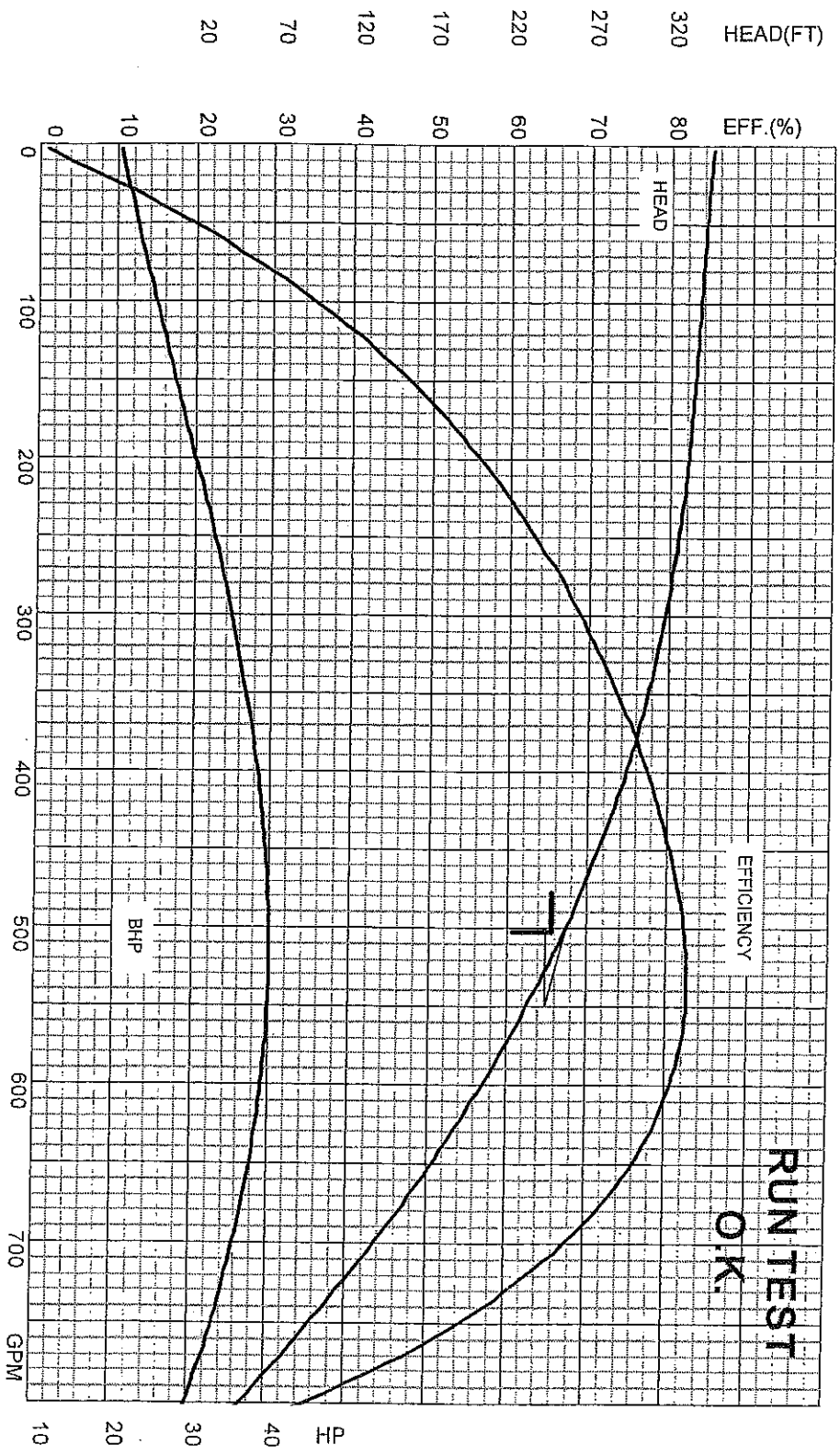
Acct # 9203S72285

S-145

P 1-3

HYDRAULIC PERFORMANCE WARRANTY
 GUARANTEED AT DESIGNED POINT ONLY AND IS
 CONTINGENT ON:
 1. PROPER NPSH OR SUBMERGENCE AVAILABLE
 2. PROPER AND ADEQUATE FLOW TO PUMP SUCTION
 3. FLUID FREE OF GAS, AIR, AND ABRASIVE MATTER
 4. IMPELLER WITH PROPER LATERAL ADJUSTMENT
 (VERTICAL PUMP ONLY)

PEERLESS PUMPS			
TEST SITE: Lubbock TX		PUMP: 10MA	Rated GPM: 500.00
BY: TH	IMP. NO.: T84363	Rated Hd(ft):	245.00
DATE: 9/15/2008	SHOP ORDER: 747272B-2	Rated RPM:	1782
CUSTOMER: P.E.C. PUMP	STAGES: 8	Rated HP	38.97
	IMP. DIA1: 1 @ 6.75 X 6.75	Rated Eff %	81.40
	IMP. DIA2: 2-8 @ 6.88 X 6.88	Spec. Gravity:	1.000
	IMP. DIA3: 0		



CERTIFIED BOWL PERFORMANCE TEST CURVE

S-145

P-5

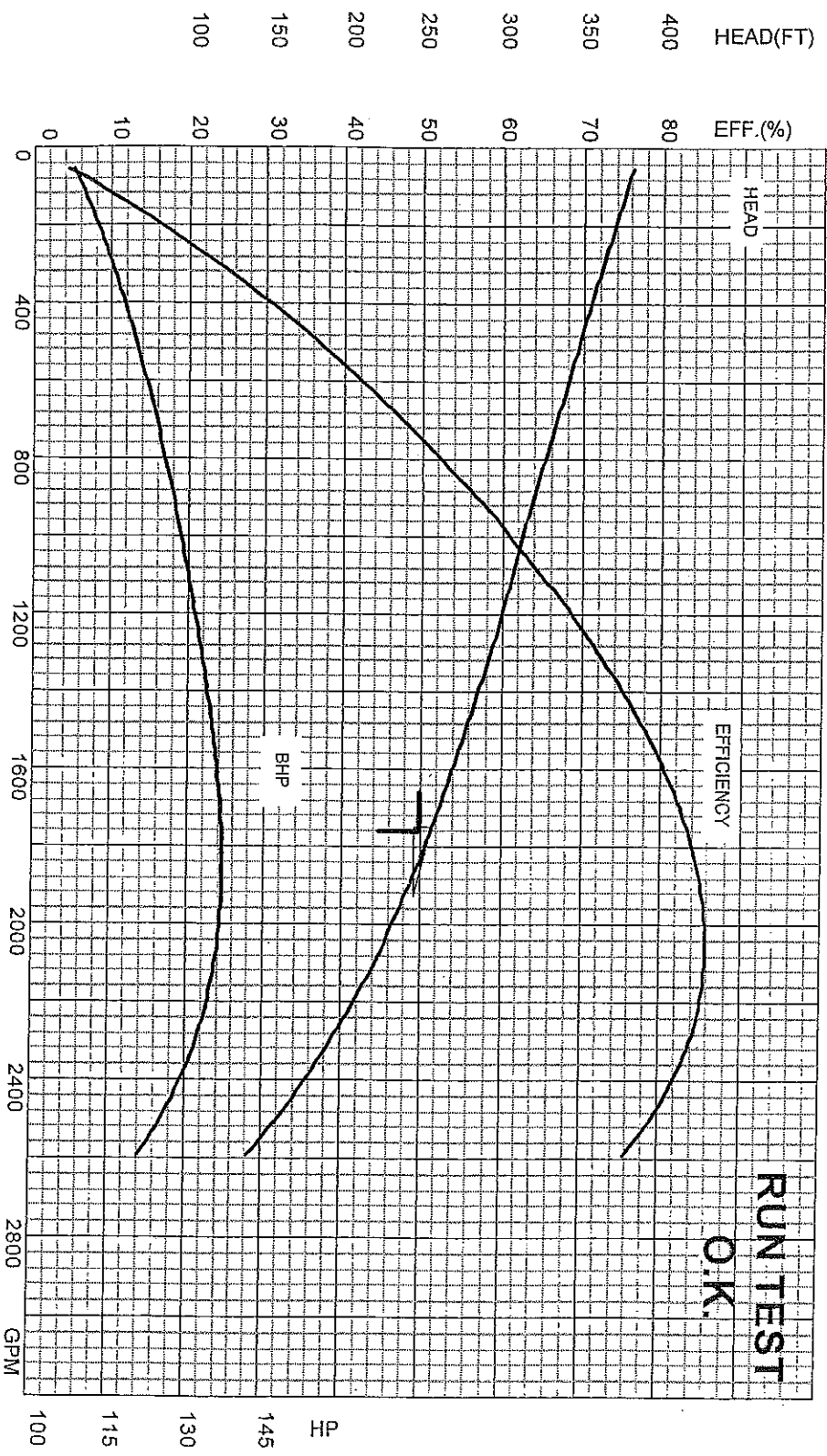
HYDRAULIC PERFORMANCE WARRANTY
GUARANTEED AT DESIGNED POINT ONLY AND IS
CONTINGENT ON:
1. PROPER NPSH OR SUBMERGENCE AVAILABLE.
2. PROPER AND ADEQUATE FLOW TO PUMP SUCTION.
3. FLUID FREE OF GAS, AIR, AND ABRASIVE MATTER.
4. IMPELLER WITH PROPER LATERAL ADJUSTMENT
(VERTICAL PUMP ONLY).

PEERLESS PUMPS

TEST SITE: Lubbock TX
BY: TH
DATE: 9/18/2008
CUSTOMER: P.E.C. PUMP

PUMP: M14HXB
IMP. NO.: V4399
SHOP ORDER: 747310A-1
STAGES: 4
IMP. DIA1: 1-3 @ 9.16 X 10.44
IMP. DIA2: 4 @ 8.66 X 9.94
IMP. DIA3: 0

Rated GPM: 1750.00
Rated Hd(ft): 245.00
Rated RPM: 1782
Rated HP: 134.90
Spec. Gravity: 1.000



CERTIFIED BOWL PERFORMANCE TEST CURVE

Appendix B

Sereno Canyon Phase 4 Average Day with PRV

Page 1

12/2/2017 10:09:28 AM

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

Input File: Sereno Canyon Phase 4 Average Day with PRV.net

Sereno Canyon

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in
P-1	J-32	J-36	955.6	8
P-2	J-36	J-37	121.6	8
P-3	J-30	J-38	957.7	8
P-4	J-38	J-39	400	8
P-5	J-39	J-29	841.9	8
P-6	J-39	J-40	83.23	8
P-7	J-28	J-27	505.5	8
P-8	J-2	J-3	452.1	12
P-9	J-3	J-4	195.3	12
P-10	J-4	J-41	148.7	12
P-11	J-14	J-11	890.1	8
P-12	J-12	J-11	340.4	12
P-13	J-11	J-9	458.8	12
P-14	J-3	J-19	223.6	12
P-15	J-20	J-21	310.5	8
P-16	J-21	J-22	93.71	8
P-17	J-22	J-24	192.7	8
P-18	J-24	J-20	511.2	8
P-19	J-20	J-19	293.1	12
P-20	J-5	J-17	587.4	8
P-22	J-18	J-4	378.4	8
P-23	J-7	J-13	601.7	8
P-24	J-8	J-14	610.4	8
P-25	J-14	J-15	540.4	8
P-26	J-15	J-16	224.8	8
P-27	J-22	J-23	128.3	8
P-28	J-21	J-41	699	8
P-29	J-41	J-5	172.5	12
P-30	J-5	J-6	197.8	12
P-31	J-6	J-7	466.8	12
P-32	J-7	J-8	339.3	12

Sereno Canyon Phase 4 Average Day with PRV

P-33	J-8	J-9	384	12
P-34	J-9	J-10	522	12
P-35	J-26	J-2	531.2	8
P-36	J-2	J-1	557.4	12
P-37	J-1	J-102	754.8	12
P-38	J-102	J-105	819.5	12



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in
P-39	J-105	J-107	511.2	12
P-40	J-107	J-111	1032	12
P-41	J-111	J-112	449.2	8
P-42	J-112	J-114	204.1	8
P-43	J-114	J-115	198.3	8
P-44	J-115	J-118	154.9	8
P-45	J-118	J-300	1588	8
P-46	J-300	J-302	757	8
P-47	J-302	J-304	469.1	12
P-48	J-304	J-1	500.9	12
P-49	J-1	J-27	271.1	8
P-50	J-27	J-29	112.3	8
P-51	J-29	J-30	411.1	8
P-52	J-30	J-42	43.31	8
P-53	J-42	J-31	191.5	8
P-54	J-35	J-36	438.3	8
P-55	J-106	J-105	800.8	8
P-56	J-33	J-123	375.5	8
P-57	J-100	J-103	951.8	8
P-58	J-104	J-35	775.1	8
P-59	J-110	J-108	595.1	8
P-60	J-108	J-109	353.1	8
P-61	S145	J-100	74.44	12
P-62	J-100	J-101	464.5	12
P-63	J-111	J-207	1424	12
P-64	J-207	J-208	997.1	8
P-65	J-207	J-206	1045	12
P-66	J-206	J-204	317.1	8
P-67	J-205	J-204	465.7	8
P-68	J-204	J-203	643.7	8
P-69	J-200	J-211	2106	8
P-70	J-211	J-203	536.3	8
P-71	J-203	J-201	2125	8
P-72	S145	J-200	327.3	8

Sereno Canyon Phase 4 Average Day with PRV

P-73	J-200	J-201	667.2	8
P-74	J-201	J-202	1059	8
P-75	J-120	J-119	186.5	8
P-76	J-119	J-121	389	8
P-77	J-210	J-209	1327	12
P-78	J-209	J-206	257.6	12
P-79	J-13	J-8	394	8
P-80	J-6	J-15	462	8
P-81	J-24	J-25	535	8
P-82	J-19	J-25	884	8
P-83	J-101	J-102	845.5	12
P-84	J-101	J-42	913.6	8
P-85	J-108	J-107	309.2	8



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in	
P-86	J-113	J-112	191.9	8	
P-87	J-117	J-114	573.8	8	
P-88	J-116	J-115	172.9	8	
P-89	J-119	J-118	421	8	
P-90	J-121	J-210	4137	8	
P-91	J-121	J-122	131.6	8	
P-92	J-32	J-33	221	8	
P-93	J-31	J-32	387	8	
P-94	J-103	J-31	1000	8	
P-95	J-33	J-34	245	8	
P-96	J-34	J-35	223.9	8	
P-97	J-103	J-104	1106	8	
P-98	J-305	J-304	506.9	8	
P-99	J-303	J-302	412.7	12	
P-100	J-301	J-300	178.5	8	
P-101	R-1	J-400	10	24	
P-21	J-26	J-305	427	8	
PUMP1	J-400	J-401	#N/A	#N/A	Pump
PUMP2	J-400	J-401	#N/A	#N/A	Pump
PUMP3	J-400	J-401	#N/A	#N/A	Pump
PUMP4	J-400	J-401	#N/A	#N/A	Pump
1	J-401	S145	#N/A	12	Valve

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
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Sereno Canyon Phase 4 Average Day with PRV

PUMP1	100.00	75.00	1377.60	17.38	17.38	0.00
PUMP2	0.00	0.00	0.00	0.00	0.00	0.00
PUMP3	0.00	0.00	0.00	0.00	0.00	0.00
PUMP4	0.00	0.00	0.00	0.00	0.00	0.00
Demand Charge:						0.00
Total Cost:						0.00

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-32	1.72	2952.66	70.05	0.00
J-36	1.90	2952.66	54.45	0.00
J-37	0.86	2952.66	50.98	0.00
J-30	2.24	2952.65	78.93	0.00
J-38	2.76	2952.65	62.24	0.00
J-39	1.72	2952.65	68.74	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-29	1.38	2952.64	74.59	0.00
J-40	1.03	2952.65	68.52	0.00
J-28	1.72	2952.64	83.04	0.00
J-27	1.03	2952.64	71.34	0.00
J-2	0.69	2952.61	75.23	0.00
J-3	0.00	2952.59	68.46	0.00
J-4	0.69	2952.59	69.37	0.00
J-41	2.76	2952.59	70.36	0.00
J-14	3.45	2952.57	73.48	0.00
J-11	2.07	2952.57	80.41	0.00
J-12	24.95	2952.57	74.34	0.00
J-9	0.00	2952.57	89.07	0.00
J-6	1.03	2952.58	71.31	0.00
J-19	1.72	2952.59	63.08	0.00
J-24	1.72	2952.59	63.08	0.00
J-20	15.50	2952.59	55.07	0.00
J-21	6.20	2952.59	55.07	0.00
J-22	1.55	2952.59	54.85	0.00
J-5	1.38	2952.58	70.88	0.00
J-17	1.55	2952.58	83.88	0.00

Sereno Canyon Phase 4 Average Day with PRV

J-18	0.69	2952.59	77.82	0.00
J-7	2.07	2952.58	80.84	0.00
J-13	1.72	2952.58	91.24	0.00
J-8	1.90	2952.57	85.18	0.00
J-15	1.72	2952.58	62.86	0.00
J-16	1.03	2952.58	58.31	0.00
J-23	4.65	2952.59	52.68	0.00
J-303	5.74	2952.62	92.13	0.00
J-301	1.01	2952.62	96.90	0.00
J-10	23.94	2952.57	96.01	0.00
J-26	1.03	2952.61	80.86	0.00
J-1	0.00	2952.63	76.10	0.00
J-102	1.35	2952.64	81.31	0.00
J-105	1.69	2952.64	89.10	0.00
J-107	2.36	2952.64	93.87	0.00
J-111	2.03	2952.64	96.90	0.00
J-112	0.68	2952.63	105.57	0.00
J-114	0.68	2952.63	106.86	0.00
J-115	0.68	2952.63	108.16	0.00
J-118	0.68	2952.63	108.60	0.00
J-300	3.71	2952.62	97.76	0.00
J-302	1.35	2952.62	89.96	0.00
J-304	1.01	2952.62	83.03	0.00
J-42	0.00	2952.66	79.58	0.00
J-31	0.00	2952.66	76.55	0.00
J-35	0.00	2952.66	57.05	0.00
J-101	2.36	2952.68	94.97	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-106	1.69	2952.64	96.90	0.00
J-33	0.00	2952.66	64.85	0.00
J-123	1.69	2952.66	73.08	0.00
J-100	0.00	2952.70	101.26	0.00
J-103	1.69	2952.67	89.12	0.00
J-104	1.69	2952.67	65.28	0.00
J-117	1.01	2952.63	103.83	0.00
J-110	2.03	2952.64	89.10	0.00
J-108	1.01	2952.64	88.67	0.00
J-109	1.01	2952.64	87.80	0.00
J-305	0.68	2952.62	83.90	0.00
S145	0.00	2952.71	103.00	0.00
J-207	1.35	2952.64	94.30	0.00

Sereno Canyon Phase 4 Average Day with PRV

J-208	0.34	2952.64	96.90	0.00
J-206	0.34	2952.64	115.97	0.00
J-204	1.35	2952.65	109.04	0.00
J-205	1.35	2952.65	100.81	0.00
J-203	6.41	2952.66	101.25	0.00
J-200	3.71	2952.69	105.59	0.00
J-211	0.00	2952.67	97.78	0.00
J-201	1.69	2952.68	115.99	0.00
J-202	5.06	2952.68	97.35	0.00
J-119	0.00	2952.62	112.49	0.00
J-120	1.01	2952.62	116.83	0.00
J-121	0.00	2952.62	116.83	0.00
J-122	22.95	2952.62	119.43	0.00
J-210	2.03	2952.64	117.70	0.00
J-209	0.34	2952.64	115.54	0.00
J-113	0.68	2952.63	104.70	0.00
J-116	0.34	2952.63	107.73	0.00
J-25	2.76	2952.59	50.73	0.00
J-34	0.34	2952.66	62.68	0.00
J-400	0.00	2717.00	0.00	0.00
R-1	-210.25	2717.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-1	-2.58	0.02	0.00	Open
P-2	0.86	0.01	0.00	Open
P-3	15.11	0.10	0.01	Open
P-4	12.35	0.08	0.01	Open
P-5	9.60	0.06	0.00	Open
P-6	1.03	0.01	0.00	Open



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-7	-1.72	0.01	0.00	Open
P-8	105.05	0.30	0.04	Open
P-9	64.17	0.18	0.02	Open
P-10	62.79	0.18	0.01	Open
P-11	9.97	0.06	0.00	Open
P-12	-24.95	0.07	0.00	Open
P-13	-17.05	0.05	0.00	Open

Sereno Canyon Phase 4 Average Day with PRV

P-14	40.88	0.12	0.01	Open
P-15	10.67	0.07	0.00	Open
P-16	-2.31	0.01	0.00	Open
P-17	-8.51	0.05	0.00	Open
P-18	-6.05	0.04	0.00	Open
P-19	-32.22	0.09	0.00	Open
P-20	1.55	0.01	0.00	Open
P-22	-0.69	0.00	0.00	Open
P-23	7.94	0.05	0.00	Open
P-24	1.24	0.01	0.00	Open
P-25	-12.18	0.08	0.00	Open
P-26	1.03	0.01	0.00	Open
P-27	4.65	0.03	0.00	Open
P-28	6.78	0.04	0.00	Open
P-29	66.81	0.19	0.02	Open
P-30	63.88	0.18	0.02	Open
P-31	47.92	0.14	0.01	Open
P-32	37.92	0.11	0.01	Open
P-33	40.99	0.12	0.01	Open
P-34	23.94	0.07	0.00	Open
P-35	16.39	0.10	0.01	Open
P-36	-89.35	0.25	0.03	Open
P-37	-79.03	0.22	0.02	Open
P-38	24.12	0.07	0.00	Open
P-39	20.74	0.06	0.00	Open
P-40	14.33	0.04	0.00	Open
P-41	21.96	0.14	0.02	Open
P-42	20.60	0.13	0.01	Open
P-43	18.91	0.12	0.01	Open
P-44	17.89	0.11	0.01	Open
P-45	4.35	0.03	0.00	Open
P-46	-0.37	0.00	0.00	Open
P-47	-7.46	0.02	0.00	Open
P-48	-26.57	0.08	0.00	Open
P-49	-36.90	0.24	0.04	Open
P-50	-39.65	0.25	0.05	Open
P-51	-31.43	0.20	0.03	Open
P-52	-48.78	0.31	0.07	Open
P-53	-23.35	0.15	0.02	Open
P-54	5.34	0.03	0.00	Open



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
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Sereno Canyon Phase 4 Average Day with PRV

P-55	-1.69	0.01	0.00	Open
P-56	1.69	0.01	0.00	Open
P-57	33.24	0.21	0.03	Open
P-58	11.38	0.07	0.00	Open
P-59	-2.03	0.01	0.00	Open
P-60	1.01	0.01	0.00	Open
P-61	165.53	0.47	0.09	Open
P-62	132.29	0.38	0.06	Open
P-63	-9.66	0.03	0.00	Open
P-64	0.34	0.00	0.00	Open
P-65	-11.35	0.03	0.00	Open
P-66	-25.15	0.16	0.02	Open
P-67	-1.35	0.01	0.00	Open
P-68	-27.85	0.18	0.02	Open
P-69	18.31	0.12	0.01	Open
P-70	18.31	0.12	0.01	Open
P-71	-15.96	0.10	0.01	Open
P-72	44.72	0.29	0.06	Open
P-73	22.71	0.14	0.02	Open
P-74	5.06	0.03	0.00	Open
P-75	-1.01	0.01	0.00	Open
P-76	11.86	0.08	0.01	Open
P-77	-13.12	0.04	0.00	Open
P-78	-13.46	0.04	0.00	Open
P-79	6.22	0.04	0.00	Open
P-80	14.93	0.10	0.01	Open
P-81	-4.18	0.03	0.00	Open
P-82	6.94	0.04	0.00	Open
P-83	104.50	0.30	0.04	Open
P-84	25.43	0.16	0.02	Open
P-85	-4.05	0.03	0.00	Open
P-86	-0.68	0.00	0.00	Open
P-87	-1.01	0.01	0.00	Open
P-88	-0.34	0.00	0.00	Open
P-89	-12.87	0.08	0.01	Open
P-90	-11.09	0.07	0.00	Open
P-91	22.95	0.15	0.02	Open
P-92	-4.01	0.03	0.00	Open
P-93	-4.87	0.03	0.00	Open
P-94	18.48	0.12	0.01	Open
P-95	-5.70	0.04	0.00	Open
P-96	-6.04	0.04	0.00	Open
P-97	13.07	0.08	0.01	Open
P-98	-18.10	0.12	0.01	Open
P-99	-5.74	0.02	0.00	Open
P-100	-1.01	0.01	0.00	Open
P-101	210.25	0.15	0.00	Open

Sereno Canyon Phase 4 Average Day with PRV



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-21	-17.42	0.11	0.01	Open
PUMP1	210.25	0.00	-328.87	Open Pump
PUMP2	0.00	0.00	0.00	Closed Pump
PUMP3	0.00	0.00	0.00	Closed Pump
PUMP4	0.00	0.00	0.00	Closed Pump
1	210.25	0.60	93.16	Active Valve

Appendix C

Sereno Canyon Phase 4 Maximum Day with PRV

Page 1

12/2/2017 10:15:07 AM

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

Input File: Sereno Canyon Phase 4 Maximum Day with PRV.net

Sereno Canyon

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in
P-1	J-32	J-36	955.6	8
P-2	J-36	J-37	121.6	8
P-3	J-30	J-38	957.7	8
P-4	J-38	J-39	400	8
P-5	J-39	J-29	841.9	8
P-6	J-39	J-40	83.23	8
P-7	J-28	J-27	505.5	8
P-8	J-2	J-3	452.1	12
P-9	J-3	J-4	195.3	12
P-10	J-4	J-41	148.7	12
P-11	J-14	J-11	890.1	8
P-12	J-12	J-11	340.4	12
P-13	J-11	J-9	458.8	12
P-14	J-3	J-19	223.6	12
P-15	J-20	J-21	310.5	8
P-16	J-21	J-22	93.71	8
P-17	J-22	J-24	192.7	8
P-18	J-24	J-20	511.2	8
P-19	J-20	J-19	293.1	12
P-20	J-5	J-17	587.4	8
P-22	J-18	J-4	378.4	8
P-23	J-7	J-13	601.7	8
P-24	J-8	J-14	610.4	8
P-25	J-14	J-15	540.4	8
P-26	J-15	J-16	224.8	8
P-27	J-22	J-23	128.3	8
P-28	J-21	J-41	699	8
P-29	J-41	J-5	172.5	12
P-30	J-5	J-6	197.8	12
P-31	J-6	J-7	466.8	12
P-32	J-7	J-8	339.3	12

Sereno Canyon Phase 4 Maximum Day with PRV

P-33	J-8	J-9	384	12
P-34	J-9	J-10	522	12
P-35	J-26	J-2	531.2	8
P-36	J-2	J-1	557.4	12
P-37	J-1	J-102	754.8	12
P-38	J-102	J-105	819.5	12



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in
P-39	J-105	J-107	511.2	12
P-40	J-107	J-111	1032	12
P-41	J-111	J-112	449.2	8
P-42	J-112	J-114	204.1	8
P-43	J-114	J-115	198.3	8
P-44	J-115	J-118	154.9	8
P-45	J-118	J-300	1588	8
P-46	J-300	J-302	757	8
P-47	J-302	J-304	469.1	12
P-48	J-304	J-1	500.9	12
P-49	J-1	J-27	271.1	8
P-50	J-27	J-29	112.3	8
P-51	J-29	J-30	411.1	8
P-52	J-30	J-42	43.31	8
P-53	J-42	J-31	191.5	8
P-54	J-35	J-36	438.3	8
P-55	J-106	J-105	800.8	8
P-56	J-33	J-123	375.5	8
P-57	J-100	J-103	951.8	8
P-58	J-104	J-35	775.1	8
P-59	J-110	J-108	595.1	8
P-60	J-108	J-109	353.1	8
P-61	S145	J-100	74.44	12
P-62	J-100	J-101	464.5	12
P-63	J-111	J-207	1424	12
P-64	J-207	J-208	997.1	8
P-65	J-207	J-206	1045	12
P-66	J-206	J-204	317.1	8
P-67	J-205	J-204	465.7	8
P-68	J-204	J-203	643.7	8
P-69	J-200	J-211	2106	8
P-70	J-211	J-203	536.3	8
P-71	J-203	J-201	2125	8
P-72	S145	J-200	327.3	8

Sereno Canyon Phase 4 Maximum Day with PRV

P-73	J-200	J-201	667.2	8
P-74	J-201	J-202	1059	8
P-75	J-120	J-119	186.5	8
P-76	J-119	J-121	389	8
P-77	J-210	J-209	1327	12
P-78	J-209	J-206	257.6	12
P-79	J-13	J-8	394	8
P-80	J-6	J-15	462	8
P-81	J-24	J-25	535	8
P-82	J-19	J-25	884	8
P-83	J-101	J-102	845.5	12
P-84	J-101	J-42	913.6	8
P-85	J-108	J-107	309.2	8



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in	
P-86	J-113	J-112	191.9	8	
P-87	J-117	J-114	573.8	8	
P-88	J-116	J-115	172.9	8	
P-89	J-119	J-118	421	8	
P-90	J-121	J-210	4137	8	
P-91	J-121	J-122	131.6	8	
P-92	J-32	J-33	221	8	
P-93	J-31	J-32	387	8	
P-94	J-103	J-31	1000	8	
P-95	J-33	J-34	245	8	
P-96	J-34	J-35	223.9	8	
P-97	J-103	J-104	1106	8	
P-98	J-305	J-304	506.9	8	
P-99	J-303	J-302	412.7	12	
P-100	J-301	J-300	178.5	8	
P-101	R-1	J-400	10	24	
P-21	J-26	J-305	427	8	
PUMP1	J-400	J-401	#N/A	#N/A	Pump
PUMP2	J-400	J-401	#N/A	#N/A	Pump
PUMP3	J-400	J-401	#N/A	#N/A	Pump
PUMP4	J-400	J-401	#N/A	#N/A	Pump
1	J-401	S145	#N/A	12	Valve

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
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Sereno Canyon Phase 4 Maximum Day with PRV

PUMP1	100.00	75.00	1198.13	30.23	30.23	0.00
PUMP2	0.00	0.00	0.00	0.00	0.00	0.00
PUMP3	0.00	0.00	0.00	0.00	0.00	0.00
PUMP4	0.00	0.00	0.00	0.00	0.00	0.00

Demand Charge: 0.00
Total Cost: 0.00

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-32	3.44	2952.53	69.99	0.00
J-36	3.80	2952.53	54.39	0.00
J-37	1.72	2952.53	50.93	0.00
J-30	4.48	2952.51	78.86	0.00
J-38	5.52	2952.48	62.17	0.00
J-39	3.44	2952.47	68.67	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-29	2.76	2952.46	74.51	0.00
J-40	2.06	2952.47	68.45	0.00
J-28	3.44	2952.44	82.95	0.00
J-27	2.06	2952.44	71.25	0.00
J-2	1.38	2952.35	75.11	0.00
J-3	0.00	2952.28	68.32	0.00
J-4	1.38	2952.27	69.23	0.00
J-41	5.52	2952.26	70.22	0.00
J-14	6.90	2952.22	73.32	0.00
J-11	4.14	2952.21	80.25	0.00
J-12	49.90	2952.20	74.18	0.00
J-9	0.00	2952.21	88.92	0.00
J-6	2.06	2952.24	71.17	0.00
J-19	3.44	2952.28	62.95	0.00
J-24	3.44	2952.27	62.95	0.00
J-20	31.00	2952.27	54.93	0.00
J-21	12.40	2952.27	54.93	0.00
J-22	3.10	2952.27	54.71	0.00
J-5	2.76	2952.25	70.74	0.00
J-17	3.10	2952.25	83.74	0.00

Sereno Canyon Phase 4 Maximum Day with PRV

J-18	1.38	2952.27	77.68	0.00
J-7	4.14	2952.23	80.69	0.00
J-13	3.44	2952.22	91.09	0.00
J-8	3.80	2952.22	85.02	0.00
J-15	3.44	2952.23	62.71	0.00
J-16	2.06	2952.23	58.16	0.00
J-23	9.30	2952.27	52.55	0.00
J-303	11.48	2952.40	92.03	0.00
J-301	2.02	2952.40	96.80	0.00
J-10	47.88	2952.21	95.85	0.00
J-26	2.06	2952.36	80.75	0.00
J-1	0.00	2952.41	76.00	0.00
J-102	2.70	2952.47	81.23	0.00
J-105	3.38	2952.46	89.03	0.00
J-107	4.72	2952.46	93.79	0.00
J-111	4.06	2952.45	96.82	0.00
J-112	1.36	2952.43	105.48	0.00
J-114	1.36	2952.42	106.77	0.00
J-115	1.36	2952.41	108.07	0.00
J-118	1.36	2952.40	108.50	0.00
J-300	7.42	2952.40	97.67	0.00
J-302	2.70	2952.40	89.87	0.00
J-304	2.02	2952.40	82.93	0.00
J-42	0.00	2952.52	79.52	0.00
J-31	0.00	2952.53	76.49	0.00
J-35	0.00	2952.53	56.99	0.00
J-101	4.72	2952.59	94.93	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-106	3.38	2952.46	96.83	0.00
J-33	0.00	2952.53	64.79	0.00
J-123	3.38	2952.53	73.03	0.00
J-100	0.00	2952.69	101.26	0.00
J-103	3.38	2952.57	89.07	0.00
J-104	3.38	2952.55	65.23	0.00
J-117	2.02	2952.42	103.74	0.00
J-110	4.06	2952.46	89.02	0.00
J-108	2.02	2952.46	88.59	0.00
J-109	2.02	2952.46	87.72	0.00
J-305	1.36	2952.38	83.79	0.00
S145	0.00	2952.71	103.00	0.00
J-207	2.70	2952.46	94.22	0.00

Sereno Canyon Phase 4 Maximum Day with PRV

J-208	0.68	2952.46	96.82	0.00
J-206	0.68	2952.46	115.89	0.00
J-204	2.70	2952.48	108.97	0.00
J-205	2.70	2952.48	100.73	0.00
J-203	12.82	2952.54	101.19	0.00
J-200	7.42	2952.64	105.57	0.00
J-211	0.00	2952.56	97.73	0.00
J-201	3.38	2952.60	115.95	0.00
J-202	10.12	2952.60	97.32	0.00
J-119	0.00	2952.39	112.40	0.00
J-120	2.02	2952.39	116.73	0.00
J-121	0.00	2952.39	116.73	0.00
J-122	45.90	2952.38	119.32	0.00
J-210	4.06	2952.45	117.62	0.00
J-209	0.68	2952.46	115.46	0.00
J-113	1.36	2952.43	104.61	0.00
J-116	0.68	2952.41	107.64	0.00
J-25	5.52	2952.27	50.60	0.00
J-34	0.68	2952.53	62.63	0.00
J-400	0.00	2717.00	0.00	0.00
R-1	-420.50	2717.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-1	-5.16	0.03	0.00	Open
P-2	1.72	0.01	0.00	Open
P-3	30.22	0.19	0.03	Open
P-4	24.70	0.16	0.02	Open
P-5	19.20	0.12	0.01	Open
P-6	2.06	0.01	0.00	Open



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-7	-3.44	0.02	0.00	Open
P-8	210.10	0.60	0.14	Open
P-9	128.33	0.36	0.06	Open
P-10	125.57	0.36	0.05	Open
P-11	19.94	0.13	0.01	Open
P-12	-49.90	0.14	0.01	Open
P-13	-34.10	0.10	0.01	Open

Sereno Canyon Phase 4 Maximum Day with PRV

P-14	81.77	0.23	0.03	Open
P-15	21.35	0.14	0.01	Open
P-16	-4.62	0.03	0.00	Open
P-17	-17.02	0.11	0.01	Open
P-18	-12.09	0.08	0.00	Open
P-19	-64.44	0.18	0.02	Open
P-20	3.10	0.02	0.00	Open
P-22	-1.38	0.01	0.00	Open
P-23	15.88	0.10	0.01	Open
P-24	2.48	0.02	0.00	Open
P-25	-24.35	0.16	0.02	Open
P-26	2.06	0.01	0.00	Open
P-27	9.30	0.06	0.00	Open
P-28	13.57	0.09	0.01	Open
P-29	133.62	0.38	0.06	Open
P-30	127.76	0.36	0.06	Open
P-31	95.85	0.27	0.03	Open
P-32	75.83	0.22	0.02	Open
P-33	81.98	0.23	0.02	Open
P-34	47.88	0.14	0.01	Open
P-35	32.78	0.21	0.03	Open
P-36	-178.70	0.51	0.10	Open
P-37	-158.05	0.45	0.08	Open
P-38	48.25	0.14	0.01	Open
P-39	41.49	0.12	0.01	Open
P-40	28.67	0.08	0.00	Open
P-41	43.93	0.28	0.06	Open
P-42	41.21	0.26	0.05	Open
P-43	37.83	0.24	0.04	Open
P-44	35.79	0.23	0.04	Open
P-45	8.69	0.06	0.00	Open
P-46	-0.75	0.00	0.00	Open
P-47	-14.93	0.04	0.00	Open
P-48	-53.14	0.15	0.01	Open
P-49	-73.79	0.47	0.15	Open
P-50	-79.29	0.51	0.17	Open
P-51	-62.86	0.40	0.11	Open
P-52	-97.55	0.62	0.24	Open
P-53	-46.70	0.30	0.06	Open
P-54	10.68	0.07	0.00	Open



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
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Sereno Canyon Phase 4 Maximum Day with PRV

P-55	-3.38	0.02	0.00	Open
P-56	3.38	0.02	0.00	Open
P-57	66.48	0.42	0.12	Open
P-58	22.76	0.15	0.02	Open
P-59	-4.06	0.03	0.00	Open
P-60	2.02	0.01	0.00	Open
P-61	331.05	0.94	0.33	Open
P-62	264.58	0.75	0.22	Open
P-63	-19.32	0.05	0.00	Open
P-64	0.68	0.00	0.00	Open
P-65	-22.70	0.06	0.00	Open
P-66	-50.31	0.32	0.07	Open
P-67	-2.70	0.02	0.00	Open
P-68	-55.71	0.36	0.09	Open
P-69	36.61	0.23	0.04	Open
P-70	36.61	0.23	0.04	Open
P-71	-31.91	0.20	0.03	Open
P-72	89.45	0.57	0.21	Open
P-73	45.41	0.29	0.06	Open
P-74	10.12	0.06	0.00	Open
P-75	-2.02	0.01	0.00	Open
P-76	23.71	0.15	0.02	Open
P-77	-26.25	0.07	0.00	Open
P-78	-26.93	0.08	0.00	Open
P-79	12.44	0.08	0.01	Open
P-80	29.85	0.19	0.03	Open
P-81	-8.37	0.05	0.00	Open
P-82	13.89	0.09	0.01	Open
P-83	209.00	0.59	0.14	Open
P-84	50.86	0.32	0.07	Open
P-85	-8.10	0.05	0.00	Open
P-86	-1.36	0.01	0.00	Open
P-87	-2.02	0.01	0.00	Open
P-88	-0.68	0.00	0.00	Open
P-89	-25.73	0.16	0.02	Open
P-90	-22.19	0.14	0.02	Open
P-91	45.90	0.29	0.06	Open
P-92	-8.02	0.05	0.00	Open
P-93	-9.74	0.06	0.00	Open
P-94	36.96	0.24	0.04	Open
P-95	-11.40	0.07	0.00	Open
P-96	-12.08	0.08	0.00	Open
P-97	26.14	0.17	0.02	Open
P-98	-36.20	0.23	0.04	Open
P-99	-11.48	0.03	0.00	Open
P-100	-2.02	0.01	0.00	Open
P-101	420.50	0.30	0.02	Open

Sereno Canyon Phase 4 Maximum Day with PRV



Page 8

Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-21	-34.84	0.22	0.04	Open
PUMP1	420.50	0.00	-286.03	Open Pump
PUMP2	0.00	0.00	0.00	Closed Pump
PUMP3	0.00	0.00	0.00	Closed Pump
PUMP4	0.00	0.00	0.00	Closed Pump
1	420.50	1.19	50.32	Active Valve

Appendix D

Sereno Canyon Phase 4 Peak Hour with PRV

Page 1

12/2/2017 10:16:35 AM

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

Input File: Sereno Canyon Phase 4 Peak Hour with PRV.net

Sereno Canyon

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in
P-1	J-32	J-36	955.6	8
P-2	J-36	J-37	121.6	8
P-3	J-30	J-38	957.7	8
P-4	J-38	J-39	400	8
P-5	J-39	J-29	841.9	8
P-6	J-39	J-40	83.23	8
P-7	J-28	J-27	505.5	8
P-8	J-2	J-3	452.1	12
P-9	J-3	J-4	195.3	12
P-10	J-4	J-41	148.7	12
P-11	J-14	J-11	890.1	8
P-12	J-12	J-11	340.4	12
P-13	J-11	J-9	458.8	12
P-14	J-3	J-19	223.6	12
P-15	J-20	J-21	310.5	8
P-16	J-21	J-22	93.71	8
P-17	J-22	J-24	192.7	8
P-18	J-24	J-20	511.2	8
P-19	J-20	J-19	293.1	12
P-20	J-5	J-17	587.4	8
P-22	J-18	J-4	378.4	8
P-23	J-7	J-13	601.7	8
P-24	J-8	J-14	610.4	8
P-25	J-14	J-15	540.4	8
P-26	J-15	J-16	224.8	8
P-27	J-22	J-23	128.3	8
P-28	J-21	J-41	699	8
P-29	J-41	J-5	172.5	12
P-30	J-5	J-6	197.8	12
P-31	J-6	J-7	466.8	12
P-32	J-7	J-8	339.3	12

Sereno Canyon Phase 4 Peak Hour with PRV

P-33	J-8	J-9	384	12
P-34	J-9	J-10	522	12
P-35	J-26	J-2	531.2	8
P-36	J-2	J-1	557.4	12
P-37	J-1	J-102	754.8	12
P-38	J-102	J-105	819.5	12



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in
P-39	J-105	J-107	511.2	12
P-40	J-107	J-111	1032	12
P-41	J-111	J-112	449.2	8
P-42	J-112	J-114	204.1	8
P-43	J-114	J-115	198.3	8
P-44	J-115	J-118	154.9	8
P-45	J-118	J-300	1588	8
P-46	J-300	J-302	757	8
P-47	J-302	J-304	469.1	12
P-48	J-304	J-1	500.9	12
P-49	J-1	J-27	271.1	8
P-50	J-27	J-29	112.3	8
P-51	J-29	J-30	411.1	8
P-52	J-30	J-42	43.31	8
P-53	J-42	J-31	191.5	8
P-54	J-35	J-36	438.3	8
P-55	J-106	J-105	800.8	8
P-56	J-33	J-123	375.5	8
P-57	J-100	J-103	951.8	8
P-58	J-104	J-35	775.1	8
P-59	J-110	J-108	595.1	8
P-60	J-108	J-109	353.1	8
P-61	S145	J-100	74.44	12
P-62	J-100	J-101	464.5	12
P-63	J-111	J-207	1424	12
P-64	J-207	J-208	997.1	8
P-65	J-207	J-206	1045	12
P-66	J-206	J-204	317.1	8
P-67	J-205	J-204	465.7	8
P-68	J-204	J-203	643.7	8
P-69	J-200	J-211	2106	8
P-70	J-211	J-203	536.3	8
P-71	J-203	J-201	2125	8
P-72	S145	J-200	327.3	8

Sereno Canyon Phase 4 Peak Hour with PRV

P-73	J-200	J-201	667.2	8
P-74	J-201	J-202	1059	8
P-75	J-120	J-119	186.5	8
P-76	J-119	J-121	389	8
P-77	J-210	J-209	1327	12
P-78	J-209	J-206	257.6	12
P-79	J-13	J-8	394	8
P-80	J-6	J-15	462	8
P-81	J-24	J-25	535	8
P-82	J-19	J-25	884	8
P-83	J-101	J-102	845.5	12
P-84	J-101	J-42	913.6	8
P-85	J-108	J-107	309.2	8



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in	
P-86	J-113	J-112	191.9	8	
P-87	J-117	J-114	573.8	8	
P-88	J-116	J-115	172.9	8	
P-89	J-119	J-118	421	8	
P-90	J-121	J-210	4137	8	
P-91	J-121	J-122	131.6	8	
P-92	J-32	J-33	221	8	
P-93	J-31	J-32	387	8	
P-94	J-103	J-31	1000	8	
P-95	J-33	J-34	245	8	
P-96	J-34	J-35	223.9	8	
P-97	J-103	J-104	1106	8	
P-98	J-305	J-304	506.9	8	
P-99	J-303	J-302	412.7	12	
P-100	J-301	J-300	178.5	8	
P-101	R-1	J-400	10	24	
P-21	J-26	J-305	427	8	
PUMP1	J-400	J-401	#N/A	#N/A	Pump
PUMP2	J-400	J-401	#N/A	#N/A	Pump
PUMP3	J-400	J-401	#N/A	#N/A	Pump
PUMP4	J-400	J-401	#N/A	#N/A	Pump
1	J-401	S145	#N/A	12	Valve

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
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Sereno Canyon Phase 4 Peak Hour with PRV

PUMP1	100.00	75.00	1262.29	27.86	27.86	0.00
PUMP2	100.00	75.00	1262.29	27.86	27.86	0.00
PUMP3	0.00	0.00	0.00	0.00	0.00	0.00
PUMP4	0.00	0.00	0.00	0.00	0.00	0.00

Demand Charge: 0.00
Total Cost: 0.00

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-32	6.02	2968.36	76.85	0.00
J-36	6.65	2968.37	61.25	0.00
J-37	3.01	2968.37	50.42	0.00
J-30	7.84	2968.30	85.70	0.00
J-38	9.66	2968.22	68.99	0.00
J-39	6.02	2968.20	75.48	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-29	4.83	2968.17	81.32	0.00
J-40	3.61	2968.20	75.26	0.00
J-28	6.02	2968.12	89.74	0.00
J-27	3.61	2968.12	78.04	0.00
J-2	2.41	2967.84	81.82	0.00
J-3	0.00	2967.66	74.99	0.00
J-4	2.41	2967.63	75.88	0.00
J-41	9.66	2967.61	76.87	0.00
J-14	12.07	2967.48	79.94	0.00
J-11	7.24	2967.45	86.85	0.00
J-12	87.33	2967.44	80.78	0.00
J-9	0.00	2967.46	95.52	0.00
J-6	3.61	2967.55	77.80	0.00
J-19	6.02	2967.65	69.61	0.00
J-24	6.02	2967.63	69.60	0.00
J-20	54.25	2967.63	61.59	0.00
J-21	21.70	2967.62	61.58	0.00
J-22	5.42	2967.62	61.36	0.00
J-5	4.83	2967.58	77.38	0.00
J-17	5.42	2967.58	90.38	0.00

	Sereno Canyon Phase 4 Peak Hour with PRV			
J-18	2.41	2967.63	84.33	0.00
J-7	7.24	2967.50	87.31	0.00
J-13	6.02	2967.49	97.70	0.00
J-8	6.65	2967.48	91.64	0.00
J-15	6.02	2967.51	69.33	0.00
J-16	3.61	2967.51	64.78	0.00
J-23	16.27	2967.62	59.20	0.00
J-303	20.09	2967.99	98.79	0.00
J-301	3.53	2967.99	103.55	0.00
J-10	83.79	2967.44	102.45	0.00
J-26	3.61	2967.89	87.48	0.00
J-1	0.00	2968.00	82.76	0.00
J-102	4.72	2968.18	88.04	0.00
J-105	5.91	2968.16	95.83	0.00
J-107	8.26	2968.15	100.59	0.00
J-111	7.11	2968.14	103.62	0.00
J-112	2.38	2968.07	112.25	0.00
J-114	2.38	2968.04	113.54	0.00
J-115	2.38	2968.02	114.83	0.00
J-118	2.38	2968.00	115.26	0.00
J-300	12.99	2967.99	104.42	0.00
J-302	4.72	2967.99	96.62	0.00
J-304	3.53	2967.99	89.69	0.00
J-42	0.00	2968.33	86.37	0.00
J-31	0.00	2968.36	83.35	0.00
J-35	0.00	2968.37	63.86	0.00
J-101	8.26	2968.51	101.83	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-106	5.91	2968.16	103.63	0.00
J-33	0.00	2968.36	71.65	0.00
J-123	5.91	2968.36	79.88	0.00
J-100	0.00	2968.80	108.24	0.00
J-103	5.91	2968.47	95.96	0.00
J-104	5.91	2968.41	72.10	0.00
J-117	3.53	2968.04	110.51	0.00
J-110	7.11	2968.15	95.82	0.00
J-108	3.53	2968.15	95.39	0.00
J-109	3.53	2968.15	94.52	0.00
J-305	2.38	2967.93	90.53	0.00
S145	0.00	2968.87	110.00	0.00
J-207	4.72	2968.15	101.02	0.00

	Sereno	Canyon	Phase 4	Peak Hour	with PRV
J-208	1.19	2968.15	103.62	0.00	
J-206	1.19	2968.15	122.69	0.00	
J-204	4.72	2968.22	115.79	0.00	
J-205	4.72	2968.22	107.55	0.00	
J-203	22.43	2968.38	108.05	0.00	
J-200	12.99	2968.67	112.52	0.00	
J-211	0.00	2968.44	104.61	0.00	
J-201	5.91	2968.56	122.87	0.00	
J-202	17.71	2968.55	104.23	0.00	
J-119	0.00	2967.98	119.15	0.00	
J-120	3.53	2967.98	123.48	0.00	
J-121	0.00	2967.96	123.47	0.00	
J-122	80.33	2967.93	126.06	0.00	
J-210	7.11	2968.14	124.42	0.00	
J-209	1.19	2968.15	122.26	0.00	
J-113	2.38	2968.07	111.39	0.00	
J-116	1.19	2968.02	114.40	0.00	
J-25	9.66	2967.63	57.25	0.00	
J-34	1.19	2968.37	69.49	0.00	
J-400	0.00	2717.00	0.00	0.00	
R-1	-735.80	2717.00	0.00	0.00	Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-1	-9.04	0.06	0.00	Open
P-2	3.01	0.02	0.00	Open
P-3	52.88	0.34	0.08	Open
P-4	43.22	0.28	0.05	Open
P-5	33.59	0.21	0.03	Open
P-6	3.61	0.02	0.00	Open



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-7	-6.02	0.04	0.00	Open
P-8	367.65	1.04	0.40	Open
P-9	224.57	0.64	0.16	Open
P-10	219.75	0.62	0.15	Open
P-11	34.89	0.22	0.04	Open
P-12	-87.33	0.25	0.03	Open
P-13	-59.68	0.17	0.01	Open

	Sereno	Canyon	Phase 4	Peak Hour	with PRV
P-14	143.08	0.41	0.07	Open	
P-15	37.36	0.24	0.04	Open	
P-16	-8.09	0.05	0.00	Open	
P-17	-29.78	0.19	0.03	Open	
P-18	-21.16	0.14	0.01	Open	
P-19	-112.76	0.32	0.04	Open	
P-20	5.42	0.03	0.00	Open	
P-22	-2.41	0.02	0.00	Open	
P-23	27.78	0.18	0.02	Open	
P-24	4.35	0.03	0.00	Open	
P-25	-42.61	0.27	0.05	Open	
P-26	3.61	0.02	0.00	Open	
P-27	16.27	0.10	0.01	Open	
P-28	23.74	0.15	0.02	Open	
P-29	233.83	0.66	0.17	Open	
P-30	223.58	0.63	0.16	Open	
P-31	167.73	0.48	0.09	Open	
P-32	132.71	0.38	0.06	Open	
P-33	143.47	0.41	0.07	Open	
P-34	83.79	0.24	0.03	Open	
P-35	57.36	0.37	0.09	Open	
P-36	-312.70	0.89	0.29	Open	
P-37	-276.57	0.78	0.23	Open	
P-38	84.42	0.24	0.03	Open	
P-39	72.60	0.21	0.02	Open	
P-40	50.17	0.14	0.01	Open	
P-41	76.87	0.49	0.16	Open	
P-42	72.11	0.46	0.14	Open	
P-43	66.20	0.42	0.12	Open	
P-44	62.63	0.40	0.11	Open	
P-45	15.21	0.10	0.01	Open	
P-46	-1.31	0.01	0.00	Open	
P-47	-26.12	0.07	0.00	Open	
P-48	-92.99	0.26	0.03	Open	
P-49	-129.12	0.82	0.41	Open	
P-50	-138.75	0.89	0.47	Open	
P-51	-110.00	0.70	0.31	Open	
P-52	-170.71	1.09	0.69	Open	
P-53	-81.72	0.52	0.18	Open	
P-54	18.70	0.12	0.01	Open	



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
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	Sereno	Canyon	Phase 4	Peak Hour	with PRV
P-55	-5.91	0.04	0.00	Open	
P-56	5.91	0.04	0.00	Open	
P-57	116.32	0.74	0.34	Open	
P-58	39.83	0.25	0.05	Open	
P-59	-7.11	0.05	0.00	Open	
P-60	3.53	0.02	0.00	Open	
P-61	579.28	1.64	0.92	Open	
P-62	462.96	1.31	0.61	Open	
P-63	-33.81	0.10	0.00	Open	
P-64	1.19	0.01	0.00	Open	
P-65	-39.72	0.11	0.01	Open	
P-66	-88.04	0.56	0.20	Open	
P-67	-4.72	0.03	0.00	Open	
P-68	-97.48	0.62	0.25	Open	
P-69	64.06	0.41	0.11	Open	
P-70	64.06	0.41	0.11	Open	
P-71	-55.84	0.36	0.09	Open	
P-72	156.52	1.00	0.59	Open	
P-73	79.46	0.51	0.17	Open	
P-74	17.71	0.11	0.01	Open	
P-75	-3.53	0.02	0.00	Open	
P-76	41.50	0.26	0.05	Open	
P-77	-45.94	0.13	0.01	Open	
P-78	-47.13	0.13	0.01	Open	
P-79	21.76	0.14	0.01	Open	
P-80	52.24	0.33	0.08	Open	
P-81	-14.64	0.09	0.01	Open	
P-82	24.30	0.16	0.02	Open	
P-83	365.71	1.04	0.39	Open	
P-84	88.99	0.57	0.21	Open	
P-85	-14.17	0.09	0.01	Open	
P-86	-2.38	0.02	0.00	Open	
P-87	-3.53	0.02	0.00	Open	
P-88	-1.19	0.01	0.00	Open	
P-89	-45.03	0.29	0.06	Open	
P-90	-38.83	0.25	0.04	Open	
P-91	80.33	0.51	0.17	Open	
P-92	-14.03	0.09	0.01	Open	
P-93	-17.05	0.11	0.01	Open	
P-94	64.67	0.41	0.11	Open	
P-95	-19.94	0.13	0.01	Open	
P-96	-21.13	0.13	0.01	Open	
P-97	45.74	0.29	0.06	Open	
P-98	-63.35	0.40	0.11	Open	
P-99	-20.09	0.06	0.00	Open	
P-100	-3.53	0.02	0.00	Open	
P-101	735.80	0.52	0.05	Open	

Sereno Canyon Phase 4 Peak Hour with PRV



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-21	-60.97	0.39	0.10	Open
PUMP1	367.90	0.00	-301.35	Open Pump
PUMP2	367.90	0.00	-301.35	Open Pump
PUMP3	0.00	0.00	0.00	Closed Pump
PUMP4	0.00	0.00	0.00	Closed Pump
1	735.80	2.09	49.48	Active Valve

Appendix E

Sereno Canyon Phase 4 Max Day fire flow J1

Page 1

12/2/2017 10:21:09 AM

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

Input File: Sereno Canyon Phase 4 Max Day fire flow J1.net

Sereno Canyon

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in
P-1	J-32	J-36	955.6	8
P-2	J-36	J-37	121.6	8
P-3	J-30	J-38	957.7	8
P-4	J-38	J-39	400	8
P-5	J-39	J-29	841.9	8
P-6	J-39	J-40	83.23	8
P-7	J-28	J-27	505.5	8
P-8	J-2	J-3	452.1	12
P-9	J-3	J-4	195.3	12
P-10	J-4	J-41	148.7	12
P-11	J-14	J-11	890.1	8
P-12	J-12	J-11	340.4	12
P-13	J-11	J-9	458.8	12
P-14	J-3	J-19	223.6	8
P-15	J-20	J-21	310.5	8
P-16	J-21	J-22	93.71	8
P-17	J-22	J-24	192.7	8
P-18	J-24	J-20	511.2	8
P-19	J-20	J-19	293.1	8
P-20	J-5	J-17	587.4	8
P-22	J-18	J-4	378.4	8
P-23	J-7	J-13	601.7	8
P-24	J-8	J-14	610.4	8
P-25	J-14	J-15	540.4	8
P-26	J-15	J-16	224.8	8
P-27	J-22	J-23	128.3	8
P-28	J-21	J-41	699	8
P-29	J-41	J-5	172.5	12
P-30	J-5	J-6	197.8	12
P-31	J-6	J-7	466.8	12
P-32	J-7	J-8	339.3	12

Sereno Canyon Phase 4 Max Day fire flow J1

P-33	J-8	J-9	384	12
P-34	J-9	J-10	522	12
P-35	J-26	J-2	531.2	8
P-36	J-2	J-1	557.4	12
P-37	J-1	J-102	754.8	12
P-38	J-102	J-105	819.5	12



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in
P-39	J-105	J-107	511.2	12
P-40	J-107	J-111	1032	12
P-41	J-111	J-112	449.2	8
P-42	J-112	J-114	204.1	8
P-43	J-114	J-115	198.3	8
P-44	J-115	J-118	154.9	8
P-45	J-118	J-300	1588	8
P-46	J-300	J-302	757	8
P-47	J-302	J-304	469.1	12
P-48	J-304	J-1	500.9	12
P-49	J-1	J-27	271.1	8
P-50	J-27	J-29	112.3	8
P-51	J-29	J-30	411.1	8
P-52	J-30	J-42	43.31	8
P-53	J-42	J-31	191.5	8
P-54	J-35	J-36	438.3	8
P-55	J-106	J-105	800.8	8
P-56	J-33	J-123	375.5	8
P-57	J-100	J-103	951.8	8
P-58	J-104	J-35	775.1	8
P-59	J-110	J-108	595.1	8
P-60	J-108	J-109	353.1	8
P-61	S145	J-100	74.44	12
P-62	J-100	J-101	464.5	12
P-63	J-111	J-207	1424	12
P-64	J-207	J-208	997.1	8
P-65	J-207	J-206	1045	12
P-66	J-206	J-204	317.1	8
P-67	J-205	J-204	465.7	8
P-68	J-204	J-203	643.7	8
P-69	J-200	J-211	2106	8
P-70	J-211	J-203	536.3	8
P-71	J-203	J-201	2125	8
P-72	S145	J-200	327.3	8

Sereno Canyon Phase 4 Max Day fire flow J1

P-73	J-200	J-201	667.2	8
P-74	J-201	J-202	1059	8
P-75	J-120	J-119	186.5	8
P-76	J-119	J-121	389	8
P-77	J-210	J-209	1327	12
P-78	J-209	J-206	257.6	12
P-79	J-13	J-8	394	8
P-80	J-6	J-15	462	8
P-81	J-24	J-25	535	8
P-82	J-19	J-25	884	8
P-83	J-101	J-102	845.5	12
P-84	J-101	J-42	913.6	8
P-85	J-108	J-107	309.2	8



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in	
P-86	J-113	J-112	191.9	8	
P-87	J-117	J-114	573.8	8	
P-88	J-116	J-115	172.9	8	
P-89	J-119	J-118	421	8	
P-90	J-121	J-210	4137	8	
P-91	J-121	J-122	131.6	8	
P-92	J-32	J-33	221	8	
P-93	J-31	J-32	387	8	
P-94	J-103	J-31	1000	8	
P-95	J-33	J-34	245	8	
P-96	J-34	J-35	223.9	8	
P-97	J-103	J-104	1106	8	
P-98	J-305	J-304	506.9	8	
P-99	J-303	J-302	412.7	12	
P-100	J-301	J-300	178.5	8	
P-101	R-1	J-400	10	24	
P-21	J-26	J-305	427	8	
PUMP1	J-400	J-401	#N/A	#N/A	Pump
PUMP2	J-400	J-401	#N/A	#N/A	Pump
PUMP3	J-400	J-401	#N/A	#N/A	Pump
PUMP4	J-400	J-401	#N/A	#N/A	Pump
1	J-401	S145	#N/A	12	Valve

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
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Sereno Canyon Phase 4 Max Day fire flow J1

PUMP1	0.00	0.00	0.00	0.00	0.00	0.00
PUMP2	0.00	0.00	0.00	0.00	0.00	0.00
PUMP3	0.00	0.00	0.00	0.00	0.00	0.00
PUMP4	100.00	75.00	1187.38	101.20	101.20	0.00

Demand Charge: 0.00
Total Cost: 0.00

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-32	3.44	2998.72	90.01	0.00
J-36	3.80	2998.75	74.42	0.00
J-37	1.72	2998.75	70.95	0.00
J-30	4.48	2998.36	98.73	0.00
J-38	5.52	2998.06	81.92	0.00
J-39	3.44	2997.94	88.37	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-29	2.76	2997.72	94.12	0.00
J-40	2.06	2997.94	88.15	0.00
J-28	3.44	2997.41	102.44	0.00
J-27	2.06	2997.41	90.74	0.00
J-2	1.38	2996.63	94.30	0.00
J-3	0.00	2996.57	87.51	0.00
J-4	1.38	2996.55	88.41	0.00
J-41	5.52	2996.54	89.41	0.00
J-14	6.90	2996.49	92.51	0.00
J-11	4.14	2996.48	99.43	0.00
J-12	49.90	2996.48	93.37	0.00
J-9	0.00	2996.48	108.10	0.00
J-6	2.06	2996.52	90.35	0.00
J-19	3.44	2996.55	82.13	0.00
J-24	3.44	2996.53	82.13	0.00
J-20	31.00	2996.53	74.11	0.00
J-21	12.40	2996.53	74.11	0.00
J-22	3.10	2996.53	73.89	0.00
J-5	2.76	2996.53	89.92	0.00
J-17	3.10	2996.53	102.92	0.00

Sereno Canyon Phase 4 Max Day fire flow J1

J-18	1.38	2996.55	96.86	0.00
J-7	4.14	2996.50	99.88	0.00
J-13	3.44	2996.50	110.27	0.00
J-8	3.80	2996.49	104.21	0.00
J-15	3.44	2996.50	81.90	0.00
J-16	2.06	2996.50	77.35	0.00
J-23	9.30	2996.53	71.73	0.00
J-303	11.48	2996.71	111.23	0.00
J-301	2.02	2996.95	116.10	0.00
J-10	47.88	2996.48	115.03	0.00
J-26	2.06	2996.65	99.94	0.00
J-1	1000.00	2996.69	95.19	0.00
J-102	2.70	2997.85	100.89	0.00
J-105	3.38	2997.85	108.69	0.00
J-107	4.72	2997.85	113.46	0.00
J-111	4.06	2997.85	116.49	0.00
J-112	1.36	2997.70	125.09	0.00
J-114	1.36	2997.63	126.37	0.00
J-115	1.36	2997.57	127.64	0.00
J-118	1.36	2997.53	128.05	0.00
J-300	7.42	2996.95	116.97	0.00
J-302	2.70	2996.71	109.06	0.00
J-304	2.02	2996.69	102.13	0.00
J-42	0.00	2998.49	99.44	0.00
J-31	0.00	2998.67	96.48	0.00
J-35	0.00	2998.77	77.03	0.00
J-101	4.72	2999.15	115.11	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-106	3.38	2997.85	116.49	0.00
J-33	0.00	2998.74	84.81	0.00
J-123	3.38	2998.74	93.05	0.00
J-100	0.00	3000.21	121.85	0.00
J-103	3.38	2999.12	109.24	0.00
J-104	3.38	2998.91	85.32	0.00
J-117	2.02	2997.63	123.33	0.00
J-110	4.06	2997.85	108.69	0.00
J-108	2.02	2997.85	108.26	0.00
J-109	2.02	2997.85	107.39	0.00
J-305	1.36	2996.67	102.98	0.00
S145	0.00	3000.46	123.69	0.00
J-207	2.70	2997.95	113.93	0.00

Sereno Canyon Phase 4 Max Day fire flow J1

J-208	0.68	2997.95	116.53	0.00
J-206	0.68	2998.02	135.63	0.00
J-204	2.70	2998.35	128.84	0.00
J-205	2.70	2998.35	120.61	0.00
J-203	12.82	2999.05	121.35	0.00
J-200	7.42	2999.99	126.09	0.00
J-211	0.00	2999.25	117.96	0.00
J-201	3.38	2999.73	136.37	0.00
J-202	10.12	2999.73	117.74	0.00
J-119	0.00	2997.53	131.95	0.00
J-120	2.02	2997.53	136.29	0.00
J-121	0.00	2997.54	136.29	0.00
J-122	45.90	2997.53	138.88	0.00
J-210	4.06	2997.99	137.35	0.00
J-209	0.68	2998.01	135.20	0.00
J-113	1.36	2997.70	124.23	0.00
J-116	0.68	2997.57	127.21	0.00
J-25	5.52	2996.54	69.78	0.00
J-34	0.68	2998.75	82.65	0.00
J-400	0.00	2717.00	0.00	0.00
R-1	-1420.50	2717.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-1	-29.57	0.19	0.03	Open
P-2	1.72	0.01	0.00	Open
P-3	111.51	0.71	0.31	Open
P-4	105.99	0.68	0.29	Open
P-5	100.49	0.64	0.26	Open
P-6	2.06	0.01	0.00	Open



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Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-7	-3.44	0.02	0.00	Open
P-8	210.10	0.60	0.14	Open
P-9	154.32	0.44	0.08	Open
P-10	151.56	0.43	0.08	Open
P-11	19.94	0.13	0.01	Open
P-12	-49.90	0.14	0.01	Open
P-13	-34.10	0.10	0.00	Open

Sereno Canyon Phase 4 Max Day fire flow J1

P-14	55.78	0.36	0.09	Open
P-15	5.06	0.03	0.00	Open
P-16	5.08	0.03	0.00	Open
P-17	-7.32	0.05	0.00	Open
P-18	0.70	0.00	0.00	Open
P-19	-35.36	0.23	0.04	Open
P-20	3.10	0.02	0.00	Open
P-22	-1.38	0.01	0.00	Open
P-23	15.88	0.10	0.01	Open
P-24	2.48	0.02	0.00	Open
P-25	-24.35	0.16	0.02	Open
P-26	2.06	0.01	0.00	Open
P-27	9.30	0.06	0.00	Open
P-28	-12.42	0.08	0.01	Open
P-29	133.62	0.38	0.06	Open
P-30	127.76	0.36	0.06	Open
P-31	95.85	0.27	0.03	Open
P-32	75.83	0.22	0.02	Open
P-33	81.98	0.23	0.02	Open
P-34	47.88	0.14	0.01	Open
P-35	36.08	0.23	0.04	Open
P-36	-175.40	0.50	0.10	Open
P-37	-763.95	2.17	1.54	Open
P-38	-2.17	0.01	0.00	Open
P-39	-8.93	0.03	0.00	Open
P-40	-21.75	0.06	0.00	Open
P-41	115.32	0.74	0.33	Open
P-42	112.60	0.72	0.32	Open
P-43	109.22	0.70	0.30	Open
P-44	107.18	0.68	0.29	Open
P-45	121.23	0.77	0.37	Open
P-46	111.79	0.71	0.32	Open
P-47	97.61	0.28	0.03	Open
P-48	56.09	0.16	0.01	Open
P-49	-355.37	2.27	2.69	Open
P-50	-360.87	2.30	2.77	Open
P-51	-263.14	1.68	1.54	Open
P-52	-379.13	2.42	3.03	Open
P-53	-204.21	1.30	0.96	Open
P-54	35.09	0.22	0.04	Open



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
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Sereno Canyon Phase 4 Max Day fire flow J1

P-55	-3.38	0.02	0.00	Open
P-56	3.38	0.02	0.00	Open
P-57	223.99	1.43	1.14	Open
P-58	82.49	0.53	0.18	Open
P-59	-4.06	0.03	0.00	Open
P-60	2.02	0.01	0.00	Open
P-61	1168.10	3.31	3.38	Open
P-62	944.11	2.68	2.28	Open
P-63	-141.14	0.40	0.07	Open
P-64	0.68	0.00	0.00	Open
P-65	-144.52	0.41	0.07	Open
P-66	-213.26	1.36	1.04	Open
P-67	-2.70	0.02	0.00	Open
P-68	-218.66	1.40	1.09	Open
P-69	119.16	0.76	0.36	Open
P-70	119.16	0.76	0.36	Open
P-71	-112.32	0.72	0.32	Open
P-72	252.40	1.61	1.43	Open
P-73	125.82	0.80	0.39	Open
P-74	10.12	0.06	0.00	Open
P-75	-2.02	0.01	0.00	Open
P-76	-17.42	0.11	0.01	Open
P-77	-67.38	0.19	0.02	Open
P-78	-68.06	0.19	0.02	Open
P-79	12.44	0.08	0.01	Open
P-80	29.85	0.19	0.03	Open
P-81	-11.46	0.07	0.00	Open
P-82	16.98	0.11	0.01	Open
P-83	764.47	2.17	1.54	Open
P-84	174.91	1.12	0.72	Open
P-85	-8.10	0.05	0.00	Open
P-86	-1.36	0.01	0.00	Open
P-87	-2.02	0.01	0.00	Open
P-88	-0.68	0.00	0.00	Open
P-89	15.40	0.10	0.01	Open
P-90	-63.32	0.40	0.11	Open
P-91	45.90	0.29	0.06	Open
P-92	-43.35	0.28	0.06	Open
P-93	-69.47	0.44	0.13	Open
P-94	134.74	0.86	0.45	Open
P-95	-46.73	0.30	0.06	Open
P-96	-47.41	0.30	0.06	Open
P-97	85.87	0.55	0.19	Open
P-98	-39.50	0.25	0.05	Open
P-99	-11.48	0.03	0.00	Open
P-100	-2.02	0.01	0.00	Open
P-101	1420.50	1.01	0.17	Open

Sereno Canyon Phase 4 Max Day fire flow J1



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-21	-38.14	0.24	0.04	Open
PUMP1	0.00	0.00	0.00	Closed Pump
PUMP2	0.00	0.00	0.00	Closed Pump
PUMP3	0.00	0.00	0.00	Closed Pump
PUMP4	1420.51	0.00	-283.46	Open Pump
1	1420.50	4.03	0.00	Open Valve

Sereno Canyon Phase 4 Max Day fire flow J2

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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: Sereno Canyon Phase 4 Max Day fire flow J2.net

Sereno Canyon

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in
P-1	J-32	J-36	955.6	8
P-2	J-36	J-37	121.6	8
P-3	J-30	J-38	957.7	8
P-4	J-38	J-39	400	8
P-5	J-39	J-29	841.9	8
P-6	J-39	J-40	83.23	8
P-7	J-28	J-27	505.5	8
P-8	J-2	J-3	452.1	12
P-9	J-3	J-4	195.3	12
P-10	J-4	J-41	148.7	12
P-11	J-14	J-11	890.1	8
P-12	J-12	J-11	340.4	12
P-13	J-11	J-9	458.8	12
P-14	J-3	J-19	223.6	8
P-15	J-20	J-21	310.5	8
P-16	J-21	J-22	93.71	8
P-17	J-22	J-24	192.7	8
P-18	J-24	J-20	511.2	8
P-19	J-20	J-19	293.1	8
P-20	J-5	J-17	587.4	8
P-22	J-18	J-4	378.4	8
P-23	J-7	J-13	601.7	8
P-24	J-8	J-14	610.4	8
P-25	J-14	J-15	540.4	8
P-26	J-15	J-16	224.8	8
P-27	J-22	J-23	128.3	8
P-28	J-21	J-41	699	8
P-29	J-41	J-5	172.5	12
P-30	J-5	J-6	197.8	12
P-31	J-6	J-7	466.8	12
P-32	J-7	J-8	339.3	12

Sereno Canyon Phase 4 Max Day fire flow J2

P-33	J-8	J-9	384	12
P-34	J-9	J-10	522	12
P-35	J-26	J-2	531.2	8
P-36	J-2	J-1	557.4	12
P-37	J-1	J-102	754.8	12
P-38	J-102	J-105	819.5	12



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in
P-39	J-105	J-107	511.2	12
P-40	J-107	J-111	1032	12
P-41	J-111	J-112	449.2	8
P-42	J-112	J-114	204.1	8
P-43	J-114	J-115	198.3	8
P-44	J-115	J-118	154.9	8
P-45	J-118	J-300	1588	8
P-46	J-300	J-302	757	8
P-47	J-302	J-304	469.1	12
P-48	J-304	J-1	500.9	12
P-49	J-1	J-27	271.1	8
P-50	J-27	J-29	112.3	8
P-51	J-29	J-30	411.1	8
P-52	J-30	J-42	43.31	8
P-53	J-42	J-31	191.5	8
P-54	J-35	J-36	438.3	8
P-55	J-106	J-105	800.8	8
P-56	J-33	J-123	375.5	8
P-57	J-100	J-103	951.8	8
P-58	J-104	J-35	775.1	8
P-59	J-110	J-108	595.1	8
P-60	J-108	J-109	353.1	8
P-61	S145	J-100	74.44	12
P-62	J-100	J-101	464.5	12
P-63	J-111	J-207	1424	12
P-64	J-207	J-208	997.1	8
P-65	J-207	J-206	1045	12
P-66	J-206	J-204	317.1	8
P-67	J-205	J-204	465.7	8
P-68	J-204	J-203	643.7	8
P-69	J-200	J-211	2106	8
P-70	J-211	J-203	536.3	8
P-71	J-203	J-201	2125	8
P-72	S145	J-200	327.3	8

Sereno Canyon Phase 4 Max Day fire flow J2

P-73	J-200	J-201	667.2	8
P-74	J-201	J-202	1059	8
P-75	J-120	J-119	186.5	8
P-76	J-119	J-121	389	8
P-77	J-210	J-209	1327	12
P-78	J-209	J-206	257.6	12
P-79	J-13	J-8	394	8
P-80	J-6	J-15	462	8
P-81	J-24	J-25	535	8
P-82	J-19	J-25	884	8
P-83	J-101	J-102	845.5	12
P-84	J-101	J-42	913.6	8
P-85	J-108	J-107	309.2	8



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in	
P-86	J-113	J-112	191.9	8	
P-87	J-117	J-114	573.8	8	
P-88	J-116	J-115	172.9	8	
P-89	J-119	J-118	421	8	
P-90	J-121	J-210	4137	8	
P-91	J-121	J-122	131.6	8	
P-92	J-32	J-33	221	8	
P-93	J-31	J-32	387	8	
P-94	J-103	J-31	1000	8	
P-95	J-33	J-34	245	8	
P-96	J-34	J-35	223.9	8	
P-97	J-103	J-104	1106	8	
P-98	J-305	J-304	506.9	8	
P-99	J-303	J-302	412.7	12	
P-100	J-301	J-300	178.5	8	
P-101	R-1	J-400	10	24	
P-21	J-26	J-305	427	8	
PUMP1	J-400	J-401	#N/A	#N/A	Pump
PUMP2	J-400	J-401	#N/A	#N/A	Pump
PUMP3	J-400	J-401	#N/A	#N/A	Pump
PUMP4	J-400	J-401	#N/A	#N/A	Pump
1	J-401	S145	#N/A	12	Valve

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
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Sereno Canyon Phase 4 Max Day fire flow J2

PUMP1	0.00	0.00	0.00	0.00	0.00	0.00
PUMP2	0.00	0.00	0.00	0.00	0.00	0.00
PUMP3	0.00	0.00	0.00	0.00	0.00	0.00
PUMP4	100.00	75.00	1187.82	101.14	101.14	0.00

Demand Charge: 0.00
Total Cost: 0.00

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-32	3.44	2998.83	90.05	0.00
J-36	3.80	2998.86	74.47	0.00
J-37	1.72	2998.86	71.00	0.00
J-30	4.48	2998.47	98.78	0.00
J-38	5.52	2998.17	81.97	0.00
J-39	3.44	2998.05	88.42	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-29	2.76	2997.84	94.17	0.00
J-40	2.06	2998.05	88.20	0.00
J-28	3.44	2997.53	102.49	0.00
J-27	2.06	2997.53	90.79	0.00
J-2	1000.00	2995.37	93.75	0.00
J-3	0.00	2995.30	86.96	0.00
J-4	1.38	2995.29	87.87	0.00
J-41	5.52	2995.28	88.86	0.00
J-14	6.90	2995.23	91.96	0.00
J-11	4.14	2995.22	98.89	0.00
J-12	49.90	2995.22	92.82	0.00
J-9	0.00	2995.22	107.55	0.00
J-6	2.06	2995.25	89.80	0.00
J-19	3.44	2995.28	81.58	0.00
J-24	3.44	2995.27	81.58	0.00
J-20	31.00	2995.27	73.56	0.00
J-21	12.40	2995.27	73.56	0.00
J-22	3.10	2995.27	73.35	0.00
J-5	2.76	2995.26	89.37	0.00
J-17	3.10	2995.26	102.37	0.00

Sereno Canyon Phase 4 Max Day fire flow J2

J-18	1.38	2995.29	96.32	0.00
J-7	4.14	2995.24	99.33	0.00
J-13	3.44	2995.23	109.73	0.00
J-8	3.80	2995.23	103.66	0.00
J-15	3.44	2995.24	81.35	0.00
J-16	2.06	2995.24	76.80	0.00
J-23	9.30	2995.27	71.18	0.00
J-303	11.48	2996.79	111.27	0.00
J-301	2.02	2997.04	116.14	0.00
J-10	47.88	2995.22	114.49	0.00
J-26	2.06	2995.87	99.60	0.00
J-1	0.00	2996.80	95.24	0.00
J-102	2.70	2997.96	100.94	0.00
J-105	3.38	2997.96	108.74	0.00
J-107	4.72	2997.96	113.51	0.00
J-111	4.06	2997.96	116.54	0.00
J-112	1.36	2997.80	125.14	0.00
J-114	1.36	2997.74	126.41	0.00
J-115	1.36	2997.68	127.68	0.00
J-118	1.36	2997.63	128.10	0.00
J-300	7.42	2997.04	117.01	0.00
J-302	2.70	2996.79	109.10	0.00
J-304	2.02	2996.78	102.16	0.00
J-42	0.00	2998.60	99.48	0.00
J-31	0.00	2998.78	96.53	0.00
J-35	0.00	2998.87	77.07	0.00
J-101	4.72	2999.26	115.15	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-106	3.38	2997.95	116.54	0.00
J-33	0.00	2998.84	84.86	0.00
J-123	3.38	2998.84	93.09	0.00
J-100	0.00	3000.31	121.89	0.00
J-103	3.38	2999.23	109.29	0.00
J-104	3.38	2999.01	85.37	0.00
J-117	2.02	2997.74	123.38	0.00
J-110	4.06	2997.95	108.74	0.00
J-108	2.02	2997.95	108.31	0.00
J-109	2.02	2997.95	107.44	0.00
J-305	1.36	2996.28	102.81	0.00
S145	0.00	3000.56	123.73	0.00
J-207	2.70	2998.05	113.98	0.00

Sereno Canyon Phase 4 Max Day fire flow J2

J-208	0.68	2998.05	116.58	0.00
J-206	0.68	2998.13	135.68	0.00
J-204	2.70	2998.46	128.89	0.00
J-205	2.70	2998.46	120.66	0.00
J-203	12.82	2999.16	121.39	0.00
J-200	7.42	3000.10	126.13	0.00
J-211	0.00	2999.35	118.01	0.00
J-201	3.38	2999.84	136.42	0.00
J-202	10.12	2999.83	117.78	0.00
J-119	0.00	2997.64	132.00	0.00
J-120	2.02	2997.64	136.33	0.00
J-121	0.00	2997.64	136.33	0.00
J-122	45.90	2997.63	138.93	0.00
J-210	4.06	2998.10	137.40	0.00
J-209	0.68	2998.12	135.24	0.00
J-113	1.36	2997.80	124.27	0.00
J-116	0.68	2997.68	127.25	0.00
J-25	5.52	2995.27	69.23	0.00
J-34	0.68	2998.86	82.70	0.00
J-400	0.00	2717.00	0.00	0.00
R-1	-1419.12	2717.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-1	-29.52	0.19	0.03	Open
P-2	1.72	0.01	0.00	Open
P-3	111.34	0.71	0.31	Open
P-4	105.82	0.68	0.29	Open
P-5	100.32	0.64	0.26	Open
P-6	2.06	0.01	0.00	Open



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-7	-3.44	0.02	0.00	Open
P-8	210.10	0.60	0.14	Open
P-9	154.32	0.44	0.08	Open
P-10	151.56	0.43	0.08	Open
P-11	19.94	0.13	0.01	Open
P-12	-49.90	0.14	0.01	Open
P-13	-34.10	0.10	0.00	Open

Sereno Canyon Phase 4 Max Day fire flow J2

P-14	55.78	0.36	0.09	Open
P-15	5.06	0.03	0.00	Open
P-16	5.08	0.03	0.00	Open
P-17	-7.32	0.05	0.00	Open
P-18	0.70	0.00	0.00	Open
P-19	-35.36	0.23	0.04	Open
P-20	3.10	0.02	0.00	Open
P-22	-1.38	0.01	0.00	Open
P-23	15.88	0.10	0.01	Open
P-24	2.48	0.02	0.00	Open
P-25	-24.35	0.16	0.02	Open
P-26	2.06	0.01	0.00	Open
P-27	9.30	0.06	0.00	Open
P-28	-12.42	0.08	0.01	Open
P-29	133.62	0.38	0.06	Open
P-30	127.76	0.36	0.06	Open
P-31	95.85	0.27	0.03	Open
P-32	75.83	0.22	0.02	Open
P-33	81.98	0.23	0.02	Open
P-34	47.88	0.14	0.01	Open
P-35	202.43	1.29	0.95	Open
P-36	-1007.67	2.86	2.57	Open
P-37	-761.94	2.16	1.53	Open
P-38	-0.80	0.00	0.00	Open
P-39	-7.56	0.02	0.00	Open
P-40	-20.38	0.06	0.00	Open
P-41	116.27	0.74	0.34	Open
P-42	113.55	0.72	0.32	Open
P-43	110.17	0.70	0.31	Open
P-44	108.13	0.69	0.30	Open
P-45	122.44	0.78	0.37	Open
P-46	113.00	0.72	0.32	Open
P-47	98.82	0.28	0.03	Open
P-48	-109.05	0.31	0.04	Open
P-49	-354.77	2.26	2.68	Open
P-50	-360.27	2.30	2.76	Open
P-51	-262.72	1.68	1.54	Open
P-52	-378.53	2.42	3.02	Open
P-53	-203.93	1.30	0.96	Open
P-54	35.04	0.22	0.04	Open



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
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Sereno Canyon Phase 4 Max Day fire flow J2

P-55	-3.38	0.02	0.00	Open
P-56	3.38	0.02	0.00	Open
P-57	223.71	1.43	1.14	Open
P-58	82.39	0.53	0.18	Open
P-59	-4.06	0.03	0.00	Open
P-60	2.02	0.01	0.00	Open
P-61	1166.88	3.31	3.37	Open
P-62	943.17	2.68	2.27	Open
P-63	-140.70	0.40	0.07	Open
P-64	0.68	0.00	0.00	Open
P-65	-144.08	0.41	0.07	Open
P-66	-213.10	1.36	1.04	Open
P-67	-2.70	0.02	0.00	Open
P-68	-218.50	1.39	1.09	Open
P-69	119.08	0.76	0.35	Open
P-70	119.08	0.76	0.36	Open
P-71	-112.24	0.72	0.32	Open
P-72	252.24	1.61	1.42	Open
P-73	125.74	0.80	0.39	Open
P-74	10.12	0.06	0.00	Open
P-75	-2.02	0.01	0.00	Open
P-76	-17.70	0.11	0.01	Open
P-77	-67.66	0.19	0.02	Open
P-78	-68.34	0.19	0.02	Open
P-79	12.44	0.08	0.00	Open
P-80	29.85	0.19	0.03	Open
P-81	-11.46	0.07	0.00	Open
P-82	16.98	0.11	0.01	Open
P-83	763.85	2.17	1.54	Open
P-84	174.60	1.11	0.72	Open
P-85	-8.10	0.05	0.00	Open
P-86	-1.36	0.01	0.00	Open
P-87	-2.02	0.01	0.00	Open
P-88	-0.68	0.00	0.00	Open
P-89	15.68	0.10	0.01	Open
P-90	-63.60	0.41	0.11	Open
P-91	45.90	0.29	0.06	Open
P-92	-43.28	0.28	0.05	Open
P-93	-69.37	0.44	0.13	Open
P-94	134.56	0.86	0.45	Open
P-95	-46.66	0.30	0.06	Open
P-96	-47.34	0.30	0.06	Open
P-97	85.77	0.55	0.19	Open
P-98	-205.85	1.31	0.98	Open
P-99	-11.48	0.03	0.00	Open
P-100	-2.02	0.01	0.00	Open
P-101	1419.12	1.01	0.17	Open

Sereno Canyon Phase 4 Max Day fire flow J2



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-21	-204.49	1.31	0.97	Open
PUMP1	0.00	0.00	0.00	Closed Pump
PUMP2	0.00	0.00	0.00	Closed Pump
PUMP3	0.00	0.00	0.00	Closed Pump
PUMP4	1419.13	0.00	-283.57	Open Pump
1	1419.12	4.03	0.00	Open Valve

Sereno Canyon Phase 4 Max Day fire flow J3

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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: Sereno Canyon Phase 4 Max Day fire flow J3.net

Sereno Canyon

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in
P-1	J-32	J-36	955.6	8
P-2	J-36	J-37	121.6	8
P-3	J-30	J-38	957.7	8
P-4	J-38	J-39	400	8
P-5	J-39	J-29	841.9	8
P-6	J-39	J-40	83.23	8
P-7	J-28	J-27	505.5	8
P-8	J-2	J-3	452.1	12
P-9	J-3	J-4	195.3	12
P-10	J-4	J-41	148.7	12
P-11	J-14	J-11	890.1	8
P-12	J-12	J-11	340.4	12
P-13	J-11	J-9	458.8	12
P-14	J-3	J-19	223.6	8
P-15	J-20	J-21	310.5	8
P-16	J-21	J-22	93.71	8
P-17	J-22	J-24	192.7	8
P-18	J-24	J-20	511.2	8
P-19	J-20	J-19	293.1	8
P-20	J-5	J-17	587.4	8
P-22	J-18	J-4	378.4	8
P-23	J-7	J-13	601.7	8
P-24	J-8	J-14	610.4	8
P-25	J-14	J-15	540.4	8
P-26	J-15	J-16	224.8	8
P-27	J-22	J-23	128.3	8
P-28	J-21	J-41	699	8
P-29	J-41	J-5	172.5	12
P-30	J-5	J-6	197.8	12
P-31	J-6	J-7	466.8	12
P-32	J-7	J-8	339.3	12

Sereno Canyon Phase 4 Max Day fire flow J3

P-33	J-8	J-9	384	12
P-34	J-9	J-10	522	12
P-35	J-26	J-2	531.2	8
P-36	J-2	J-1	557.4	12
P-37	J-1	J-102	754.8	12
P-38	J-102	J-105	819.5	12



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in
P-39	J-105	J-107	511.2	12
P-40	J-107	J-111	1032	12
P-41	J-111	J-112	449.2	8
P-42	J-112	J-114	204.1	8
P-43	J-114	J-115	198.3	8
P-44	J-115	J-118	154.9	8
P-45	J-118	J-300	1588	8
P-46	J-300	J-302	757	8
P-47	J-302	J-304	469.1	12
P-48	J-304	J-1	500.9	12
P-49	J-1	J-27	271.1	8
P-50	J-27	J-29	112.3	8
P-51	J-29	J-30	411.1	8
P-52	J-30	J-42	43.31	8
P-53	J-42	J-31	191.5	8
P-54	J-35	J-36	438.3	8
P-55	J-106	J-105	800.8	8
P-56	J-33	J-123	375.5	8
P-57	J-100	J-103	951.8	8
P-58	J-104	J-35	775.1	8
P-59	J-110	J-108	595.1	8
P-60	J-108	J-109	353.1	8
P-61	S145	J-100	74.44	12
P-62	J-100	J-101	464.5	12
P-63	J-111	J-207	1424	12
P-64	J-207	J-208	997.1	8
P-65	J-207	J-206	1045	12
P-66	J-206	J-204	317.1	8
P-67	J-205	J-204	465.7	8
P-68	J-204	J-203	643.7	8
P-69	J-200	J-211	2106	8
P-70	J-211	J-203	536.3	8
P-71	J-203	J-201	2125	8
P-72	S145	J-200	327.3	8

Sereno Canyon Phase 4 Max Day fire flow J3

P-73	J-200	J-201	667.2	8
P-74	J-201	J-202	1059	8
P-75	J-120	J-119	186.5	8
P-76	J-119	J-121	389	8
P-77	J-210	J-209	1327	12
P-78	J-209	J-206	257.6	12
P-79	J-13	J-8	394	8
P-80	J-6	J-15	462	8
P-81	J-24	J-25	535	8
P-82	J-19	J-25	884	8
P-83	J-101	J-102	845.5	12
P-84	J-101	J-42	913.6	8
P-85	J-108	J-107	309.2	8



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in	
P-86	J-113	J-112	191.9	8	
P-87	J-117	J-114	573.8	8	
P-88	J-116	J-115	172.9	8	
P-89	J-119	J-118	421	8	
P-90	J-121	J-210	4137	8	
P-91	J-121	J-122	131.6	8	
P-92	J-32	J-33	221	8	
P-93	J-31	J-32	387	8	
P-94	J-103	J-31	1000	8	
P-95	J-33	J-34	245	8	
P-96	J-34	J-35	223.9	8	
P-97	J-103	J-104	1106	8	
P-98	J-305	J-304	506.9	8	
P-99	J-303	J-302	412.7	12	
P-100	J-301	J-300	178.5	8	
P-101	R-1	J-400	10	24	
P-21	J-26	J-305	427	8	
PUMP1	J-400	J-401	#N/A	#N/A	Pump
PUMP2	J-400	J-401	#N/A	#N/A	Pump
PUMP3	J-400	J-401	#N/A	#N/A	Pump
PUMP4	J-400	J-401	#N/A	#N/A	Pump
1	J-401	S145	#N/A	12	Valve

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
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Sereno Canyon Phase 4 Max Day fire flow J3

PUMP1	0.00	0.00	0.00	0.00	0.00	0.00
PUMP2	0.00	0.00	0.00	0.00	0.00	0.00
PUMP3	0.00	0.00	0.00	0.00	0.00	0.00
PUMP4	100.00	75.00	1187.38	101.20	101.20	0.00

Demand Charge: 0.00
Total Cost: 0.00

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-3	1000.00	2993.62	86.24	0.00
J-32	3.44	2998.73	90.01	0.00
J-36	3.80	2998.75	74.42	0.00
J-37	1.72	2998.75	70.95	0.00
J-30	4.48	2998.36	98.73	0.00
J-38	5.52	2998.06	81.92	0.00
J-39	3.44	2997.94	88.37	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-29	2.76	2997.73	94.12	0.00
J-40	2.06	2997.94	88.15	0.00
J-28	3.44	2997.42	102.44	0.00
J-27	2.06	2997.42	90.74	0.00
J-2	1.38	2995.25	93.70	0.00
J-4	1.38	2993.61	87.14	0.00
J-41	5.52	2993.59	88.13	0.00
J-14	6.90	2993.55	91.23	0.00
J-11	4.14	2993.54	98.16	0.00
J-12	49.90	2993.53	92.09	0.00
J-9	0.00	2993.54	106.83	0.00
J-6	2.06	2993.57	89.07	0.00
J-19	3.44	2993.60	80.85	0.00
J-24	3.44	2993.59	80.85	0.00
J-20	31.00	2993.59	72.83	0.00
J-21	12.40	2993.59	72.83	0.00
J-22	3.10	2993.59	72.62	0.00
J-5	2.76	2993.58	88.65	0.00
J-17	3.10	2993.58	101.64	0.00

Sereno Canyon Phase 4 Max Day fire flow J3

J-18	1.38	2993.61	95.59	0.00
J-7	4.14	2993.56	98.60	0.00
J-13	3.44	2993.55	109.00	0.00
J-8	3.80	2993.55	102.93	0.00
J-15	3.44	2993.56	80.62	0.00
J-16	2.06	2993.56	76.07	0.00
J-23	9.30	2993.59	70.45	0.00
J-303	11.48	2996.68	111.22	0.00
J-301	2.02	2996.93	116.09	0.00
J-10	47.88	2993.54	113.76	0.00
J-26	2.06	2995.76	99.55	0.00
J-1	0.00	2996.69	95.19	0.00
J-102	2.70	2997.85	100.89	0.00
J-105	3.38	2997.85	108.69	0.00
J-107	4.72	2997.85	113.46	0.00
J-111	4.06	2997.85	116.49	0.00
J-112	1.36	2997.70	125.09	0.00
J-114	1.36	2997.63	126.36	0.00
J-115	1.36	2997.57	127.64	0.00
J-118	1.36	2997.52	128.05	0.00
J-300	7.42	2996.93	116.96	0.00
J-302	2.70	2996.68	109.05	0.00
J-304	2.02	2996.67	102.11	0.00
J-42	0.00	2998.49	99.44	0.00
J-31	0.00	2998.68	96.49	0.00
J-35	0.00	2998.77	77.03	0.00
J-101	4.72	2999.15	115.11	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-106	3.38	2997.85	116.49	0.00
J-33	0.00	2998.74	84.81	0.00
J-123	3.38	2998.74	93.05	0.00
J-100	0.00	3000.21	121.85	0.00
J-103	3.38	2999.12	109.24	0.00
J-104	3.38	2998.91	85.32	0.00
J-117	2.02	2997.63	123.33	0.00
J-110	4.06	2997.85	108.69	0.00
J-108	2.02	2997.85	108.26	0.00
J-109	2.02	2997.85	107.39	0.00
J-305	1.36	2996.17	102.77	0.00
S145	0.00	3000.46	123.69	0.00
J-207	2.70	2997.94	113.93	0.00

Sereno Canyon Phase 4 Max Day fire flow J3

J-208	0.68	2997.94	116.53	0.00
J-206	0.68	2998.02	135.63	0.00
J-204	2.70	2998.35	128.84	0.00
J-205	2.70	2998.35	120.61	0.00
J-203	12.82	2999.05	121.35	0.00
J-200	7.42	2999.99	126.09	0.00
J-211	0.00	2999.24	117.96	0.00
J-201	3.38	2999.73	136.37	0.00
J-202	10.12	2999.73	117.74	0.00
J-119	0.00	2997.53	131.95	0.00
J-120	2.02	2997.53	136.28	0.00
J-121	0.00	2997.53	136.29	0.00
J-122	45.90	2997.52	138.88	0.00
J-210	4.06	2997.99	137.35	0.00
J-209	0.68	2998.01	135.20	0.00
J-113	1.36	2997.70	124.23	0.00
J-116	0.68	2997.57	127.20	0.00
J-25	5.52	2993.59	68.50	0.00
J-34	0.68	2998.75	82.65	0.00
J-400	0.00	2717.00	0.00	0.00
R-1	-1420.50	2717.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-1	-29.56	0.19	0.03	Open
P-2	1.72	0.01	0.00	Open
P-3	111.45	0.71	0.31	Open
P-4	105.93	0.68	0.29	Open
P-5	100.43	0.64	0.26	Open
P-6	2.06	0.01	0.00	Open



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-7	-3.44	0.02	0.00	Open
P-8	1210.10	3.43	3.61	Open
P-9	154.32	0.44	0.08	Open
P-10	151.56	0.43	0.08	Open
P-11	19.94	0.13	0.01	Open
P-12	-49.90	0.14	0.01	Open
P-13	-34.10	0.10	0.00	Open

Sereno Canyon Phase 4 Max Day fire flow J3

P-14	55.78	0.36	0.09	Open
P-15	5.06	0.03	0.00	Open
P-16	5.08	0.03	0.00	Open
P-17	-7.32	0.05	0.00	Open
P-18	0.70	0.00	0.00	Open
P-19	-35.36	0.23	0.04	Open
P-20	3.10	0.02	0.00	Open
P-22	-1.38	0.01	0.00	Open
P-23	15.88	0.10	0.01	Open
P-24	2.48	0.02	0.00	Open
P-25	-24.35	0.16	0.02	Open
P-26	2.06	0.01	0.00	Open
P-27	9.30	0.06	0.00	Open
P-28	-12.42	0.08	0.01	Open
P-29	133.62	0.38	0.06	Open
P-30	127.76	0.36	0.06	Open
P-31	95.85	0.27	0.03	Open
P-32	75.83	0.22	0.02	Open
P-33	81.98	0.23	0.02	Open
P-34	47.88	0.14	0.01	Open
P-35	202.67	1.29	0.95	Open
P-36	-1008.81	2.86	2.58	Open
P-37	-762.79	2.16	1.54	Open
P-38	-0.88	0.00	0.00	Open
P-39	-7.64	0.02	0.00	Open
P-40	-20.46	0.06	0.00	Open
P-41	116.36	0.74	0.34	Open
P-42	113.64	0.73	0.33	Open
P-43	110.26	0.70	0.31	Open
P-44	108.22	0.69	0.30	Open
P-45	122.59	0.78	0.37	Open
P-46	113.15	0.72	0.32	Open
P-47	98.97	0.28	0.03	Open
P-48	-109.14	0.31	0.04	Open
P-49	-355.16	2.27	2.69	Open
P-50	-360.66	2.30	2.76	Open
P-51	-262.99	1.68	1.54	Open
P-52	-378.92	2.42	3.03	Open
P-53	-204.15	1.30	0.96	Open
P-54	35.08	0.22	0.04	Open



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
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Sereno Canyon Phase 4 Max Day fire flow J3

P-55	-3.38	0.02	0.00	Open
P-56	3.38	0.02	0.00	Open
P-57	223.93	1.43	1.14	Open
P-58	82.47	0.53	0.18	Open
P-59	-4.06	0.03	0.00	Open
P-60	2.02	0.01	0.00	Open
P-61	1168.04	3.31	3.38	Open
P-62	944.11	2.68	2.28	Open
P-63	-140.87	0.40	0.07	Open
P-64	0.68	0.00	0.00	Open
P-65	-144.25	0.41	0.07	Open
P-66	-213.32	1.36	1.04	Open
P-67	-2.70	0.02	0.00	Open
P-68	-218.72	1.40	1.09	Open
P-69	119.20	0.76	0.36	Open
P-70	119.20	0.76	0.36	Open
P-71	-112.35	0.72	0.32	Open
P-72	252.46	1.61	1.43	Open
P-73	125.85	0.80	0.39	Open
P-74	10.12	0.06	0.00	Open
P-75	-2.02	0.01	0.00	Open
P-76	-17.75	0.11	0.01	Open
P-77	-67.71	0.19	0.02	Open
P-78	-68.39	0.19	0.02	Open
P-79	12.44	0.08	0.01	Open
P-80	29.85	0.19	0.03	Open
P-81	-11.46	0.07	0.00	Open
P-82	16.98	0.11	0.01	Open
P-83	764.61	2.17	1.54	Open
P-84	174.77	1.12	0.72	Open
P-85	-8.10	0.05	0.00	Open
P-86	-1.36	0.01	0.00	Open
P-87	-2.02	0.01	0.00	Open
P-88	-0.68	0.00	0.00	Open
P-89	15.73	0.10	0.01	Open
P-90	-63.65	0.41	0.11	Open
P-91	45.90	0.29	0.06	Open
P-92	-43.33	0.28	0.05	Open
P-93	-69.45	0.44	0.13	Open
P-94	134.70	0.86	0.45	Open
P-95	-46.71	0.30	0.06	Open
P-96	-47.39	0.30	0.06	Open
P-97	85.85	0.55	0.19	Open
P-98	-206.09	1.32	0.98	Open
P-99	-11.48	0.03	0.00	Open
P-100	-2.02	0.01	0.00	Open
P-101	1420.50	1.01	0.17	Open

Sereno Canyon Phase 4 Max Day fire flow J3



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-21	-204.73	1.31	0.97	Open
PUMP1	0.00	0.00	0.00	Closed Pump
PUMP2	0.00	0.00	0.00	Closed Pump
PUMP3	0.00	0.00	0.00	Closed Pump
PUMP4	1420.51	0.00	-283.46	Open Pump
1	1420.50	4.03	0.00	Open Valve

Sereno Canyon Phase 4 Max Day fire flow J4

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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: Sereno Canyon Phase 4 Max Day fire flow J4.net

Sereno Canyon

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in
P-1	J-32	J-36	955.6	8
P-2	J-36	J-37	121.6	8
P-3	J-30	J-38	957.7	8
P-4	J-38	J-39	400	8
P-5	J-39	J-29	841.9	8
P-6	J-39	J-40	83.23	8
P-7	J-28	J-27	505.5	8
P-8	J-2	J-3	452.1	12
P-9	J-3	J-4	195.3	12
P-10	J-4	J-41	148.7	12
P-11	J-14	J-11	890.1	8
P-12	J-12	J-11	340.4	12
P-13	J-11	J-9	458.8	12
P-14	J-3	J-19	223.6	8
P-15	J-20	J-21	310.5	8
P-16	J-21	J-22	93.71	8
P-17	J-22	J-24	192.7	8
P-18	J-24	J-20	511.2	8
P-19	J-20	J-19	293.1	8
P-20	J-5	J-17	587.4	8
P-22	J-18	J-4	378.4	8
P-23	J-7	J-13	601.7	8
P-24	J-8	J-14	610.4	8
P-25	J-14	J-15	540.4	8
P-26	J-15	J-16	224.8	8
P-27	J-22	J-23	128.3	8
P-28	J-21	J-41	699	8
P-29	J-41	J-5	172.5	12
P-30	J-5	J-6	197.8	12
P-31	J-6	J-7	466.8	12
P-32	J-7	J-8	339.3	12

Sereno Canyon Phase 4 Max Day fire flow J4

P-33	J-8	J-9	384	12
P-34	J-9	J-10	522	12
P-35	J-26	J-2	531.2	8
P-36	J-2	J-1	557.4	12
P-37	J-1	J-102	754.8	12
P-38	J-102	J-105	819.5	12



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in
P-39	J-105	J-107	511.2	12
P-40	J-107	J-111	1032	12
P-41	J-111	J-112	449.2	8
P-42	J-112	J-114	204.1	8
P-43	J-114	J-115	198.3	8
P-44	J-115	J-118	154.9	8
P-45	J-118	J-300	1588	8
P-46	J-300	J-302	757	8
P-47	J-302	J-304	469.1	12
P-48	J-304	J-1	500.9	12
P-49	J-1	J-27	271.1	8
P-50	J-27	J-29	112.3	8
P-51	J-29	J-30	411.1	8
P-52	J-30	J-42	43.31	8
P-53	J-42	J-31	191.5	8
P-54	J-35	J-36	438.3	8
P-55	J-106	J-105	800.8	8
P-56	J-33	J-123	375.5	8
P-57	J-100	J-103	951.8	8
P-58	J-104	J-35	775.1	8
P-59	J-110	J-108	595.1	8
P-60	J-108	J-109	353.1	8
P-61	S145	J-100	74.44	12
P-62	J-100	J-101	464.5	12
P-63	J-111	J-207	1424	12
P-64	J-207	J-208	997.1	8
P-65	J-207	J-206	1045	12
P-66	J-206	J-204	317.1	8
P-67	J-205	J-204	465.7	8
P-68	J-204	J-203	643.7	8
P-69	J-200	J-211	2106	8
P-70	J-211	J-203	536.3	8
P-71	J-203	J-201	2125	8
P-72	S145	J-200	327.3	8

Sereno Canyon Phase 4 Max Day fire flow J4

P-73	J-200	J-201	667.2	8
P-74	J-201	J-202	1059	8
P-75	J-120	J-119	186.5	8
P-76	J-119	J-121	389	8
P-77	J-210	J-209	1327	12
P-78	J-209	J-206	257.6	12
P-79	J-13	J-8	394	8
P-80	J-6	J-15	462	8
P-81	J-24	J-25	535	8
P-82	J-19	J-25	884	8
P-83	J-101	J-102	845.5	12
P-84	J-101	J-42	913.6	8
P-85	J-108	J-107	309.2	8



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in	
P-86	J-113	J-112	191.9	8	
P-87	J-117	J-114	573.8	8	
P-88	J-116	J-115	172.9	8	
P-89	J-119	J-118	421	8	
P-90	J-121	J-210	4137	8	
P-91	J-121	J-122	131.6	8	
P-92	J-32	J-33	221	8	
P-93	J-31	J-32	387	8	
P-94	J-103	J-31	1000	8	
P-95	J-33	J-34	245	8	
P-96	J-34	J-35	223.9	8	
P-97	J-103	J-104	1106	8	
P-98	J-305	J-304	506.9	8	
P-99	J-303	J-302	412.7	12	
P-100	J-301	J-300	178.5	8	
P-101	R-1	J-400	10	24	
P-21	J-26	J-305	427	8	
PUMP1	J-400	J-401	#N/A	#N/A	Pump
PUMP2	J-400	J-401	#N/A	#N/A	Pump
PUMP3	J-400	J-401	#N/A	#N/A	Pump
PUMP4	J-400	J-401	#N/A	#N/A	Pump
1	J-401	S145	#N/A	12	Valve

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
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Sereno Canyon Phase 4 Max Day fire flow J4

PUMP1	0.00	0.00	0.00	0.00	0.00	0.00
PUMP2	0.00	0.00	0.00	0.00	0.00	0.00
PUMP3	0.00	0.00	0.00	0.00	0.00	0.00
PUMP4	100.00	75.00	1187.82	101.14	101.14	0.00

Demand Charge: 0.00
Total Cost: 0.00

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-4	1000.00	2993.21	86.97	0.00
J-32	3.44	2998.83	90.05	0.00
J-36	3.80	2998.86	74.47	0.00
J-37	1.72	2998.86	71.00	0.00
J-30	4.48	2998.47	98.78	0.00
J-38	5.52	2998.17	81.97	0.00
J-39	3.44	2998.05	88.42	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-29	2.76	2997.84	94.17	0.00
J-40	2.06	2998.05	88.20	0.00
J-28	3.44	2997.53	102.49	0.00
J-27	2.06	2997.53	90.79	0.00
J-2	1.38	2995.37	93.75	0.00
J-3	0.00	2993.74	86.29	0.00
J-41	5.52	2993.21	87.97	0.00
J-14	6.90	2993.17	91.07	0.00
J-11	4.14	2993.16	97.99	0.00
J-12	49.90	2993.15	91.93	0.00
J-9	0.00	2993.16	106.66	0.00
J-6	2.06	2993.19	88.91	0.00
J-19	3.44	2993.57	80.84	0.00
J-24	3.44	2993.46	80.79	0.00
J-20	31.00	2993.47	72.78	0.00
J-21	12.40	2993.43	72.76	0.00
J-22	3.10	2993.44	72.55	0.00
J-5	2.76	2993.20	88.48	0.00
J-17	3.10	2993.20	101.48	0.00

Sereno Canyon Phase 4 Max Day fire flow J4

J-18	1.38	2993.21	95.42	0.00
J-7	4.14	2993.18	98.44	0.00
J-13	3.44	2993.17	108.83	0.00
J-8	3.80	2993.17	102.77	0.00
J-15	3.44	2993.18	80.46	0.00
J-16	2.06	2993.18	75.91	0.00
J-23	9.30	2993.44	70.38	0.00
J-303	11.48	2996.79	111.27	0.00
J-301	2.02	2997.04	116.14	0.00
J-10	47.88	2993.16	113.59	0.00
J-26	2.06	2995.87	99.60	0.00
J-1	0.00	2996.80	95.24	0.00
J-102	2.70	2997.96	100.94	0.00
J-105	3.38	2997.96	108.74	0.00
J-107	4.72	2997.96	113.51	0.00
J-111	4.06	2997.96	116.54	0.00
J-112	1.36	2997.80	125.14	0.00
J-114	1.36	2997.74	126.41	0.00
J-115	1.36	2997.68	127.68	0.00
J-118	1.36	2997.63	128.10	0.00
J-300	7.42	2997.04	117.01	0.00
J-302	2.70	2996.79	109.10	0.00
J-304	2.02	2996.78	102.16	0.00
J-42	0.00	2998.60	99.48	0.00
J-31	0.00	2998.78	96.53	0.00
J-35	0.00	2998.87	77.07	0.00
J-101	4.72	2999.26	115.15	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-106	3.38	2997.95	116.54	0.00
J-33	0.00	2998.84	84.86	0.00
J-123	3.38	2998.84	93.09	0.00
J-100	0.00	3000.31	121.89	0.00
J-103	3.38	2999.23	109.29	0.00
J-104	3.38	2999.01	85.37	0.00
J-117	2.02	2997.74	123.38	0.00
J-110	4.06	2997.95	108.74	0.00
J-108	2.02	2997.95	108.31	0.00
J-109	2.02	2997.95	107.44	0.00
J-305	1.36	2996.28	102.81	0.00
S145	0.00	3000.56	123.73	0.00
J-207	2.70	2998.05	113.98	0.00

Sereno Canyon Phase 4 Max Day fire flow J4

J-208	0.68	2998.05	116.58	0.00
J-206	0.68	2998.13	135.68	0.00
J-204	2.70	2998.46	128.89	0.00
J-205	2.70	2998.46	120.66	0.00
J-203	12.82	2999.16	121.39	0.00
J-200	7.42	3000.10	126.13	0.00
J-211	0.00	2999.35	118.01	0.00
J-201	3.38	2999.84	136.42	0.00
J-202	10.12	2999.83	117.78	0.00
J-119	0.00	2997.64	132.00	0.00
J-120	2.02	2997.64	136.33	0.00
J-121	0.00	2997.64	136.33	0.00
J-122	45.90	2997.63	138.93	0.00
J-210	4.06	2998.10	137.40	0.00
J-209	0.68	2998.12	135.24	0.00
J-113	1.36	2997.80	124.27	0.00
J-116	0.68	2997.68	127.25	0.00
J-25	5.52	2993.50	68.46	0.00
J-34	0.68	2998.86	82.70	0.00
J-400	0.00	2717.00	0.00	0.00
R-1	-1419.12	2717.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-1	-29.52	0.19	0.03	Open
P-2	1.72	0.01	0.00	Open
P-3	111.34	0.71	0.31	Open
P-4	105.82	0.68	0.29	Open
P-5	100.32	0.64	0.26	Open
P-6	2.06	0.01	0.00	Open



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-7	-3.44	0.02	0.00	Open
P-8	1208.72	3.43	3.60	Open
P-9	1030.72	2.92	2.68	Open
P-10	29.34	0.08	0.00	Open
P-11	19.96	0.13	0.01	Open
P-12	-49.90	0.14	0.01	Open
P-13	-34.08	0.10	0.00	Open

Sereno Canyon Phase 4 Max Day fire flow J4

P-14	178.00	1.14	0.75	Open
P-15	67.64	0.43	0.13	Open
P-16	-54.56	0.35	0.08	Open
P-17	-66.96	0.43	0.12	Open
P-18	-20.97	0.13	0.01	Open
P-19	-119.61	0.76	0.36	Open
P-20	3.10	0.02	0.00	Open
P-22	-1.38	0.01	0.00	Open
P-23	15.88	0.10	0.01	Open
P-24	2.52	0.02	0.00	Open
P-25	-24.34	0.16	0.02	Open
P-26	2.06	0.01	0.00	Open
P-27	9.30	0.06	0.00	Open
P-28	109.80	0.70	0.31	Open
P-29	133.62	0.38	0.06	Open
P-30	127.76	0.36	0.06	Open
P-31	95.86	0.27	0.03	Open
P-32	75.84	0.22	0.02	Open
P-33	81.96	0.23	0.02	Open
P-34	47.88	0.14	0.01	Open
P-35	202.43	1.29	0.95	Open
P-36	-1007.67	2.86	2.57	Open
P-37	-761.94	2.16	1.53	Open
P-38	-0.80	0.00	0.00	Open
P-39	-7.56	0.02	0.00	Open
P-40	-20.38	0.06	0.00	Open
P-41	116.27	0.74	0.34	Open
P-42	113.55	0.72	0.32	Open
P-43	110.17	0.70	0.31	Open
P-44	108.13	0.69	0.30	Open
P-45	122.44	0.78	0.37	Open
P-46	113.00	0.72	0.32	Open
P-47	98.82	0.28	0.03	Open
P-48	-109.05	0.31	0.04	Open
P-49	-354.77	2.26	2.68	Open
P-50	-360.27	2.30	2.76	Open
P-51	-262.72	1.68	1.54	Open
P-52	-378.53	2.42	3.02	Open
P-53	-203.93	1.30	0.96	Open
P-54	35.04	0.22	0.04	Open



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
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Sereno Canyon Phase 4 Max Day fire flow J4

P-55	-3.38	0.02	0.00	Open
P-56	3.38	0.02	0.00	Open
P-57	223.71	1.43	1.14	Open
P-58	82.39	0.53	0.18	Open
P-59	-4.06	0.03	0.00	Open
P-60	2.02	0.01	0.00	Open
P-61	1166.88	3.31	3.37	Open
P-62	943.17	2.68	2.27	Open
P-63	-140.70	0.40	0.07	Open
P-64	0.68	0.00	0.00	Open
P-65	-144.08	0.41	0.07	Open
P-66	-213.10	1.36	1.04	Open
P-67	-2.70	0.02	0.00	Open
P-68	-218.50	1.39	1.09	Open
P-69	119.08	0.76	0.35	Open
P-70	119.08	0.76	0.36	Open
P-71	-112.24	0.72	0.32	Open
P-72	252.24	1.61	1.43	Open
P-73	125.74	0.80	0.39	Open
P-74	10.12	0.06	0.00	Open
P-75	-2.02	0.01	0.00	Open
P-76	-17.70	0.11	0.01	Open
P-77	-67.66	0.19	0.02	Open
P-78	-68.34	0.19	0.02	Open
P-79	12.44	0.08	0.00	Open
P-80	29.84	0.19	0.03	Open
P-81	-49.43	0.32	0.07	Open
P-82	54.95	0.35	0.08	Open
P-83	763.85	2.17	1.54	Open
P-84	174.60	1.11	0.72	Open
P-85	-8.10	0.05	0.00	Open
P-86	-1.36	0.01	0.00	Open
P-87	-2.02	0.01	0.00	Open
P-88	-0.68	0.00	0.00	Open
P-89	15.68	0.10	0.01	Open
P-90	-63.60	0.41	0.11	Open
P-91	45.90	0.29	0.06	Open
P-92	-43.28	0.28	0.05	Open
P-93	-69.37	0.44	0.13	Open
P-94	134.56	0.86	0.45	Open
P-95	-46.66	0.30	0.06	Open
P-96	-47.34	0.30	0.06	Open
P-97	85.77	0.55	0.19	Open
P-98	-205.85	1.31	0.98	Open
P-99	-11.48	0.03	0.00	Open
P-100	-2.02	0.01	0.00	Open
P-101	1419.12	1.01	0.17	Open

Sereno Canyon Phase 4 Max Day fire flow J4



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-21	-204.49	1.31	0.97	Open
PUMP1	0.00	0.00	0.00	Closed Pump
PUMP2	0.00	0.00	0.00	Closed Pump
PUMP3	0.00	0.00	0.00	Closed Pump
PUMP4	1419.13	0.00	-283.57	Open Pump
1	1419.12	4.03	0.00	Open Valve

Sereno Canyon Phase 4 Max Day fire flow J5

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

Input File: Sereno Canyon Phase 4 Max Day fire flow J5.net

Sereno Canyon

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in
P-1	J-32	J-36	955.6	8
P-2	J-36	J-37	121.6	8
P-3	J-30	J-38	957.7	8
P-4	J-38	J-39	400	8
P-5	J-39	J-29	841.9	8
P-6	J-39	J-40	83.23	8
P-7	J-28	J-27	505.5	8
P-8	J-2	J-3	452.1	12
P-9	J-3	J-4	195.3	12
P-10	J-4	J-41	148.7	12
P-11	J-14	J-11	890.1	8
P-12	J-12	J-11	340.4	12
P-13	J-11	J-9	458.8	12
P-14	J-3	J-19	223.6	8
P-15	J-20	J-21	310.5	8
P-16	J-21	J-22	93.71	8
P-17	J-22	J-24	192.7	8
P-18	J-24	J-20	511.2	8
P-19	J-20	J-19	293.1	8
P-20	J-5	J-17	587.4	8
P-22	J-18	J-4	378.4	8
P-23	J-7	J-13	601.7	8
P-24	J-8	J-14	610.4	8
P-25	J-14	J-15	540.4	8
P-26	J-15	J-16	224.8	8
P-27	J-22	J-23	128.3	8
P-28	J-21	J-41	699	8
P-29	J-41	J-5	172.5	12
P-30	J-5	J-6	197.8	12
P-31	J-6	J-7	466.8	12
P-32	J-7	J-8	339.3	12

Sereno Canyon Phase 4 Max Day fire flow J5

P-33	J-8	J-9	384	12
P-34	J-9	J-10	522	12
P-35	J-26	J-2	531.2	8
P-36	J-2	J-1	557.4	12
P-37	J-1	J-102	754.8	12
P-38	J-102	J-105	819.5	12



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in
P-39	J-105	J-107	511.2	12
P-40	J-107	J-111	1032	12
P-41	J-111	J-112	449.2	8
P-42	J-112	J-114	204.1	8
P-43	J-114	J-115	198.3	8
P-44	J-115	J-118	154.9	8
P-45	J-118	J-300	1588	8
P-46	J-300	J-302	757	8
P-47	J-302	J-304	469.1	12
P-48	J-304	J-1	500.9	12
P-49	J-1	J-27	271.1	8
P-50	J-27	J-29	112.3	8
P-51	J-29	J-30	411.1	8
P-52	J-30	J-42	43.31	8
P-53	J-42	J-31	191.5	8
P-54	J-35	J-36	438.3	8
P-55	J-106	J-105	800.8	8
P-56	J-33	J-123	375.5	8
P-57	J-100	J-103	951.8	8
P-58	J-104	J-35	775.1	8
P-59	J-110	J-108	595.1	8
P-60	J-108	J-109	353.1	8
P-61	S145	J-100	74.44	12
P-62	J-100	J-101	464.5	12
P-63	J-111	J-207	1424	12
P-64	J-207	J-208	997.1	8
P-65	J-207	J-206	1045	12
P-66	J-206	J-204	317.1	8
P-67	J-205	J-204	465.7	8
P-68	J-204	J-203	643.7	8
P-69	J-200	J-211	2106	8
P-70	J-211	J-203	536.3	8
P-71	J-203	J-201	2125	8
P-72	S145	J-200	327.3	8

Sereno Canyon Phase 4 Max Day fire flow J5

P-73	J-200	J-201	667.2	8
P-74	J-201	J-202	1059	8
P-75	J-120	J-119	186.5	8
P-76	J-119	J-121	389	8
P-77	J-210	J-209	1327	12
P-78	J-209	J-206	257.6	12
P-79	J-13	J-8	394	8
P-80	J-6	J-15	462	8
P-81	J-24	J-25	535	8
P-82	J-19	J-25	884	8
P-83	J-101	J-102	845.5	12
P-84	J-101	J-42	913.6	8
P-85	J-108	J-107	309.2	8



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in	
P-86	J-113	J-112	191.9	8	
P-87	J-117	J-114	573.8	8	
P-88	J-116	J-115	172.9	8	
P-89	J-119	J-118	421	8	
P-90	J-121	J-210	4137	8	
P-91	J-121	J-122	131.6	8	
P-92	J-32	J-33	221	8	
P-93	J-31	J-32	387	8	
P-94	J-103	J-31	1000	8	
P-95	J-33	J-34	245	8	
P-96	J-34	J-35	223.9	8	
P-97	J-103	J-104	1106	8	
P-98	J-305	J-304	506.9	8	
P-99	J-303	J-302	412.7	12	
P-100	J-301	J-300	178.5	8	
P-101	R-1	J-400	10	24	
P-21	J-26	J-305	427	8	
PUMP1	J-400	J-401	#N/A	#N/A	Pump
PUMP2	J-400	J-401	#N/A	#N/A	Pump
PUMP3	J-400	J-401	#N/A	#N/A	Pump
PUMP4	J-400	J-401	#N/A	#N/A	Pump
1	J-401	S145	#N/A	12	Valve

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
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Sereno Canyon Phase 4 Max Day fire flow J5

PUMP1	0.00	0.00	0.00	0.00	0.00	0.00
PUMP2	0.00	0.00	0.00	0.00	0.00	0.00
PUMP3	0.00	0.00	0.00	0.00	0.00	0.00
PUMP4	100.00	75.00	1188.25	101.08	101.08	0.00
Demand Charge:						0.00
Total Cost:						0.00

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-5	1000.00	2992.46	88.16	0.00
J-32	3.44	2998.94	90.10	0.00
J-36	3.80	2998.96	74.51	0.00
J-37	1.72	2998.96	71.05	0.00
J-30	4.48	2998.57	98.82	0.00
J-38	5.52	2998.27	82.01	0.00
J-39	3.44	2998.16	88.46	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-29	2.76	2997.94	94.22	0.00
J-40	2.06	2998.16	88.25	0.00
J-28	3.44	2997.63	102.53	0.00
J-27	2.06	2997.63	90.83	0.00
J-2	1.38	2995.48	93.80	0.00
J-3	0.00	2993.86	86.34	0.00
J-4	1.38	2993.37	87.04	0.00
J-41	5.52	2993.00	87.88	0.00
J-14	6.90	2992.42	90.74	0.00
J-11	4.14	2992.41	97.67	0.00
J-12	49.90	2992.41	91.60	0.00
J-9	0.00	2992.41	106.34	0.00
J-6	2.06	2992.44	88.59	0.00
J-19	3.44	2993.61	80.86	0.00
J-24	3.44	2993.44	80.79	0.00
J-20	31.00	2993.45	72.77	0.00
J-21	12.40	2993.39	72.75	0.00
J-22	3.10	2993.40	72.54	0.00
J-17	3.10	2992.46	101.16	0.00

Sereno Canyon Phase 4 Max Day fire flow J5

J-18	1.38	2993.37	95.49	0.00
J-7	4.14	2992.43	98.11	0.00
J-13	3.44	2992.42	108.51	0.00
J-8	3.80	2992.42	102.44	0.00
J-15	3.44	2992.43	80.13	0.00
J-16	2.06	2992.43	75.58	0.00
J-23	9.30	2993.40	70.37	0.00
J-303	11.48	2996.90	111.32	0.00
J-301	2.02	2997.15	116.19	0.00
J-10	47.88	2992.41	113.27	0.00
J-26	2.06	2995.98	99.65	0.00
J-1	0.00	2996.91	95.29	0.00
J-102	2.70	2998.06	100.99	0.00
J-105	3.38	2998.06	108.79	0.00
J-107	4.72	2998.06	113.55	0.00
J-111	4.06	2998.07	116.59	0.00
J-112	1.36	2997.91	125.19	0.00
J-114	1.36	2997.85	126.46	0.00
J-115	1.36	2997.79	127.73	0.00
J-118	1.36	2997.74	128.14	0.00
J-300	7.42	2997.15	117.06	0.00
J-302	2.70	2996.91	109.15	0.00
J-304	2.02	2996.89	102.21	0.00
J-42	0.00	2998.70	99.53	0.00
J-31	0.00	2998.89	96.58	0.00
J-35	0.00	2998.98	77.12	0.00
J-101	4.72	2999.36	115.20	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-106	3.38	2998.06	116.58	0.00
J-33	0.00	2998.95	84.91	0.00
J-123	3.38	2998.95	93.14	0.00
J-100	0.00	3000.42	121.94	0.00
J-103	3.38	2999.33	109.34	0.00
J-104	3.38	2999.12	85.41	0.00
J-117	2.02	2997.85	123.42	0.00
J-110	4.06	2998.06	108.79	0.00
J-108	2.02	2998.06	108.35	0.00
J-109	2.02	2998.06	107.49	0.00
J-305	1.36	2996.39	102.86	0.00
S145	0.00	3000.67	123.78	0.00
J-207	2.70	2998.16	114.03	0.00

Sereno Canyon Phase 4 Max Day fire flow J5

J-208	0.68	2998.16	116.63	0.00
J-206	0.68	2998.23	135.72	0.00
J-204	2.70	2998.56	128.93	0.00
J-205	2.70	2998.56	120.70	0.00
J-203	12.82	2999.27	121.44	0.00
J-200	7.42	3000.20	126.18	0.00
J-211	0.00	2999.46	118.06	0.00
J-201	3.38	2999.94	136.46	0.00
J-202	10.12	2999.94	117.83	0.00
J-119	0.00	2997.74	132.05	0.00
J-120	2.02	2997.74	136.38	0.00
J-121	0.00	2997.75	136.38	0.00
J-122	45.90	2997.74	138.98	0.00
J-210	4.06	2998.21	137.45	0.00
J-209	0.68	2998.23	135.29	0.00
J-113	1.36	2997.91	124.32	0.00
J-116	0.68	2997.79	127.30	0.00
J-25	5.52	2993.50	68.46	0.00
J-34	0.68	2998.97	82.75	0.00
J-400	0.00	2717.00	0.00	0.00
R-1	-1417.74	2717.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-1	-29.49	0.19	0.03	Open
P-2	1.72	0.01	0.00	Open
P-3	111.22	0.71	0.31	Open
P-4	105.70	0.67	0.28	Open
P-5	100.20	0.64	0.26	Open
P-6	2.06	0.01	0.00	Open



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Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-7	-3.44	0.02	0.00	Open
P-8	1207.34	3.42	3.59	Open
P-9	988.10	2.80	2.48	Open
P-10	985.34	2.80	2.47	Open
P-11	19.96	0.13	0.01	Open
P-12	-49.90	0.14	0.01	Open
P-13	-34.08	0.10	0.00	Open

Sereno Canyon Phase 4 Max Day fire flow J5

P-14	219.24	1.40	1.10	Open
P-15	89.05	0.57	0.21	Open
P-16	-74.39	0.47	0.15	Open
P-17	-86.79	0.55	0.20	Open
P-18	-27.91	0.18	0.02	Open
P-19	-147.96	0.94	0.53	Open
P-20	3.10	0.02	0.00	Open
P-22	-1.38	0.01	0.00	Open
P-23	15.88	0.10	0.01	Open
P-24	2.52	0.02	0.00	Open
P-25	-24.34	0.16	0.02	Open
P-26	2.06	0.01	0.00	Open
P-27	9.30	0.06	0.00	Open
P-28	151.04	0.96	0.55	Open
P-29	1130.86	3.21	3.18	Open
P-30	127.76	0.36	0.06	Open
P-31	95.86	0.27	0.03	Open
P-32	75.84	0.22	0.02	Open
P-33	81.96	0.23	0.02	Open
P-34	47.88	0.14	0.01	Open
P-35	202.20	1.29	0.95	Open
P-36	-1006.52	2.86	2.57	Open
P-37	-761.10	2.16	1.53	Open
P-38	-0.72	0.00	0.00	Open
P-39	-7.48	0.02	0.00	Open
P-40	-20.30	0.06	0.00	Open
P-41	116.18	0.74	0.34	Open
P-42	113.46	0.72	0.33	Open
P-43	110.08	0.70	0.31	Open
P-44	108.04	0.69	0.30	Open
P-45	122.30	0.78	0.37	Open
P-46	112.86	0.72	0.32	Open
P-47	98.68	0.28	0.03	Open
P-48	-108.96	0.31	0.04	Open
P-49	-354.38	2.26	2.67	Open
P-50	-359.88	2.30	2.75	Open
P-51	-262.44	1.68	1.53	Open
P-52	-378.14	2.41	3.02	Open
P-53	-203.71	1.30	0.96	Open
P-54	35.01	0.22	0.04	Open



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
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Sereno Canyon Phase 4 Max Day fire flow J5

P-55	-3.38	0.02	0.00	Open
P-56	3.38	0.02	0.00	Open
P-57	223.49	1.43	1.14	Open
P-58	82.31	0.53	0.18	Open
P-59	-4.06	0.03	0.00	Open
P-60	2.02	0.01	0.00	Open
P-61	1165.73	3.31	3.37	Open
P-62	942.23	2.67	2.27	Open
P-63	-140.54	0.40	0.07	Open
P-64	0.68	0.00	0.00	Open
P-65	-143.92	0.41	0.07	Open
P-66	-212.87	1.36	1.04	Open
P-67	-2.70	0.02	0.00	Open
P-68	-218.27	1.39	1.09	Open
P-69	118.97	0.76	0.35	Open
P-70	118.97	0.76	0.35	Open
P-71	-112.13	0.72	0.32	Open
P-72	252.01	1.61	1.42	Open
P-73	125.63	0.80	0.39	Open
P-74	10.12	0.06	0.00	Open
P-75	-2.02	0.01	0.00	Open
P-76	-17.64	0.11	0.01	Open
P-77	-67.60	0.19	0.02	Open
P-78	-68.28	0.19	0.02	Open
P-79	12.44	0.08	0.01	Open
P-80	29.84	0.19	0.03	Open
P-81	-62.31	0.40	0.11	Open
P-82	67.83	0.43	0.13	Open
P-83	763.08	2.16	1.54	Open
P-84	174.43	1.11	0.72	Open
P-85	-8.10	0.05	0.00	Open
P-86	-1.36	0.01	0.00	Open
P-87	-2.02	0.01	0.00	Open
P-88	-0.68	0.00	0.00	Open
P-89	15.62	0.10	0.01	Open
P-90	-63.54	0.41	0.11	Open
P-91	45.90	0.29	0.06	Open
P-92	-43.23	0.28	0.05	Open
P-93	-69.29	0.44	0.13	Open
P-94	134.43	0.86	0.44	Open
P-95	-46.61	0.30	0.06	Open
P-96	-47.29	0.30	0.06	Open
P-97	85.69	0.55	0.19	Open
P-98	-205.62	1.31	0.98	Open
P-99	-11.48	0.03	0.00	Open
P-100	-2.02	0.01	0.00	Open
P-101	1417.74	1.01	0.17	Open

Sereno Canyon Phase 4 Max Day fire flow J5



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-21	-204.26	1.30	0.96	Open
PUMP1	0.00	0.00	0.00	Closed Pump
PUMP2	0.00	0.00	0.00	Closed Pump
PUMP3	0.00	0.00	0.00	Closed Pump
PUMP4	1417.75	0.00	-283.67	Open Pump
1	1417.74	4.02	0.00	Open Valve

Sereno Canyon Phase 4 Max Day fire flow J6

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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: Sereno Canyon Phase 4 Max Day fire flow J6.net

Sereno Canyon

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in
P-1	J-32	J-36	955.6	8
P-2	J-36	J-37	121.6	8
P-3	J-30	J-38	957.7	8
P-4	J-38	J-39	400	8
P-5	J-39	J-29	841.9	8
P-6	J-39	J-40	83.23	8
P-7	J-28	J-27	505.5	8
P-8	J-2	J-3	452.1	12
P-9	J-3	J-4	195.3	12
P-10	J-4	J-41	148.7	12
P-11	J-14	J-11	890.1	8
P-12	J-12	J-11	340.4	12
P-13	J-11	J-9	458.8	12
P-14	J-3	J-19	223.6	8
P-15	J-20	J-21	310.5	8
P-16	J-21	J-22	93.71	8
P-17	J-22	J-24	192.7	8
P-18	J-24	J-20	511.2	8
P-19	J-20	J-19	293.1	8
P-20	J-5	J-17	587.4	8
P-22	J-18	J-4	378.4	8
P-23	J-7	J-13	601.7	8
P-24	J-8	J-14	610.4	8
P-25	J-14	J-15	540.4	8
P-26	J-15	J-16	224.8	8
P-27	J-22	J-23	128.3	8
P-28	J-21	J-41	699	8
P-29	J-41	J-5	172.5	12
P-30	J-5	J-6	197.8	12
P-31	J-6	J-7	466.8	12
P-32	J-7	J-8	339.3	12

Sereno Canyon Phase 4 Max Day fire flow J6

P-33	J-8	J-9	384	12
P-34	J-9	J-10	522	12
P-35	J-26	J-2	531.2	8
P-36	J-2	J-1	557.4	12
P-37	J-1	J-102	754.8	12
P-38	J-102	J-105	819.5	12



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in
P-39	J-105	J-107	511.2	12
P-40	J-107	J-111	1032	12
P-41	J-111	J-112	449.2	8
P-42	J-112	J-114	204.1	8
P-43	J-114	J-115	198.3	8
P-44	J-115	J-118	154.9	8
P-45	J-118	J-300	1588	8
P-46	J-300	J-302	757	8
P-47	J-302	J-304	469.1	12
P-48	J-304	J-1	500.9	12
P-49	J-1	J-27	271.1	8
P-50	J-27	J-29	112.3	8
P-51	J-29	J-30	411.1	8
P-52	J-30	J-42	43.31	8
P-53	J-42	J-31	191.5	8
P-54	J-35	J-36	438.3	8
P-55	J-106	J-105	800.8	8
P-56	J-33	J-123	375.5	8
P-57	J-100	J-103	951.8	8
P-58	J-104	J-35	775.1	8
P-59	J-110	J-108	595.1	8
P-60	J-108	J-109	353.1	8
P-61	S145	J-100	74.44	12
P-62	J-100	J-101	464.5	12
P-63	J-111	J-207	1424	12
P-64	J-207	J-208	997.1	8
P-65	J-207	J-206	1045	12
P-66	J-206	J-204	317.1	8
P-67	J-205	J-204	465.7	8
P-68	J-204	J-203	643.7	8
P-69	J-200	J-211	2106	8
P-70	J-211	J-203	536.3	8
P-71	J-203	J-201	2125	8
P-72	S145	J-200	327.3	8

Sereno Canyon Phase 4 Max Day fire flow J6

P-73	J-200	J-201	667.2	8
P-74	J-201	J-202	1059	8
P-75	J-120	J-119	186.5	8
P-76	J-119	J-121	389	8
P-77	J-210	J-209	1327	12
P-78	J-209	J-206	257.6	12
P-79	J-13	J-8	394	8
P-80	J-6	J-15	462	8
P-81	J-24	J-25	535	8
P-82	J-19	J-25	884	8
P-83	J-101	J-102	845.5	12
P-84	J-101	J-42	913.6	8
P-85	J-108	J-107	309.2	8



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in	
P-86	J-113	J-112	191.9	8	
P-87	J-117	J-114	573.8	8	
P-88	J-116	J-115	172.9	8	
P-89	J-119	J-118	421	8	
P-90	J-121	J-210	4137	8	
P-91	J-121	J-122	131.6	8	
P-92	J-32	J-33	221	8	
P-93	J-31	J-32	387	8	
P-94	J-103	J-31	1000	8	
P-95	J-33	J-34	245	8	
P-96	J-34	J-35	223.9	8	
P-97	J-103	J-104	1106	8	
P-98	J-305	J-304	506.9	8	
P-99	J-303	J-302	412.7	12	
P-100	J-301	J-300	178.5	8	
P-101	R-1	J-400	10	24	
P-21	J-26	J-305	427	8	
PUMP1	J-400	J-401	#N/A	#N/A	Pump
PUMP2	J-400	J-401	#N/A	#N/A	Pump
PUMP3	J-400	J-401	#N/A	#N/A	Pump
PUMP4	J-400	J-401	#N/A	#N/A	Pump
1	J-401	S145	#N/A	12	Valve

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
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Sereno Canyon Phase 4 Max Day fire flow J6

PUMP1	0.00	0.00	0.00	0.00	0.00	0.00
PUMP2	0.00	0.00	0.00	0.00	0.00	0.00
PUMP3	0.00	0.00	0.00	0.00	0.00	0.00
PUMP4	100.00	75.00	1188.03	101.11	101.11	0.00

Demand Charge: 0.00
Total Cost: 0.00

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-6	1000.00	2991.77	88.29	0.00
J-32	3.44	2998.88	90.08	0.00
J-36	3.80	2998.91	74.49	0.00
J-37	1.72	2998.91	71.02	0.00
J-30	4.48	2998.52	98.80	0.00
J-38	5.52	2998.22	81.99	0.00
J-39	3.44	2998.11	88.44	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-29	2.76	2997.89	94.19	0.00
J-40	2.06	2998.11	88.22	0.00
J-28	3.44	2997.58	102.51	0.00
J-27	2.06	2997.58	90.81	0.00
J-2	1.38	2995.42	93.78	0.00
J-3	0.00	2993.80	86.31	0.00
J-4	1.38	2993.31	87.01	0.00
J-41	5.52	2992.94	87.85	0.00
J-14	6.90	2991.75	90.45	0.00
J-11	4.14	2991.74	97.38	0.00
J-12	49.90	2991.73	91.31	0.00
J-9	0.00	2991.74	106.04	0.00
J-19	3.44	2993.55	80.83	0.00
J-24	3.44	2993.38	80.76	0.00
J-20	31.00	2993.39	72.75	0.00
J-21	12.40	2993.33	72.72	0.00
J-22	3.10	2993.34	72.51	0.00
J-5	2.76	2992.39	88.13	0.00
J-17	3.10	2992.39	101.13	0.00

Sereno Canyon Phase 4 Max Day fire flow J6

J-18	1.38	2993.31	95.46	0.00
J-7	4.14	2991.75	97.82	0.00
J-13	3.44	2991.75	108.22	0.00
J-8	3.80	2991.75	102.15	0.00
J-15	3.44	2991.76	79.84	0.00
J-16	2.06	2991.76	75.29	0.00
J-23	9.30	2993.34	70.34	0.00
J-303	11.48	2996.85	111.29	0.00
J-301	2.02	2997.09	116.16	0.00
J-10	47.88	2991.73	112.98	0.00
J-26	2.06	2995.93	99.63	0.00
J-1	0.00	2996.85	95.26	0.00
J-102	2.70	2998.01	100.96	0.00
J-105	3.38	2998.01	108.76	0.00
J-107	4.72	2998.01	113.53	0.00
J-111	4.06	2998.01	116.56	0.00
J-112	1.36	2997.86	125.16	0.00
J-114	1.36	2997.79	126.43	0.00
J-115	1.36	2997.73	127.71	0.00
J-118	1.36	2997.69	128.12	0.00
J-300	7.42	2997.09	117.03	0.00
J-302	2.70	2996.85	109.13	0.00
J-304	2.02	2996.83	102.19	0.00
J-42	0.00	2998.65	99.51	0.00
J-31	0.00	2998.83	96.55	0.00
J-35	0.00	2998.93	77.10	0.00
J-101	4.72	2999.31	115.17	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-106	3.38	2998.01	116.56	0.00
J-33	0.00	2998.90	84.88	0.00
J-123	3.38	2998.90	93.11	0.00
J-100	0.00	3000.36	121.92	0.00
J-103	3.38	2999.28	109.31	0.00
J-104	3.38	2999.07	85.39	0.00
J-117	2.02	2997.79	123.40	0.00
J-110	4.06	2998.01	108.76	0.00
J-108	2.02	2998.01	108.33	0.00
J-109	2.02	2998.01	107.46	0.00
J-305	1.36	2996.34	102.84	0.00
S145	0.00	3000.61	123.76	0.00
J-207	2.70	2998.11	114.00	0.00

Sereno Canyon Phase 4 Max Day fire flow J6

J-208	0.68	2998.11	116.60	0.00
J-206	0.68	2998.18	135.70	0.00
J-204	2.70	2998.51	128.91	0.00
J-205	2.70	2998.51	120.68	0.00
J-203	12.82	2999.21	121.42	0.00
J-200	7.42	3000.15	126.15	0.00
J-211	0.00	2999.40	118.03	0.00
J-201	3.38	2999.89	136.44	0.00
J-202	10.12	2999.88	117.81	0.00
J-119	0.00	2997.69	132.02	0.00
J-120	2.02	2997.69	136.35	0.00
J-121	0.00	2997.69	136.36	0.00
J-122	45.90	2997.68	138.95	0.00
J-210	4.06	2998.15	137.42	0.00
J-209	0.68	2998.17	135.27	0.00
J-113	1.36	2997.86	124.30	0.00
J-116	0.68	2997.73	127.27	0.00
J-25	5.52	2993.44	68.44	0.00
J-34	0.68	2998.91	82.72	0.00
J-400	0.00	2717.00	0.00	0.00
R-1	-1418.44	2717.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-1	-29.51	0.19	0.03	Open
P-2	1.72	0.01	0.00	Open
P-3	111.28	0.71	0.31	Open
P-4	105.76	0.68	0.29	Open
P-5	100.26	0.64	0.26	Open
P-6	2.06	0.01	0.00	Open



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Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-7	-3.44	0.02	0.00	Open
P-8	1208.04	3.43	3.60	Open
P-9	988.70	2.80	2.48	Open
P-10	985.94	2.80	2.47	Open
P-11	19.96	0.13	0.01	Open
P-12	-49.90	0.14	0.01	Open
P-13	-34.08	0.10	0.00	Open

Sereno Canyon Phase 4 Max Day fire flow J6

P-14	219.34	1.40	1.10	Open
P-15	89.11	0.57	0.21	Open
P-16	-74.44	0.48	0.15	Open
P-17	-86.84	0.55	0.20	Open
P-18	-27.93	0.18	0.02	Open
P-19	-148.04	0.94	0.53	Open
P-20	3.10	0.02	0.00	Open
P-22	-1.38	0.01	0.00	Open
P-23	15.88	0.10	0.01	Open
P-24	2.52	0.02	0.00	Open
P-25	-24.34	0.16	0.02	Open
P-26	2.06	0.01	0.00	Open
P-27	9.30	0.06	0.00	Open
P-28	151.14	0.96	0.55	Open
P-29	1131.56	3.21	3.19	Open
P-30	1125.70	3.19	3.16	Open
P-31	95.86	0.27	0.03	Open
P-32	75.84	0.22	0.02	Open
P-33	81.96	0.23	0.02	Open
P-34	47.88	0.14	0.01	Open
P-35	202.32	1.29	0.95	Open
P-36	-1007.10	2.86	2.57	Open
P-37	-761.53	2.16	1.53	Open
P-38	-0.76	0.00	0.00	Open
P-39	-7.52	0.02	0.00	Open
P-40	-20.34	0.06	0.00	Open
P-41	116.22	0.74	0.34	Open
P-42	113.50	0.72	0.32	Open
P-43	110.12	0.70	0.31	Open
P-44	108.08	0.69	0.30	Open
P-45	122.37	0.78	0.37	Open
P-46	112.93	0.72	0.32	Open
P-47	98.75	0.28	0.03	Open
P-48	-109.01	0.31	0.04	Open
P-49	-354.58	2.26	2.68	Open
P-50	-360.08	2.30	2.75	Open
P-51	-262.58	1.68	1.54	Open
P-52	-378.34	2.41	3.02	Open
P-53	-203.82	1.30	0.96	Open
P-54	35.03	0.22	0.04	Open



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
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Sereno Canyon Phase 4 Max Day fire flow J6

P-55	-3.38	0.02	0.00	Open
P-56	3.38	0.02	0.00	Open
P-57	223.60	1.43	1.14	Open
P-58	82.35	0.53	0.18	Open
P-59	-4.06	0.03	0.00	Open
P-60	2.02	0.01	0.00	Open
P-61	1166.31	3.31	3.37	Open
P-62	942.71	2.67	2.27	Open
P-63	-140.62	0.40	0.07	Open
P-64	0.68	0.00	0.00	Open
P-65	-144.00	0.41	0.07	Open
P-66	-212.99	1.36	1.04	Open
P-67	-2.70	0.02	0.00	Open
P-68	-218.39	1.39	1.09	Open
P-69	119.03	0.76	0.35	Open
P-70	119.03	0.76	0.35	Open
P-71	-112.18	0.72	0.32	Open
P-72	252.13	1.61	1.42	Open
P-73	125.68	0.80	0.39	Open
P-74	10.12	0.06	0.00	Open
P-75	-2.02	0.01	0.00	Open
P-76	-17.67	0.11	0.01	Open
P-77	-67.63	0.19	0.02	Open
P-78	-68.31	0.19	0.02	Open
P-79	12.44	0.08	0.00	Open
P-80	29.84	0.19	0.03	Open
P-81	-62.35	0.40	0.11	Open
P-82	67.87	0.43	0.13	Open
P-83	763.47	2.17	1.54	Open
P-84	174.52	1.11	0.72	Open
P-85	-8.10	0.05	0.00	Open
P-86	-1.36	0.01	0.00	Open
P-87	-2.02	0.01	0.00	Open
P-88	-0.68	0.00	0.00	Open
P-89	15.65	0.10	0.01	Open
P-90	-63.57	0.41	0.11	Open
P-91	45.90	0.29	0.06	Open
P-92	-43.26	0.28	0.05	Open
P-93	-69.33	0.44	0.13	Open
P-94	134.50	0.86	0.44	Open
P-95	-46.64	0.30	0.06	Open
P-96	-47.32	0.30	0.06	Open
P-97	85.73	0.55	0.19	Open
P-98	-205.74	1.31	0.98	Open
P-99	-11.48	0.03	0.00	Open
P-100	-2.02	0.01	0.00	Open
P-101	1418.44	1.01	0.17	Open

Sereno Canyon Phase 4 Max Day fire flow J6



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-21	-204.38	1.30	0.97	Open
PUMP1	0.00	0.00	0.00	Closed Pump
PUMP2	0.00	0.00	0.00	Closed Pump
PUMP3	0.00	0.00	0.00	Closed Pump
PUMP4	1418.45	0.00	-283.62	Open Pump
1	1418.44	4.02	0.00	Open Valve

Sereno Canyon Phase 4 Max Day fire flow J7

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12/2/2017 10:27:24 AM

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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: Sereno Canyon Phase 4 Max Day fire flow J7.net

Sereno Canyon

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in
P-1	J-32	J-36	955.6	8
P-2	J-36	J-37	121.6	8
P-3	J-30	J-38	957.7	8
P-4	J-38	J-39	400	8
P-5	J-39	J-29	841.9	8
P-6	J-39	J-40	83.23	8
P-7	J-28	J-27	505.5	8
P-8	J-2	J-3	452.1	12
P-9	J-3	J-4	195.3	12
P-10	J-4	J-41	148.7	12
P-11	J-14	J-11	890.1	8
P-12	J-12	J-11	340.4	12
P-13	J-11	J-9	458.8	12
P-14	J-3	J-19	223.6	8
P-15	J-20	J-21	310.5	8
P-16	J-21	J-22	93.71	8
P-17	J-22	J-24	192.7	8
P-18	J-24	J-20	511.2	8
P-19	J-20	J-19	293.1	8
P-20	J-5	J-17	587.4	8
P-22	J-18	J-4	378.4	8
P-23	J-7	J-13	601.7	8
P-24	J-8	J-14	610.4	8
P-25	J-14	J-15	540.4	8
P-26	J-15	J-16	224.8	8
P-27	J-22	J-23	128.3	8
P-28	J-21	J-41	699	8
P-29	J-41	J-5	172.5	12
P-30	J-5	J-6	197.8	12
P-31	J-6	J-7	466.8	12
P-32	J-7	J-8	339.3	12

Sereno Canyon Phase 4 Max Day fire flow J7

P-33	J-8	J-9	384	12
P-34	J-9	J-10	522	12
P-35	J-26	J-2	531.2	8
P-36	J-2	J-1	557.4	12
P-37	J-1	J-102	754.8	12
P-38	J-102	J-105	819.5	12



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in
P-39	J-105	J-107	511.2	12
P-40	J-107	J-111	1032	12
P-41	J-111	J-112	449.2	8
P-42	J-112	J-114	204.1	8
P-43	J-114	J-115	198.3	8
P-44	J-115	J-118	154.9	8
P-45	J-118	J-300	1588	8
P-46	J-300	J-302	757	8
P-47	J-302	J-304	469.1	12
P-48	J-304	J-1	500.9	12
P-49	J-1	J-27	271.1	8
P-50	J-27	J-29	112.3	8
P-51	J-29	J-30	411.1	8
P-52	J-30	J-42	43.31	8
P-53	J-42	J-31	191.5	8
P-54	J-35	J-36	438.3	8
P-55	J-106	J-105	800.8	8
P-56	J-33	J-123	375.5	8
P-57	J-100	J-103	951.8	8
P-58	J-104	J-35	775.1	8
P-59	J-110	J-108	595.1	8
P-60	J-108	J-109	353.1	8
P-61	S145	J-100	74.44	12
P-62	J-100	J-101	464.5	12
P-63	J-111	J-207	1424	12
P-64	J-207	J-208	997.1	8
P-65	J-207	J-206	1045	12
P-66	J-206	J-204	317.1	8
P-67	J-205	J-204	465.7	8
P-68	J-204	J-203	643.7	8
P-69	J-200	J-211	2106	8
P-70	J-211	J-203	536.3	8
P-71	J-203	J-201	2125	8
P-72	S145	J-200	327.3	8

Sereno Canyon Phase 4 Max Day fire flow J7

P-73	J-200	J-201	667.2	8
P-74	J-201	J-202	1059	8
P-75	J-120	J-119	186.5	8
P-76	J-119	J-121	389	8
P-77	J-210	J-209	1327	12
P-78	J-209	J-206	257.6	12
P-79	J-13	J-8	394	8
P-80	J-6	J-15	462	8
P-81	J-24	J-25	535	8
P-82	J-19	J-25	884	8
P-83	J-101	J-102	845.5	12
P-84	J-101	J-42	913.6	8
P-85	J-108	J-107	309.2	8



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in	
P-86	J-113	J-112	191.9	8	
P-87	J-117	J-114	573.8	8	
P-88	J-116	J-115	172.9	8	
P-89	J-119	J-118	421	8	
P-90	J-121	J-210	4137	8	
P-91	J-121	J-122	131.6	8	
P-92	J-32	J-33	221	8	
P-93	J-31	J-32	387	8	
P-94	J-103	J-31	1000	8	
P-95	J-33	J-34	245	8	
P-96	J-34	J-35	223.9	8	
P-97	J-103	J-104	1106	8	
P-98	J-305	J-304	506.9	8	
P-99	J-303	J-302	412.7	12	
P-100	J-301	J-300	178.5	8	
P-101	R-1	J-400	10	24	
P-21	J-26	J-305	427	8	
PUMP1	J-400	J-401	#N/A	#N/A	Pump
PUMP2	J-400	J-401	#N/A	#N/A	Pump
PUMP3	J-400	J-401	#N/A	#N/A	Pump
PUMP4	J-400	J-401	#N/A	#N/A	Pump
1	J-401	S145	#N/A	12	Valve

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
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Sereno Canyon Phase 4 Max Day fire flow J7

PUMP1	0.00	0.00	0.00	0.00	0.00	0.00
PUMP2	0.00	0.00	0.00	0.00	0.00	0.00
PUMP3	0.00	0.00	0.00	0.00	0.00	0.00
PUMP4	100.00	75.00	1188.68	101.02	101.02	0.00

Demand Charge: 0.00
Total Cost: 0.00

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-7	1000.00	2990.93	97.46	0.00
J-32	3.44	2999.04	90.15	0.00
J-36	3.80	2999.07	74.56	0.00
J-37	1.72	2999.07	71.09	0.00
J-30	4.48	2998.68	98.87	0.00
J-38	5.52	2998.38	82.06	0.00
J-39	3.44	2998.27	88.51	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-29	2.76	2998.05	94.27	0.00
J-40	2.06	2998.27	88.29	0.00
J-28	3.44	2997.74	102.58	0.00
J-27	2.06	2997.74	90.88	0.00
J-2	1.38	2995.59	93.85	0.00
J-3	0.00	2993.97	86.39	0.00
J-4	1.38	2993.49	87.09	0.00
J-41	5.52	2993.12	87.93	0.00
J-14	6.90	2991.09	90.17	0.00
J-11	4.14	2990.93	97.03	0.00
J-12	49.90	2990.93	90.96	0.00
J-9	0.00	2990.93	105.69	0.00
J-6	2.07	2991.95	88.37	0.00
J-19	3.44	2993.73	80.91	0.00
J-24	3.44	2993.56	80.84	0.00
J-20	31.00	2993.57	72.83	0.00
J-21	12.40	2993.51	72.80	0.00
J-22	3.10	2993.52	72.59	0.00
J-5	2.76	2992.57	88.21	0.00

Sereno Canyon Phase 4 Max Day fire flow J7

J-17	3.10	2992.57	101.21	0.00
J-18	1.38	2993.49	95.54	0.00
J-13	3.44	2990.93	107.86	0.00
J-8	3.80	2990.93	101.80	0.00
J-15	3.44	2991.54	79.75	0.00
J-16	2.06	2991.54	75.20	0.00
J-23	9.30	2993.52	70.42	0.00
J-303	11.48	2997.01	111.36	0.00
J-301	2.02	2997.26	116.24	0.00
J-10	47.88	2990.93	112.63	0.00
J-26	2.06	2996.09	99.70	0.00
J-1	0.00	2997.02	95.33	0.00
J-102	2.70	2998.17	101.03	0.00
J-105	3.38	2998.17	108.83	0.00
J-107	4.72	2998.17	113.60	0.00
J-111	4.06	2998.17	116.63	0.00
J-112	1.36	2998.02	125.23	0.00
J-114	1.36	2997.95	126.50	0.00
J-115	1.36	2997.89	127.78	0.00
J-118	1.36	2997.85	128.19	0.00
J-300	7.42	2997.26	117.10	0.00
J-302	2.70	2997.01	109.20	0.00
J-304	2.02	2997.00	102.26	0.00
J-42	0.00	2998.81	99.58	0.00
J-31	0.00	2998.99	96.62	0.00
J-35	0.00	2999.09	77.16	0.00
J-101	4.72	2999.47	115.24	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-106	3.38	2998.17	116.63	0.00
J-33	0.00	2999.06	84.95	0.00
J-123	3.38	2999.06	93.18	0.00
J-100	0.00	3000.52	121.98	0.00
J-103	3.38	2999.44	109.38	0.00
J-104	3.38	2999.22	85.46	0.00
J-117	2.02	2997.95	123.47	0.00
J-110	4.06	2998.17	108.83	0.00
J-108	2.02	2998.17	108.40	0.00
J-109	2.02	2998.17	107.53	0.00
J-305	1.36	2996.50	102.91	0.00
S145	0.00	3000.77	123.82	0.00
J-207	2.70	2998.27	114.07	0.00

Sereno Canyon Phase 4 Max Day fire flow J7

J-208	0.68	2998.27	116.67	0.00
J-206	0.68	2998.34	135.77	0.00
J-204	2.70	2998.67	128.98	0.00
J-205	2.70	2998.67	120.75	0.00
J-203	12.82	2999.37	121.48	0.00
J-200	7.42	3000.31	126.22	0.00
J-211	0.00	2999.56	118.10	0.00
J-201	3.38	3000.04	136.51	0.00
J-202	10.12	3000.04	117.88	0.00
J-119	0.00	2997.85	132.09	0.00
J-120	2.02	2997.85	136.43	0.00
J-121	0.00	2997.86	136.43	0.00
J-122	45.90	2997.85	139.02	0.00
J-210	4.06	2998.31	137.49	0.00
J-209	0.68	2998.34	135.34	0.00
J-113	1.36	2998.02	124.37	0.00
J-116	0.68	2997.89	127.34	0.00
J-25	5.52	2993.62	68.51	0.00
J-34	0.68	2999.07	82.79	0.00
J-400	0.00	2717.00	0.00	0.00
R-1	-1416.37	2717.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-1	-29.46	0.19	0.03	Open
P-2	1.72	0.01	0.00	Open
P-3	111.11	0.71	0.31	Open
P-4	105.59	0.67	0.28	Open
P-5	100.09	0.64	0.26	Open
P-6	2.06	0.01	0.00	Open



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Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-7	-3.44	0.02	0.00	Open
P-8	1205.97	3.42	3.59	Open
P-9	986.94	2.80	2.47	Open
P-10	984.18	2.79	2.46	Open
P-11	81.95	0.52	0.18	Open
P-12	-49.90	0.14	0.01	Open
P-13	27.91	0.08	0.00	Open

Sereno Canyon Phase 4 Max Day fire flow J7

P-14	219.03	1.40	1.10	Open
P-15	88.94	0.57	0.21	Open
P-16	-74.28	0.47	0.15	Open
P-17	-86.68	0.55	0.20	Open
P-18	-27.88	0.18	0.02	Open
P-19	-147.82	0.94	0.53	Open
P-20	3.10	0.02	0.00	Open
P-22	-1.38	0.01	0.00	Open
P-23	-11.32	0.07	0.00	Open
P-24	-100.76	0.64	0.26	Open
P-25	-189.61	1.21	0.84	Open
P-26	2.06	0.01	0.00	Open
P-27	9.30	0.06	0.00	Open
P-28	150.83	0.96	0.55	Open
P-29	1129.49	3.20	3.18	Open
P-30	1123.63	3.19	3.14	Open
P-31	926.45	2.63	2.20	Open
P-32	-62.24	0.18	0.02	Open
P-33	19.97	0.06	0.00	Open
P-34	47.88	0.14	0.01	Open
P-35	201.97	1.29	0.94	Open
P-36	-1005.38	2.85	2.56	Open
P-37	-760.26	2.16	1.53	Open
P-38	-0.64	0.00	0.00	Open
P-39	-7.40	0.02	0.00	Open
P-40	-20.22	0.06	0.00	Open
P-41	116.09	0.74	0.34	Open
P-42	113.37	0.72	0.32	Open
P-43	109.99	0.70	0.31	Open
P-44	107.95	0.69	0.29	Open
P-45	122.15	0.78	0.37	Open
P-46	112.71	0.72	0.32	Open
P-47	98.53	0.28	0.03	Open
P-48	-108.88	0.31	0.04	Open
P-49	-354.00	2.26	2.67	Open
P-50	-359.50	2.29	2.75	Open
P-51	-262.16	1.67	1.53	Open
P-52	-377.76	2.41	3.01	Open
P-53	-203.50	1.30	0.96	Open
P-54	34.98	0.22	0.04	Open



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
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Sereno Canyon Phase 4 Max Day fire flow J7

P-55	-3.38	0.02	0.00	Open
P-56	3.38	0.02	0.00	Open
P-57	223.28	1.43	1.14	Open
P-58	82.22	0.52	0.18	Open
P-59	-4.06	0.03	0.00	Open
P-60	2.02	0.01	0.00	Open
P-61	1164.58	3.30	3.36	Open
P-62	941.30	2.67	2.27	Open
P-63	-140.37	0.40	0.07	Open
P-64	0.68	0.00	0.00	Open
P-65	-143.75	0.41	0.07	Open
P-66	-212.65	1.36	1.04	Open
P-67	-2.70	0.02	0.00	Open
P-68	-218.05	1.39	1.09	Open
P-69	118.85	0.76	0.35	Open
P-70	118.85	0.76	0.35	Open
P-71	-112.02	0.71	0.32	Open
P-72	251.79	1.61	1.42	Open
P-73	125.52	0.80	0.39	Open
P-74	10.12	0.06	0.00	Open
P-75	-2.02	0.01	0.00	Open
P-76	-17.58	0.11	0.01	Open
P-77	-67.54	0.19	0.02	Open
P-78	-68.22	0.19	0.02	Open
P-79	-14.76	0.09	0.01	Open
P-80	195.11	1.25	0.89	Open
P-81	-62.25	0.40	0.11	Open
P-82	67.77	0.43	0.12	Open
P-83	762.32	2.16	1.53	Open
P-84	174.26	1.11	0.72	Open
P-85	-8.10	0.05	0.00	Open
P-86	-1.36	0.01	0.00	Open
P-87	-2.02	0.01	0.00	Open
P-88	-0.68	0.00	0.00	Open
P-89	15.56	0.10	0.01	Open
P-90	-63.48	0.41	0.11	Open
P-91	45.90	0.29	0.06	Open
P-92	-43.19	0.28	0.06	Open
P-93	-69.20	0.44	0.13	Open
P-94	134.29	0.86	0.44	Open
P-95	-46.57	0.30	0.06	Open
P-96	-47.25	0.30	0.06	Open
P-97	85.60	0.55	0.19	Open
P-98	-205.39	1.31	0.97	Open
P-99	-11.48	0.03	0.00	Open
P-100	-2.02	0.01	0.00	Open
P-101	1416.37	1.00	0.17	Open

Sereno Canyon Phase 4 Max Day fire flow J7



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-21	-204.03	1.30	0.96	Open
PUMP1	0.00	0.00	0.00	Closed Pump
PUMP2	0.00	0.00	0.00	Closed Pump
PUMP3	0.00	0.00	0.00	Closed Pump
PUMP4	1416.38	0.00	-283.77	Open Pump
1	1416.37	4.02	0.00	Open Valve

Sereno Canyon Phase 4 Max Day fire flow J8

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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: Sereno Canyon Phase 4 Max Day fire flow J8.net

Sereno Canyon

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in
P-1	J-32	J-36	955.6	8
P-2	J-36	J-37	121.6	8
P-3	J-30	J-38	957.7	8
P-4	J-38	J-39	400	8
P-5	J-39	J-29	841.9	8
P-6	J-39	J-40	83.23	8
P-7	J-28	J-27	505.5	8
P-8	J-2	J-3	452.1	12
P-9	J-3	J-4	195.3	12
P-10	J-4	J-41	148.7	12
P-11	J-14	J-11	890.1	8
P-12	J-12	J-11	340.4	12
P-13	J-11	J-9	458.8	12
P-14	J-3	J-19	223.6	8
P-15	J-20	J-21	310.5	8
P-16	J-21	J-22	93.71	8
P-17	J-22	J-24	192.7	8
P-18	J-24	J-20	511.2	8
P-19	J-20	J-19	293.1	8
P-20	J-5	J-17	587.4	8
P-22	J-18	J-4	378.4	8
P-23	J-7	J-13	601.7	8
P-24	J-8	J-14	610.4	8
P-25	J-14	J-15	540.4	8
P-26	J-15	J-16	224.8	8
P-27	J-22	J-23	128.3	8
P-28	J-21	J-41	699	8
P-29	J-41	J-5	172.5	12
P-30	J-5	J-6	197.8	12
P-31	J-6	J-7	466.8	12
P-32	J-7	J-8	339.3	12

Sereno Canyon Phase 4 Max Day fire flow J8

P-33	J-8	J-9	384	12
P-34	J-9	J-10	522	12
P-35	J-26	J-2	531.2	8
P-36	J-2	J-1	557.4	12
P-37	J-1	J-102	754.8	12
P-38	J-102	J-105	819.5	12



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in
P-39	J-105	J-107	511.2	12
P-40	J-107	J-111	1032	12
P-41	J-111	J-112	449.2	8
P-42	J-112	J-114	204.1	8
P-43	J-114	J-115	198.3	8
P-44	J-115	J-118	154.9	8
P-45	J-118	J-300	1588	8
P-46	J-300	J-302	757	8
P-47	J-302	J-304	469.1	12
P-48	J-304	J-1	500.9	12
P-49	J-1	J-27	271.1	8
P-50	J-27	J-29	112.3	8
P-51	J-29	J-30	411.1	8
P-52	J-30	J-42	43.31	8
P-53	J-42	J-31	191.5	8
P-54	J-35	J-36	438.3	8
P-55	J-106	J-105	800.8	8
P-56	J-33	J-123	375.5	8
P-57	J-100	J-103	951.8	8
P-58	J-104	J-35	775.1	8
P-59	J-110	J-108	595.1	8
P-60	J-108	J-109	353.1	8
P-61	S145	J-100	74.44	12
P-62	J-100	J-101	464.5	12
P-63	J-111	J-207	1424	12
P-64	J-207	J-208	997.1	8
P-65	J-207	J-206	1045	12
P-66	J-206	J-204	317.1	8
P-67	J-205	J-204	465.7	8
P-68	J-204	J-203	643.7	8
P-69	J-200	J-211	2106	8
P-70	J-211	J-203	536.3	8
P-71	J-203	J-201	2125	8
P-72	S145	J-200	327.3	8

Sereno Canyon Phase 4 Max Day fire flow J8

P-73	J-200	J-201	667.2	8
P-74	J-201	J-202	1059	8
P-75	J-120	J-119	186.5	8
P-76	J-119	J-121	389	8
P-77	J-210	J-209	1327	12
P-78	J-209	J-206	257.6	12
P-79	J-13	J-8	394	8
P-80	J-6	J-15	462	8
P-81	J-24	J-25	535	8
P-82	J-19	J-25	884	8
P-83	J-101	J-102	845.5	12
P-84	J-101	J-42	913.6	8
P-85	J-108	J-107	309.2	8



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in	
P-86	J-113	J-112	191.9	8	
P-87	J-117	J-114	573.8	8	
P-88	J-116	J-115	172.9	8	
P-89	J-119	J-118	421	8	
P-90	J-121	J-210	4137	8	
P-91	J-121	J-122	131.6	8	
P-92	J-32	J-33	221	8	
P-93	J-31	J-32	387	8	
P-94	J-103	J-31	1000	8	
P-95	J-33	J-34	245	8	
P-96	J-34	J-35	223.9	8	
P-97	J-103	J-104	1106	8	
P-98	J-305	J-304	506.9	8	
P-99	J-303	J-302	412.7	12	
P-100	J-301	J-300	178.5	8	
P-101	R-1	J-400	10	24	
P-21	J-26	J-305	427	8	
PUMP1	J-400	J-401	#N/A	#N/A	Pump
PUMP2	J-400	J-401	#N/A	#N/A	Pump
PUMP3	J-400	J-401	#N/A	#N/A	Pump
PUMP4	J-400	J-401	#N/A	#N/A	Pump
1	J-401	S145	#N/A	12	Valve

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
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Sereno Canyon Phase 4 Max Day fire flow J8

PUMP1	0.00	0.00	0.00	0.00	0.00	0.00
PUMP2	0.00	0.00	0.00	0.00	0.00	0.00
PUMP3	0.00	0.00	0.00	0.00	0.00	0.00
PUMP4	100.00	75.00	1188.57	101.03	101.03	0.00

Demand Charge: 0.00
Total Cost: 0.00

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-8	1000.00	2990.48	101.60	0.00
J-32	3.44	2999.02	90.13	0.00
J-36	3.80	2999.04	74.55	0.00
J-37	1.72	2999.04	71.08	0.00
J-30	4.48	2998.65	98.86	0.00
J-38	5.52	2998.36	82.05	0.00
J-39	3.44	2998.24	88.50	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-29	2.76	2998.02	94.25	0.00
J-40	2.06	2998.24	88.28	0.00
J-28	3.44	2997.72	102.57	0.00
J-27	2.06	2997.72	90.87	0.00
J-2	1.38	2995.56	93.84	0.00
J-3	0.00	2993.94	86.38	0.00
J-4	1.38	2993.46	87.08	0.00
J-41	5.52	2993.09	87.91	0.00
J-14	6.90	2990.71	90.00	0.00
J-11	4.14	2990.48	96.84	0.00
J-12	49.90	2990.48	90.77	0.00
J-9	0.00	2990.48	105.50	0.00
J-6	2.07	2991.92	88.36	0.00
J-19	3.44	2993.70	80.90	0.00
J-24	3.44	2993.53	80.82	0.00
J-20	31.00	2993.54	72.81	0.00
J-21	12.40	2993.48	72.78	0.00
J-22	3.10	2993.49	72.57	0.00
J-5	2.76	2992.55	88.20	0.00

Sereno Canyon Phase 4 Max Day fire flow J8

J-17	3.10	2992.54	101.20	0.00
J-18	1.38	2993.46	95.53	0.00
J-7	4.14	2990.97	97.48	0.00
J-13	3.44	2990.67	107.75	0.00
J-15	3.44	2991.35	79.66	0.00
J-16	2.06	2991.35	75.11	0.00
J-23	9.30	2993.49	70.41	0.00
J-303	11.48	2996.99	111.35	0.00
J-301	2.02	2997.23	116.22	0.00
J-10	47.88	2990.48	112.43	0.00
J-26	2.06	2996.07	99.69	0.00
J-1	0.00	2996.99	95.32	0.00
J-102	2.70	2998.14	101.02	0.00
J-105	3.38	2998.14	108.82	0.00
J-107	4.72	2998.14	113.59	0.00
J-111	4.06	2998.15	116.62	0.00
J-112	1.36	2997.99	125.22	0.00
J-114	1.36	2997.93	126.49	0.00
J-115	1.36	2997.87	127.77	0.00
J-118	1.36	2997.82	128.18	0.00
J-300	7.42	2997.23	117.09	0.00
J-302	2.70	2996.99	109.19	0.00
J-304	2.02	2996.97	102.25	0.00
J-42	0.00	2998.78	99.57	0.00
J-31	0.00	2998.97	96.61	0.00
J-35	0.00	2999.06	77.15	0.00
J-101	4.72	2999.44	115.23	0.00



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Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-106	3.38	2998.14	116.62	0.00
J-33	0.00	2999.03	84.94	0.00
J-123	3.38	2999.03	93.17	0.00
J-100	0.00	3000.49	121.97	0.00
J-103	3.38	2999.41	109.37	0.00
J-104	3.38	2999.20	85.45	0.00
J-117	2.02	2997.93	123.46	0.00
J-110	4.06	2998.14	108.82	0.00
J-108	2.02	2998.14	108.39	0.00
J-109	2.02	2998.14	107.52	0.00
J-305	1.36	2996.48	102.90	0.00
S145	0.00	3000.74	123.81	0.00
J-207	2.70	2998.24	114.06	0.00

Sereno Canyon Phase 4 Max Day fire flow J8

J-208	0.68	2998.24	116.66	0.00
J-206	0.68	2998.31	135.76	0.00
J-204	2.70	2998.64	128.97	0.00
J-205	2.70	2998.64	120.74	0.00
J-203	12.82	2999.34	121.47	0.00
J-200	7.42	3000.28	126.21	0.00
J-211	0.00	2999.53	118.09	0.00
J-201	3.38	3000.02	136.50	0.00
J-202	10.12	3000.01	117.86	0.00
J-119	0.00	2997.82	132.08	0.00
J-120	2.02	2997.82	136.41	0.00
J-121	0.00	2997.83	136.42	0.00
J-122	45.90	2997.82	139.01	0.00
J-210	4.06	2998.29	137.48	0.00
J-209	0.68	2998.31	135.32	0.00
J-113	1.36	2997.99	124.35	0.00
J-116	0.68	2997.87	127.33	0.00
J-25	5.52	2993.59	68.50	0.00
J-34	0.68	2999.05	82.78	0.00
J-400	0.00	2717.00	0.00	0.00
R-1	-1416.71	2717.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-1	-29.47	0.19	0.03	Open
P-2	1.72	0.01	0.00	Open
P-3	111.14	0.71	0.31	Open
P-4	105.62	0.67	0.28	Open
P-5	100.12	0.64	0.26	Open
P-6	2.06	0.01	0.00	Open



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-7	-3.44	0.02	0.00	Open
P-8	1206.31	3.42	3.59	Open
P-9	987.23	2.80	2.48	Open
P-10	984.47	2.79	2.46	Open
P-11	99.04	0.63	0.25	Open
P-12	-49.90	0.14	0.01	Open
P-13	45.00	0.13	0.01	Open

Sereno Canyon Phase 4 Max Day fire flow J8

P-14	219.08	1.40	1.10	Open
P-15	88.97	0.57	0.21	Open
P-16	-74.31	0.47	0.15	Open
P-17	-86.71	0.55	0.20	Open
P-18	-27.88	0.18	0.02	Open
P-19	-147.85	0.94	0.53	Open
P-20	3.10	0.02	0.00	Open
P-22	-1.38	0.01	0.00	Open
P-23	143.80	0.92	0.50	Open
P-24	-122.50	0.78	0.37	Open
P-25	-228.44	1.46	1.19	Open
P-26	2.06	0.01	0.00	Open
P-27	9.30	0.06	0.00	Open
P-28	150.88	0.96	0.55	Open
P-29	1129.83	3.21	3.18	Open
P-30	1123.97	3.19	3.15	Open
P-31	887.96	2.52	2.03	Open
P-32	740.02	2.10	1.45	Open
P-33	2.88	0.01	0.00	Open
P-34	47.88	0.14	0.01	Open
P-35	202.02	1.29	0.94	Open
P-36	-1005.67	2.85	2.56	Open
P-37	-760.47	2.16	1.53	Open
P-38	-0.66	0.00	0.00	Open
P-39	-7.42	0.02	0.00	Open
P-40	-20.24	0.06	0.00	Open
P-41	116.11	0.74	0.34	Open
P-42	113.39	0.72	0.32	Open
P-43	110.01	0.70	0.31	Open
P-44	107.97	0.69	0.30	Open
P-45	122.19	0.78	0.37	Open
P-46	112.75	0.72	0.32	Open
P-47	98.57	0.28	0.03	Open
P-48	-108.90	0.31	0.04	Open
P-49	-354.09	2.26	2.67	Open
P-50	-359.59	2.30	2.75	Open
P-51	-262.23	1.67	1.53	Open
P-52	-377.85	2.41	3.02	Open
P-53	-203.55	1.30	0.96	Open
P-54	34.99	0.22	0.04	Open



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
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Sereno Canyon Phase 4 Max Day fire flow J8

P-55	-3.38	0.02	0.00	Open
P-56	3.38	0.02	0.00	Open
P-57	223.33	1.43	1.14	Open
P-58	82.24	0.52	0.18	Open
P-59	-4.06	0.03	0.00	Open
P-60	2.02	0.01	0.00	Open
P-61	1164.86	3.30	3.36	Open
P-62	941.53	2.67	2.27	Open
P-63	-140.41	0.40	0.07	Open
P-64	0.68	0.00	0.00	Open
P-65	-143.79	0.41	0.07	Open
P-66	-212.71	1.36	1.04	Open
P-67	-2.70	0.02	0.00	Open
P-68	-218.11	1.39	1.09	Open
P-69	118.88	0.76	0.35	Open
P-70	118.88	0.76	0.35	Open
P-71	-112.04	0.72	0.32	Open
P-72	251.85	1.61	1.42	Open
P-73	125.54	0.80	0.39	Open
P-74	10.12	0.06	0.00	Open
P-75	-2.02	0.01	0.00	Open
P-76	-17.60	0.11	0.01	Open
P-77	-67.56	0.19	0.02	Open
P-78	-68.24	0.19	0.02	Open
P-79	140.36	0.90	0.48	Open
P-80	233.94	1.49	1.24	Open
P-81	-62.26	0.40	0.11	Open
P-82	67.78	0.43	0.13	Open
P-83	762.51	2.16	1.53	Open
P-84	174.30	1.11	0.72	Open
P-85	-8.10	0.05	0.00	Open
P-86	-1.36	0.01	0.00	Open
P-87	-2.02	0.01	0.00	Open
P-88	-0.68	0.00	0.00	Open
P-89	15.58	0.10	0.01	Open
P-90	-63.50	0.41	0.11	Open
P-91	45.90	0.29	0.06	Open
P-92	-43.20	0.28	0.05	Open
P-93	-69.22	0.44	0.13	Open
P-94	134.33	0.86	0.44	Open
P-95	-46.58	0.30	0.06	Open
P-96	-47.26	0.30	0.06	Open
P-97	85.62	0.55	0.19	Open
P-98	-205.44	1.31	0.97	Open
P-99	-11.48	0.03	0.00	Open
P-100	-2.02	0.01	0.00	Open
P-101	1416.71	1.00	0.17	Open

Sereno Canyon Phase 4 Max Day fire flow J8



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-21	-204.08	1.30	0.96	Open
PUMP1	0.00	0.00	0.00	Closed Pump
PUMP2	0.00	0.00	0.00	Closed Pump
PUMP3	0.00	0.00	0.00	Closed Pump
PUMP4	1416.71	0.00	-283.75	Open Pump
1	1416.71	4.02	0.00	Open Valve

Sereno Canyon Phase 4 Max Day fire flow J9

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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: Sereno Canyon Phase 4 Max Day fire flow J9.net

Sereno Canyon

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in
P-1	J-32	J-36	955.6	8
P-2	J-36	J-37	121.6	8
P-3	J-30	J-38	957.7	8
P-4	J-38	J-39	400	8
P-5	J-39	J-29	841.9	8
P-6	J-39	J-40	83.23	8
P-7	J-28	J-27	505.5	8
P-8	J-2	J-3	452.1	12
P-9	J-3	J-4	195.3	12
P-10	J-4	J-41	148.7	12
P-11	J-14	J-11	890.1	8
P-12	J-12	J-11	340.4	12
P-13	J-11	J-9	458.8	12
P-14	J-3	J-19	223.6	8
P-15	J-20	J-21	310.5	8
P-16	J-21	J-22	93.71	8
P-17	J-22	J-24	192.7	8
P-18	J-24	J-20	511.2	8
P-19	J-20	J-19	293.1	8
P-20	J-5	J-17	587.4	8
P-22	J-18	J-4	378.4	8
P-23	J-7	J-13	601.7	8
P-24	J-8	J-14	610.4	8
P-25	J-14	J-15	540.4	8
P-26	J-15	J-16	224.8	8
P-27	J-22	J-23	128.3	8
P-28	J-21	J-41	699	8
P-29	J-41	J-5	172.5	12
P-30	J-5	J-6	197.8	12
P-31	J-6	J-7	466.8	12
P-32	J-7	J-8	339.3	12

Sereno Canyon Phase 4 Max Day fire flow J9

P-33	J-8	J-9	384	12
P-34	J-9	J-10	522	12
P-35	J-26	J-2	531.2	8
P-36	J-2	J-1	557.4	12
P-37	J-1	J-102	754.8	12
P-38	J-102	J-105	819.5	12



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in
P-39	J-105	J-107	511.2	12
P-40	J-107	J-111	1032	12
P-41	J-111	J-112	449.2	8
P-42	J-112	J-114	204.1	8
P-43	J-114	J-115	198.3	8
P-44	J-115	J-118	154.9	8
P-45	J-118	J-300	1588	8
P-46	J-300	J-302	757	8
P-47	J-302	J-304	469.1	12
P-48	J-304	J-1	500.9	12
P-49	J-1	J-27	271.1	8
P-50	J-27	J-29	112.3	8
P-51	J-29	J-30	411.1	8
P-52	J-30	J-42	43.31	8
P-53	J-42	J-31	191.5	8
P-54	J-35	J-36	438.3	8
P-55	J-106	J-105	800.8	8
P-56	J-33	J-123	375.5	8
P-57	J-100	J-103	951.8	8
P-58	J-104	J-35	775.1	8
P-59	J-110	J-108	595.1	8
P-60	J-108	J-109	353.1	8
P-61	S145	J-100	74.44	12
P-62	J-100	J-101	464.5	12
P-63	J-111	J-207	1424	12
P-64	J-207	J-208	997.1	8
P-65	J-207	J-206	1045	12
P-66	J-206	J-204	317.1	8
P-67	J-205	J-204	465.7	8
P-68	J-204	J-203	643.7	8
P-69	J-200	J-211	2106	8
P-70	J-211	J-203	536.3	8
P-71	J-203	J-201	2125	8
P-72	S145	J-200	327.3	8

Sereno Canyon Phase 4 Max Day fire flow J9

P-73	J-200	J-201	667.2	8
P-74	J-201	J-202	1059	8
P-75	J-120	J-119	186.5	8
P-76	J-119	J-121	389	8
P-77	J-210	J-209	1327	12
P-78	J-209	J-206	257.6	12
P-79	J-13	J-8	394	8
P-80	J-6	J-15	462	8
P-81	J-24	J-25	535	8
P-82	J-19	J-25	884	8
P-83	J-101	J-102	845.5	12
P-84	J-101	J-42	913.6	8
P-85	J-108	J-107	309.2	8



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Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in	
P-86	J-113	J-112	191.9	8	
P-87	J-117	J-114	573.8	8	
P-88	J-116	J-115	172.9	8	
P-89	J-119	J-118	421	8	
P-90	J-121	J-210	4137	8	
P-91	J-121	J-122	131.6	8	
P-92	J-32	J-33	221	8	
P-93	J-31	J-32	387	8	
P-94	J-103	J-31	1000	8	
P-95	J-33	J-34	245	8	
P-96	J-34	J-35	223.9	8	
P-97	J-103	J-104	1106	8	
P-98	J-305	J-304	506.9	8	
P-99	J-303	J-302	412.7	12	
P-100	J-301	J-300	178.5	8	
P-101	R-1	J-400	10	24	
P-21	J-26	J-305	427	8	
PUMP1	J-400	J-401	#N/A	#N/A	Pump
PUMP2	J-400	J-401	#N/A	#N/A	Pump
PUMP3	J-400	J-401	#N/A	#N/A	Pump
PUMP4	J-400	J-401	#N/A	#N/A	Pump
1	J-401	S145	#N/A	12	Valve

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
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Sereno Canyon Phase 4 Max Day fire flow J9

PUMP1	0.00	0.00	0.00	0.00	0.00	0.00
PUMP2	0.00	0.00	0.00	0.00	0.00	0.00
PUMP3	0.00	0.00	0.00	0.00	0.00	0.00
PUMP4	100.00	75.00	1187.38	101.20	101.20	0.00

Demand Charge: 0.00
Total Cost: 0.00

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-9	1000.00	2989.37	105.02	0.00
J-32	3.44	2998.72	90.01	0.00
J-36	3.80	2998.75	74.42	0.00
J-37	1.72	2998.75	70.95	0.00
J-30	4.48	2998.36	98.73	0.00
J-38	5.52	2998.06	81.92	0.00
J-39	3.44	2997.94	88.37	0.00



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Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-29	2.76	2997.73	94.12	0.00
J-40	2.06	2997.94	88.15	0.00
J-28	3.44	2997.42	102.44	0.00
J-27	2.06	2997.42	90.74	0.00
J-2	1.38	2995.25	93.70	0.00
J-3	0.00	2993.62	86.24	0.00
J-4	1.38	2993.13	86.93	0.00
J-41	5.52	2992.77	87.77	0.00
J-14	6.90	2990.21	89.78	0.00
J-11	4.14	2989.41	96.37	0.00
J-12	49.90	2989.40	90.30	0.00
J-6	2.07	2991.59	88.21	0.00
J-19	3.44	2993.37	80.76	0.00
J-24	3.44	2993.21	80.68	0.00
J-20	31.00	2993.22	72.67	0.00
J-21	12.40	2993.15	72.64	0.00
J-22	3.10	2993.17	72.43	0.00
J-5	2.76	2992.21	88.05	0.00
J-17	3.10	2992.21	101.05	0.00

Sereno Canyon Phase 4 Max Day fire flow J9

J-18	1.38	2993.13	95.38	0.00
J-7	4.14	2990.66	97.35	0.00
J-13	3.44	2990.37	107.62	0.00
J-8	3.80	2990.18	101.47	0.00
J-15	3.44	2990.94	79.48	0.00
J-16	2.06	2990.94	74.93	0.00
J-23	9.30	2993.17	70.27	0.00
J-303	11.48	2996.68	111.22	0.00
J-301	2.02	2996.93	116.09	0.00
J-10	47.88	2989.37	111.95	0.00
J-26	2.06	2995.76	99.55	0.00
J-1	0.00	2996.69	95.19	0.00
J-102	2.70	2997.85	100.89	0.00
J-105	3.38	2997.85	108.69	0.00
J-107	4.72	2997.85	113.46	0.00
J-111	4.06	2997.85	116.49	0.00
J-112	1.36	2997.70	125.09	0.00
J-114	1.36	2997.63	126.36	0.00
J-115	1.36	2997.57	127.64	0.00
J-118	1.36	2997.52	128.05	0.00
J-300	7.42	2996.93	116.96	0.00
J-302	2.70	2996.68	109.05	0.00
J-304	2.02	2996.67	102.11	0.00
J-42	0.00	2998.49	99.44	0.00
J-31	0.00	2998.67	96.48	0.00
J-35	0.00	2998.77	77.03	0.00
J-101	4.72	2999.15	115.11	0.00



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Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-106	3.38	2997.85	116.49	0.00
J-33	0.00	2998.74	84.81	0.00
J-123	3.38	2998.74	93.05	0.00
J-100	0.00	3000.21	121.85	0.00
J-103	3.38	2999.12	109.24	0.00
J-104	3.38	2998.91	85.32	0.00
J-117	2.02	2997.63	123.33	0.00
J-110	4.06	2997.84	108.69	0.00
J-108	2.02	2997.85	108.26	0.00
J-109	2.02	2997.85	107.39	0.00
J-305	1.36	2996.17	102.77	0.00
S145	0.00	3000.46	123.69	0.00
J-207	2.70	2997.94	113.93	0.00

Sereno Canyon Phase 4 Max Day fire flow J9

J-208	0.68	2997.94	116.53	0.00
J-206	0.68	2998.02	135.63	0.00
J-204	2.70	2998.35	128.84	0.00
J-205	2.70	2998.35	120.61	0.00
J-203	12.82	2999.05	121.35	0.00
J-200	7.42	2999.99	126.09	0.00
J-211	0.00	2999.24	117.96	0.00
J-201	3.38	2999.73	136.37	0.00
J-202	10.12	2999.73	117.74	0.00
J-119	0.00	2997.53	131.95	0.00
J-120	2.02	2997.53	136.28	0.00
J-121	0.00	2997.53	136.29	0.00
J-122	45.90	2997.52	138.88	0.00
J-210	4.06	2997.99	137.35	0.00
J-209	0.68	2998.01	135.20	0.00
J-113	1.36	2997.70	124.23	0.00
J-116	0.68	2997.57	127.20	0.00
J-25	5.52	2993.26	68.36	0.00
J-34	0.68	2998.75	82.65	0.00
J-400	0.00	2717.00	0.00	0.00
R-1	-1420.51	2717.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-1	-29.56	0.19	0.03	Open
P-2	1.72	0.01	0.00	Open
P-3	111.45	0.71	0.31	Open
P-4	105.93	0.68	0.29	Open
P-5	100.43	0.64	0.26	Open
P-6	2.06	0.01	0.00	Open



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Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-7	-3.44	0.02	0.00	Open
P-8	1210.11	3.43	3.61	Open
P-9	990.45	2.81	2.49	Open
P-10	987.69	2.80	2.48	Open
P-11	197.40	1.26	0.90	Open
P-12	-49.90	0.14	0.01	Open
P-13	143.36	0.41	0.07	Open

Sereno Canyon Phase 4 Max Day fire flow J9

P-14	219.66	1.40	1.10	Open
P-15	89.27	0.57	0.21	Open
P-16	-74.59	0.48	0.15	Open
P-17	-86.99	0.56	0.20	Open
P-18	-27.98	0.18	0.02	Open
P-19	-148.25	0.95	0.53	Open
P-20	3.10	0.02	0.00	Open
P-22	-1.38	0.01	0.00	Open
P-23	141.80	0.91	0.49	Open
P-24	-40.32	0.26	0.05	Open
P-25	-244.62	1.56	1.35	Open
P-26	2.06	0.01	0.00	Open
P-27	9.30	0.06	0.00	Open
P-28	151.46	0.97	0.55	Open
P-29	1133.63	3.22	3.20	Open
P-30	1127.77	3.20	3.17	Open
P-31	875.58	2.48	1.98	Open
P-32	729.64	2.07	1.41	Open
P-33	904.52	2.57	2.10	Open
P-34	47.88	0.14	0.01	Open
P-35	202.67	1.29	0.95	Open
P-36	-1008.82	2.86	2.58	Open
P-37	-762.79	2.16	1.53	Open
P-38	-0.88	0.00	0.00	Open
P-39	-7.64	0.02	0.00	Open
P-40	-20.46	0.06	0.00	Open
P-41	116.36	0.74	0.34	Open
P-42	113.64	0.73	0.33	Open
P-43	110.26	0.70	0.31	Open
P-44	108.22	0.69	0.30	Open
P-45	122.59	0.78	0.37	Open
P-46	113.15	0.72	0.32	Open
P-47	98.97	0.28	0.03	Open
P-48	-109.14	0.31	0.04	Open
P-49	-355.17	2.27	2.69	Open
P-50	-360.67	2.30	2.76	Open
P-51	-263.00	1.68	1.54	Open
P-52	-378.93	2.42	3.03	Open
P-53	-204.15	1.30	0.96	Open
P-54	35.08	0.22	0.04	Open



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
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Sereno Canyon Phase 4 Max Day fire flow J9

P-55	-3.38	0.02	0.00	Open
P-56	3.38	0.02	0.00	Open
P-57	223.93	1.43	1.14	Open
P-58	82.47	0.53	0.18	Open
P-59	-4.06	0.03	0.00	Open
P-60	2.02	0.01	0.00	Open
P-61	1168.04	3.31	3.38	Open
P-62	944.11	2.68	2.28	Open
P-63	-140.87	0.40	0.07	Open
P-64	0.68	0.00	0.00	Open
P-65	-144.25	0.41	0.07	Open
P-66	-213.33	1.36	1.04	Open
P-67	-2.70	0.02	0.00	Open
P-68	-218.73	1.40	1.09	Open
P-69	119.20	0.76	0.36	Open
P-70	119.20	0.76	0.36	Open
P-71	-112.35	0.72	0.32	Open
P-72	252.47	1.61	1.43	Open
P-73	125.85	0.80	0.39	Open
P-74	10.12	0.06	0.00	Open
P-75	-2.02	0.01	0.00	Open
P-76	-17.75	0.11	0.01	Open
P-77	-67.71	0.19	0.02	Open
P-78	-68.39	0.19	0.02	Open
P-79	138.36	0.88	0.47	Open
P-80	250.12	1.60	1.40	Open
P-81	-62.45	0.40	0.11	Open
P-82	67.97	0.43	0.13	Open
P-83	764.62	2.17	1.54	Open
P-84	174.78	1.12	0.72	Open
P-85	-8.10	0.05	0.00	Open
P-86	-1.36	0.01	0.00	Open
P-87	-2.02	0.01	0.00	Open
P-88	-0.68	0.00	0.00	Open
P-89	15.73	0.10	0.01	Open
P-90	-63.65	0.41	0.11	Open
P-91	45.90	0.29	0.06	Open
P-92	-43.33	0.28	0.05	Open
P-93	-69.45	0.44	0.13	Open
P-94	134.70	0.86	0.45	Open
P-95	-46.71	0.30	0.06	Open
P-96	-47.39	0.30	0.06	Open
P-97	85.85	0.55	0.19	Open
P-98	-206.09	1.32	0.98	Open
P-99	-11.48	0.03	0.00	Open
P-100	-2.02	0.01	0.00	Open
P-101	1420.51	1.01	0.17	Open

Sereno Canyon Phase 4 Max Day fire flow J9



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-21	-204.73	1.31	0.97	Open
PUMP1	0.00	0.00	0.00	Closed Pump
PUMP2	0.00	0.00	0.00	Closed Pump
PUMP3	0.00	0.00	0.00	Closed Pump
PUMP4	1420.52	0.00	-283.46	Open Pump
1	1420.51	4.03	0.00	Open Valve

Sereno Canyon Phase 4 Max Day fire flow J10

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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: Sereno Canyon Phase 4 Max Day fire flow J10.net

Sereno Canyon

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in
P-1	J-32	J-36	955.6	8
P-2	J-36	J-37	121.6	8
P-3	J-30	J-38	957.7	8
P-4	J-38	J-39	400	8
P-5	J-39	J-29	841.9	8
P-6	J-39	J-40	83.23	8
P-7	J-28	J-27	505.5	8
P-8	J-2	J-3	452.1	12
P-9	J-3	J-4	195.3	12
P-10	J-4	J-41	148.7	12
P-11	J-14	J-11	890.1	8
P-12	J-12	J-11	340.4	12
P-13	J-11	J-9	458.8	12
P-14	J-3	J-19	223.6	8
P-15	J-20	J-21	310.5	8
P-16	J-21	J-22	93.71	8
P-17	J-22	J-24	192.7	8
P-18	J-24	J-20	511.2	8
P-19	J-20	J-19	293.1	8
P-20	J-5	J-17	587.4	8
P-22	J-18	J-4	378.4	8
P-23	J-7	J-13	601.7	8
P-24	J-8	J-14	610.4	8
P-25	J-14	J-15	540.4	8
P-26	J-15	J-16	224.8	8
P-27	J-22	J-23	128.3	8
P-28	J-21	J-41	699	8
P-29	J-41	J-5	172.5	12
P-30	J-5	J-6	197.8	12
P-31	J-6	J-7	466.8	12
P-32	J-7	J-8	339.3	12

Sereno Canyon Phase 4 Max Day fire flow J10

P-33	J-8	J-9	384	12
P-34	J-9	J-10	522	12
P-35	J-26	J-2	531.2	8
P-36	J-2	J-1	557.4	12
P-37	J-1	J-102	754.8	12
P-38	J-102	J-105	819.5	12



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in
P-39	J-105	J-107	511.2	12
P-40	J-107	J-111	1032	12
P-41	J-111	J-112	449.2	8
P-42	J-112	J-114	204.1	8
P-43	J-114	J-115	198.3	8
P-44	J-115	J-118	154.9	8
P-45	J-118	J-300	1588	8
P-46	J-300	J-302	757	8
P-47	J-302	J-304	469.1	12
P-48	J-304	J-1	500.9	12
P-49	J-1	J-27	271.1	8
P-50	J-27	J-29	112.3	8
P-51	J-29	J-30	411.1	8
P-52	J-30	J-42	43.31	8
P-53	J-42	J-31	191.5	8
P-54	J-35	J-36	438.3	8
P-55	J-106	J-105	800.8	8
P-56	J-33	J-123	375.5	8
P-57	J-100	J-103	951.8	8
P-58	J-104	J-35	775.1	8
P-59	J-110	J-108	595.1	8
P-60	J-108	J-109	353.1	8
P-61	S145	J-100	74.44	12
P-62	J-100	J-101	464.5	12
P-63	J-111	J-207	1424	12
P-64	J-207	J-208	997.1	8
P-65	J-207	J-206	1045	12
P-66	J-206	J-204	317.1	8
P-67	J-205	J-204	465.7	8
P-68	J-204	J-203	643.7	8
P-69	J-200	J-211	2106	8
P-70	J-211	J-203	536.3	8
P-71	J-203	J-201	2125	8
P-72	S145	J-200	327.3	8

Sereno Canyon Phase 4 Max Day fire flow J10

P-73	J-200	J-201	667.2	8
P-74	J-201	J-202	1059	8
P-75	J-120	J-119	186.5	8
P-76	J-119	J-121	389	8
P-77	J-210	J-209	1327	12
P-78	J-209	J-206	257.6	12
P-79	J-13	J-8	394	8
P-80	J-6	J-15	462	8
P-81	J-24	J-25	535	8
P-82	J-19	J-25	884	8
P-83	J-101	J-102	845.5	12
P-84	J-101	J-42	913.6	8
P-85	J-108	J-107	309.2	8



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in	
P-86	J-113	J-112	191.9	8	
P-87	J-117	J-114	573.8	8	
P-88	J-116	J-115	172.9	8	
P-89	J-119	J-118	421	8	
P-90	J-121	J-210	4137	8	
P-91	J-121	J-122	131.6	8	
P-92	J-32	J-33	221	8	
P-93	J-31	J-32	387	8	
P-94	J-103	J-31	1000	8	
P-95	J-33	J-34	245	8	
P-96	J-34	J-35	223.9	8	
P-97	J-103	J-104	1106	8	
P-98	J-305	J-304	506.9	8	
P-99	J-303	J-302	412.7	12	
P-100	J-301	J-300	178.5	8	
P-101	R-1	J-400	10	24	
P-21	J-26	J-305	427	8	
PUMP1	J-400	J-401	#N/A	#N/A	Pump
PUMP2	J-400	J-401	#N/A	#N/A	Pump
PUMP3	J-400	J-401	#N/A	#N/A	Pump
PUMP4	J-400	J-401	#N/A	#N/A	Pump
1	J-401	S145	#N/A	12	Valve

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
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Sereno Canyon Phase 4 Max Day fire flow J10

PUMP1	0.00	0.00	0.00	0.00	0.00	0.00
PUMP2	0.00	0.00	0.00	0.00	0.00	0.00
PUMP3	0.00	0.00	0.00	0.00	0.00	0.00
PUMP4	100.00	75.00	1202.42	99.03	99.03	0.00

Demand Charge: 0.00
Total Cost: 0.00

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-10	1000.00	2992.44	113.28	0.00
J-32	3.44	3002.42	91.61	0.00
J-36	3.80	3002.45	76.02	0.00
J-37	1.72	3002.45	72.55	0.00
J-30	4.48	3002.08	100.34	0.00
J-38	5.52	3001.80	83.54	0.00
J-39	3.44	3001.69	89.99	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-29	2.76	3001.49	95.76	0.00
J-40	2.06	3001.69	89.78	0.00
J-28	3.44	3001.20	104.08	0.00
J-27	2.06	3001.20	92.38	0.00
J-2	1.38	2999.19	95.41	0.00
J-3	0.00	2997.68	87.99	0.00
J-4	1.38	2997.23	88.71	0.00
J-41	5.52	2996.89	89.56	0.00
J-14	6.90	2994.53	91.66	0.00
J-11	4.14	2993.79	98.27	0.00
J-12	49.90	2993.79	92.20	0.00
J-9	0.00	2993.76	106.92	0.00
J-6	2.07	2995.80	90.04	0.00
J-19	3.44	2997.45	82.52	0.00
J-24	3.44	2997.29	82.45	0.00
J-20	31.00	2997.30	74.44	0.00
J-21	12.40	2997.24	74.42	0.00
J-22	3.10	2997.25	74.20	0.00
J-5	2.76	2996.38	89.86	0.00

Sereno Canyon Phase 4 Max Day fire flow J10

J-17	3.10	2996.38	102.86	0.00
J-18	1.38	2997.23	97.16	0.00
J-7	4.14	2994.95	99.20	0.00
J-13	3.44	2994.67	109.48	0.00
J-8	3.80	2994.50	103.34	0.00
J-15	3.44	2995.20	81.33	0.00
J-16	2.06	2995.20	76.78	0.00
J-23	9.30	2997.25	72.04	0.00
J-303	11.48	3000.52	112.88	0.00
J-301	2.02	3000.74	117.75	0.00
J-26	2.06	2999.66	101.24	0.00
J-1	0.00	3000.52	96.85	0.00
J-102	2.70	3001.60	102.52	0.00
J-105	3.38	3001.60	110.32	0.00
J-107	4.72	3001.60	115.09	0.00
J-111	4.06	3001.60	118.12	0.00
J-112	1.36	3001.46	126.72	0.00
J-114	1.36	3001.40	127.99	0.00
J-115	1.36	3001.34	129.27	0.00
J-118	1.36	3001.29	129.68	0.00
J-300	7.42	3000.74	118.61	0.00
J-302	2.70	3000.52	110.72	0.00
J-304	2.02	3000.50	103.78	0.00
J-42	0.00	3002.20	101.05	0.00
J-31	0.00	3002.38	98.09	0.00
J-35	0.00	3002.46	78.63	0.00
J-101	4.72	3002.82	116.70	0.00



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Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-106	3.38	3001.60	118.12	0.00
J-33	0.00	3002.43	86.42	0.00
J-123	3.38	3002.43	94.65	0.00
J-100	0.00	3003.82	123.41	0.00
J-103	3.38	3002.79	110.84	0.00
J-104	3.38	3002.59	86.92	0.00
J-117	2.02	3001.40	124.96	0.00
J-110	4.06	3001.60	110.32	0.00
J-108	2.02	3001.60	109.89	0.00
J-109	2.02	3001.60	109.02	0.00
J-305	1.36	3000.04	104.44	0.00
S145	0.00	3004.05	125.25	0.00
J-207	2.70	3001.69	115.56	0.00

Sereno Canyon Phase 4 Max Day fire flow J10

J-208	0.68	3001.69	118.16	0.00
J-206	0.68	3001.76	137.25	0.00
J-204	2.70	3002.07	130.45	0.00
J-205	2.70	3002.07	122.22	0.00
J-203	12.82	3002.73	122.94	0.00
J-200	7.42	3003.61	127.65	0.00
J-211	0.00	3002.91	119.55	0.00
J-201	3.38	3003.36	137.95	0.00
J-202	10.12	3003.36	119.31	0.00
J-119	0.00	3001.30	133.58	0.00
J-120	2.02	3001.30	137.92	0.00
J-121	0.00	3001.30	137.92	0.00
J-122	45.90	3001.29	140.52	0.00
J-210	4.06	3001.73	138.97	0.00
J-209	0.68	3001.76	136.82	0.00
J-113	1.36	3001.46	125.86	0.00
J-116	0.68	3001.34	128.84	0.00
J-25	5.52	2997.34	70.13	0.00
J-34	0.68	3002.45	84.25	0.00
J-400	0.00	2717.00	0.00	0.00
R-1	-1372.63	2717.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-1	-28.40	0.18	0.03	Open
P-2	1.72	0.01	0.00	Open
P-3	107.56	0.69	0.29	Open
P-4	102.04	0.65	0.27	Open
P-5	96.54	0.62	0.24	Open
P-6	2.06	0.01	0.00	Open



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Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-7	-3.44	0.02	0.00	Open
P-8	1162.23	3.30	3.35	Open
P-9	949.90	2.69	2.31	Open
P-10	947.14	2.69	2.29	Open
P-11	188.89	1.21	0.83	Open
P-12	-49.90	0.14	0.01	Open
P-13	134.85	0.38	0.06	Open

Sereno Canyon Phase 4 Max Day fire flow J10

P-14	212.33	1.36	1.04	Open
P-15	85.46	0.55	0.19	Open
P-16	-71.06	0.45	0.14	Open
P-17	-83.46	0.53	0.18	Open
P-18	-26.75	0.17	0.02	Open
P-19	-143.21	0.91	0.50	Open
P-20	3.10	0.02	0.00	Open
P-22	-1.38	0.01	0.00	Open
P-23	135.77	0.87	0.45	Open
P-24	-38.30	0.24	0.04	Open
P-25	-234.09	1.49	1.24	Open
P-26	2.06	0.01	0.00	Open
P-27	9.30	0.06	0.00	Open
P-28	144.13	0.92	0.51	Open
P-29	1085.75	3.08	2.95	Open
P-30	1079.89	3.06	2.92	Open
P-31	838.23	2.38	1.83	Open
P-32	698.32	1.98	1.30	Open
P-33	865.15	2.45	1.94	Open
P-34	1000.00	2.84	2.53	Open
P-35	194.57	1.24	0.88	Open
P-36	-969.04	2.75	2.39	Open
P-37	-733.51	2.08	1.43	Open
P-38	1.87	0.01	0.00	Open
P-39	-4.89	0.01	0.00	Open
P-40	-17.71	0.05	0.00	Open
P-41	113.25	0.72	0.32	Open
P-42	110.53	0.71	0.31	Open
P-43	107.15	0.68	0.29	Open
P-44	105.11	0.67	0.28	Open
P-45	117.51	0.75	0.35	Open
P-46	108.07	0.69	0.30	Open
P-47	93.89	0.27	0.03	Open
P-48	-106.12	0.30	0.04	Open
P-49	-341.65	2.18	2.50	Open
P-50	-347.15	2.22	2.57	Open
P-51	-253.37	1.62	1.44	Open
P-52	-365.41	2.33	2.83	Open
P-53	-196.61	1.25	0.90	Open
P-54	33.92	0.22	0.03	Open



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
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Sereno Canyon Phase 4 Max Day fire flow J10

P-55	-3.38	0.02	0.00	Open
P-56	3.38	0.02	0.00	Open
P-57	216.39	1.38	1.07	Open
P-58	79.62	0.51	0.17	Open
P-59	-4.06	0.03	0.00	Open
P-60	2.02	0.01	0.00	Open
P-61	1127.98	3.20	3.17	Open
P-62	911.60	2.59	2.14	Open
P-63	-135.02	0.38	0.06	Open
P-64	0.68	0.00	0.00	Open
P-65	-138.40	0.39	0.07	Open
P-66	-205.51	1.31	0.97	Open
P-67	-2.70	0.02	0.00	Open
P-68	-210.91	1.35	1.02	Open
P-69	115.23	0.74	0.33	Open
P-70	115.23	0.74	0.33	Open
P-71	-108.50	0.69	0.30	Open
P-72	244.65	1.56	1.35	Open
P-73	122.00	0.78	0.37	Open
P-74	10.12	0.06	0.00	Open
P-75	-2.02	0.01	0.00	Open
P-76	-15.79	0.10	0.01	Open
P-77	-65.75	0.19	0.02	Open
P-78	-66.43	0.19	0.02	Open
P-79	132.33	0.84	0.43	Open
P-80	239.59	1.53	1.30	Open
P-81	-60.15	0.38	0.10	Open
P-82	65.67	0.42	0.12	Open
P-83	738.08	2.09	1.44	Open
P-84	168.80	1.08	0.68	Open
P-85	-8.10	0.05	0.00	Open
P-86	-1.36	0.01	0.00	Open
P-87	-2.02	0.01	0.00	Open
P-88	-0.68	0.00	0.00	Open
P-89	13.77	0.09	0.01	Open
P-90	-61.69	0.39	0.10	Open
P-91	45.90	0.29	0.06	Open
P-92	-41.64	0.27	0.05	Open
P-93	-66.60	0.43	0.12	Open
P-94	130.01	0.83	0.42	Open
P-95	-45.02	0.29	0.06	Open
P-96	-45.70	0.29	0.06	Open
P-97	83.00	0.53	0.18	Open
P-98	-197.99	1.26	0.91	Open
P-99	-11.48	0.03	0.00	Open
P-100	-2.02	0.01	0.00	Open
P-101	1372.63	0.97	0.15	Open

Sereno Canyon Phase 4 Max Day fire flow J10



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-21	-196.63	1.26	0.90	Open
PUMP1	0.00	0.00	0.00	Closed Pump
PUMP2	0.00	0.00	0.00	Closed Pump
PUMP3	0.00	0.00	0.00	Closed Pump
PUMP4	1372.63	0.00	-287.05	Open Pump
1	1372.63	3.89	0.00	Open Valve

Sereno Canyon Phase 4 Max Day fire flow J11

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12/2/2017 10:28:13 AM

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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: Sereno Canyon Phase 4 Max Day fire flow J11.net

Sereno Canyon

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in
P-1	J-32	J-36	955.6	8
P-2	J-36	J-37	121.6	8
P-3	J-30	J-38	957.7	8
P-4	J-38	J-39	400	8
P-5	J-39	J-29	841.9	8
P-6	J-39	J-40	83.23	8
P-7	J-28	J-27	505.5	8
P-8	J-2	J-3	452.1	12
P-9	J-3	J-4	195.3	12
P-10	J-4	J-41	148.7	12
P-11	J-14	J-11	890.1	8
P-12	J-12	J-11	340.4	12
P-13	J-11	J-9	458.8	12
P-14	J-3	J-19	223.6	8
P-15	J-20	J-21	310.5	8
P-16	J-21	J-22	93.71	8
P-17	J-22	J-24	192.7	8
P-18	J-24	J-20	511.2	8
P-19	J-20	J-19	293.1	8
P-20	J-5	J-17	587.4	8
P-22	J-18	J-4	378.4	8
P-23	J-7	J-13	601.7	8
P-24	J-8	J-14	610.4	8
P-25	J-14	J-15	540.4	8
P-26	J-15	J-16	224.8	8
P-27	J-22	J-23	128.3	8
P-28	J-21	J-41	699	8
P-29	J-41	J-5	172.5	12
P-30	J-5	J-6	197.8	12
P-31	J-6	J-7	466.8	12
P-32	J-7	J-8	339.3	12

Sereno Canyon Phase 4 Max Day fire flow J11

P-33	J-8	J-9	384	12
P-34	J-9	J-10	522	12
P-35	J-26	J-2	531.2	8
P-36	J-2	J-1	557.4	12
P-37	J-1	J-102	754.8	12
P-38	J-102	J-105	819.5	12



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in
P-39	J-105	J-107	511.2	12
P-40	J-107	J-111	1032	12
P-41	J-111	J-112	449.2	8
P-42	J-112	J-114	204.1	8
P-43	J-114	J-115	198.3	8
P-44	J-115	J-118	154.9	8
P-45	J-118	J-300	1588	8
P-46	J-300	J-302	757	8
P-47	J-302	J-304	469.1	12
P-48	J-304	J-1	500.9	12
P-49	J-1	J-27	271.1	8
P-50	J-27	J-29	112.3	8
P-51	J-29	J-30	411.1	8
P-52	J-30	J-42	43.31	8
P-53	J-42	J-31	191.5	8
P-54	J-35	J-36	438.3	8
P-55	J-106	J-105	800.8	8
P-56	J-33	J-123	375.5	8
P-57	J-100	J-103	951.8	8
P-58	J-104	J-35	775.1	8
P-59	J-110	J-108	595.1	8
P-60	J-108	J-109	353.1	8
P-61	S145	J-100	74.44	12
P-62	J-100	J-101	464.5	12
P-63	J-111	J-207	1424	12
P-64	J-207	J-208	997.1	8
P-65	J-207	J-206	1045	12
P-66	J-206	J-204	317.1	8
P-67	J-205	J-204	465.7	8
P-68	J-204	J-203	643.7	8
P-69	J-200	J-211	2106	8
P-70	J-211	J-203	536.3	8
P-71	J-203	J-201	2125	8
P-72	S145	J-200	327.3	8

Sereno Canyon Phase 4 Max Day fire flow J11

P-73	J-200	J-201	667.2	8
P-74	J-201	J-202	1059	8
P-75	J-120	J-119	186.5	8
P-76	J-119	J-121	389	8
P-77	J-210	J-209	1327	12
P-78	J-209	J-206	257.6	12
P-79	J-13	J-8	394	8
P-80	J-6	J-15	462	8
P-81	J-24	J-25	535	8
P-82	J-19	J-25	884	8
P-83	J-101	J-102	845.5	12
P-84	J-101	J-42	913.6	8
P-85	J-108	J-107	309.2	8



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in	
P-86	J-113	J-112	191.9	8	
P-87	J-117	J-114	573.8	8	
P-88	J-116	J-115	172.9	8	
P-89	J-119	J-118	421	8	
P-90	J-121	J-210	4137	8	
P-91	J-121	J-122	131.6	8	
P-92	J-32	J-33	221	8	
P-93	J-31	J-32	387	8	
P-94	J-103	J-31	1000	8	
P-95	J-33	J-34	245	8	
P-96	J-34	J-35	223.9	8	
P-97	J-103	J-104	1106	8	
P-98	J-305	J-304	506.9	8	
P-99	J-303	J-302	412.7	12	
P-100	J-301	J-300	178.5	8	
P-101	R-1	J-400	10	24	
P-21	J-26	J-305	427	8	
PUMP1	J-400	J-401	#N/A	#N/A	Pump
PUMP2	J-400	J-401	#N/A	#N/A	Pump
PUMP3	J-400	J-401	#N/A	#N/A	Pump
PUMP4	J-400	J-401	#N/A	#N/A	Pump
1	J-401	S145	#N/A	12	Valve

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
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Sereno Canyon Phase 4 Max Day fire flow J11

PUMP1	0.00	0.00	0.00	0.00	0.00	0.00
PUMP2	0.00	0.00	0.00	0.00	0.00	0.00
PUMP3	0.00	0.00	0.00	0.00	0.00	0.00
PUMP4	100.00	75.00	1188.68	101.02	101.02	0.00

Demand Charge: 0.00
Total Cost: 0.00

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-11	1000.00	2989.14	96.25	0.00
J-32	3.44	2999.04	90.15	0.00
J-36	3.80	2999.07	74.56	0.00
J-37	1.72	2999.07	71.09	0.00
J-30	4.48	2998.68	98.87	0.00
J-38	5.52	2998.38	82.06	0.00
J-39	3.44	2998.27	88.51	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-29	2.76	2998.05	94.27	0.00
J-40	2.06	2998.27	88.29	0.00
J-28	3.44	2997.74	102.58	0.00
J-27	2.06	2997.74	90.88	0.00
J-2	1.38	2995.59	93.85	0.00
J-3	0.00	2993.97	86.39	0.00
J-4	1.38	2993.49	87.09	0.00
J-41	5.52	2993.12	87.93	0.00
J-14	6.90	2990.55	89.93	0.00
J-12	49.90	2989.14	90.19	0.00
J-9	0.00	2989.88	105.24	0.00
J-6	2.07	2991.95	88.37	0.00
J-19	3.44	2993.73	80.91	0.00
J-24	3.44	2993.56	80.84	0.00
J-20	31.00	2993.57	72.83	0.00
J-21	12.40	2993.51	72.80	0.00
J-22	3.10	2993.52	72.59	0.00
J-5	2.76	2992.57	88.21	0.00
J-17	3.10	2992.57	101.21	0.00

Sereno Canyon Phase 4 Max Day fire flow J11

J-18	1.38	2993.49	95.54	0.00
J-7	4.14	2991.04	97.51	0.00
J-13	3.44	2990.75	107.78	0.00
J-8	3.80	2990.57	101.64	0.00
J-15	3.44	2991.29	79.64	0.00
J-16	2.06	2991.29	75.09	0.00
J-23	9.30	2993.52	70.42	0.00
J-303	11.48	2997.01	111.36	0.00
J-301	2.02	2997.26	116.24	0.00
J-10	47.88	2989.87	112.17	0.00
J-26	2.06	2996.09	99.70	0.00
J-1	0.00	2997.02	95.33	0.00
J-102	2.70	2998.17	101.03	0.00
J-105	3.38	2998.17	108.83	0.00
J-107	4.72	2998.17	113.60	0.00
J-111	4.06	2998.17	116.63	0.00
J-112	1.36	2998.02	125.23	0.00
J-114	1.36	2997.95	126.50	0.00
J-115	1.36	2997.89	127.78	0.00
J-118	1.36	2997.85	128.19	0.00
J-300	7.42	2997.26	117.10	0.00
J-302	2.70	2997.01	109.20	0.00
J-304	2.02	2997.00	102.26	0.00
J-42	0.00	2998.81	99.58	0.00
J-31	0.00	2998.99	96.62	0.00
J-35	0.00	2999.09	77.16	0.00
J-101	4.72	2999.47	115.24	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-106	3.38	2998.17	116.63	0.00
J-33	0.00	2999.06	84.95	0.00
J-123	3.38	2999.06	93.18	0.00
J-100	0.00	3000.52	121.98	0.00
J-103	3.38	2999.44	109.38	0.00
J-104	3.38	2999.22	85.46	0.00
J-117	2.02	2997.95	123.47	0.00
J-110	4.06	2998.17	108.83	0.00
J-108	2.02	2998.17	108.40	0.00
J-109	2.02	2998.17	107.53	0.00
J-305	1.36	2996.50	102.91	0.00
S145	0.00	3000.77	123.82	0.00
J-207	2.70	2998.27	114.07	0.00

Sereno Canyon Phase 4 Max Day fire flow J11

J-208	0.68	2998.27	116.67	0.00
J-206	0.68	2998.34	135.77	0.00
J-204	2.70	2998.67	128.98	0.00
J-205	2.70	2998.67	120.75	0.00
J-203	12.82	2999.37	121.48	0.00
J-200	7.42	3000.31	126.22	0.00
J-211	0.00	2999.56	118.10	0.00
J-201	3.38	3000.04	136.51	0.00
J-202	10.12	3000.04	117.88	0.00
J-119	0.00	2997.85	132.09	0.00
J-120	2.02	2997.85	136.43	0.00
J-121	0.00	2997.86	136.43	0.00
J-122	45.90	2997.85	139.02	0.00
J-210	4.06	2998.31	137.49	0.00
J-209	0.68	2998.34	135.34	0.00
J-113	1.36	2998.02	124.37	0.00
J-116	0.68	2997.89	127.34	0.00
J-25	5.52	2993.62	68.51	0.00
J-34	0.68	2999.07	82.79	0.00
J-400	0.00	2717.00	0.00	0.00
R-1	-1416.37	2717.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-1	-29.46	0.19	0.03	Open
P-2	1.72	0.01	0.00	Open
P-3	111.11	0.71	0.31	Open
P-4	105.59	0.67	0.28	Open
P-5	100.09	0.64	0.26	Open
P-6	2.06	0.01	0.00	Open



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-7	-3.44	0.02	0.00	Open
P-8	1205.97	3.42	3.59	Open
P-9	986.94	2.80	2.47	Open
P-10	984.18	2.79	2.46	Open
P-11	267.46	1.71	1.59	Open
P-12	-49.90	0.14	0.01	Open
P-13	-782.44	2.22	1.61	Open

Sereno Canyon Phase 4 Max Day fire flow J11

P-14	219.03	1.40	1.10	Open
P-15	88.94	0.57	0.21	Open
P-16	-74.28	0.47	0.15	Open
P-17	-86.68	0.55	0.20	Open
P-18	-27.88	0.18	0.02	Open
P-19	-147.82	0.94	0.53	Open
P-20	3.10	0.02	0.00	Open
P-22	-1.38	0.01	0.00	Open
P-23	140.75	0.90	0.48	Open
P-24	27.40	0.17	0.02	Open
P-25	-246.95	1.58	1.37	Open
P-26	2.06	0.01	0.00	Open
P-27	9.30	0.06	0.00	Open
P-28	150.83	0.96	0.55	Open
P-29	1129.49	3.20	3.18	Open
P-30	1123.63	3.19	3.14	Open
P-31	869.11	2.47	1.95	Open
P-32	724.21	2.05	1.39	Open
P-33	830.32	2.36	1.80	Open
P-34	47.88	0.14	0.01	Open
P-35	201.97	1.29	0.94	Open
P-36	-1005.38	2.85	2.56	Open
P-37	-760.26	2.16	1.53	Open
P-38	-0.64	0.00	0.00	Open
P-39	-7.40	0.02	0.00	Open
P-40	-20.22	0.06	0.00	Open
P-41	116.09	0.74	0.34	Open
P-42	113.37	0.72	0.32	Open
P-43	109.99	0.70	0.31	Open
P-44	107.95	0.69	0.30	Open
P-45	122.15	0.78	0.37	Open
P-46	112.71	0.72	0.32	Open
P-47	98.53	0.28	0.03	Open
P-48	-108.88	0.31	0.04	Open
P-49	-354.00	2.26	2.67	Open
P-50	-359.50	2.29	2.75	Open
P-51	-262.16	1.67	1.53	Open
P-52	-377.76	2.41	3.01	Open
P-53	-203.50	1.30	0.96	Open
P-54	34.98	0.22	0.04	Open



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
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Sereno Canyon Phase 4 Max Day fire flow J11

P-55	-3.38	0.02	0.00	Open
P-56	3.38	0.02	0.00	Open
P-57	223.28	1.43	1.14	Open
P-58	82.22	0.52	0.18	Open
P-59	-4.06	0.03	0.00	Open
P-60	2.02	0.01	0.00	Open
P-61	1164.58	3.30	3.36	Open
P-62	941.30	2.67	2.27	Open
P-63	-140.37	0.40	0.07	Open
P-64	0.68	0.00	0.00	Open
P-65	-143.75	0.41	0.07	Open
P-66	-212.65	1.36	1.04	Open
P-67	-2.70	0.02	0.00	Open
P-68	-218.05	1.39	1.09	Open
P-69	118.85	0.76	0.35	Open
P-70	118.85	0.76	0.35	Open
P-71	-112.02	0.71	0.32	Open
P-72	251.79	1.61	1.42	Open
P-73	125.52	0.80	0.39	Open
P-74	10.12	0.06	0.00	Open
P-75	-2.02	0.01	0.00	Open
P-76	-17.58	0.11	0.01	Open
P-77	-67.54	0.19	0.02	Open
P-78	-68.22	0.19	0.02	Open
P-79	137.31	0.88	0.46	Open
P-80	252.45	1.61	1.43	Open
P-81	-62.25	0.40	0.11	Open
P-82	67.77	0.43	0.12	Open
P-83	762.32	2.16	1.53	Open
P-84	174.26	1.11	0.72	Open
P-85	-8.10	0.05	0.00	Open
P-86	-1.36	0.01	0.00	Open
P-87	-2.02	0.01	0.00	Open
P-88	-0.68	0.00	0.00	Open
P-89	15.56	0.10	0.01	Open
P-90	-63.48	0.41	0.11	Open
P-91	45.90	0.29	0.06	Open
P-92	-43.19	0.28	0.06	Open
P-93	-69.20	0.44	0.13	Open
P-94	134.29	0.86	0.44	Open
P-95	-46.57	0.30	0.06	Open
P-96	-47.25	0.30	0.06	Open
P-97	85.60	0.55	0.19	Open
P-98	-205.39	1.31	0.97	Open
P-99	-11.48	0.03	0.00	Open
P-100	-2.02	0.01	0.00	Open
P-101	1416.37	1.00	0.17	Open

Sereno Canyon Phase 4 Max Day fire flow J11



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-21	-204.03	1.30	0.96	Open
PUMP1	0.00	0.00	0.00	Closed Pump
PUMP2	0.00	0.00	0.00	Closed Pump
PUMP3	0.00	0.00	0.00	Closed Pump
PUMP4	1416.38	0.00	-283.77	Open Pump
1	1416.37	4.02	0.00	Open Valve

Sereno Canyon Phase 4 Max Day fire flow J12

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

Input File: Sereno Canyon Phase 4 Max Day fire flow J12.net

Sereno Canyon

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in
P-1	J-32	J-36	955.6	8
P-2	J-36	J-37	121.6	8
P-3	J-30	J-38	957.7	8
P-4	J-38	J-39	400	8
P-5	J-39	J-29	841.9	8
P-6	J-39	J-40	83.23	8
P-7	J-28	J-27	505.5	8
P-8	J-2	J-3	452.1	12
P-9	J-3	J-4	195.3	12
P-10	J-4	J-41	148.7	12
P-11	J-14	J-11	890.1	8
P-12	J-12	J-11	340.4	12
P-13	J-11	J-9	458.8	12
P-14	J-3	J-19	223.6	8
P-15	J-20	J-21	310.5	8
P-16	J-21	J-22	93.71	8
P-17	J-22	J-24	192.7	8
P-18	J-24	J-20	511.2	8
P-19	J-20	J-19	293.1	8
P-20	J-5	J-17	587.4	8
P-22	J-18	J-4	378.4	8
P-23	J-7	J-13	601.7	8
P-24	J-8	J-14	610.4	8
P-25	J-14	J-15	540.4	8
P-26	J-15	J-16	224.8	8
P-27	J-22	J-23	128.3	8
P-28	J-21	J-41	699	8
P-29	J-41	J-5	172.5	12
P-30	J-5	J-6	197.8	12
P-31	J-6	J-7	466.8	12
P-32	J-7	J-8	339.3	12

Sereno Canyon Phase 4 Max Day fire flow J12

P-33	J-8	J-9	384	12
P-34	J-9	J-10	522	12
P-35	J-26	J-2	531.2	8
P-36	J-2	J-1	557.4	12
P-37	J-1	J-102	754.8	12
P-38	J-102	J-105	819.5	12



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in
P-39	J-105	J-107	511.2	12
P-40	J-107	J-111	1032	12
P-41	J-111	J-112	449.2	8
P-42	J-112	J-114	204.1	8
P-43	J-114	J-115	198.3	8
P-44	J-115	J-118	154.9	8
P-45	J-118	J-300	1588	8
P-46	J-300	J-302	757	8
P-47	J-302	J-304	469.1	12
P-48	J-304	J-1	500.9	12
P-49	J-1	J-27	271.1	8
P-50	J-27	J-29	112.3	8
P-51	J-29	J-30	411.1	8
P-52	J-30	J-42	43.31	8
P-53	J-42	J-31	191.5	8
P-54	J-35	J-36	438.3	8
P-55	J-106	J-105	800.8	8
P-56	J-33	J-123	375.5	8
P-57	J-100	J-103	951.8	8
P-58	J-104	J-35	775.1	8
P-59	J-110	J-108	595.1	8
P-60	J-108	J-109	353.1	8
P-61	S145	J-100	74.44	12
P-62	J-100	J-101	464.5	12
P-63	J-111	J-207	1424	12
P-64	J-207	J-208	997.1	8
P-65	J-207	J-206	1045	12
P-66	J-206	J-204	317.1	8
P-67	J-205	J-204	465.7	8
P-68	J-204	J-203	643.7	8
P-69	J-200	J-211	2106	8
P-70	J-211	J-203	536.3	8
P-71	J-203	J-201	2125	8
P-72	S145	J-200	327.3	8

Sereno Canyon Phase 4 Max Day fire flow J12

P-73	J-200	J-201	667.2	8
P-74	J-201	J-202	1059	8
P-75	J-120	J-119	186.5	8
P-76	J-119	J-121	389	8
P-77	J-210	J-209	1327	12
P-78	J-209	J-206	257.6	12
P-79	J-13	J-8	394	8
P-80	J-6	J-15	462	8
P-81	J-24	J-25	535	8
P-82	J-19	J-25	884	8
P-83	J-101	J-102	845.5	12
P-84	J-101	J-42	913.6	8
P-85	J-108	J-107	309.2	8



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in	
P-86	J-113	J-112	191.9	8	
P-87	J-117	J-114	573.8	8	
P-88	J-116	J-115	172.9	8	
P-89	J-119	J-118	421	8	
P-90	J-121	J-210	4137	8	
P-91	J-121	J-122	131.6	8	
P-92	J-32	J-33	221	8	
P-93	J-31	J-32	387	8	
P-94	J-103	J-31	1000	8	
P-95	J-33	J-34	245	8	
P-96	J-34	J-35	223.9	8	
P-97	J-103	J-104	1106	8	
P-98	J-305	J-304	506.9	8	
P-99	J-303	J-302	412.7	12	
P-100	J-301	J-300	178.5	8	
P-101	R-1	J-400	10	24	
P-21	J-26	J-305	427	8	
PUMP1	J-400	J-401	#N/A	#N/A	Pump
PUMP2	J-400	J-401	#N/A	#N/A	Pump
PUMP3	J-400	J-401	#N/A	#N/A	Pump
PUMP4	J-400	J-401	#N/A	#N/A	Pump
1	J-401	S145	#N/A	12	Valve

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
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Sereno Canyon Phase 4 Max Day fire flow J12

PUMP1	0.00	0.00	0.00	0.00	0.00	0.00
PUMP2	0.00	0.00	0.00	0.00	0.00	0.00
PUMP3	0.00	0.00	0.00	0.00	0.00	0.00
PUMP4	100.00	75.00	1203.06	98.94	98.94	0.00

Demand Charge: 0.00
Total Cost: 0.00

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-12	1000.00	2992.51	91.65	0.00
J-32	3.44	3002.58	91.68	0.00
J-36	3.80	3002.60	76.09	0.00
J-37	1.72	3002.60	72.62	0.00
J-30	4.48	3002.24	100.41	0.00
J-38	5.52	3001.96	83.61	0.00
J-39	3.44	3001.85	90.06	0.00



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Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-29	2.76	3001.65	95.82	0.00
J-40	2.06	3001.85	89.85	0.00
J-28	3.44	3001.36	104.15	0.00
J-27	2.06	3001.36	92.45	0.00
J-2	1.38	2999.36	95.48	0.00
J-3	0.00	2997.85	88.07	0.00
J-4	1.38	2997.40	88.78	0.00
J-41	5.52	2997.06	89.63	0.00
J-14	6.90	2994.68	91.72	0.00
J-11	4.14	2993.38	98.09	0.00
J-9	0.00	2994.06	107.05	0.00
J-6	2.07	2995.98	90.12	0.00
J-19	3.44	2997.62	82.59	0.00
J-24	3.44	2997.46	82.53	0.00
J-20	31.00	2997.47	74.52	0.00
J-21	12.40	2997.41	74.49	0.00
J-22	3.10	2997.42	74.28	0.00
J-5	2.76	2996.55	89.93	0.00
J-17	3.10	2996.55	102.93	0.00

Sereno Canyon Phase 4 Max Day fire flow J12

J-18	1.38	2997.40	97.23	0.00
J-7	4.14	2995.13	99.28	0.00
J-13	3.44	2994.86	109.57	0.00
J-8	3.80	2994.69	103.43	0.00
J-15	3.44	2995.37	81.40	0.00
J-16	2.06	2995.37	76.85	0.00
J-23	9.30	2997.42	72.11	0.00
J-303	11.48	3000.68	112.95	0.00
J-301	2.02	3000.90	117.82	0.00
J-10	47.88	2994.05	113.98	0.00
J-26	2.06	2999.82	101.32	0.00
J-1	0.00	3000.69	96.92	0.00
J-102	2.70	3001.76	102.59	0.00
J-105	3.38	3001.76	110.39	0.00
J-107	4.72	3001.76	115.15	0.00
J-111	4.06	3001.76	118.19	0.00
J-112	1.36	3001.62	126.79	0.00
J-114	1.36	3001.55	128.06	0.00
J-115	1.36	3001.50	129.34	0.00
J-118	1.36	3001.45	129.75	0.00
J-300	7.42	3000.90	118.68	0.00
J-302	2.70	3000.68	110.79	0.00
J-304	2.02	3000.67	103.85	0.00
J-42	0.00	3002.36	101.12	0.00
J-31	0.00	3002.53	98.16	0.00
J-35	0.00	3002.62	78.70	0.00
J-101	4.72	3002.98	116.76	0.00



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Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-106	3.38	3001.76	118.19	0.00
J-33	0.00	3002.59	86.48	0.00
J-123	3.38	3002.59	94.71	0.00
J-100	0.00	3003.97	123.48	0.00
J-103	3.38	3002.95	110.90	0.00
J-104	3.38	3002.75	86.98	0.00
J-117	2.02	3001.55	125.03	0.00
J-110	4.06	3001.76	110.39	0.00
J-108	2.02	3001.76	109.95	0.00
J-109	2.02	3001.76	109.09	0.00
J-305	1.36	3000.21	104.51	0.00
S145	0.00	3004.20	125.31	0.00
J-207	2.70	3001.85	115.63	0.00

Sereno Canyon Phase 4 Max Day fire flow J12

J-208	0.68	3001.85	118.23	0.00
J-206	0.68	3001.92	137.32	0.00
J-204	2.70	3002.23	130.52	0.00
J-205	2.70	3002.23	122.29	0.00
J-203	12.82	3002.88	123.01	0.00
J-200	7.42	3003.76	127.72	0.00
J-211	0.00	3003.06	119.62	0.00
J-201	3.38	3003.52	138.01	0.00
J-202	10.12	3003.51	119.38	0.00
J-119	0.00	3001.46	133.65	0.00
J-120	2.02	3001.46	137.99	0.00
J-121	0.00	3001.46	137.99	0.00
J-122	45.90	3001.45	140.58	0.00
J-210	4.06	3001.89	139.04	0.00
J-209	0.68	3001.91	136.89	0.00
J-113	1.36	3001.62	125.92	0.00
J-116	0.68	3001.50	128.91	0.00
J-25	5.52	2997.51	70.20	0.00
J-34	0.68	3002.60	84.32	0.00
J-400	0.00	2717.00	0.00	0.00
R-1	-1370.61	2717.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-1	-28.35	0.18	0.03	Open
P-2	1.72	0.01	0.00	Open
P-3	107.39	0.69	0.29	Open
P-4	101.87	0.65	0.27	Open
P-5	96.37	0.62	0.24	Open
P-6	2.06	0.01	0.00	Open



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Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-7	-3.44	0.02	0.00	Open
P-8	1160.21	3.29	3.34	Open
P-9	948.19	2.69	2.30	Open
P-10	945.43	2.68	2.29	Open
P-11	256.05	1.63	1.47	Open
P-12	-1000.00	2.84	2.53	Open
P-13	-748.09	2.12	1.48	Open

Sereno Canyon Phase 4 Max Day fire flow J12

P-14	212.02	1.35	1.03	Open
P-15	85.30	0.54	0.19	Open
P-16	-70.92	0.45	0.14	Open
P-17	-83.32	0.53	0.18	Open
P-18	-26.70	0.17	0.02	Open
P-19	-143.00	0.91	0.50	Open
P-20	3.10	0.02	0.00	Open
P-22	-1.38	0.01	0.00	Open
P-23	135.02	0.86	0.45	Open
P-24	26.22	0.17	0.02	Open
P-25	-236.72	1.51	1.27	Open
P-26	2.06	0.01	0.00	Open
P-27	9.30	0.06	0.00	Open
P-28	143.82	0.92	0.50	Open
P-29	1083.73	3.07	2.94	Open
P-30	1077.87	3.06	2.91	Open
P-31	833.58	2.36	1.81	Open
P-32	694.42	1.97	1.29	Open
P-33	795.97	2.26	1.66	Open
P-34	47.88	0.14	0.01	Open
P-35	194.23	1.24	0.88	Open
P-36	-967.36	2.74	2.38	Open
P-37	-732.28	2.08	1.42	Open
P-38	1.98	0.01	0.00	Open
P-39	-4.78	0.01	0.00	Open
P-40	-17.60	0.05	0.00	Open
P-41	113.11	0.72	0.32	Open
P-42	110.39	0.70	0.31	Open
P-43	107.01	0.68	0.29	Open
P-44	104.97	0.67	0.28	Open
P-45	117.30	0.75	0.34	Open
P-46	107.86	0.69	0.30	Open
P-47	93.68	0.27	0.03	Open
P-48	-105.99	0.30	0.04	Open
P-49	-341.08	2.18	2.49	Open
P-50	-346.58	2.21	2.57	Open
P-51	-252.97	1.61	1.43	Open
P-52	-364.84	2.33	2.82	Open
P-53	-196.29	1.25	0.89	Open
P-54	33.87	0.22	0.03	Open



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
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Sereno Canyon Phase 4 Max Day fire flow J12

P-55	-3.38	0.02	0.00	Open
P-56	3.38	0.02	0.00	Open
P-57	216.07	1.38	1.07	Open
P-58	79.50	0.51	0.17	Open
P-59	-4.06	0.03	0.00	Open
P-60	2.02	0.01	0.00	Open
P-61	1126.29	3.20	3.16	Open
P-62	910.23	2.58	2.13	Open
P-63	-134.77	0.38	0.06	Open
P-64	0.68	0.00	0.00	Open
P-65	-138.15	0.39	0.06	Open
P-66	-205.18	1.31	0.97	Open
P-67	-2.70	0.02	0.00	Open
P-68	-210.58	1.34	1.02	Open
P-69	115.06	0.73	0.33	Open
P-70	115.06	0.73	0.33	Open
P-71	-108.33	0.69	0.30	Open
P-72	244.32	1.56	1.34	Open
P-73	121.83	0.78	0.37	Open
P-74	10.12	0.06	0.00	Open
P-75	-2.02	0.01	0.00	Open
P-76	-15.70	0.10	0.01	Open
P-77	-65.66	0.19	0.02	Open
P-78	-66.34	0.19	0.02	Open
P-79	131.58	0.84	0.43	Open
P-80	242.22	1.55	1.32	Open
P-81	-60.06	0.38	0.10	Open
P-82	65.58	0.42	0.12	Open
P-83	736.96	2.09	1.44	Open
P-84	168.55	1.08	0.68	Open
P-85	-8.10	0.05	0.00	Open
P-86	-1.36	0.01	0.00	Open
P-87	-2.02	0.01	0.00	Open
P-88	-0.68	0.00	0.00	Open
P-89	13.68	0.09	0.01	Open
P-90	-61.60	0.39	0.10	Open
P-91	45.90	0.29	0.06	Open
P-92	-41.57	0.27	0.05	Open
P-93	-66.48	0.42	0.12	Open
P-94	129.81	0.83	0.42	Open
P-95	-44.95	0.29	0.06	Open
P-96	-45.63	0.29	0.06	Open
P-97	82.88	0.53	0.18	Open
P-98	-197.65	1.26	0.91	Open
P-99	-11.48	0.03	0.00	Open
P-100	-2.02	0.01	0.00	Open
P-101	1370.61	0.97	0.15	Open

Sereno Canyon Phase 4 Max Day fire flow J12



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-21	-196.29	1.25	0.90	Open
PUMP1	0.00	0.00	0.00	Closed Pump
PUMP2	0.00	0.00	0.00	Closed Pump
PUMP3	0.00	0.00	0.00	Closed Pump
PUMP4	1370.62	0.00	-287.20	Open Pump
1	1370.61	3.89	0.00	Open Valve

Sereno Canyon Phase 4 Max Day fire flow J13

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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: Sereno Canyon Phase 4 Max Day fire flow J13.net

Sereno Canyon

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in
P-1	J-32	J-36	955.6	8
P-2	J-36	J-37	121.6	8
P-3	J-30	J-38	957.7	8
P-4	J-38	J-39	400	8
P-5	J-39	J-29	841.9	8
P-6	J-39	J-40	83.23	8
P-7	J-28	J-27	505.5	8
P-8	J-2	J-3	452.1	12
P-9	J-3	J-4	195.3	12
P-10	J-4	J-41	148.7	12
P-11	J-14	J-11	890.1	8
P-12	J-12	J-11	340.4	12
P-13	J-11	J-9	458.8	12
P-14	J-3	J-19	223.6	8
P-15	J-20	J-21	310.5	8
P-16	J-21	J-22	93.71	8
P-17	J-22	J-24	192.7	8
P-18	J-24	J-20	511.2	8
P-19	J-20	J-19	293.1	8
P-20	J-5	J-17	587.4	8
P-22	J-18	J-4	378.4	8
P-23	J-7	J-13	601.7	8
P-24	J-8	J-14	610.4	8
P-25	J-14	J-15	540.4	8
P-26	J-15	J-16	224.8	8
P-27	J-22	J-23	128.3	8
P-28	J-21	J-41	699	8
P-29	J-41	J-5	172.5	12
P-30	J-5	J-6	197.8	12
P-31	J-6	J-7	466.8	12
P-32	J-7	J-8	339.3	12

Sereno Canyon Phase 4 Max Day fire flow J13

P-33	J-8	J-9	384	12
P-34	J-9	J-10	522	12
P-35	J-26	J-2	531.2	8
P-36	J-2	J-1	557.4	12
P-37	J-1	J-102	754.8	12
P-38	J-102	J-105	819.5	12



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in
P-39	J-105	J-107	511.2	12
P-40	J-107	J-111	1032	12
P-41	J-111	J-112	449.2	8
P-42	J-112	J-114	204.1	8
P-43	J-114	J-115	198.3	8
P-44	J-115	J-118	154.9	8
P-45	J-118	J-300	1588	8
P-46	J-300	J-302	757	8
P-47	J-302	J-304	469.1	12
P-48	J-304	J-1	500.9	12
P-49	J-1	J-27	271.1	8
P-50	J-27	J-29	112.3	8
P-51	J-29	J-30	411.1	8
P-52	J-30	J-42	43.31	8
P-53	J-42	J-31	191.5	8
P-54	J-35	J-36	438.3	8
P-55	J-106	J-105	800.8	8
P-56	J-33	J-123	375.5	8
P-57	J-100	J-103	951.8	8
P-58	J-104	J-35	775.1	8
P-59	J-110	J-108	595.1	8
P-60	J-108	J-109	353.1	8
P-61	S145	J-100	74.44	12
P-62	J-100	J-101	464.5	12
P-63	J-111	J-207	1424	12
P-64	J-207	J-208	997.1	8
P-65	J-207	J-206	1045	12
P-66	J-206	J-204	317.1	8
P-67	J-205	J-204	465.7	8
P-68	J-204	J-203	643.7	8
P-69	J-200	J-211	2106	8
P-70	J-211	J-203	536.3	8
P-71	J-203	J-201	2125	8
P-72	S145	J-200	327.3	8

Sereno Canyon Phase 4 Max Day fire flow J13

P-73	J-200	J-201	667.2	8
P-74	J-201	J-202	1059	8
P-75	J-120	J-119	186.5	8
P-76	J-119	J-121	389	8
P-77	J-210	J-209	1327	12
P-78	J-209	J-206	257.6	12
P-79	J-13	J-8	394	8
P-80	J-6	J-15	462	8
P-81	J-24	J-25	535	8
P-82	J-19	J-25	884	8
P-83	J-101	J-102	845.5	12
P-84	J-101	J-42	913.6	8
P-85	J-108	J-107	309.2	8



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in	
P-86	J-113	J-112	191.9	8	
P-87	J-117	J-114	573.8	8	
P-88	J-116	J-115	172.9	8	
P-89	J-119	J-118	421	8	
P-90	J-121	J-210	4137	8	
P-91	J-121	J-122	131.6	8	
P-92	J-32	J-33	221	8	
P-93	J-31	J-32	387	8	
P-94	J-103	J-31	1000	8	
P-95	J-33	J-34	245	8	
P-96	J-34	J-35	223.9	8	
P-97	J-103	J-104	1106	8	
P-98	J-305	J-304	506.9	8	
P-99	J-303	J-302	412.7	12	
P-100	J-301	J-300	178.5	8	
P-101	R-1	J-400	10	24	
P-21	J-26	J-305	427	8	
PUMP1	J-400	J-401	#N/A	#N/A	Pump
PUMP2	J-400	J-401	#N/A	#N/A	Pump
PUMP3	J-400	J-401	#N/A	#N/A	Pump
PUMP4	J-400	J-401	#N/A	#N/A	Pump
1	J-401	S145	#N/A	12	Valve

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
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Sereno Canyon Phase 4 Max Day fire flow J13

PUMP1	0.00	0.00	0.00	0.00	0.00	0.00
PUMP2	0.00	0.00	0.00	0.00	0.00	0.00
PUMP3	0.00	0.00	0.00	0.00	0.00	0.00
PUMP4	100.00	75.00	1188.46	101.05	101.05	0.00

Demand Charge: 0.00
Total Cost: 0.00

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-13	1000.00	2988.35	106.74	0.00
J-32	3.44	2998.99	90.12	0.00
J-36	3.80	2999.02	74.53	0.00
J-37	1.72	2999.02	71.07	0.00
J-30	4.48	2998.63	98.85	0.00
J-38	5.52	2998.33	82.04	0.00
J-39	3.44	2998.21	88.49	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-29	2.76	2998.00	94.24	0.00
J-40	2.06	2998.21	88.27	0.00
J-28	3.44	2997.69	102.56	0.00
J-27	2.06	2997.69	90.86	0.00
J-2	1.38	2995.53	93.82	0.00
J-3	0.00	2993.91	86.36	0.00
J-4	1.38	2993.43	87.06	0.00
J-41	5.52	2993.06	87.90	0.00
J-14	6.90	2990.89	90.08	0.00
J-11	4.14	2990.70	96.93	0.00
J-12	49.90	2990.70	90.86	0.00
J-9	0.00	2990.70	105.59	0.00
J-6	2.07	2991.89	88.35	0.00
J-19	3.44	2993.67	80.88	0.00
J-24	3.44	2993.50	80.81	0.00
J-20	31.00	2993.51	72.80	0.00
J-21	12.40	2993.45	72.77	0.00
J-22	3.10	2993.46	72.56	0.00
J-5	2.76	2992.51	88.18	0.00

Sereno Canyon Phase 4 Max Day fire flow J13

J-17	3.10	2992.51	101.18	0.00
J-18	1.38	2993.43	95.51	0.00
J-7	4.14	2990.90	97.45	0.00
J-8	3.80	2990.70	101.69	0.00
J-15	3.44	2991.42	79.69	0.00
J-16	2.06	2991.42	75.14	0.00
J-23	9.30	2993.46	70.39	0.00
J-303	11.48	2996.96	111.34	0.00
J-301	2.02	2997.20	116.21	0.00
J-10	47.88	2990.69	112.53	0.00
J-26	2.06	2996.04	99.68	0.00
J-1	0.00	2996.96	95.31	0.00
J-102	2.70	2998.12	101.01	0.00
J-105	3.38	2998.12	108.81	0.00
J-107	4.72	2998.12	113.57	0.00
J-111	4.06	2998.12	116.61	0.00
J-112	1.36	2997.97	125.21	0.00
J-114	1.36	2997.90	126.48	0.00
J-115	1.36	2997.84	127.75	0.00
J-118	1.36	2997.79	128.17	0.00
J-300	7.42	2997.20	117.08	0.00
J-302	2.70	2996.96	109.17	0.00
J-304	2.02	2996.94	102.23	0.00
J-42	0.00	2998.76	99.55	0.00
J-31	0.00	2998.94	96.60	0.00
J-35	0.00	2999.03	77.14	0.00
J-101	4.72	2999.41	115.22	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-106	3.38	2998.12	116.61	0.00
J-33	0.00	2999.00	84.93	0.00
J-123	3.38	2999.00	93.16	0.00
J-100	0.00	3000.47	121.96	0.00
J-103	3.38	2999.38	109.36	0.00
J-104	3.38	2999.17	85.43	0.00
J-117	2.02	2997.90	123.45	0.00
J-110	4.06	2998.12	108.81	0.00
J-108	2.02	2998.12	108.38	0.00
J-109	2.02	2998.12	107.51	0.00
J-305	1.36	2996.45	102.89	0.00
S145	0.00	3000.72	123.80	0.00
J-207	2.70	2998.21	114.05	0.00

Sereno Canyon Phase 4 Max Day fire flow J13

J-208	0.68	2998.21	116.65	0.00
J-206	0.68	2998.29	135.75	0.00
J-204	2.70	2998.62	128.96	0.00
J-205	2.70	2998.62	120.72	0.00
J-203	12.82	2999.32	121.46	0.00
J-200	7.42	3000.25	126.20	0.00
J-211	0.00	2999.51	118.08	0.00
J-201	3.38	2999.99	136.49	0.00
J-202	10.12	2999.99	117.85	0.00
J-119	0.00	2997.80	132.07	0.00
J-120	2.02	2997.80	136.40	0.00
J-121	0.00	2997.80	136.40	0.00
J-122	45.90	2997.79	139.00	0.00
J-210	4.06	2998.26	137.47	0.00
J-209	0.68	2998.28	135.31	0.00
J-113	1.36	2997.97	124.34	0.00
J-116	0.68	2997.84	127.32	0.00
J-25	5.52	2993.56	68.49	0.00
J-34	0.68	2999.02	82.77	0.00
J-400	0.00	2717.00	0.00	0.00
R-1	-1417.07	2717.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-1	-29.47	0.19	0.03	Open
P-2	1.72	0.01	0.00	Open
P-3	111.17	0.71	0.31	Open
P-4	105.65	0.67	0.28	Open
P-5	100.15	0.64	0.26	Open
P-6	2.06	0.01	0.00	Open



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Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-7	-3.44	0.02	0.00	Open
P-8	1206.67	3.42	3.59	Open
P-9	987.54	2.80	2.48	Open
P-10	984.78	2.79	2.46	Open
P-11	89.22	0.57	0.21	Open
P-12	-49.90	0.14	0.01	Open
P-13	35.18	0.10	0.00	Open

Sereno Canyon Phase 4 Max Day fire flow J13

P-14	219.13	1.40	1.10	Open
P-15	89.00	0.57	0.21	Open
P-16	-74.34	0.47	0.15	Open
P-17	-86.74	0.55	0.20	Open
P-18	-27.89	0.18	0.02	Open
P-19	-147.89	0.94	0.53	Open
P-20	3.10	0.02	0.00	Open
P-22	-1.38	0.01	0.00	Open
P-23	453.91	2.90	4.23	Open
P-24	-110.03	0.70	0.31	Open
P-25	-206.15	1.32	0.98	Open
P-26	2.06	0.01	0.00	Open
P-27	9.30	0.06	0.00	Open
P-28	150.93	0.96	0.55	Open
P-29	1130.19	3.21	3.18	Open
P-30	1124.33	3.19	3.15	Open
P-31	910.61	2.58	2.13	Open
P-32	452.56	1.28	0.58	Open
P-33	12.70	0.04	0.00	Open
P-34	47.88	0.14	0.01	Open
P-35	202.09	1.29	0.95	Open
P-36	-1005.96	2.85	2.56	Open
P-37	-760.69	2.16	1.53	Open
P-38	-0.68	0.00	0.00	Open
P-39	-7.44	0.02	0.00	Open
P-40	-20.26	0.06	0.00	Open
P-41	116.13	0.74	0.34	Open
P-42	113.41	0.72	0.32	Open
P-43	110.03	0.70	0.31	Open
P-44	107.99	0.69	0.30	Open
P-45	122.23	0.78	0.37	Open
P-46	112.79	0.72	0.32	Open
P-47	98.61	0.28	0.03	Open
P-48	-108.92	0.31	0.04	Open
P-49	-354.19	2.26	2.67	Open
P-50	-359.69	2.30	2.75	Open
P-51	-262.30	1.67	1.53	Open
P-52	-377.95	2.41	3.01	Open
P-53	-203.61	1.30	0.96	Open
P-54	34.99	0.22	0.04	Open



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
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Sereno Canyon Phase 4 Max Day fire flow J13

P-55	-3.38	0.02	0.00	Open
P-56	3.38	0.02	0.00	Open
P-57	223.39	1.43	1.14	Open
P-58	82.27	0.53	0.18	Open
P-59	-4.06	0.03	0.00	Open
P-60	2.02	0.01	0.00	Open
P-61	1165.17	3.31	3.36	Open
P-62	941.78	2.67	2.27	Open
P-63	-140.45	0.40	0.07	Open
P-64	0.68	0.00	0.00	Open
P-65	-143.83	0.41	0.07	Open
P-66	-212.76	1.36	1.04	Open
P-67	-2.70	0.02	0.00	Open
P-68	-218.16	1.39	1.09	Open
P-69	118.91	0.76	0.35	Open
P-70	118.91	0.76	0.35	Open
P-71	-112.07	0.72	0.32	Open
P-72	251.90	1.61	1.42	Open
P-73	125.57	0.80	0.39	Open
P-74	10.12	0.06	0.00	Open
P-75	-2.02	0.01	0.00	Open
P-76	-17.61	0.11	0.01	Open
P-77	-67.57	0.19	0.02	Open
P-78	-68.25	0.19	0.02	Open
P-79	-546.09	3.49	5.96	Open
P-80	211.65	1.35	1.03	Open
P-81	-62.28	0.40	0.11	Open
P-82	67.80	0.43	0.13	Open
P-83	762.71	2.16	1.53	Open
P-84	174.35	1.11	0.72	Open
P-85	-8.10	0.05	0.00	Open
P-86	-1.36	0.01	0.00	Open
P-87	-2.02	0.01	0.00	Open
P-88	-0.68	0.00	0.00	Open
P-89	15.59	0.10	0.01	Open
P-90	-63.51	0.41	0.11	Open
P-91	45.90	0.29	0.06	Open
P-92	-43.21	0.28	0.05	Open
P-93	-69.25	0.44	0.13	Open
P-94	134.36	0.86	0.44	Open
P-95	-46.59	0.30	0.06	Open
P-96	-47.27	0.30	0.06	Open
P-97	85.65	0.55	0.19	Open
P-98	-205.51	1.31	0.97	Open
P-99	-11.48	0.03	0.00	Open
P-100	-2.02	0.01	0.00	Open
P-101	1417.07	1.00	0.17	Open

Sereno Canyon Phase 4 Max Day fire flow J13



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-21	-204.15	1.30	0.96	Open
PUMP1	0.00	0.00	0.00	Closed Pump
PUMP2	0.00	0.00	0.00	Closed Pump
PUMP3	0.00	0.00	0.00	Closed Pump
PUMP4	1417.08	0.00	-283.72	Open Pump
1	1417.07	4.02	0.00	Open Valve

Sereno Canyon Phase 4 Max Day fire flow J14

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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: Sereno Canyon Phase 4 Max Day fire flow J14.net

Sereno Canyon

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in
P-1	J-32	J-36	955.6	8
P-2	J-36	J-37	121.6	8
P-3	J-30	J-38	957.7	8
P-4	J-38	J-39	400	8
P-5	J-39	J-29	841.9	8
P-6	J-39	J-40	83.23	8
P-7	J-28	J-27	505.5	8
P-8	J-2	J-3	452.1	12
P-9	J-3	J-4	195.3	12
P-10	J-4	J-41	148.7	12
P-11	J-14	J-11	890.1	8
P-12	J-12	J-11	340.4	12
P-13	J-11	J-9	458.8	12
P-14	J-3	J-19	223.6	8
P-15	J-20	J-21	310.5	8
P-16	J-21	J-22	93.71	8
P-17	J-22	J-24	192.7	8
P-18	J-24	J-20	511.2	8
P-19	J-20	J-19	293.1	8
P-20	J-5	J-17	587.4	8
P-22	J-18	J-4	378.4	8
P-23	J-7	J-13	601.7	8
P-24	J-8	J-14	610.4	8
P-25	J-14	J-15	540.4	8
P-26	J-15	J-16	224.8	8
P-27	J-22	J-23	128.3	8
P-28	J-21	J-41	699	8
P-29	J-41	J-5	172.5	12
P-30	J-5	J-6	197.8	12
P-31	J-6	J-7	466.8	12
P-32	J-7	J-8	339.3	12

Sereno Canyon Phase 4 Max Day fire flow J14

P-33	J-8	J-9	384	12
P-34	J-9	J-10	522	12
P-35	J-26	J-2	531.2	8
P-36	J-2	J-1	557.4	12
P-37	J-1	J-102	754.8	12
P-38	J-102	J-105	819.5	12



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in
P-39	J-105	J-107	511.2	12
P-40	J-107	J-111	1032	12
P-41	J-111	J-112	449.2	8
P-42	J-112	J-114	204.1	8
P-43	J-114	J-115	198.3	8
P-44	J-115	J-118	154.9	8
P-45	J-118	J-300	1588	8
P-46	J-300	J-302	757	8
P-47	J-302	J-304	469.1	12
P-48	J-304	J-1	500.9	12
P-49	J-1	J-27	271.1	8
P-50	J-27	J-29	112.3	8
P-51	J-29	J-30	411.1	8
P-52	J-30	J-42	43.31	8
P-53	J-42	J-31	191.5	8
P-54	J-35	J-36	438.3	8
P-55	J-106	J-105	800.8	8
P-56	J-33	J-123	375.5	8
P-57	J-100	J-103	951.8	8
P-58	J-104	J-35	775.1	8
P-59	J-110	J-108	595.1	8
P-60	J-108	J-109	353.1	8
P-61	S145	J-100	74.44	12
P-62	J-100	J-101	464.5	12
P-63	J-111	J-207	1424	12
P-64	J-207	J-208	997.1	8
P-65	J-207	J-206	1045	12
P-66	J-206	J-204	317.1	8
P-67	J-205	J-204	465.7	8
P-68	J-204	J-203	643.7	8
P-69	J-200	J-211	2106	8
P-70	J-211	J-203	536.3	8
P-71	J-203	J-201	2125	8
P-72	S145	J-200	327.3	8

Sereno Canyon Phase 4 Max Day fire flow J14

P-73	J-200	J-201	667.2	8
P-74	J-201	J-202	1059	8
P-75	J-120	J-119	186.5	8
P-76	J-119	J-121	389	8
P-77	J-210	J-209	1327	12
P-78	J-209	J-206	257.6	12
P-79	J-13	J-8	394	8
P-80	J-6	J-15	462	8
P-81	J-24	J-25	535	8
P-82	J-19	J-25	884	8
P-83	J-101	J-102	845.5	12
P-84	J-101	J-42	913.6	8
P-85	J-108	J-107	309.2	8



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in	
P-86	J-113	J-112	191.9	8	
P-87	J-117	J-114	573.8	8	
P-88	J-116	J-115	172.9	8	
P-89	J-119	J-118	421	8	
P-90	J-121	J-210	4137	8	
P-91	J-121	J-122	131.6	8	
P-92	J-32	J-33	221	8	
P-93	J-31	J-32	387	8	
P-94	J-103	J-31	1000	8	
P-95	J-33	J-34	245	8	
P-96	J-34	J-35	223.9	8	
P-97	J-103	J-104	1106	8	
P-98	J-305	J-304	506.9	8	
P-99	J-303	J-302	412.7	12	
P-100	J-301	J-300	178.5	8	
P-101	R-1	J-400	10	24	
P-21	J-26	J-305	427	8	
PUMP1	J-400	J-401	#N/A	#N/A	Pump
PUMP2	J-400	J-401	#N/A	#N/A	Pump
PUMP3	J-400	J-401	#N/A	#N/A	Pump
PUMP4	J-400	J-401	#N/A	#N/A	Pump
1	J-401	S145	#N/A	12	Valve

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
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Sereno Canyon Phase 4 Max Day fire flow J14

PUMP1	0.00	0.00	0.00	0.00	0.00	0.00
PUMP2	0.00	0.00	0.00	0.00	0.00	0.00
PUMP3	0.00	0.00	0.00	0.00	0.00	0.00
PUMP4	100.00	75.00	1189.54	100.89	100.89	0.00

Demand Charge: 0.00
Total Cost: 0.00

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-14	1000.00	2989.38	89.43	0.00
J-32	3.44	2999.26	90.24	0.00
J-36	3.80	2999.28	74.65	0.00
J-37	1.72	2999.28	71.18	0.00
J-30	4.48	2998.89	98.96	0.00
J-38	5.52	2998.60	82.15	0.00
J-39	3.44	2998.48	88.60	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-29	2.76	2998.27	94.36	0.00
J-40	2.06	2998.48	88.39	0.00
J-28	3.44	2997.96	102.67	0.00
J-27	2.06	2997.96	90.98	0.00
J-2	1.38	2995.82	93.95	0.00
J-3	0.00	2994.20	86.49	0.00
J-4	1.38	2993.72	87.19	0.00
J-41	5.52	2993.36	88.03	0.00
J-11	4.14	2990.83	96.99	0.00
J-12	49.90	2990.83	90.92	0.00
J-9	0.00	2990.98	105.72	0.00
J-6	2.07	2992.19	88.48	0.00
J-19	3.44	2993.96	81.01	0.00
J-24	3.44	2993.79	80.94	0.00
J-20	31.00	2993.81	72.93	0.00
J-21	12.40	2993.74	72.90	0.00
J-22	3.10	2993.76	72.69	0.00
J-5	2.76	2992.81	88.31	0.00
J-17	3.10	2992.81	101.31	0.00

Sereno Canyon Phase 4 Max Day fire flow J14

J-18	1.38	2993.72	95.64	0.00
J-7	4.14	2991.50	97.71	0.00
J-13	3.45	2991.27	108.01	0.00
J-8	3.80	2991.13	101.88	0.00
J-15	3.44	2990.88	79.46	0.00
J-16	2.06	2990.88	74.91	0.00
J-23	9.30	2993.76	70.52	0.00
J-303	11.48	2997.23	111.46	0.00
J-301	2.02	2997.48	116.33	0.00
J-10	47.88	2990.97	112.65	0.00
J-26	2.06	2996.32	99.80	0.00
J-1	0.00	2997.24	95.43	0.00
J-102	2.70	2998.39	101.13	0.00
J-105	3.38	2998.39	108.93	0.00
J-107	4.72	2998.39	113.69	0.00
J-111	4.06	2998.39	116.73	0.00
J-112	1.36	2998.24	125.33	0.00
J-114	1.36	2998.17	126.60	0.00
J-115	1.36	2998.11	127.87	0.00
J-118	1.36	2998.06	128.28	0.00
J-300	7.42	2997.48	117.20	0.00
J-302	2.70	2997.24	109.29	0.00
J-304	2.02	2997.22	102.35	0.00
J-42	0.00	2999.02	99.67	0.00
J-31	0.00	2999.21	96.72	0.00
J-35	0.00	2999.30	77.26	0.00
J-101	4.72	2999.68	115.34	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-106	3.38	2998.39	116.73	0.00
J-33	0.00	2999.27	85.04	0.00
J-123	3.38	2999.27	93.28	0.00
J-100	0.00	3000.73	122.07	0.00
J-103	3.38	2999.65	109.47	0.00
J-104	3.38	2999.44	85.55	0.00
J-117	2.02	2998.17	123.56	0.00
J-110	4.06	2998.39	108.93	0.00
J-108	2.02	2998.39	108.49	0.00
J-109	2.02	2998.39	107.63	0.00
J-305	1.36	2996.73	103.01	0.00
S145	0.00	3000.98	123.91	0.00
J-207	2.70	2998.48	114.17	0.00

Sereno Canyon Phase 4 Max Day fire flow J14

J-208	0.68	2998.48	116.77	0.00
J-206	0.68	2998.56	135.86	0.00
J-204	2.70	2998.88	129.07	0.00
J-205	2.70	2998.88	120.84	0.00
J-203	12.82	2999.58	121.58	0.00
J-200	7.42	3000.51	126.31	0.00
J-211	0.00	2999.77	118.19	0.00
J-201	3.38	3000.25	136.60	0.00
J-202	10.12	3000.25	117.97	0.00
J-119	0.00	2998.07	132.19	0.00
J-120	2.02	2998.07	136.52	0.00
J-121	0.00	2998.07	136.52	0.00
J-122	45.90	2998.06	139.12	0.00
J-210	4.06	2998.53	137.59	0.00
J-209	0.68	2998.55	135.43	0.00
J-113	1.36	2998.24	124.46	0.00
J-116	0.68	2998.11	127.44	0.00
J-25	5.52	2993.85	68.61	0.00
J-34	0.68	2999.28	82.88	0.00
J-400	0.00	2717.00	0.00	0.00
R-1	-1413.63	2717.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-1	-29.39	0.19	0.03	Open
P-2	1.72	0.01	0.00	Open
P-3	110.89	0.71	0.31	Open
P-4	105.37	0.67	0.28	Open
P-5	99.87	0.64	0.26	Open
P-6	2.06	0.01	0.00	Open



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-7	-3.44	0.02	0.00	Open
P-8	1203.22	3.41	3.57	Open
P-9	984.61	2.79	2.46	Open
P-10	981.85	2.79	2.45	Open
P-11	-271.03	1.73	1.63	Open
P-12	-49.90	0.14	0.01	Open
P-13	-325.07	0.92	0.32	Open

Sereno Canyon Phase 4 Max Day fire flow J14

P-14	218.61	1.40	1.09	Open
P-15	88.72	0.57	0.21	Open
P-16	-74.08	0.47	0.15	Open
P-17	-86.48	0.55	0.20	Open
P-18	-27.81	0.18	0.02	Open
P-19	-147.53	0.94	0.53	Open
P-20	3.10	0.02	0.00	Open
P-22	-1.38	0.01	0.00	Open
P-23	121.91	0.78	0.37	Open
P-24	367.99	2.35	2.87	Open
P-25	-360.98	2.30	2.77	Open
P-26	2.06	0.01	0.00	Open
P-27	9.30	0.06	0.00	Open
P-28	150.41	0.96	0.55	Open
P-29	1126.74	3.20	3.16	Open
P-30	1120.88	3.18	3.13	Open
P-31	752.33	2.13	1.50	Open
P-32	626.28	1.78	1.07	Open
P-33	372.95	1.06	0.41	Open
P-34	47.88	0.14	0.01	Open
P-35	201.50	1.29	0.94	Open
P-36	-1003.10	2.85	2.55	Open
P-37	-758.58	2.15	1.52	Open
P-38	-0.48	0.00	0.00	Open
P-39	-7.24	0.02	0.00	Open
P-40	-20.06	0.06	0.00	Open
P-41	115.91	0.74	0.34	Open
P-42	113.19	0.72	0.32	Open
P-43	109.81	0.70	0.31	Open
P-44	107.77	0.69	0.30	Open
P-45	121.86	0.78	0.37	Open
P-46	112.42	0.72	0.32	Open
P-47	98.24	0.28	0.03	Open
P-48	-108.70	0.31	0.04	Open
P-49	-353.22	2.25	2.66	Open
P-50	-358.72	2.29	2.73	Open
P-51	-261.61	1.67	1.53	Open
P-52	-376.98	2.41	3.00	Open
P-53	-203.06	1.30	0.95	Open
P-54	34.91	0.22	0.04	Open



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
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Sereno Canyon Phase 4 Max Day fire flow J14

P-55	-3.38	0.02	0.00	Open
P-56	3.38	0.02	0.00	Open
P-57	222.84	1.42	1.13	Open
P-58	82.06	0.52	0.18	Open
P-59	-4.06	0.03	0.00	Open
P-60	2.02	0.01	0.00	Open
P-61	1162.28	3.30	3.35	Open
P-62	939.43	2.66	2.26	Open
P-63	-140.03	0.40	0.07	Open
P-64	0.68	0.00	0.00	Open
P-65	-143.41	0.41	0.07	Open
P-66	-212.20	1.35	1.03	Open
P-67	-2.70	0.02	0.00	Open
P-68	-217.60	1.39	1.08	Open
P-69	118.63	0.76	0.35	Open
P-70	118.63	0.76	0.35	Open
P-71	-111.80	0.71	0.32	Open
P-72	251.34	1.60	1.42	Open
P-73	125.30	0.80	0.39	Open
P-74	10.12	0.06	0.00	Open
P-75	-2.02	0.01	0.00	Open
P-76	-17.47	0.11	0.01	Open
P-77	-67.43	0.19	0.02	Open
P-78	-68.11	0.19	0.02	Open
P-79	118.46	0.76	0.35	Open
P-80	366.48	2.34	2.85	Open
P-81	-62.12	0.40	0.11	Open
P-82	67.64	0.43	0.12	Open
P-83	760.80	2.16	1.53	Open
P-84	173.92	1.11	0.72	Open
P-85	-8.10	0.05	0.00	Open
P-86	-1.36	0.01	0.00	Open
P-87	-2.02	0.01	0.00	Open
P-88	-0.68	0.00	0.00	Open
P-89	15.45	0.10	0.01	Open
P-90	-63.37	0.40	0.11	Open
P-91	45.90	0.29	0.06	Open
P-92	-43.09	0.28	0.05	Open
P-93	-69.04	0.44	0.13	Open
P-94	134.02	0.86	0.44	Open
P-95	-46.47	0.30	0.06	Open
P-96	-47.15	0.30	0.06	Open
P-97	85.44	0.55	0.19	Open
P-98	-204.92	1.31	0.97	Open
P-99	-11.48	0.03	0.00	Open
P-100	-2.02	0.01	0.00	Open
P-101	1413.63	1.00	0.17	Open

Sereno Canyon Phase 4 Max Day fire flow J14



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-21	-203.56	1.30	0.96	Open
PUMP1	0.00	0.00	0.00	Closed Pump
PUMP2	0.00	0.00	0.00	Closed Pump
PUMP3	0.00	0.00	0.00	Closed Pump
PUMP4	1413.63	0.00	-283.98	Open Pump
1	1413.62	4.01	0.00	Open Valve

Sereno Canyon Phase 4 Max Day fire flow J15

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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: Sereno Canyon Phase 4 Max Day fire flow J15.net

Sereno Canyon

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in
P-1	J-32	J-36	955.6	8
P-2	J-36	J-37	121.6	8
P-3	J-30	J-38	957.7	8
P-4	J-38	J-39	400	8
P-5	J-39	J-29	841.9	8
P-6	J-39	J-40	83.23	8
P-7	J-28	J-27	505.5	8
P-8	J-2	J-3	452.1	12
P-9	J-3	J-4	195.3	12
P-10	J-4	J-41	148.7	12
P-11	J-14	J-11	890.1	8
P-12	J-12	J-11	340.4	12
P-13	J-11	J-9	458.8	12
P-14	J-3	J-19	223.6	8
P-15	J-20	J-21	310.5	8
P-16	J-21	J-22	93.71	8
P-17	J-22	J-24	192.7	8
P-18	J-24	J-20	511.2	8
P-19	J-20	J-19	293.1	8
P-20	J-5	J-17	587.4	8
P-22	J-18	J-4	378.4	8
P-23	J-7	J-13	601.7	8
P-24	J-8	J-14	610.4	8
P-25	J-14	J-15	540.4	8
P-26	J-15	J-16	224.8	8
P-27	J-22	J-23	128.3	8
P-28	J-21	J-41	699	8
P-29	J-41	J-5	172.5	12
P-30	J-5	J-6	197.8	12
P-31	J-6	J-7	466.8	12
P-32	J-7	J-8	339.3	12

Sereno Canyon Phase 4 Max Day fire flow J15

P-33	J-8	J-9	384	12
P-34	J-9	J-10	522	12
P-35	J-26	J-2	531.2	8
P-36	J-2	J-1	557.4	12
P-37	J-1	J-102	754.8	12
P-38	J-102	J-105	819.5	12



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in
P-39	J-105	J-107	511.2	12
P-40	J-107	J-111	1032	12
P-41	J-111	J-112	449.2	8
P-42	J-112	J-114	204.1	8
P-43	J-114	J-115	198.3	8
P-44	J-115	J-118	154.9	8
P-45	J-118	J-300	1588	8
P-46	J-300	J-302	757	8
P-47	J-302	J-304	469.1	12
P-48	J-304	J-1	500.9	12
P-49	J-1	J-27	271.1	8
P-50	J-27	J-29	112.3	8
P-51	J-29	J-30	411.1	8
P-52	J-30	J-42	43.31	8
P-53	J-42	J-31	191.5	8
P-54	J-35	J-36	438.3	8
P-55	J-106	J-105	800.8	8
P-56	J-33	J-123	375.5	8
P-57	J-100	J-103	951.8	8
P-58	J-104	J-35	775.1	8
P-59	J-110	J-108	595.1	8
P-60	J-108	J-109	353.1	8
P-61	S145	J-100	74.44	12
P-62	J-100	J-101	464.5	12
P-63	J-111	J-207	1424	12
P-64	J-207	J-208	997.1	8
P-65	J-207	J-206	1045	12
P-66	J-206	J-204	317.1	8
P-67	J-205	J-204	465.7	8
P-68	J-204	J-203	643.7	8
P-69	J-200	J-211	2106	8
P-70	J-211	J-203	536.3	8
P-71	J-203	J-201	2125	8
P-72	S145	J-200	327.3	8

Sereno Canyon Phase 4 Max Day fire flow J15

P-73	J-200	J-201	667.2	8
P-74	J-201	J-202	1059	8
P-75	J-120	J-119	186.5	8
P-76	J-119	J-121	389	8
P-77	J-210	J-209	1327	12
P-78	J-209	J-206	257.6	12
P-79	J-13	J-8	394	8
P-80	J-6	J-15	462	8
P-81	J-24	J-25	535	8
P-82	J-19	J-25	884	8
P-83	J-101	J-102	845.5	12
P-84	J-101	J-42	913.6	8
P-85	J-108	J-107	309.2	8



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Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in	
P-86	J-113	J-112	191.9	8	
P-87	J-117	J-114	573.8	8	
P-88	J-116	J-115	172.9	8	
P-89	J-119	J-118	421	8	
P-90	J-121	J-210	4137	8	
P-91	J-121	J-122	131.6	8	
P-92	J-32	J-33	221	8	
P-93	J-31	J-32	387	8	
P-94	J-103	J-31	1000	8	
P-95	J-33	J-34	245	8	
P-96	J-34	J-35	223.9	8	
P-97	J-103	J-104	1106	8	
P-98	J-305	J-304	506.9	8	
P-99	J-303	J-302	412.7	12	
P-100	J-301	J-300	178.5	8	
P-101	R-1	J-400	10	24	
P-21	J-26	J-305	427	8	
PUMP1	J-400	J-401	#N/A	#N/A	Pump
PUMP2	J-400	J-401	#N/A	#N/A	Pump
PUMP3	J-400	J-401	#N/A	#N/A	Pump
PUMP4	J-400	J-401	#N/A	#N/A	Pump
1	J-401	S145	#N/A	12	Valve

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
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Sereno Canyon Phase 4 Max Day fire flow J15

PUMP1	0.00	0.00	0.00	0.00	0.00	0.00
PUMP2	0.00	0.00	0.00	0.00	0.00	0.00
PUMP3	0.00	0.00	0.00	0.00	0.00	0.00
PUMP4	100.00	75.00	1188.46	101.05	101.05	0.00

Demand Charge: 0.00
Total Cost: 0.00

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-15	1000.00	2988.67	78.50	0.00
J-32	3.44	2998.99	90.12	0.00
J-36	3.80	2999.02	74.53	0.00
J-37	1.72	2999.02	71.07	0.00
J-30	4.48	2998.63	98.85	0.00
J-38	5.52	2998.33	82.04	0.00
J-39	3.44	2998.21	88.49	0.00



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Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-29	2.76	2998.00	94.24	0.00
J-40	2.06	2998.21	88.27	0.00
J-28	3.44	2997.69	102.56	0.00
J-27	2.06	2997.69	90.86	0.00
J-2	1.38	2995.53	93.82	0.00
J-3	0.00	2993.91	86.36	0.00
J-4	1.38	2993.43	87.06	0.00
J-41	5.52	2993.06	87.90	0.00
J-14	6.90	2990.54	89.93	0.00
J-11	4.14	2991.18	97.14	0.00
J-12	49.90	2991.17	91.07	0.00
J-9	0.00	2991.25	105.83	0.00
J-6	2.07	2991.89	88.35	0.00
J-19	3.44	2993.67	80.88	0.00
J-24	3.44	2993.50	80.81	0.00
J-20	31.00	2993.51	72.80	0.00
J-21	12.40	2993.45	72.77	0.00
J-22	3.10	2993.46	72.56	0.00
J-5	2.76	2992.51	88.18	0.00

Sereno Canyon Phase 4 Max Day fire flow J15

J-17	3.10	2992.51	101.18	0.00
J-18	1.38	2993.43	95.51	0.00
J-7	4.14	2991.53	97.72	0.00
J-13	3.45	2991.41	108.07	0.00
J-8	3.80	2991.34	101.97	0.00
J-16	2.06	2988.67	73.95	0.00
J-23	9.30	2993.46	70.39	0.00
J-303	11.48	2996.96	111.34	0.00
J-301	2.02	2997.20	116.21	0.00
J-10	47.88	2991.25	112.77	0.00
J-26	2.06	2996.04	99.67	0.00
J-1	0.00	2996.96	95.31	0.00
J-102	2.70	2998.12	101.01	0.00
J-105	3.38	2998.12	108.81	0.00
J-107	4.72	2998.12	113.57	0.00
J-111	4.06	2998.12	116.61	0.00
J-112	1.36	2997.97	125.21	0.00
J-114	1.36	2997.90	126.48	0.00
J-115	1.36	2997.84	127.75	0.00
J-118	1.36	2997.79	128.17	0.00
J-300	7.42	2997.20	117.08	0.00
J-302	2.70	2996.96	109.17	0.00
J-304	2.02	2996.94	102.23	0.00
J-42	0.00	2998.76	99.55	0.00
J-31	0.00	2998.94	96.60	0.00
J-35	0.00	2999.03	77.14	0.00
J-101	4.72	2999.41	115.22	0.00



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Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-106	3.38	2998.11	116.61	0.00
J-33	0.00	2999.00	84.93	0.00
J-123	3.38	2999.00	93.16	0.00
J-100	0.00	3000.47	121.96	0.00
J-103	3.38	2999.38	109.36	0.00
J-104	3.38	2999.17	85.43	0.00
J-117	2.02	2997.90	123.45	0.00
J-110	4.06	2998.11	108.81	0.00
J-108	2.02	2998.11	108.37	0.00
J-109	2.02	2998.11	107.51	0.00
J-305	1.36	2996.45	102.89	0.00
S145	0.00	3000.72	123.80	0.00
J-207	2.70	2998.21	114.05	0.00

Sereno Canyon Phase 4 Max Day fire flow J15

J-208	0.68	2998.21	116.65	0.00
J-206	0.68	2998.29	135.75	0.00
J-204	2.70	2998.62	128.96	0.00
J-205	2.70	2998.62	120.72	0.00
J-203	12.82	2999.32	121.46	0.00
J-200	7.42	3000.25	126.20	0.00
J-211	0.00	2999.51	118.08	0.00
J-201	3.38	2999.99	136.49	0.00
J-202	10.12	2999.99	117.85	0.00
J-119	0.00	2997.80	132.07	0.00
J-120	2.02	2997.80	136.40	0.00
J-121	0.00	2997.80	136.40	0.00
J-122	45.90	2997.79	139.00	0.00
J-210	4.06	2998.26	137.47	0.00
J-209	0.68	2998.28	135.31	0.00
J-113	1.36	2997.97	124.34	0.00
J-116	0.68	2997.84	127.32	0.00
J-25	5.52	2993.56	68.49	0.00
J-34	0.68	2999.02	82.77	0.00
J-400	0.00	2717.00	0.00	0.00
R-1	-1417.08	2717.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-1	-29.47	0.19	0.03	Open
P-2	1.72	0.01	0.00	Open
P-3	111.17	0.71	0.31	Open
P-4	105.65	0.67	0.28	Open
P-5	100.15	0.64	0.26	Open
P-6	2.06	0.01	0.00	Open



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Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-7	-3.44	0.02	0.00	Open
P-8	1206.68	3.42	3.59	Open
P-9	987.55	2.80	2.48	Open
P-10	984.79	2.79	2.46	Open
P-11	-173.56	1.11	0.71	Open
P-12	-49.90	0.14	0.01	Open
P-13	-227.60	0.65	0.16	Open

Sereno Canyon Phase 4 Max Day fire flow J15

P-14	219.13	1.40	1.10	Open
P-15	89.00	0.57	0.21	Open
P-16	-74.34	0.47	0.15	Open
P-17	-86.74	0.55	0.20	Open
P-18	-27.89	0.18	0.02	Open
P-19	-147.89	0.94	0.53	Open
P-20	3.10	0.02	0.00	Open
P-22	-1.38	0.01	0.00	Open
P-23	85.66	0.55	0.19	Open
P-24	240.95	1.54	1.31	Open
P-25	407.61	2.60	3.47	Open
P-26	2.06	0.01	0.00	Open
P-27	9.30	0.06	0.00	Open
P-28	150.93	0.96	0.55	Open
P-29	1130.20	3.21	3.18	Open
P-30	1124.34	3.19	3.15	Open
P-31	527.82	1.50	0.78	Open
P-32	438.01	1.24	0.55	Open
P-33	275.48	0.78	0.23	Open
P-34	47.88	0.14	0.01	Open
P-35	202.09	1.29	0.94	Open
P-36	-1005.97	2.85	2.56	Open
P-37	-760.70	2.16	1.53	Open
P-38	-0.68	0.00	0.00	Open
P-39	-7.44	0.02	0.00	Open
P-40	-20.26	0.06	0.00	Open
P-41	116.13	0.74	0.34	Open
P-42	113.41	0.72	0.32	Open
P-43	110.03	0.70	0.31	Open
P-44	107.99	0.69	0.30	Open
P-45	122.23	0.78	0.37	Open
P-46	112.79	0.72	0.32	Open
P-47	98.61	0.28	0.03	Open
P-48	-108.92	0.31	0.04	Open
P-49	-354.20	2.26	2.67	Open
P-50	-359.70	2.30	2.75	Open
P-51	-262.31	1.67	1.53	Open
P-52	-377.96	2.41	3.02	Open
P-53	-203.61	1.30	0.96	Open
P-54	34.99	0.22	0.04	Open



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
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Sereno Canyon Phase 4 Max Day fire flow J15

P-55	-3.38	0.02	0.00	Open
P-56	3.38	0.02	0.00	Open
P-57	223.39	1.43	1.14	Open
P-58	82.27	0.53	0.18	Open
P-59	-4.06	0.03	0.00	Open
P-60	2.02	0.01	0.00	Open
P-61	1165.17	3.31	3.36	Open
P-62	941.78	2.67	2.27	Open
P-63	-140.45	0.40	0.07	Open
P-64	0.68	0.00	0.00	Open
P-65	-143.83	0.41	0.07	Open
P-66	-212.77	1.36	1.04	Open
P-67	-2.70	0.02	0.00	Open
P-68	-218.17	1.39	1.09	Open
P-69	118.91	0.76	0.35	Open
P-70	118.91	0.76	0.35	Open
P-71	-112.07	0.72	0.32	Open
P-72	251.91	1.61	1.42	Open
P-73	125.57	0.80	0.39	Open
P-74	10.12	0.06	0.00	Open
P-75	-2.02	0.01	0.00	Open
P-76	-17.61	0.11	0.01	Open
P-77	-67.57	0.19	0.02	Open
P-78	-68.25	0.19	0.02	Open
P-79	82.21	0.52	0.18	Open
P-80	594.45	3.79	6.97	Open
P-81	-62.28	0.40	0.11	Open
P-82	67.80	0.43	0.13	Open
P-83	762.72	2.16	1.53	Open
P-84	174.35	1.11	0.72	Open
P-85	-8.10	0.05	0.00	Open
P-86	-1.36	0.01	0.00	Open
P-87	-2.02	0.01	0.00	Open
P-88	-0.68	0.00	0.00	Open
P-89	15.59	0.10	0.01	Open
P-90	-63.51	0.41	0.11	Open
P-91	45.90	0.29	0.06	Open
P-92	-43.21	0.28	0.05	Open
P-93	-69.25	0.44	0.13	Open
P-94	134.36	0.86	0.44	Open
P-95	-46.59	0.30	0.06	Open
P-96	-47.27	0.30	0.06	Open
P-97	85.65	0.55	0.19	Open
P-98	-205.51	1.31	0.97	Open
P-99	-11.48	0.03	0.00	Open
P-100	-2.02	0.01	0.00	Open
P-101	1417.08	1.00	0.17	Open

Sereno Canyon Phase 4 Max Day fire flow J15



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-21	-204.15	1.30	0.96	Open
PUMP1	0.00	0.00	0.00	Closed Pump
PUMP2	0.00	0.00	0.00	Closed Pump
PUMP3	0.00	0.00	0.00	Closed Pump
PUMP4	1417.09	0.00	-283.72	Open Pump
1	1417.08	4.02	0.00	Open Valve

Sereno Canyon Phase 4 Max Day fire flow J16

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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: Sereno Canyon Phase 4 Max Day fire flow J16.net

Sereno Canyon

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in
P-1	J-32	J-36	955.6	8
P-2	J-36	J-37	121.6	8
P-3	J-30	J-38	957.7	8
P-4	J-38	J-39	400	8
P-5	J-39	J-29	841.9	8
P-6	J-39	J-40	83.23	8
P-7	J-28	J-27	505.5	8
P-8	J-2	J-3	452.1	12
P-9	J-3	J-4	195.3	12
P-10	J-4	J-41	148.7	12
P-11	J-14	J-11	890.1	8
P-12	J-12	J-11	340.4	12
P-13	J-11	J-9	458.8	12
P-14	J-3	J-19	223.6	8
P-15	J-20	J-21	310.5	8
P-16	J-21	J-22	93.71	8
P-17	J-22	J-24	192.7	8
P-18	J-24	J-20	511.2	8
P-19	J-20	J-19	293.1	8
P-20	J-5	J-17	587.4	8
P-22	J-18	J-4	378.4	8
P-23	J-7	J-13	601.7	8
P-24	J-8	J-14	610.4	8
P-25	J-14	J-15	540.4	8
P-26	J-15	J-16	224.8	8
P-27	J-22	J-23	128.3	8
P-28	J-21	J-41	699	8
P-29	J-41	J-5	172.5	12
P-30	J-5	J-6	197.8	12
P-31	J-6	J-7	466.8	12
P-32	J-7	J-8	339.3	12

Sereno Canyon Phase 4 Max Day fire flow J16

P-33	J-8	J-9	384	12
P-34	J-9	J-10	522	12
P-35	J-26	J-2	531.2	8
P-36	J-2	J-1	557.4	12
P-37	J-1	J-102	754.8	12
P-38	J-102	J-105	819.5	12



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in
P-39	J-105	J-107	511.2	12
P-40	J-107	J-111	1032	12
P-41	J-111	J-112	449.2	8
P-42	J-112	J-114	204.1	8
P-43	J-114	J-115	198.3	8
P-44	J-115	J-118	154.9	8
P-45	J-118	J-300	1588	8
P-46	J-300	J-302	757	8
P-47	J-302	J-304	469.1	12
P-48	J-304	J-1	500.9	12
P-49	J-1	J-27	271.1	8
P-50	J-27	J-29	112.3	8
P-51	J-29	J-30	411.1	8
P-52	J-30	J-42	43.31	8
P-53	J-42	J-31	191.5	8
P-54	J-35	J-36	438.3	8
P-55	J-106	J-105	800.8	8
P-56	J-33	J-123	375.5	8
P-57	J-100	J-103	951.8	8
P-58	J-104	J-35	775.1	8
P-59	J-110	J-108	595.1	8
P-60	J-108	J-109	353.1	8
P-61	S145	J-100	74.44	12
P-62	J-100	J-101	464.5	12
P-63	J-111	J-207	1424	12
P-64	J-207	J-208	997.1	8
P-65	J-207	J-206	1045	12
P-66	J-206	J-204	317.1	8
P-67	J-205	J-204	465.7	8
P-68	J-204	J-203	643.7	8
P-69	J-200	J-211	2106	8
P-70	J-211	J-203	536.3	8
P-71	J-203	J-201	2125	8
P-72	S145	J-200	327.3	8

Sereno Canyon Phase 4 Max Day fire flow J16

P-73	J-200	J-201	667.2	8
P-74	J-201	J-202	1059	8
P-75	J-120	J-119	186.5	8
P-76	J-119	J-121	389	8
P-77	J-210	J-209	1327	12
P-78	J-209	J-206	257.6	12
P-79	J-13	J-8	394	8
P-80	J-6	J-15	462	8
P-81	J-24	J-25	535	8
P-82	J-19	J-25	884	8
P-83	J-101	J-102	845.5	12
P-84	J-101	J-42	913.6	8
P-85	J-108	J-107	309.2	8



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in	
P-86	J-113	J-112	191.9	8	
P-87	J-117	J-114	573.8	8	
P-88	J-116	J-115	172.9	8	
P-89	J-119	J-118	421	8	
P-90	J-121	J-210	4137	8	
P-91	J-121	J-122	131.6	8	
P-92	J-32	J-33	221	8	
P-93	J-31	J-32	387	8	
P-94	J-103	J-31	1000	8	
P-95	J-33	J-34	245	8	
P-96	J-34	J-35	223.9	8	
P-97	J-103	J-104	1106	8	
P-98	J-305	J-304	506.9	8	
P-99	J-303	J-302	412.7	12	
P-100	J-301	J-300	178.5	8	
P-101	R-1	J-400	10	24	
P-21	J-26	J-305	427	8	
PUMP1	J-400	J-401	#N/A	#N/A	Pump
PUMP2	J-400	J-401	#N/A	#N/A	Pump
PUMP3	J-400	J-401	#N/A	#N/A	Pump
PUMP4	J-400	J-401	#N/A	#N/A	Pump
1	J-401	S145	#N/A	12	Valve

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
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Sereno Canyon Phase 4 Max Day fire flow J16

PUMP1	0.00	0.00	0.00	0.00	0.00	0.00
PUMP2	0.00	0.00	0.00	0.00	0.00	0.00
PUMP3	0.00	0.00	0.00	0.00	0.00	0.00
PUMP4	100.00	75.00	1188.02	101.11	101.11	0.00

Demand Charge: 0.00
Total Cost: 0.00

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-16	1000.00	2984.43	72.12	0.00
J-32	3.44	2998.88	90.08	0.00
J-36	3.80	2998.91	74.49	0.00
J-37	1.72	2998.91	71.02	0.00
J-30	4.48	2998.52	98.80	0.00
J-38	5.52	2998.22	81.99	0.00
J-39	3.44	2998.10	88.44	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-29	2.76	2997.89	94.19	0.00
J-40	2.06	2998.10	88.22	0.00
J-28	3.44	2997.58	102.51	0.00
J-27	2.06	2997.58	90.81	0.00
J-2	1.38	2995.42	93.77	0.00
J-3	0.00	2993.79	86.31	0.00
J-4	1.38	2993.31	87.01	0.00
J-41	5.52	2992.94	87.85	0.00
J-14	6.90	2990.42	89.87	0.00
J-11	4.14	2991.05	97.08	0.00
J-12	49.90	2991.05	91.01	0.00
J-9	0.00	2991.13	105.78	0.00
J-6	2.07	2991.77	88.29	0.00
J-19	3.44	2993.55	80.83	0.00
J-24	3.44	2993.38	80.76	0.00
J-20	31.00	2993.39	72.75	0.00
J-21	12.40	2993.33	72.72	0.00
J-22	3.10	2993.34	72.51	0.00
J-5	2.76	2992.39	88.13	0.00

Sereno Canyon Phase 4 Max Day fire flow J16

J-17	3.10	2992.39	101.13	0.00
J-18	1.38	2993.31	95.46	0.00
J-7	4.14	2991.41	97.67	0.00
J-13	3.45	2991.29	108.02	0.00
J-8	3.80	2991.22	101.92	0.00
J-15	3.44	2988.54	78.44	0.00
J-23	9.30	2993.34	70.34	0.00
J-303	11.48	2996.85	111.29	0.00
J-301	2.02	2997.09	116.16	0.00
J-10	47.88	2991.12	112.71	0.00
J-26	2.06	2995.92	99.63	0.00
J-1	0.00	2996.85	95.26	0.00
J-102	2.70	2998.01	100.96	0.00
J-105	3.38	2998.01	108.76	0.00
J-107	4.72	2998.01	113.53	0.00
J-111	4.06	2998.01	116.56	0.00
J-112	1.36	2997.86	125.16	0.00
J-114	1.36	2997.79	126.43	0.00
J-115	1.36	2997.73	127.71	0.00
J-118	1.36	2997.68	128.12	0.00
J-300	7.42	2997.09	117.03	0.00
J-302	2.70	2996.85	109.13	0.00
J-304	2.02	2996.83	102.19	0.00
J-42	0.00	2998.65	99.51	0.00
J-31	0.00	2998.83	96.55	0.00
J-35	0.00	2998.93	77.09	0.00
J-101	4.72	2999.31	115.17	0.00



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Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-106	3.38	2998.01	116.56	0.00
J-33	0.00	2998.90	84.88	0.00
J-123	3.38	2998.90	93.11	0.00
J-100	0.00	3000.36	121.91	0.00
J-103	3.38	2999.28	109.31	0.00
J-104	3.38	2999.06	85.39	0.00
J-117	2.02	2997.79	123.40	0.00
J-110	4.06	2998.01	108.76	0.00
J-108	2.02	2998.01	108.33	0.00
J-109	2.02	2998.01	107.46	0.00
J-305	1.36	2996.34	102.84	0.00
S145	0.00	3000.61	123.76	0.00
J-207	2.70	2998.10	114.00	0.00

Sereno Canyon Phase 4 Max Day fire flow J16

J-208	0.68	2998.10	116.60	0.00
J-206	0.68	2998.18	135.70	0.00
J-204	2.70	2998.51	128.91	0.00
J-205	2.70	2998.51	120.68	0.00
J-203	12.82	2999.21	121.42	0.00
J-200	7.42	3000.15	126.15	0.00
J-211	0.00	2999.40	118.03	0.00
J-201	3.38	2999.89	136.44	0.00
J-202	10.12	2999.88	117.81	0.00
J-119	0.00	2997.69	132.02	0.00
J-120	2.02	2997.69	136.35	0.00
J-121	0.00	2997.69	136.36	0.00
J-122	45.90	2997.68	138.95	0.00
J-210	4.06	2998.15	137.42	0.00
J-209	0.68	2998.17	135.26	0.00
J-113	1.36	2997.86	124.30	0.00
J-116	0.68	2997.73	127.27	0.00
J-25	5.52	2993.44	68.43	0.00
J-34	0.68	2998.91	82.72	0.00
J-400	0.00	2717.00	0.00	0.00
R-1	-1418.46	2717.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-1	-29.51	0.19	0.03	Open
P-2	1.72	0.01	0.00	Open
P-3	111.28	0.71	0.31	Open
P-4	105.76	0.68	0.28	Open
P-5	100.26	0.64	0.26	Open
P-6	2.06	0.01	0.00	Open



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-7	-3.44	0.02	0.00	Open
P-8	1208.06	3.43	3.60	Open
P-9	988.71	2.80	2.48	Open
P-10	985.95	2.80	2.47	Open
P-11	-173.81	1.11	0.72	Open
P-12	-49.90	0.14	0.01	Open
P-13	-227.85	0.65	0.16	Open

Sereno Canyon Phase 4 Max Day fire flow J16

P-14	219.35	1.40	1.10	Open
P-15	89.11	0.57	0.21	Open
P-16	-74.44	0.48	0.15	Open
P-17	-86.84	0.55	0.20	Open
P-18	-27.93	0.18	0.02	Open
P-19	-148.04	0.94	0.53	Open
P-20	3.10	0.02	0.00	Open
P-22	-1.38	0.01	0.00	Open
P-23	85.76	0.55	0.19	Open
P-24	241.27	1.54	1.31	Open
P-25	408.18	2.61	3.48	Open
P-26	1000.00	6.38	18.27	Open
P-27	9.30	0.06	0.00	Open
P-28	151.15	0.96	0.55	Open
P-29	1131.58	3.21	3.19	Open
P-30	1125.72	3.19	3.16	Open
P-31	528.39	1.50	0.78	Open
P-32	438.50	1.24	0.55	Open
P-33	275.73	0.78	0.23	Open
P-34	47.88	0.14	0.01	Open
P-35	202.32	1.29	0.95	Open
P-36	-1007.12	2.86	2.57	Open
P-37	-761.54	2.16	1.53	Open
P-38	-0.76	0.00	0.00	Open
P-39	-7.52	0.02	0.00	Open
P-40	-20.34	0.06	0.00	Open
P-41	116.22	0.74	0.34	Open
P-42	113.50	0.72	0.32	Open
P-43	110.12	0.70	0.31	Open
P-44	108.08	0.69	0.30	Open
P-45	122.37	0.78	0.37	Open
P-46	112.93	0.72	0.32	Open
P-47	98.75	0.28	0.03	Open
P-48	-109.01	0.31	0.04	Open
P-49	-354.59	2.26	2.68	Open
P-50	-360.09	2.30	2.76	Open
P-51	-262.58	1.68	1.54	Open
P-52	-378.35	2.41	3.02	Open
P-53	-203.83	1.30	0.96	Open
P-54	35.03	0.22	0.04	Open



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
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Sereno Canyon Phase 4 Max Day fire flow J16

P-55	-3.38	0.02	0.00	Open
P-56	3.38	0.02	0.00	Open
P-57	223.61	1.43	1.14	Open
P-58	82.35	0.53	0.18	Open
P-59	-4.06	0.03	0.00	Open
P-60	2.02	0.01	0.00	Open
P-61	1166.33	3.31	3.37	Open
P-62	942.72	2.67	2.27	Open
P-63	-140.62	0.40	0.07	Open
P-64	0.68	0.00	0.00	Open
P-65	-144.00	0.41	0.07	Open
P-66	-212.99	1.36	1.04	Open
P-67	-2.70	0.02	0.00	Open
P-68	-218.39	1.39	1.09	Open
P-69	119.03	0.76	0.35	Open
P-70	119.03	0.76	0.35	Open
P-71	-112.19	0.72	0.32	Open
P-72	252.13	1.61	1.42	Open
P-73	125.69	0.80	0.39	Open
P-74	10.12	0.06	0.00	Open
P-75	-2.02	0.01	0.00	Open
P-76	-17.67	0.11	0.01	Open
P-77	-67.63	0.19	0.02	Open
P-78	-68.31	0.19	0.02	Open
P-79	82.31	0.53	0.18	Open
P-80	595.26	3.80	6.99	Open
P-81	-62.35	0.40	0.11	Open
P-82	67.87	0.43	0.13	Open
P-83	763.48	2.17	1.54	Open
P-84	174.52	1.11	0.72	Open
P-85	-8.10	0.05	0.00	Open
P-86	-1.36	0.01	0.00	Open
P-87	-2.02	0.01	0.00	Open
P-88	-0.68	0.00	0.00	Open
P-89	15.65	0.10	0.01	Open
P-90	-63.57	0.41	0.11	Open
P-91	45.90	0.29	0.06	Open
P-92	-43.26	0.28	0.05	Open
P-93	-69.33	0.44	0.13	Open
P-94	134.50	0.86	0.44	Open
P-95	-46.64	0.30	0.06	Open
P-96	-47.32	0.30	0.06	Open
P-97	85.73	0.55	0.19	Open
P-98	-205.74	1.31	0.98	Open
P-99	-11.48	0.03	0.00	Open
P-100	-2.02	0.01	0.00	Open
P-101	1418.46	1.01	0.17	Open

Sereno Canyon Phase 4 Max Day fire flow J16



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-21	-204.38	1.30	0.97	Open
PUMP1	0.00	0.00	0.00	Closed Pump
PUMP2	0.00	0.00	0.00	Closed Pump
PUMP3	0.00	0.00	0.00	Closed Pump
PUMP4	1418.47	0.00	-283.62	Open Pump
1	1418.46	4.02	0.00	Open Valve

Sereno Canyon Phase 4 Max Day fire flow J17

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12/2/2017 10:30:06 AM

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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: Sereno Canyon Phase 4 Max Day fire flow J17.net

Sereno Canyon

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in
P-1	J-32	J-36	955.6	8
P-2	J-36	J-37	121.6	8
P-3	J-30	J-38	957.7	8
P-4	J-38	J-39	400	8
P-5	J-39	J-29	841.9	8
P-6	J-39	J-40	83.23	8
P-7	J-28	J-27	505.5	8
P-8	J-2	J-3	452.1	12
P-9	J-3	J-4	195.3	12
P-10	J-4	J-41	148.7	12
P-11	J-14	J-11	890.1	8
P-12	J-12	J-11	340.4	12
P-13	J-11	J-9	458.8	12
P-14	J-3	J-19	223.6	8
P-15	J-20	J-21	310.5	8
P-16	J-21	J-22	93.71	8
P-17	J-22	J-24	192.7	8
P-18	J-24	J-20	511.2	8
P-19	J-20	J-19	293.1	8
P-20	J-5	J-17	587.4	8
P-22	J-18	J-4	378.4	8
P-23	J-7	J-13	601.7	8
P-24	J-8	J-14	610.4	8
P-25	J-14	J-15	540.4	8
P-26	J-15	J-16	224.8	8
P-27	J-22	J-23	128.3	8
P-28	J-21	J-41	699	8
P-29	J-41	J-5	172.5	12
P-30	J-5	J-6	197.8	12
P-31	J-6	J-7	466.8	12
P-32	J-7	J-8	339.3	12

Sereno Canyon Phase 4 Max Day fire flow J17

P-33	J-8	J-9	384	12
P-34	J-9	J-10	522	12
P-35	J-26	J-2	531.2	8
P-36	J-2	J-1	557.4	12
P-37	J-1	J-102	754.8	12
P-38	J-102	J-105	819.5	12



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in
P-39	J-105	J-107	511.2	12
P-40	J-107	J-111	1032	12
P-41	J-111	J-112	449.2	8
P-42	J-112	J-114	204.1	8
P-43	J-114	J-115	198.3	8
P-44	J-115	J-118	154.9	8
P-45	J-118	J-300	1588	8
P-46	J-300	J-302	757	8
P-47	J-302	J-304	469.1	12
P-48	J-304	J-1	500.9	12
P-49	J-1	J-27	271.1	8
P-50	J-27	J-29	112.3	8
P-51	J-29	J-30	411.1	8
P-52	J-30	J-42	43.31	8
P-53	J-42	J-31	191.5	8
P-54	J-35	J-36	438.3	8
P-55	J-106	J-105	800.8	8
P-56	J-33	J-123	375.5	8
P-57	J-100	J-103	951.8	8
P-58	J-104	J-35	775.1	8
P-59	J-110	J-108	595.1	8
P-60	J-108	J-109	353.1	8
P-61	S145	J-100	74.44	12
P-62	J-100	J-101	464.5	12
P-63	J-111	J-207	1424	12
P-64	J-207	J-208	997.1	8
P-65	J-207	J-206	1045	12
P-66	J-206	J-204	317.1	8
P-67	J-205	J-204	465.7	8
P-68	J-204	J-203	643.7	8
P-69	J-200	J-211	2106	8
P-70	J-211	J-203	536.3	8
P-71	J-203	J-201	2125	8
P-72	S145	J-200	327.3	8

Sereno Canyon Phase 4 Max Day fire flow J17

P-73	J-200	J-201	667.2	8
P-74	J-201	J-202	1059	8
P-75	J-120	J-119	186.5	8
P-76	J-119	J-121	389	8
P-77	J-210	J-209	1327	12
P-78	J-209	J-206	257.6	12
P-79	J-13	J-8	394	8
P-80	J-6	J-15	462	8
P-81	J-24	J-25	535	8
P-82	J-19	J-25	884	8
P-83	J-101	J-102	845.5	12
P-84	J-101	J-42	913.6	8
P-85	J-108	J-107	309.2	8



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in	
P-86	J-113	J-112	191.9	8	
P-87	J-117	J-114	573.8	8	
P-88	J-116	J-115	172.9	8	
P-89	J-119	J-118	421	8	
P-90	J-121	J-210	4137	8	
P-91	J-121	J-122	131.6	8	
P-92	J-32	J-33	221	8	
P-93	J-31	J-32	387	8	
P-94	J-103	J-31	1000	8	
P-95	J-33	J-34	245	8	
P-96	J-34	J-35	223.9	8	
P-97	J-103	J-104	1106	8	
P-98	J-305	J-304	506.9	8	
P-99	J-303	J-302	412.7	12	
P-100	J-301	J-300	178.5	8	
P-101	R-1	J-400	10	24	
P-21	J-26	J-305	427	8	
PUMP1	J-400	J-401	#N/A	#N/A	Pump
PUMP2	J-400	J-401	#N/A	#N/A	Pump
PUMP3	J-400	J-401	#N/A	#N/A	Pump
PUMP4	J-400	J-401	#N/A	#N/A	Pump
1	J-401	S145	#N/A	12	Valve

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
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Sereno Canyon Phase 4 Max Day fire flow J17

PUMP1	0.00	0.00	0.00	0.00	0.00	0.00
PUMP2	0.00	0.00	0.00	0.00	0.00	0.00
PUMP3	0.00	0.00	0.00	0.00	0.00	0.00
PUMP4	100.00	75.00	1188.35	101.06	101.06	0.00

Demand Charge: 0.00
Total Cost: 0.00

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-17	1000.00	2981.75	96.52	0.00
J-32	3.44	2998.96	90.11	0.00
J-36	3.80	2998.99	74.52	0.00
J-37	1.72	2998.99	71.06	0.00
J-30	4.48	2998.60	98.84	0.00
J-38	5.52	2998.30	82.02	0.00
J-39	3.44	2998.19	88.47	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-29	2.76	2997.97	94.23	0.00
J-40	2.06	2998.19	88.26	0.00
J-28	3.44	2997.66	102.54	0.00
J-27	2.06	2997.66	90.85	0.00
J-2	1.38	2995.51	93.81	0.00
J-3	0.00	2993.88	86.35	0.00
J-4	1.38	2993.40	87.05	0.00
J-41	5.52	2993.03	87.89	0.00
J-14	6.90	2992.45	90.75	0.00
J-11	4.14	2992.44	97.68	0.00
J-12	49.90	2992.43	91.61	0.00
J-9	0.00	2992.44	106.35	0.00
J-6	2.07	2992.47	88.60	0.00
J-19	3.44	2993.64	80.87	0.00
J-24	3.44	2993.47	80.80	0.00
J-20	31.00	2993.48	72.79	0.00
J-21	12.40	2993.42	72.76	0.00
J-22	3.10	2993.43	72.55	0.00
J-5	2.76	2992.48	88.17	0.00

Sereno Canyon Phase 4 Max Day fire flow J17

J-18	1.38	2993.40	95.50	0.00
J-7	4.14	2992.46	98.12	0.00
J-13	3.45	2992.45	108.52	0.00
J-8	3.80	2992.45	102.45	0.00
J-15	3.44	2992.46	80.14	0.00
J-16	2.06	2992.46	75.59	0.00
J-23	9.30	2993.43	70.38	0.00
J-303	11.48	2996.93	111.33	0.00
J-301	2.02	2997.17	116.20	0.00
J-10	47.88	2992.44	113.28	0.00
J-26	2.06	2996.01	99.66	0.00
J-1	0.00	2996.94	95.30	0.00
J-102	2.70	2998.09	101.00	0.00
J-105	3.38	2998.09	108.80	0.00
J-107	4.72	2998.09	113.56	0.00
J-111	4.06	2998.09	116.60	0.00
J-112	1.36	2997.94	125.20	0.00
J-114	1.36	2997.87	126.47	0.00
J-115	1.36	2997.81	127.74	0.00
J-118	1.36	2997.77	128.16	0.00
J-300	7.42	2997.17	117.07	0.00
J-302	2.70	2996.93	109.16	0.00
J-304	2.02	2996.91	102.22	0.00
J-42	0.00	2998.73	99.54	0.00
J-31	0.00	2998.91	96.59	0.00
J-35	0.00	2999.01	77.13	0.00
J-101	4.72	2999.39	115.21	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-106	3.38	2998.09	116.60	0.00
J-33	0.00	2998.98	84.92	0.00
J-123	3.38	2998.98	93.15	0.00
J-100	0.00	3000.44	121.95	0.00
J-103	3.38	2999.36	109.35	0.00
J-104	3.38	2999.14	85.42	0.00
J-117	2.02	2997.87	123.44	0.00
J-110	4.06	2998.09	108.80	0.00
J-108	2.02	2998.09	108.36	0.00
J-109	2.02	2998.09	107.50	0.00
J-305	1.36	2996.42	102.87	0.00
S145	0.00	3000.69	123.79	0.00
J-207	2.70	2998.19	114.04	0.00

Sereno Canyon Phase 4 Max Day fire flow J17

J-208	0.68	2998.19	116.64	0.00
J-206	0.68	2998.26	135.74	0.00
J-204	2.70	2998.59	128.95	0.00
J-205	2.70	2998.59	120.71	0.00
J-203	12.82	2999.29	121.45	0.00
J-200	7.42	3000.23	126.19	0.00
J-211	0.00	2999.48	118.07	0.00
J-201	3.38	2999.96	136.47	0.00
J-202	10.12	2999.96	117.84	0.00
J-119	0.00	2997.77	132.06	0.00
J-120	2.02	2997.77	136.39	0.00
J-121	0.00	2997.77	136.39	0.00
J-122	45.90	2997.77	138.99	0.00
J-210	4.06	2998.23	137.46	0.00
J-209	0.68	2998.25	135.30	0.00
J-113	1.36	2997.94	124.33	0.00
J-116	0.68	2997.81	127.31	0.00
J-25	5.52	2993.53	68.47	0.00
J-34	0.68	2998.99	82.76	0.00
J-400	0.00	2717.00	0.00	0.00
R-1	-1417.42	2717.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-1	-29.48	0.19	0.03	Open
P-2	1.72	0.01	0.00	Open
P-3	111.20	0.71	0.31	Open
P-4	105.68	0.67	0.28	Open
P-5	100.18	0.64	0.26	Open
P-6	2.06	0.01	0.00	Open



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-7	-3.44	0.02	0.00	Open
P-8	1207.02	3.42	3.59	Open
P-9	987.83	2.80	2.48	Open
P-10	985.07	2.79	2.46	Open
P-11	19.96	0.13	0.01	Open
P-12	-49.90	0.14	0.01	Open
P-13	-34.08	0.10	0.00	Open

Sereno Canyon Phase 4 Max Day fire flow J17

P-14	219.19	1.40	1.10	Open
P-15	89.02	0.57	0.21	Open
P-16	-74.36	0.47	0.15	Open
P-17	-86.76	0.55	0.20	Open
P-18	-27.90	0.18	0.02	Open
P-19	-147.93	0.94	0.53	Open
P-20	1000.00	6.38	18.27	Open
P-22	-1.38	0.01	0.00	Open
P-23	15.88	0.10	0.01	Open
P-24	2.52	0.02	0.00	Open
P-25	-24.34	0.16	0.02	Open
P-26	2.06	0.01	0.00	Open
P-27	9.30	0.06	0.00	Open
P-28	150.99	0.96	0.55	Open
P-29	1130.54	3.21	3.18	Open
P-30	127.78	0.36	0.06	Open
P-31	95.87	0.27	0.03	Open
P-32	75.84	0.22	0.02	Open
P-33	81.96	0.23	0.02	Open
P-34	47.88	0.14	0.01	Open
P-35	202.14	1.29	0.95	Open
P-36	-1006.26	2.85	2.56	Open
P-37	-760.90	2.16	1.53	Open
P-38	-0.70	0.00	0.00	Open
P-39	-7.46	0.02	0.00	Open
P-40	-20.28	0.06	0.00	Open
P-41	116.16	0.74	0.34	Open
P-42	113.44	0.72	0.32	Open
P-43	110.06	0.70	0.31	Open
P-44	108.02	0.69	0.30	Open
P-45	122.26	0.78	0.37	Open
P-46	112.82	0.72	0.32	Open
P-47	98.64	0.28	0.03	Open
P-48	-108.94	0.31	0.04	Open
P-49	-354.29	2.26	2.67	Open
P-50	-359.79	2.30	2.75	Open
P-51	-262.37	1.67	1.53	Open
P-52	-378.05	2.41	3.02	Open
P-53	-203.66	1.30	0.96	Open
P-54	35.00	0.22	0.04	Open



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
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Sereno Canyon Phase 4 Max Day fire flow J17

P-55	-3.38	0.02	0.00	Open
P-56	3.38	0.02	0.00	Open
P-57	223.44	1.43	1.14	Open
P-58	82.29	0.53	0.18	Open
P-59	-4.06	0.03	0.00	Open
P-60	2.02	0.01	0.00	Open
P-61	1165.46	3.31	3.37	Open
P-62	942.01	2.67	2.27	Open
P-63	-140.50	0.40	0.07	Open
P-64	0.68	0.00	0.00	Open
P-65	-143.88	0.41	0.07	Open
P-66	-212.82	1.36	1.04	Open
P-67	-2.70	0.02	0.00	Open
P-68	-218.22	1.39	1.09	Open
P-69	118.94	0.76	0.35	Open
P-70	118.94	0.76	0.35	Open
P-71	-112.10	0.72	0.32	Open
P-72	251.96	1.61	1.42	Open
P-73	125.60	0.80	0.39	Open
P-74	10.12	0.06	0.00	Open
P-75	-2.02	0.01	0.00	Open
P-76	-17.63	0.11	0.01	Open
P-77	-67.59	0.19	0.02	Open
P-78	-68.27	0.19	0.02	Open
P-79	12.43	0.08	0.01	Open
P-80	29.84	0.19	0.03	Open
P-81	-62.30	0.40	0.11	Open
P-82	67.82	0.43	0.13	Open
P-83	762.90	2.16	1.54	Open
P-84	174.39	1.11	0.72	Open
P-85	-8.10	0.05	0.00	Open
P-86	-1.36	0.01	0.00	Open
P-87	-2.02	0.01	0.00	Open
P-88	-0.68	0.00	0.00	Open
P-89	15.61	0.10	0.01	Open
P-90	-63.53	0.41	0.11	Open
P-91	45.90	0.29	0.06	Open
P-92	-43.22	0.28	0.05	Open
P-93	-69.27	0.44	0.13	Open
P-94	134.40	0.86	0.44	Open
P-95	-46.60	0.30	0.06	Open
P-96	-47.28	0.30	0.06	Open
P-97	85.67	0.55	0.19	Open
P-98	-205.56	1.31	0.98	Open
P-99	-11.48	0.03	0.00	Open
P-100	-2.02	0.01	0.00	Open
P-101	1417.42	1.01	0.17	Open

Sereno Canyon Phase 4 Max Day fire flow J17



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-21	-204.20	1.30	0.96	Open
PUMP1	0.00	0.00	0.00	Closed Pump
PUMP2	0.00	0.00	0.00	Closed Pump
PUMP3	0.00	0.00	0.00	Closed Pump
PUMP4	1417.42	0.00	-283.69	Open Pump
1	1417.42	4.02	0.00	Open Valve

Sereno Canyon Phase 4 Max Day fire flow J18

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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: Sereno Canyon Phase 4 Max Day fire flow J18.net

Sereno Canyon

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in
P-1	J-32	J-36	955.6	8
P-2	J-36	J-37	121.6	8
P-3	J-30	J-38	957.7	8
P-4	J-38	J-39	400	8
P-5	J-39	J-29	841.9	8
P-6	J-39	J-40	83.23	8
P-7	J-28	J-27	505.5	8
P-8	J-2	J-3	452.1	12
P-9	J-3	J-4	195.3	12
P-10	J-4	J-41	148.7	12
P-11	J-14	J-11	890.1	8
P-12	J-12	J-11	340.4	12
P-13	J-11	J-9	458.8	12
P-14	J-3	J-19	223.6	8
P-15	J-20	J-21	310.5	8
P-16	J-21	J-22	93.71	8
P-17	J-22	J-24	192.7	8
P-18	J-24	J-20	511.2	8
P-19	J-20	J-19	293.1	8
P-20	J-5	J-17	587.4	8
P-22	J-18	J-4	378.4	8
P-23	J-7	J-13	601.7	8
P-24	J-8	J-14	610.4	8
P-25	J-14	J-15	540.4	8
P-26	J-15	J-16	224.8	8
P-27	J-22	J-23	128.3	8
P-28	J-21	J-41	699	8
P-29	J-41	J-5	172.5	12
P-30	J-5	J-6	197.8	12
P-31	J-6	J-7	466.8	12
P-32	J-7	J-8	339.3	12

Sereno Canyon Phase 4 Max Day fire flow J18

P-33	J-8	J-9	384	12
P-34	J-9	J-10	522	12
P-35	J-26	J-2	531.2	8
P-36	J-2	J-1	557.4	12
P-37	J-1	J-102	754.8	12
P-38	J-102	J-105	819.5	12



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in
P-39	J-105	J-107	511.2	12
P-40	J-107	J-111	1032	12
P-41	J-111	J-112	449.2	8
P-42	J-112	J-114	204.1	8
P-43	J-114	J-115	198.3	8
P-44	J-115	J-118	154.9	8
P-45	J-118	J-300	1588	8
P-46	J-300	J-302	757	8
P-47	J-302	J-304	469.1	12
P-48	J-304	J-1	500.9	12
P-49	J-1	J-27	271.1	8
P-50	J-27	J-29	112.3	8
P-51	J-29	J-30	411.1	8
P-52	J-30	J-42	43.31	8
P-53	J-42	J-31	191.5	8
P-54	J-35	J-36	438.3	8
P-55	J-106	J-105	800.8	8
P-56	J-33	J-123	375.5	8
P-57	J-100	J-103	951.8	8
P-58	J-104	J-35	775.1	8
P-59	J-110	J-108	595.1	8
P-60	J-108	J-109	353.1	8
P-61	S145	J-100	74.44	12
P-62	J-100	J-101	464.5	12
P-63	J-111	J-207	1424	12
P-64	J-207	J-208	997.1	8
P-65	J-207	J-206	1045	12
P-66	J-206	J-204	317.1	8
P-67	J-205	J-204	465.7	8
P-68	J-204	J-203	643.7	8
P-69	J-200	J-211	2106	8
P-70	J-211	J-203	536.3	8
P-71	J-203	J-201	2125	8
P-72	S145	J-200	327.3	8

Sereno Canyon Phase 4 Max Day fire flow J18

P-73	J-200	J-201	667.2	8
P-74	J-201	J-202	1059	8
P-75	J-120	J-119	186.5	8
P-76	J-119	J-121	389	8
P-77	J-210	J-209	1327	12
P-78	J-209	J-206	257.6	12
P-79	J-13	J-8	394	8
P-80	J-6	J-15	462	8
P-81	J-24	J-25	535	8
P-82	J-19	J-25	884	8
P-83	J-101	J-102	845.5	12
P-84	J-101	J-42	913.6	8
P-85	J-108	J-107	309.2	8



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in	
P-86	J-113	J-112	191.9	8	
P-87	J-117	J-114	573.8	8	
P-88	J-116	J-115	172.9	8	
P-89	J-119	J-118	421	8	
P-90	J-121	J-210	4137	8	
P-91	J-121	J-122	131.6	8	
P-92	J-32	J-33	221	8	
P-93	J-31	J-32	387	8	
P-94	J-103	J-31	1000	8	
P-95	J-33	J-34	245	8	
P-96	J-34	J-35	223.9	8	
P-97	J-103	J-104	1106	8	
P-98	J-305	J-304	506.9	8	
P-99	J-303	J-302	412.7	12	
P-100	J-301	J-300	178.5	8	
P-101	R-1	J-400	10	24	
P-21	J-26	J-305	427	8	
PUMP1	J-400	J-401	#N/A	#N/A	Pump
PUMP2	J-400	J-401	#N/A	#N/A	Pump
PUMP3	J-400	J-401	#N/A	#N/A	Pump
PUMP4	J-400	J-401	#N/A	#N/A	Pump
1	J-401	S145	#N/A	12	Valve

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
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Sereno Canyon Phase 4 Max Day fire flow J18

PUMP1	0.00	0.00	0.00	0.00	0.00	0.00
PUMP2	0.00	0.00	0.00	0.00	0.00	0.00
PUMP3	0.00	0.00	0.00	0.00	0.00	0.00
PUMP4	100.00	75.00	1187.81	101.14	101.14	0.00

Demand Charge: 0.00
Total Cost: 0.00

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-18	1000.00	2986.30	92.42	0.00
J-32	3.44	2998.83	90.05	0.00
J-36	3.80	2998.86	74.47	0.00
J-37	1.72	2998.86	71.00	0.00
J-30	4.48	2998.47	98.78	0.00
J-38	5.52	2998.17	81.97	0.00
J-39	3.44	2998.05	88.42	0.00



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Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-29	2.76	2997.83	94.17	0.00
J-40	2.06	2998.05	88.20	0.00
J-28	3.44	2997.52	102.49	0.00
J-27	2.06	2997.52	90.79	0.00
J-2	1.38	2995.36	93.75	0.00
J-3	0.00	2993.74	86.29	0.00
J-4	1.38	2993.21	86.97	0.00
J-41	5.52	2993.21	87.97	0.00
J-14	6.90	2993.17	91.07	0.00
J-11	4.14	2993.16	97.99	0.00
J-12	49.90	2993.15	91.93	0.00
J-9	0.00	2993.16	106.66	0.00
J-6	2.07	2993.19	88.91	0.00
J-19	3.44	2993.57	80.84	0.00
J-24	3.44	2993.46	80.79	0.00
J-20	31.00	2993.46	72.78	0.00
J-21	12.40	2993.43	72.76	0.00
J-22	3.10	2993.43	72.55	0.00
J-5	2.76	2993.20	88.48	0.00

Sereno Canyon Phase 4 Max Day fire flow J18

J-17	3.10	2993.20	101.48	0.00
J-7	4.14	2993.18	98.44	0.00
J-13	3.45	2993.17	108.83	0.00
J-8	3.80	2993.17	102.76	0.00
J-15	3.44	2993.18	80.45	0.00
J-16	2.06	2993.18	75.90	0.00
J-23	9.30	2993.43	70.38	0.00
J-303	11.48	2996.79	111.27	0.00
J-301	2.02	2997.04	116.14	0.00
J-10	47.88	2993.15	113.59	0.00
J-26	2.06	2995.87	99.60	0.00
J-1	0.00	2996.80	95.24	0.00
J-102	2.70	2997.95	100.94	0.00
J-105	3.38	2997.95	108.74	0.00
J-107	4.72	2997.95	113.50	0.00
J-111	4.06	2997.96	116.54	0.00
J-112	1.36	2997.80	125.14	0.00
J-114	1.36	2997.74	126.41	0.00
J-115	1.36	2997.68	127.68	0.00
J-118	1.36	2997.63	128.10	0.00
J-300	7.42	2997.04	117.01	0.00
J-302	2.70	2996.79	109.10	0.00
J-304	2.02	2996.78	102.16	0.00
J-42	0.00	2998.60	99.48	0.00
J-31	0.00	2998.78	96.53	0.00
J-35	0.00	2998.87	77.07	0.00
J-101	4.72	2999.25	115.15	0.00



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Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-106	3.38	2997.95	116.54	0.00
J-33	0.00	2998.84	84.86	0.00
J-123	3.38	2998.84	93.09	0.00
J-100	0.00	3000.31	121.89	0.00
J-103	3.38	2999.23	109.29	0.00
J-104	3.38	2999.01	85.37	0.00
J-117	2.02	2997.74	123.38	0.00
J-110	4.06	2997.95	108.74	0.00
J-108	2.02	2997.95	108.30	0.00
J-109	2.02	2997.95	107.44	0.00
J-305	1.36	2996.28	102.81	0.00
S145	0.00	3000.56	123.73	0.00
J-207	2.70	2998.05	113.98	0.00

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J-208	0.68	2998.05	116.58	0.00
J-206	0.68	2998.12	135.68	0.00
J-204	2.70	2998.46	128.89	0.00
J-205	2.70	2998.46	120.65	0.00
J-203	12.82	2999.16	121.39	0.00
J-200	7.42	3000.10	126.13	0.00
J-211	0.00	2999.35	118.01	0.00
J-201	3.38	2999.83	136.42	0.00
J-202	10.12	2999.83	117.78	0.00
J-119	0.00	2997.63	132.00	0.00
J-120	2.02	2997.63	136.33	0.00
J-121	0.00	2997.64	136.33	0.00
J-122	45.90	2997.63	138.93	0.00
J-210	4.06	2998.10	137.40	0.00
J-209	0.68	2998.12	135.24	0.00
J-113	1.36	2997.80	124.27	0.00
J-116	0.68	2997.68	127.25	0.00
J-25	5.52	2993.49	68.46	0.00
J-34	0.68	2998.86	82.70	0.00
J-400	0.00	2717.00	0.00	0.00
R-1	-1419.14	2717.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-1	-29.52	0.19	0.03	Open
P-2	1.72	0.01	0.00	Open
P-3	111.34	0.71	0.31	Open
P-4	105.82	0.68	0.29	Open
P-5	100.32	0.64	0.26	Open
P-6	2.06	0.01	0.00	Open



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Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-7	-3.44	0.02	0.00	Open
P-8	1208.74	3.43	3.60	Open
P-9	1030.74	2.92	2.68	Open
P-10	29.36	0.08	0.00	Open
P-11	19.96	0.13	0.01	Open
P-12	-49.90	0.14	0.01	Open
P-13	-34.08	0.10	0.00	Open

Sereno Canyon Phase 4 Max Day fire flow J18

P-14	178.00	1.14	0.75	Open
P-15	67.64	0.43	0.13	Open
P-16	-54.56	0.35	0.08	Open
P-17	-66.96	0.43	0.12	Open
P-18	-20.97	0.13	0.01	Open
P-19	-119.61	0.76	0.36	Open
P-20	3.10	0.02	0.00	Open
P-22	-1000.00	6.38	18.27	Open
P-23	15.88	0.10	0.01	Open
P-24	2.52	0.02	0.00	Open
P-25	-24.34	0.16	0.02	Open
P-26	2.06	0.01	0.00	Open
P-27	9.30	0.06	0.00	Open
P-28	109.80	0.70	0.31	Open
P-29	133.64	0.38	0.06	Open
P-30	127.78	0.36	0.06	Open
P-31	95.87	0.27	0.03	Open
P-32	75.84	0.22	0.02	Open
P-33	81.96	0.23	0.02	Open
P-34	47.88	0.14	0.01	Open
P-35	202.44	1.29	0.95	Open
P-36	-1007.68	2.86	2.57	Open
P-37	-761.96	2.16	1.53	Open
P-38	-0.80	0.00	0.00	Open
P-39	-7.56	0.02	0.00	Open
P-40	-20.38	0.06	0.00	Open
P-41	116.27	0.74	0.34	Open
P-42	113.55	0.72	0.33	Open
P-43	110.17	0.70	0.31	Open
P-44	108.13	0.69	0.30	Open
P-45	122.44	0.78	0.37	Open
P-46	113.00	0.72	0.32	Open
P-47	98.82	0.28	0.03	Open
P-48	-109.05	0.31	0.04	Open
P-49	-354.78	2.26	2.68	Open
P-50	-360.28	2.30	2.76	Open
P-51	-262.72	1.68	1.54	Open
P-52	-378.54	2.42	3.02	Open
P-53	-203.93	1.30	0.96	Open
P-54	35.04	0.22	0.04	Open



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
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Sereno Canyon Phase 4 Max Day fire flow J18

P-55	-3.38	0.02	0.00	Open
P-56	3.38	0.02	0.00	Open
P-57	223.71	1.43	1.14	Open
P-58	82.39	0.53	0.18	Open
P-59	-4.06	0.03	0.00	Open
P-60	2.02	0.01	0.00	Open
P-61	1166.90	3.31	3.37	Open
P-62	943.18	2.68	2.27	Open
P-63	-140.71	0.40	0.07	Open
P-64	0.68	0.00	0.00	Open
P-65	-144.09	0.41	0.07	Open
P-66	-213.10	1.36	1.04	Open
P-67	-2.70	0.02	0.00	Open
P-68	-218.50	1.39	1.09	Open
P-69	119.08	0.76	0.35	Open
P-70	119.08	0.76	0.36	Open
P-71	-112.24	0.72	0.32	Open
P-72	252.24	1.61	1.43	Open
P-73	125.74	0.80	0.39	Open
P-74	10.12	0.06	0.00	Open
P-75	-2.02	0.01	0.00	Open
P-76	-17.70	0.11	0.01	Open
P-77	-67.66	0.19	0.02	Open
P-78	-68.34	0.19	0.02	Open
P-79	12.43	0.08	0.00	Open
P-80	29.84	0.19	0.03	Open
P-81	-49.43	0.32	0.07	Open
P-82	54.95	0.35	0.08	Open
P-83	763.86	2.17	1.54	Open
P-84	174.60	1.11	0.72	Open
P-85	-8.10	0.05	0.00	Open
P-86	-1.36	0.01	0.00	Open
P-87	-2.02	0.01	0.00	Open
P-88	-0.68	0.00	0.00	Open
P-89	15.68	0.10	0.01	Open
P-90	-63.60	0.41	0.11	Open
P-91	45.90	0.29	0.06	Open
P-92	-43.28	0.28	0.05	Open
P-93	-69.37	0.44	0.13	Open
P-94	134.57	0.86	0.45	Open
P-95	-46.66	0.30	0.06	Open
P-96	-47.34	0.30	0.06	Open
P-97	85.77	0.55	0.19	Open
P-98	-205.86	1.31	0.98	Open
P-99	-11.48	0.03	0.00	Open
P-100	-2.02	0.01	0.00	Open
P-101	1419.14	1.01	0.17	Open

Sereno Canyon Phase 4 Max Day fire flow J18



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-21	-204.50	1.31	0.97	Open
PUMP1	0.00	0.00	0.00	Closed Pump
PUMP2	0.00	0.00	0.00	Closed Pump
PUMP3	0.00	0.00	0.00	Closed Pump
PUMP4	1419.15	0.00	-283.56	Open Pump
1	1419.14	4.03	0.00	Open Valve

Sereno Canyon Phase 4 Max Day fire flow J19

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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: Sereno Canyon Phase 4 Max Day fire flow J19.net

Sereno Canyon

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in
P-1	J-32	J-36	955.6	8
P-2	J-36	J-37	121.6	8
P-3	J-30	J-38	957.7	8
P-4	J-38	J-39	400	8
P-5	J-39	J-29	841.9	8
P-6	J-39	J-40	83.23	8
P-7	J-28	J-27	505.5	8
P-8	J-2	J-3	452.1	12
P-9	J-3	J-4	195.3	12
P-10	J-4	J-41	148.7	12
P-11	J-14	J-11	890.1	8
P-12	J-12	J-11	340.4	12
P-13	J-11	J-9	458.8	12
P-14	J-3	J-19	223.6	8
P-15	J-20	J-21	310.5	8
P-16	J-21	J-22	93.71	8
P-17	J-22	J-24	192.7	8
P-18	J-24	J-20	511.2	8
P-19	J-20	J-19	293.1	8
P-20	J-5	J-17	587.4	8
P-22	J-18	J-4	378.4	8
P-23	J-7	J-13	601.7	8
P-24	J-8	J-14	610.4	8
P-25	J-14	J-15	540.4	8
P-26	J-15	J-16	224.8	8
P-27	J-22	J-23	128.3	8
P-28	J-21	J-41	699	8
P-29	J-41	J-5	172.5	12
P-30	J-5	J-6	197.8	12
P-31	J-6	J-7	466.8	12
P-32	J-7	J-8	339.3	12

Sereno Canyon Phase 4 Max Day fire flow J19

P-33	J-8	J-9	384	12
P-34	J-9	J-10	522	12
P-35	J-26	J-2	531.2	8
P-36	J-2	J-1	557.4	12
P-37	J-1	J-102	754.8	12
P-38	J-102	J-105	819.5	12



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in
P-39	J-105	J-107	511.2	12
P-40	J-107	J-111	1032	12
P-41	J-111	J-112	449.2	8
P-42	J-112	J-114	204.1	8
P-43	J-114	J-115	198.3	8
P-44	J-115	J-118	154.9	8
P-45	J-118	J-300	1588	8
P-46	J-300	J-302	757	8
P-47	J-302	J-304	469.1	12
P-48	J-304	J-1	500.9	12
P-49	J-1	J-27	271.1	8
P-50	J-27	J-29	112.3	8
P-51	J-29	J-30	411.1	8
P-52	J-30	J-42	43.31	8
P-53	J-42	J-31	191.5	8
P-54	J-35	J-36	438.3	8
P-55	J-106	J-105	800.8	8
P-56	J-33	J-123	375.5	8
P-57	J-100	J-103	951.8	8
P-58	J-104	J-35	775.1	8
P-59	J-110	J-108	595.1	8
P-60	J-108	J-109	353.1	8
P-61	S145	J-100	74.44	12
P-62	J-100	J-101	464.5	12
P-63	J-111	J-207	1424	12
P-64	J-207	J-208	997.1	8
P-65	J-207	J-206	1045	12
P-66	J-206	J-204	317.1	8
P-67	J-205	J-204	465.7	8
P-68	J-204	J-203	643.7	8
P-69	J-200	J-211	2106	8
P-70	J-211	J-203	536.3	8
P-71	J-203	J-201	2125	8
P-72	S145	J-200	327.3	8

Sereno Canyon Phase 4 Max Day fire flow J19

P-73	J-200	J-201	667.2	8
P-74	J-201	J-202	1059	8
P-75	J-120	J-119	186.5	8
P-76	J-119	J-121	389	8
P-77	J-210	J-209	1327	12
P-78	J-209	J-206	257.6	12
P-79	J-13	J-8	394	8
P-80	J-6	J-15	462	8
P-81	J-24	J-25	535	8
P-82	J-19	J-25	884	8
P-83	J-101	J-102	845.5	12
P-84	J-101	J-42	913.6	8
P-85	J-108	J-107	309.2	8



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in	
P-86	J-113	J-112	191.9	8	
P-87	J-117	J-114	573.8	8	
P-88	J-116	J-115	172.9	8	
P-89	J-119	J-118	421	8	
P-90	J-121	J-210	4137	8	
P-91	J-121	J-122	131.6	8	
P-92	J-32	J-33	221	8	
P-93	J-31	J-32	387	8	
P-94	J-103	J-31	1000	8	
P-95	J-33	J-34	245	8	
P-96	J-34	J-35	223.9	8	
P-97	J-103	J-104	1106	8	
P-98	J-305	J-304	506.9	8	
P-99	J-303	J-302	412.7	12	
P-100	J-301	J-300	178.5	8	
P-101	R-1	J-400	10	24	
P-21	J-26	J-305	427	8	
PUMP1	J-400	J-401	#N/A	#N/A	Pump
PUMP2	J-400	J-401	#N/A	#N/A	Pump
PUMP3	J-400	J-401	#N/A	#N/A	Pump
PUMP4	J-400	J-401	#N/A	#N/A	Pump
1	J-401	S145	#N/A	12	Valve

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
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Sereno Canyon Phase 4 Max Day fire flow J19

PUMP1	0.00	0.00	0.00	0.00	0.00	0.00
PUMP2	0.00	0.00	0.00	0.00	0.00	0.00
PUMP3	0.00	0.00	0.00	0.00	0.00	0.00
PUMP4	100.00	75.00	1188.46	101.05	101.05	0.00

Demand Charge: 0.00
Total Cost: 0.00

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-19	1000.00	2991.61	79.99	0.00
J-32	3.44	2998.99	90.12	0.00
J-36	3.80	2999.02	74.53	0.00
J-37	1.72	2999.02	71.07	0.00
J-30	4.48	2998.63	98.85	0.00
J-38	5.52	2998.33	82.04	0.00
J-39	3.44	2998.21	88.49	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-29	2.76	2998.00	94.24	0.00
J-40	2.06	2998.21	88.27	0.00
J-28	3.44	2997.69	102.56	0.00
J-27	2.06	2997.69	90.86	0.00
J-2	1.38	2995.53	93.82	0.00
J-3	0.00	2993.91	86.36	0.00
J-4	1.38	2993.79	87.22	0.00
J-41	5.52	2993.69	88.17	0.00
J-14	6.90	2993.65	91.27	0.00
J-11	4.14	2993.64	98.20	0.00
J-12	49.90	2993.63	92.13	0.00
J-9	0.00	2993.64	106.87	0.00
J-6	2.07	2993.67	89.12	0.00
J-24	3.44	2991.89	80.11	0.00
J-20	31.00	2991.85	72.08	0.00
J-21	12.40	2992.04	72.16	0.00
J-22	3.10	2991.98	71.92	0.00
J-5	2.76	2993.68	88.69	0.00
J-17	3.10	2993.68	101.69	0.00

Sereno Canyon Phase 4 Max Day fire flow J19

J-18	1.38	2993.79	95.67	0.00
J-7	4.14	2993.66	98.64	0.00
J-13	3.45	2993.65	109.04	0.00
J-8	3.80	2993.65	102.97	0.00
J-15	3.44	2993.66	80.66	0.00
J-16	2.06	2993.66	76.11	0.00
J-23	9.30	2991.98	69.75	0.00
J-303	11.48	2996.96	111.34	0.00
J-301	2.02	2997.20	116.21	0.00
J-10	47.88	2993.64	113.80	0.00
J-26	2.06	2996.04	99.67	0.00
J-1	0.00	2996.96	95.31	0.00
J-102	2.70	2998.12	101.01	0.00
J-105	3.38	2998.12	108.81	0.00
J-107	4.72	2998.12	113.57	0.00
J-111	4.06	2998.12	116.61	0.00
J-112	1.36	2997.97	125.21	0.00
J-114	1.36	2997.90	126.48	0.00
J-115	1.36	2997.84	127.75	0.00
J-118	1.36	2997.79	128.17	0.00
J-300	7.42	2997.20	117.08	0.00
J-302	2.70	2996.96	109.17	0.00
J-304	2.02	2996.94	102.23	0.00
J-42	0.00	2998.76	99.55	0.00
J-31	0.00	2998.94	96.60	0.00
J-35	0.00	2999.03	77.14	0.00
J-101	4.72	2999.41	115.22	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-106	3.38	2998.11	116.61	0.00
J-33	0.00	2999.00	84.93	0.00
J-123	3.38	2999.00	93.16	0.00
J-100	0.00	3000.47	121.96	0.00
J-103	3.38	2999.38	109.36	0.00
J-104	3.38	2999.17	85.43	0.00
J-117	2.02	2997.90	123.45	0.00
J-110	4.06	2998.11	108.81	0.00
J-108	2.02	2998.11	108.37	0.00
J-109	2.02	2998.11	107.51	0.00
J-305	1.36	2996.45	102.89	0.00
S145	0.00	3000.72	123.80	0.00
J-207	2.70	2998.21	114.05	0.00

Sereno Canyon Phase 4 Max Day fire flow J19

J-208	0.68	2998.21	116.65	0.00
J-206	0.68	2998.29	135.75	0.00
J-204	2.70	2998.62	128.96	0.00
J-205	2.70	2998.62	120.72	0.00
J-203	12.82	2999.32	121.46	0.00
J-200	7.42	3000.25	126.20	0.00
J-211	0.00	2999.51	118.08	0.00
J-201	3.38	2999.99	136.49	0.00
J-202	10.12	2999.99	117.85	0.00
J-119	0.00	2997.80	132.07	0.00
J-120	2.02	2997.80	136.40	0.00
J-121	0.00	2997.80	136.40	0.00
J-122	45.90	2997.79	139.00	0.00
J-210	4.06	2998.26	137.47	0.00
J-209	0.68	2998.28	135.31	0.00
J-113	1.36	2997.97	124.34	0.00
J-116	0.68	2997.84	127.32	0.00
J-25	5.52	2991.78	67.71	0.00
J-34	0.68	2999.02	82.77	0.00
J-400	0.00	2717.00	0.00	0.00
R-1	-1417.08	2717.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-1	-29.47	0.19	0.03	Open
P-2	1.72	0.01	0.00	Open
P-3	111.17	0.71	0.31	Open
P-4	105.65	0.67	0.28	Open
P-5	100.15	0.64	0.26	Open
P-6	2.06	0.01	0.00	Open



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Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-7	-3.44	0.02	0.00	Open
P-8	1206.68	3.42	3.59	Open
P-9	473.62	1.34	0.64	Open
P-10	470.86	1.34	0.63	Open
P-11	19.96	0.13	0.01	Open
P-12	-49.90	0.14	0.01	Open
P-13	-34.08	0.10	0.00	Open

Sereno Canyon Phase 4 Max Day fire flow J19

P-14	733.06	4.68	10.28	Open
P-15	-161.85	1.03	0.63	Open
P-16	157.45	1.00	0.59	Open
P-17	145.05	0.93	0.51	Open
P-18	52.78	0.34	0.08	Open
P-19	183.63	1.17	0.79	Open
P-20	3.10	0.02	0.00	Open
P-22	-1.38	0.01	0.00	Open
P-23	15.88	0.10	0.01	Open
P-24	2.52	0.02	0.00	Open
P-25	-24.34	0.16	0.02	Open
P-26	2.06	0.01	0.00	Open
P-27	9.30	0.06	0.00	Open
P-28	-331.70	2.12	2.37	Open
P-29	133.64	0.38	0.06	Open
P-30	127.78	0.36	0.06	Open
P-31	95.87	0.27	0.03	Open
P-32	75.84	0.22	0.02	Open
P-33	81.96	0.23	0.02	Open
P-34	47.88	0.14	0.01	Open
P-35	202.09	1.29	0.94	Open
P-36	-1005.97	2.85	2.56	Open
P-37	-760.70	2.16	1.53	Open
P-38	-0.68	0.00	0.00	Open
P-39	-7.44	0.02	0.00	Open
P-40	-20.26	0.06	0.00	Open
P-41	116.13	0.74	0.34	Open
P-42	113.41	0.72	0.32	Open
P-43	110.03	0.70	0.31	Open
P-44	107.99	0.69	0.30	Open
P-45	122.23	0.78	0.37	Open
P-46	112.79	0.72	0.32	Open
P-47	98.61	0.28	0.03	Open
P-48	-108.92	0.31	0.04	Open
P-49	-354.20	2.26	2.67	Open
P-50	-359.70	2.30	2.75	Open
P-51	-262.31	1.67	1.53	Open
P-52	-377.96	2.41	3.02	Open
P-53	-203.61	1.30	0.96	Open
P-54	34.99	0.22	0.04	Open



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
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Sereno Canyon Phase 4 Max Day fire flow J19

P-55	-3.38	0.02	0.00	Open
P-56	3.38	0.02	0.00	Open
P-57	223.39	1.43	1.14	Open
P-58	82.27	0.53	0.18	Open
P-59	-4.06	0.03	0.00	Open
P-60	2.02	0.01	0.00	Open
P-61	1165.17	3.31	3.36	Open
P-62	941.78	2.67	2.27	Open
P-63	-140.45	0.40	0.07	Open
P-64	0.68	0.00	0.00	Open
P-65	-143.83	0.41	0.07	Open
P-66	-212.77	1.36	1.04	Open
P-67	-2.70	0.02	0.00	Open
P-68	-218.17	1.39	1.09	Open
P-69	118.91	0.76	0.35	Open
P-70	118.91	0.76	0.35	Open
P-71	-112.07	0.72	0.32	Open
P-72	251.91	1.61	1.42	Open
P-73	125.57	0.80	0.39	Open
P-74	10.12	0.06	0.00	Open
P-75	-2.02	0.01	0.00	Open
P-76	-17.61	0.11	0.01	Open
P-77	-67.57	0.19	0.02	Open
P-78	-68.25	0.19	0.02	Open
P-79	12.43	0.08	0.01	Open
P-80	29.84	0.19	0.03	Open
P-81	88.83	0.57	0.21	Open
P-82	-83.31	0.53	0.18	Open
P-83	762.72	2.16	1.53	Open
P-84	174.35	1.11	0.72	Open
P-85	-8.10	0.05	0.00	Open
P-86	-1.36	0.01	0.00	Open
P-87	-2.02	0.01	0.00	Open
P-88	-0.68	0.00	0.00	Open
P-89	15.59	0.10	0.01	Open
P-90	-63.51	0.41	0.11	Open
P-91	45.90	0.29	0.06	Open
P-92	-43.21	0.28	0.05	Open
P-93	-69.25	0.44	0.13	Open
P-94	134.36	0.86	0.44	Open
P-95	-46.59	0.30	0.06	Open
P-96	-47.27	0.30	0.06	Open
P-97	85.65	0.55	0.19	Open
P-98	-205.51	1.31	0.97	Open
P-99	-11.48	0.03	0.00	Open
P-100	-2.02	0.01	0.00	Open
P-101	1417.08	1.00	0.17	Open

Sereno Canyon Phase 4 Max Day fire flow J19



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-21	-204.15	1.30	0.96	Open
PUMP1	0.00	0.00	0.00	Closed Pump
PUMP2	0.00	0.00	0.00	Closed Pump
PUMP3	0.00	0.00	0.00	Closed Pump
PUMP4	1417.09	0.00	-283.72	Open Pump
1	1417.08	4.02	0.00	Open Valve

Sereno Canyon Phase 4 Max Day fire flow J20

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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: Sereno Canyon Phase 4 Max Day fire flow J20.net

Sereno Canyon

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in
P-1	J-32	J-36	955.6	8
P-2	J-36	J-37	121.6	8
P-3	J-30	J-38	957.7	8
P-4	J-38	J-39	400	8
P-5	J-39	J-29	841.9	8
P-6	J-39	J-40	83.23	8
P-7	J-28	J-27	505.5	8
P-8	J-2	J-3	452.1	12
P-9	J-3	J-4	195.3	12
P-10	J-4	J-41	148.7	12
P-11	J-14	J-11	890.1	8
P-12	J-12	J-11	340.4	12
P-13	J-11	J-9	458.8	12
P-14	J-3	J-19	223.6	12
P-15	J-20	J-21	310.5	8
P-16	J-21	J-22	93.71	8
P-17	J-22	J-24	192.7	8
P-18	J-24	J-20	511.2	8
P-19	J-20	J-19	293.1	12
P-20	J-5	J-17	587.4	8
P-22	J-18	J-4	378.4	8
P-23	J-7	J-13	601.7	8
P-24	J-8	J-14	610.4	8
P-25	J-14	J-15	540.4	8
P-26	J-15	J-16	224.8	8
P-27	J-22	J-23	128.3	8
P-28	J-21	J-41	699	8
P-29	J-41	J-5	172.5	12
P-30	J-5	J-6	197.8	12
P-31	J-6	J-7	466.8	12
P-32	J-7	J-8	339.3	12

Sereno Canyon Phase 4 Max Day fire flow J20

P-33	J-8	J-9	384	12
P-34	J-9	J-10	522	12
P-35	J-26	J-2	531.2	8
P-36	J-2	J-1	557.4	12
P-37	J-1	J-102	754.8	12
P-38	J-102	J-105	819.5	12



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in
P-39	J-105	J-107	511.2	12
P-40	J-107	J-111	1032	12
P-41	J-111	J-112	449.2	8
P-42	J-112	J-114	204.1	8
P-43	J-114	J-115	198.3	8
P-44	J-115	J-118	154.9	8
P-45	J-118	J-300	1588	8
P-46	J-300	J-302	757	8
P-47	J-302	J-304	469.1	12
P-48	J-304	J-1	500.9	12
P-49	J-1	J-27	271.1	8
P-50	J-27	J-29	112.3	8
P-51	J-29	J-30	411.1	8
P-52	J-30	J-42	43.31	8
P-53	J-42	J-31	191.5	8
P-54	J-35	J-36	438.3	8
P-55	J-106	J-105	800.8	8
P-56	J-33	J-123	375.5	8
P-57	J-100	J-103	951.8	8
P-58	J-104	J-35	775.1	8
P-59	J-110	J-108	595.1	8
P-60	J-108	J-109	353.1	8
P-61	S145	J-100	74.44	12
P-62	J-100	J-101	464.5	12
P-63	J-111	J-207	1424	12
P-64	J-207	J-208	997.1	8
P-65	J-207	J-206	1045	12
P-66	J-206	J-204	317.1	8
P-67	J-205	J-204	465.7	8
P-68	J-204	J-203	643.7	8
P-69	J-200	J-211	2106	8
P-70	J-211	J-203	536.3	8
P-71	J-203	J-201	2125	8
P-72	S145	J-200	327.3	8

Sereno Canyon Phase 4 Max Day fire flow J20

P-73	J-200	J-201	667.2	8
P-74	J-201	J-202	1059	8
P-75	J-120	J-119	186.5	8
P-76	J-119	J-121	389	8
P-77	J-210	J-209	1327	12
P-78	J-209	J-206	257.6	12
P-79	J-13	J-8	394	8
P-80	J-6	J-15	462	8
P-81	J-24	J-25	535	8
P-82	J-19	J-25	884	8
P-83	J-101	J-102	845.5	12
P-84	J-101	J-42	913.6	8
P-85	J-108	J-107	309.2	8



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in	
P-86	J-113	J-112	191.9	8	
P-87	J-117	J-114	573.8	8	
P-88	J-116	J-115	172.9	8	
P-89	J-119	J-118	421	8	
P-90	J-121	J-210	4137	8	
P-91	J-121	J-122	131.6	8	
P-92	J-32	J-33	221	8	
P-93	J-31	J-32	387	8	
P-94	J-103	J-31	1000	8	
P-95	J-33	J-34	245	8	
P-96	J-34	J-35	223.9	8	
P-97	J-103	J-104	1106	8	
P-98	J-305	J-304	506.9	8	
P-99	J-303	J-302	412.7	12	
P-100	J-301	J-300	178.5	8	
P-101	R-1	J-400	10	24	
P-21	J-26	J-305	427	8	
PUMP1	J-400	J-401	#N/A	#N/A	Pump
PUMP2	J-400	J-401	#N/A	#N/A	Pump
PUMP3	J-400	J-401	#N/A	#N/A	Pump
PUMP4	J-400	J-401	#N/A	#N/A	Pump
1	J-401	S145	#N/A	12	Valve

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
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Sereno Canyon Phase 4 Max Day fire flow J20

PUMP1	100.00	75.00	1176.84	30.75	30.75	0.00
PUMP2	0.00	0.00	0.00	0.00	0.00	0.00
PUMP3	0.00	0.00	0.00	0.00	0.00	0.00
PUMP4	100.00	75.00	1176.84	102.67	102.67	0.00
						Demand Charge: 0.00
						Total Cost: 0.00

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-20	1500.00	2983.97	68.67	0.00
J-32	3.44	2994.99	88.39	0.00
J-36	3.80	2995.04	72.81	0.00
J-37	1.72	2995.04	69.35	0.00
J-30	4.48	2994.34	96.99	0.00
J-38	5.52	2993.82	80.08	0.00
J-39	3.44	2993.62	86.50	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-29	2.76	2993.23	92.17	0.00
J-40	2.06	2993.62	86.28	0.00
J-28	3.44	2992.67	100.38	0.00
J-27	2.06	2992.67	88.68	0.00
J-2	1.38	2988.73	90.88	0.00
J-3	0.00	2985.74	82.82	0.00
J-4	1.38	2985.64	83.69	0.00
J-41	5.52	2985.56	84.65	0.00
J-14	6.90	2985.52	87.75	0.00
J-11	4.14	2985.51	94.68	0.00
J-12	49.90	2985.50	88.61	0.00
J-9	0.00	2985.51	103.35	0.00
J-6	2.07	2985.54	85.59	0.00
J-19	3.44	2984.88	77.08	0.00
J-24	3.44	2984.30	76.82	0.00
J-21	12.40	2984.31	68.81	0.00
J-22	3.10	2984.30	68.59	0.00
J-5	2.76	2985.55	85.17	0.00
J-17	3.10	2985.55	98.16	0.00

Sereno Canyon Phase 4 Max Day fire flow J20

J-18	1.38	2985.64	92.14	0.00
J-7	4.14	2985.53	95.12	0.00
J-13	3.45	2985.52	105.52	0.00
J-8	3.80	2985.52	99.45	0.00
J-15	3.44	2985.53	77.14	0.00
J-16	2.06	2985.53	72.59	0.00
J-23	9.30	2984.30	66.43	0.00
J-303	11.48	2991.37	108.92	0.00
J-301	2.02	2991.85	113.89	0.00
J-10	47.88	2985.50	110.28	0.00
J-26	2.06	2989.66	96.91	0.00
J-1	0.00	2991.36	92.88	0.00
J-102	2.70	2993.46	98.99	0.00
J-105	3.38	2993.46	106.79	0.00
J-107	4.72	2993.46	111.56	0.00
J-111	4.06	2993.47	114.59	0.00
J-112	1.36	2993.23	123.16	0.00
J-114	1.36	2993.13	124.41	0.00
J-115	1.36	2993.04	125.67	0.00
J-118	1.36	2992.96	126.07	0.00
J-300	7.42	2991.85	114.76	0.00
J-302	2.70	2991.37	106.75	0.00
J-304	2.02	2991.33	99.80	0.00
J-42	0.00	2994.57	97.74	0.00
J-31	0.00	2994.90	94.85	0.00
J-35	0.00	2995.07	75.42	0.00
J-101	4.72	2995.70	113.61	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-106	3.38	2993.46	114.59	0.00
J-33	0.00	2995.01	83.20	0.00
J-123	3.38	2995.01	91.43	0.00
J-100	0.00	2997.51	120.68	0.00
J-103	3.38	2995.67	107.75	0.00
J-104	3.38	2995.31	83.76	0.00
J-117	2.02	2993.13	121.38	0.00
J-110	4.06	2993.46	106.79	0.00
J-108	2.02	2993.46	106.36	0.00
J-109	2.02	2993.46	105.49	0.00
J-305	1.36	2990.42	100.28	0.00
S145	0.00	2997.94	122.60	0.00
J-207	2.70	2993.65	112.07	0.00

Sereno Canyon Phase 4 Max Day fire flow J20

J-208	0.68	2993.65	114.67	0.00
J-206	0.68	2993.79	133.80	0.00
J-204	2.70	2994.37	127.12	0.00
J-205	2.70	2994.37	118.88	0.00
J-203	12.82	2995.60	119.85	0.00
J-200	7.42	2997.18	124.87	0.00
J-211	0.00	2995.92	116.52	0.00
J-201	3.38	2996.75	135.08	0.00
J-202	10.12	2996.75	116.45	0.00
J-119	0.00	2992.98	129.98	0.00
J-120	2.02	2992.98	134.31	0.00
J-121	0.00	2992.99	134.32	0.00
J-122	45.90	2992.99	136.92	0.00
J-210	4.06	2993.74	135.51	0.00
J-209	0.68	2993.78	133.36	0.00
J-113	1.36	2993.23	122.29	0.00
J-116	0.68	2993.04	125.24	0.00
J-25	5.52	2984.51	64.56	0.00
J-34	0.68	2995.04	81.05	0.00
J-400	0.00	2717.00	0.00	0.00
R-1	-1889.52	2717.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-1	-40.91	0.26	0.05	Open
P-2	1.72	0.01	0.00	Open
P-3	149.60	0.95	0.54	Open
P-4	144.08	0.92	0.51	Open
P-5	138.58	0.88	0.47	Open
P-6	2.06	0.01	0.00	Open



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-7	-3.44	0.02	0.00	Open
P-8	1679.12	4.76	6.62	Open
P-9	427.06	1.21	0.52	Open
P-10	424.30	1.20	0.52	Open
P-11	19.94	0.13	0.01	Open
P-12	-49.90	0.14	0.01	Open
P-13	-34.10	0.10	0.00	Open

Sereno Canyon Phase 4 Max Day fire flow J20

P-14	1252.06	3.55	3.84	Open
P-15	-219.56	1.40	1.10	Open
P-16	53.18	0.34	0.08	Open
P-17	40.78	0.26	0.05	Open
P-18	163.22	1.04	0.64	Open
P-19	-1117.23	3.17	3.11	Open
P-20	3.10	0.02	0.00	Open
P-22	-1.38	0.01	0.00	Open
P-23	15.88	0.10	0.01	Open
P-24	2.48	0.02	0.00	Open
P-25	-24.35	0.16	0.02	Open
P-26	2.06	0.01	0.00	Open
P-27	9.30	0.06	0.00	Open
P-28	-285.14	1.82	1.79	Open
P-29	133.64	0.38	0.06	Open
P-30	127.78	0.36	0.06	Open
P-31	95.86	0.27	0.03	Open
P-32	75.84	0.22	0.02	Open
P-33	81.98	0.23	0.02	Open
P-34	47.88	0.14	0.01	Open
P-35	281.98	1.80	1.75	Open
P-36	-1398.52	3.97	4.72	Open
P-37	-1049.62	2.98	2.77	Open
P-38	-27.55	0.08	0.00	Open
P-39	-34.31	0.10	0.01	Open
P-40	-47.13	0.13	0.01	Open
P-41	146.93	0.94	0.52	Open
P-42	144.21	0.92	0.51	Open
P-43	140.83	0.90	0.48	Open
P-44	138.79	0.89	0.47	Open
P-45	172.32	1.10	0.70	Open
P-46	162.88	1.04	0.63	Open
P-47	148.70	0.42	0.07	Open
P-48	-138.72	0.39	0.07	Open
P-49	-487.62	3.11	4.83	Open
P-50	-493.12	3.15	4.93	Open
P-51	-357.30	2.28	2.72	Open
P-52	-511.38	3.26	5.28	Open
P-53	-278.07	1.77	1.71	Open
P-54	46.43	0.30	0.06	Open



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
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Sereno Canyon Phase 4 Max Day fire flow J20

P-55	-3.38	0.02	0.00	Open
P-56	3.38	0.02	0.00	Open
P-57	297.85	1.90	1.94	Open
P-58	110.38	0.70	0.31	Open
P-59	-4.06	0.03	0.00	Open
P-60	2.02	0.01	0.00	Open
P-61	1560.65	4.43	5.78	Open
P-62	1262.80	3.58	3.90	Open
P-63	-198.12	0.56	0.13	Open
P-64	0.68	0.00	0.00	Open
P-65	-201.50	0.57	0.13	Open
P-66	-289.73	1.85	1.84	Open
P-67	-2.70	0.02	0.00	Open
P-68	-295.13	1.88	1.91	Open
P-69	157.95	1.01	0.60	Open
P-70	157.95	1.01	0.60	Open
P-71	-150.00	0.96	0.54	Open
P-72	328.87	2.10	2.33	Open
P-73	163.50	1.04	0.64	Open
P-74	10.12	0.06	0.00	Open
P-75	-2.02	0.01	0.00	Open
P-76	-36.91	0.24	0.04	Open
P-77	-86.87	0.25	0.03	Open
P-78	-87.55	0.25	0.03	Open
P-79	12.43	0.08	0.01	Open
P-80	29.85	0.19	0.03	Open
P-81	-125.88	0.80	0.39	Open
P-82	131.40	0.84	0.43	Open
P-83	1024.77	2.91	2.65	Open
P-84	233.31	1.49	1.23	Open
P-85	-8.10	0.05	0.00	Open
P-86	-1.36	0.01	0.00	Open
P-87	-2.02	0.01	0.00	Open
P-88	-0.68	0.00	0.00	Open
P-89	34.89	0.22	0.04	Open
P-90	-82.81	0.53	0.18	Open
P-91	45.90	0.29	0.06	Open
P-92	-59.90	0.38	0.10	Open
P-93	-97.36	0.62	0.24	Open
P-94	180.71	1.15	0.77	Open
P-95	-63.28	0.40	0.11	Open
P-96	-63.96	0.41	0.11	Open
P-97	113.76	0.73	0.33	Open
P-98	-285.40	1.82	1.79	Open
P-99	-11.48	0.03	0.00	Open
P-100	-2.02	0.01	0.00	Open
P-101	1889.52	1.34	0.29	Open

Sereno Canyon Phase 4 Max Day fire flow J20



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-21	-284.04	1.81	1.78	Open
PUMP1	435.46	0.00	-280.95	Open Pump
PUMP2	0.00	0.00	0.00	Closed Pump
PUMP3	0.00	0.00	0.00	Closed Pump
PUMP4	1454.07	0.00	-280.95	Open Pump
1	1889.52	5.36	0.00	Open Valve

Sereno Canyon Phase 4 Max Day fire flow J21

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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: Sereno Canyon Phase 4 Max Day fire flow J21.net

Sereno Canyon

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in
P-1	J-32	J-36	955.6	8
P-2	J-36	J-37	121.6	8
P-3	J-30	J-38	957.7	8
P-4	J-38	J-39	400	8
P-5	J-39	J-29	841.9	8
P-6	J-39	J-40	83.23	8
P-7	J-28	J-27	505.5	8
P-8	J-2	J-3	452.1	12
P-9	J-3	J-4	195.3	12
P-10	J-4	J-41	148.7	12
P-11	J-14	J-11	890.1	8
P-12	J-12	J-11	340.4	12
P-13	J-11	J-9	458.8	12
P-14	J-3	J-19	223.6	8
P-15	J-20	J-21	310.5	8
P-16	J-21	J-22	93.71	8
P-17	J-22	J-24	192.7	8
P-18	J-24	J-20	511.2	8
P-19	J-20	J-19	293.1	8
P-20	J-5	J-17	587.4	8
P-22	J-18	J-4	378.4	8
P-23	J-7	J-13	601.7	8
P-24	J-8	J-14	610.4	8
P-25	J-14	J-15	540.4	8
P-26	J-15	J-16	224.8	8
P-27	J-22	J-23	128.3	8
P-28	J-21	J-41	699	8
P-29	J-41	J-5	172.5	12
P-30	J-5	J-6	197.8	12
P-31	J-6	J-7	466.8	12
P-32	J-7	J-8	339.3	12

Sereno Canyon Phase 4 Max Day fire flow J21

P-33	J-8	J-9	384	12
P-34	J-9	J-10	522	12
P-35	J-26	J-2	531.2	8
P-36	J-2	J-1	557.4	12
P-37	J-1	J-102	754.8	12
P-38	J-102	J-105	819.5	12



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in
P-39	J-105	J-107	511.2	12
P-40	J-107	J-111	1032	12
P-41	J-111	J-112	449.2	8
P-42	J-112	J-114	204.1	8
P-43	J-114	J-115	198.3	8
P-44	J-115	J-118	154.9	8
P-45	J-118	J-300	1588	8
P-46	J-300	J-302	757	8
P-47	J-302	J-304	469.1	12
P-48	J-304	J-1	500.9	12
P-49	J-1	J-27	271.1	8
P-50	J-27	J-29	112.3	8
P-51	J-29	J-30	411.1	8
P-52	J-30	J-42	43.31	8
P-53	J-42	J-31	191.5	8
P-54	J-35	J-36	438.3	8
P-55	J-106	J-105	800.8	8
P-56	J-33	J-123	375.5	8
P-57	J-100	J-103	951.8	8
P-58	J-104	J-35	775.1	8
P-59	J-110	J-108	595.1	8
P-60	J-108	J-109	353.1	8
P-61	S145	J-100	74.44	12
P-62	J-100	J-101	464.5	12
P-63	J-111	J-207	1424	12
P-64	J-207	J-208	997.1	8
P-65	J-207	J-206	1045	12
P-66	J-206	J-204	317.1	8
P-67	J-205	J-204	465.7	8
P-68	J-204	J-203	643.7	8
P-69	J-200	J-211	2106	8
P-70	J-211	J-203	536.3	8
P-71	J-203	J-201	2125	8
P-72	S145	J-200	327.3	8

Sereno Canyon Phase 4 Max Day fire flow J21

P-73	J-200	J-201	667.2	8
P-74	J-201	J-202	1059	8
P-75	J-120	J-119	186.5	8
P-76	J-119	J-121	389	8
P-77	J-210	J-209	1327	12
P-78	J-209	J-206	257.6	12
P-79	J-13	J-8	394	8
P-80	J-6	J-15	462	8
P-81	J-24	J-25	535	8
P-82	J-19	J-25	884	8
P-83	J-101	J-102	845.5	12
P-84	J-101	J-42	913.6	8
P-85	J-108	J-107	309.2	8



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in	
P-86	J-113	J-112	191.9	8	
P-87	J-117	J-114	573.8	8	
P-88	J-116	J-115	172.9	8	
P-89	J-119	J-118	421	8	
P-90	J-121	J-210	4137	8	
P-91	J-121	J-122	131.6	8	
P-92	J-32	J-33	221	8	
P-93	J-31	J-32	387	8	
P-94	J-103	J-31	1000	8	
P-95	J-33	J-34	245	8	
P-96	J-34	J-35	223.9	8	
P-97	J-103	J-104	1106	8	
P-98	J-305	J-304	506.9	8	
P-99	J-303	J-302	412.7	12	
P-100	J-301	J-300	178.5	8	
P-101	R-1	J-400	10	24	
P-21	J-26	J-305	427	8	
PUMP1	J-400	J-401	#N/A	#N/A	Pump
PUMP2	J-400	J-401	#N/A	#N/A	Pump
PUMP3	J-400	J-401	#N/A	#N/A	Pump
PUMP4	J-400	J-401	#N/A	#N/A	Pump
1	J-401	S145	#N/A	12	Valve

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
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Sereno Canyon Phase 4 Max Day fire flow J21

PUMP1	0.00	0.00	0.00	0.00	0.00	0.00
PUMP2	0.00	0.00	0.00	0.00	0.00	0.00
PUMP3	0.00	0.00	0.00	0.00	0.00	0.00
PUMP4	100.00	75.00	1001.92	114.71	114.71	0.00
Demand Charge:						0.00
Total Cost:						0.00

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-21	1500.00	2937.11	48.36	0.00
J-32	3.44	2953.18	70.27	0.00
J-36	3.80	2953.23	54.70	0.00
J-37	1.72	2953.23	51.23	0.00
J-30	4.48	2952.52	78.87	0.00
J-38	5.52	2951.99	61.96	0.00
J-39	3.44	2951.78	68.37	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-29	2.76	2951.38	74.04	0.00
J-40	2.06	2951.78	68.15	0.00
J-28	3.44	2950.82	82.25	0.00
J-27	2.06	2950.82	70.55	0.00
J-2	1.38	2946.80	72.71	0.00
J-3	0.00	2943.74	64.62	0.00
J-4	1.38	2943.41	65.39	0.00
J-41	5.52	2943.15	66.28	0.00
J-14	6.90	2943.11	69.38	0.00
J-11	4.14	2943.10	76.30	0.00
J-12	49.90	2943.10	70.24	0.00
J-9	0.00	2943.10	84.97	0.00
J-6	2.07	2943.13	67.22	0.00
J-19	3.44	2940.46	57.83	0.00
J-24	3.44	2938.09	56.80	0.00
J-20	31.00	2938.34	48.89	0.00
J-22	3.10	2937.42	48.28	0.00
J-5	2.76	2943.14	66.79	0.00
J-17	3.10	2943.14	79.79	0.00

Sereno Canyon Phase 4 Max Day fire flow J21

J-18	1.38	2943.41	73.84	0.00
J-7	4.14	2943.12	76.74	0.00
J-13	3.45	2943.11	87.14	0.00
J-8	3.80	2943.11	81.07	0.00
J-15	3.44	2943.12	58.76	0.00
J-16	2.06	2943.12	54.21	0.00
J-23	9.30	2937.42	46.11	0.00
J-303	11.48	2949.48	90.77	0.00
J-301	2.02	2949.97	95.75	0.00
J-10	47.88	2943.10	91.90	0.00
J-26	2.06	2947.75	78.75	0.00
J-1	0.00	2949.48	74.74	0.00
J-102	2.70	2951.61	80.86	0.00
J-105	3.38	2951.62	88.66	0.00
J-107	4.72	2951.62	93.43	0.00
J-111	4.06	2951.63	96.47	0.00
J-112	1.36	2951.39	105.03	0.00
J-114	1.36	2951.29	106.28	0.00
J-115	1.36	2951.19	107.54	0.00
J-118	1.36	2951.11	107.94	0.00
J-300	7.42	2949.97	96.61	0.00
J-302	2.70	2949.48	88.60	0.00
J-304	2.02	2949.45	81.65	0.00
J-42	0.00	2952.75	79.62	0.00
J-31	0.00	2953.08	76.73	0.00
J-35	0.00	2953.26	57.31	0.00
J-101	4.72	2953.90	95.50	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-106	3.38	2951.62	96.46	0.00
J-33	0.00	2953.20	65.08	0.00
J-123	3.38	2953.20	73.32	0.00
J-100	0.00	2955.75	102.58	0.00
J-103	3.38	2953.87	89.64	0.00
J-104	3.38	2953.50	65.65	0.00
J-117	2.02	2951.29	103.25	0.00
J-110	4.06	2951.62	88.66	0.00
J-108	2.02	2951.62	88.23	0.00
J-109	2.02	2951.62	87.36	0.00
J-305	1.36	2948.52	82.12	0.00
S145	0.00	2956.18	104.51	0.00
J-207	2.70	2951.81	93.95	0.00

Sereno Canyon Phase 4 Max Day fire flow J21

J-208	0.68	2951.81	96.55	0.00
J-206	0.68	2951.95	115.67	0.00
J-204	2.70	2952.55	109.00	0.00
J-205	2.70	2952.55	100.76	0.00
J-203	12.82	2953.80	101.74	0.00
J-200	7.42	2955.41	106.77	0.00
J-211	0.00	2954.13	98.41	0.00
J-201	3.38	2954.98	116.98	0.00
J-202	10.12	2954.97	98.35	0.00
J-119	0.00	2951.13	111.85	0.00
J-120	2.02	2951.13	116.18	0.00
J-121	0.00	2951.15	116.19	0.00
J-122	45.90	2951.14	118.78	0.00
J-210	4.06	2951.91	117.38	0.00
J-209	0.68	2951.95	115.23	0.00
J-113	1.36	2951.39	104.16	0.00
J-116	0.68	2951.19	107.11	0.00
J-25	5.52	2938.96	44.83	0.00
J-34	0.68	2953.23	62.93	0.00
J-400	0.00	2717.00	0.00	0.00
R-1	-1908.12	2717.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-1	-41.36	0.26	0.05	Open
P-2	1.72	0.01	0.00	Open
P-3	151.12	0.96	0.55	Open
P-4	145.60	0.93	0.52	Open
P-5	140.10	0.89	0.48	Open
P-6	2.06	0.01	0.00	Open



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-7	-3.44	0.02	0.00	Open
P-8	1697.72	4.82	6.76	Open
P-9	809.53	2.30	1.71	Open
P-10	806.77	2.29	1.70	Open
P-11	19.94	0.13	0.01	Open
P-12	-49.90	0.14	0.01	Open
P-13	-34.10	0.10	0.00	Open

Sereno Canyon Phase 4 Max Day fire flow J21

P-14	888.19	5.67	14.66	Open
P-15	436.60	2.79	3.94	Open
P-16	-395.79	2.53	3.28	Open
P-17	-408.19	2.61	3.48	Open
P-18	-140.06	0.89	0.48	Open
P-19	-607.66	3.88	7.26	Open
P-20	3.10	0.02	0.00	Open
P-22	-1.38	0.01	0.00	Open
P-23	15.88	0.10	0.01	Open
P-24	2.48	0.02	0.00	Open
P-25	-24.35	0.16	0.02	Open
P-26	2.06	0.01	0.00	Open
P-27	9.30	0.06	0.00	Open
P-28	-667.61	4.26	8.64	Open
P-29	133.64	0.38	0.06	Open
P-30	127.78	0.36	0.06	Open
P-31	95.86	0.27	0.03	Open
P-32	75.84	0.22	0.02	Open
P-33	81.98	0.23	0.02	Open
P-34	47.88	0.14	0.01	Open
P-35	285.13	1.82	1.79	Open
P-36	-1413.97	4.01	4.81	Open
P-37	-1060.99	3.01	2.83	Open
P-38	-28.60	0.08	0.00	Open
P-39	-35.36	0.10	0.01	Open
P-40	-48.18	0.14	0.01	Open
P-41	148.15	0.95	0.53	Open
P-42	145.43	0.93	0.51	Open
P-43	142.05	0.91	0.49	Open
P-44	140.01	0.89	0.48	Open
P-45	174.29	1.11	0.72	Open
P-46	164.85	1.05	0.65	Open
P-47	150.67	0.43	0.08	Open
P-48	-139.90	0.40	0.07	Open
P-49	-492.88	3.15	4.93	Open
P-50	-498.38	3.18	5.03	Open
P-51	-361.04	2.30	2.77	Open
P-52	-516.64	3.30	5.38	Open
P-53	-281.00	1.79	1.74	Open
P-54	46.88	0.30	0.06	Open



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
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Sereno Canyon Phase 4 Max Day fire flow J21

P-55	-3.38	0.02	0.00	Open
P-56	3.38	0.02	0.00	Open
P-57	300.78	1.92	1.97	Open
P-58	111.49	0.71	0.31	Open
P-59	-4.06	0.03	0.00	Open
P-60	2.02	0.01	0.00	Open
P-61	1576.22	4.47	5.89	Open
P-62	1275.44	3.62	3.98	Open
P-63	-200.39	0.57	0.13	Open
P-64	0.68	0.00	0.00	Open
P-65	-203.77	0.58	0.13	Open
P-66	-292.76	1.87	1.88	Open
P-67	-2.70	0.02	0.00	Open
P-68	-298.16	1.90	1.94	Open
P-69	159.49	1.02	0.61	Open
P-70	159.49	1.02	0.61	Open
P-71	-151.49	0.97	0.55	Open
P-72	331.90	2.12	2.37	Open
P-73	164.99	1.05	0.65	Open
P-74	10.12	0.06	0.00	Open
P-75	-2.02	0.01	0.00	Open
P-76	-37.66	0.24	0.04	Open
P-77	-87.62	0.25	0.03	Open
P-78	-88.30	0.25	0.03	Open
P-79	12.43	0.08	0.00	Open
P-80	29.85	0.19	0.03	Open
P-81	-271.57	1.73	1.63	Open
P-82	277.09	1.77	1.70	Open
P-83	1035.09	2.94	2.70	Open
P-84	235.63	1.50	1.26	Open
P-85	-8.10	0.05	0.00	Open
P-86	-1.36	0.01	0.00	Open
P-87	-2.02	0.01	0.00	Open
P-88	-0.68	0.00	0.00	Open
P-89	35.64	0.23	0.04	Open
P-90	-83.56	0.53	0.18	Open
P-91	45.90	0.29	0.06	Open
P-92	-60.55	0.39	0.10	Open
P-93	-98.47	0.63	0.25	Open
P-94	182.53	1.17	0.78	Open
P-95	-63.93	0.41	0.11	Open
P-96	-64.61	0.41	0.11	Open
P-97	114.87	0.73	0.33	Open
P-98	-288.55	1.84	1.83	Open
P-99	-11.48	0.03	0.00	Open
P-100	-2.02	0.01	0.00	Open
P-101	1908.12	1.35	0.29	Open

Sereno Canyon Phase 4 Max Day fire flow J21



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-21	-287.19	1.83	1.81	Open
PUMP1	0.00	0.00	0.00	Closed Pump
PUMP2	0.00	0.00	0.00	Closed Pump
PUMP3	0.00	0.00	0.00	Closed Pump
PUMP4	1908.13	0.00	-239.19	Open Pump
1	1908.12	5.41	0.00	Open Valve

Sereno Canyon Phase 4 Max Day fire flow J22

P-33	J-8	J-9	384	12
P-34	J-9	J-10	522	12
P-35	J-26	J-2	531.2	8
P-36	J-2	J-1	557.4	12
P-37	J-1	J-102	754.8	12
P-38	J-102	J-105	819.5	12



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in
P-39	J-105	J-107	511.2	12
P-40	J-107	J-111	1032	12
P-41	J-111	J-112	449.2	8
P-42	J-112	J-114	204.1	8
P-43	J-114	J-115	198.3	8
P-44	J-115	J-118	154.9	8
P-45	J-118	J-300	1588	8
P-46	J-300	J-302	757	8
P-47	J-302	J-304	469.1	12
P-48	J-304	J-1	500.9	12
P-49	J-1	J-27	271.1	8
P-50	J-27	J-29	112.3	8
P-51	J-29	J-30	411.1	8
P-52	J-30	J-42	43.31	8
P-53	J-42	J-31	191.5	8
P-54	J-35	J-36	438.3	8
P-55	J-106	J-105	800.8	8
P-56	J-33	J-123	375.5	8
P-57	J-100	J-103	951.8	8
P-58	J-104	J-35	775.1	8
P-59	J-110	J-108	595.1	8
P-60	J-108	J-109	353.1	8
P-61	S145	J-100	74.44	12
P-62	J-100	J-101	464.5	12
P-63	J-111	J-207	1424	12
P-64	J-207	J-208	997.1	8
P-65	J-207	J-206	1045	12
P-66	J-206	J-204	317.1	8
P-67	J-205	J-204	465.7	8
P-68	J-204	J-203	643.7	8
P-69	J-200	J-211	2106	8
P-70	J-211	J-203	536.3	8
P-71	J-203	J-201	2125	8
P-72	S145	J-200	327.3	8

Sereno Canyon Phase 4 Max Day fire flow J22

P-73	J-200	J-201	667.2	8
P-74	J-201	J-202	1059	8
P-75	J-120	J-119	186.5	8
P-76	J-119	J-121	389	8
P-77	J-210	J-209	1327	12
P-78	J-209	J-206	257.6	12
P-79	J-13	J-8	394	8
P-80	J-6	J-15	462	8
P-81	J-24	J-25	535	8
P-82	J-19	J-25	884	8
P-83	J-101	J-102	845.5	12
P-84	J-101	J-42	913.6	8
P-85	J-108	J-107	309.2	8



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in	
P-86	J-113	J-112	191.9	8	
P-87	J-117	J-114	573.8	8	
P-88	J-116	J-115	172.9	8	
P-89	J-119	J-118	421	8	
P-90	J-121	J-210	4137	8	
P-91	J-121	J-122	131.6	8	
P-92	J-32	J-33	221	8	
P-93	J-31	J-32	387	8	
P-94	J-103	J-31	1000	8	
P-95	J-33	J-34	245	8	
P-96	J-34	J-35	223.9	8	
P-97	J-103	J-104	1106	8	
P-98	J-305	J-304	506.9	8	
P-99	J-303	J-302	412.7	12	
P-100	J-301	J-300	178.5	8	
P-101	R-1	J-400	10	24	
P-21	J-26	J-305	427	8	
PUMP1	J-400	J-401	#N/A	#N/A	Pump
PUMP2	J-400	J-401	#N/A	#N/A	Pump
PUMP3	J-400	J-401	#N/A	#N/A	Pump
PUMP4	J-400	J-401	#N/A	#N/A	Pump
1	J-401	S145	#N/A	12	Valve

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
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Sereno Canyon Phase 4 Max Day fire flow J22

PUMP1	0.00	0.00	0.00	0.00	0.00	0.00
PUMP2	0.00	0.00	0.00	0.00	0.00	0.00
PUMP3	0.00	0.00	0.00	0.00	0.00	0.00
PUMP4	100.00	75.00	998.03	114.82	114.82	0.00

Demand Charge: 0.00
Total Cost: 0.00

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-22	1500.00	2934.96	47.21	0.00
J-32	3.44	2952.22	69.86	0.00
J-36	3.80	2952.27	54.28	0.00
J-37	1.72	2952.27	50.81	0.00
J-30	4.48	2951.55	78.45	0.00
J-38	5.52	2951.02	61.54	0.00
J-39	3.44	2950.81	67.95	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-29	2.76	2950.41	73.62	0.00
J-40	2.06	2950.81	67.73	0.00
J-28	3.44	2949.84	81.82	0.00
J-27	2.06	2949.84	70.12	0.00
J-2	1.38	2945.78	72.26	0.00
J-3	0.00	2942.69	64.17	0.00
J-4	1.38	2942.37	64.94	0.00
J-41	5.52	2942.13	65.83	0.00
J-14	6.90	2942.09	68.93	0.00
J-11	4.14	2942.08	75.86	0.00
J-12	49.90	2942.07	69.79	0.00
J-9	0.00	2942.08	84.53	0.00
J-6	2.07	2942.11	66.78	0.00
J-19	3.44	2939.19	57.28	0.00
J-24	3.44	2936.23	56.00	0.00
J-20	31.00	2937.08	48.35	0.00
J-21	12.40	2936.47	48.08	0.00
J-5	2.76	2942.12	66.35	0.00
J-17	3.10	2942.12	79.35	0.00

Sereno Canyon Phase 4 Max Day fire flow J22

J-18	1.38	2942.37	73.39	0.00
J-7	4.14	2942.10	76.30	0.00
J-13	3.45	2942.09	86.70	0.00
J-8	3.80	2942.09	80.63	0.00
J-15	3.44	2942.10	58.32	0.00
J-16	2.06	2942.10	53.77	0.00
J-23	9.30	2934.96	45.05	0.00
J-303	11.48	2948.49	90.34	0.00
J-301	2.02	2948.99	95.32	0.00
J-10	47.88	2942.07	91.46	0.00
J-26	2.06	2946.74	78.31	0.00
J-1	0.00	2948.49	74.31	0.00
J-102	2.70	2950.64	80.44	0.00
J-105	3.38	2950.65	88.24	0.00
J-107	4.72	2950.65	93.01	0.00
J-111	4.06	2950.66	96.04	0.00
J-112	1.36	2950.42	104.61	0.00
J-114	1.36	2950.31	105.86	0.00
J-115	1.36	2950.21	107.12	0.00
J-118	1.36	2950.14	107.52	0.00
J-300	7.42	2948.99	96.19	0.00
J-302	2.70	2948.49	88.17	0.00
J-304	2.02	2948.45	81.22	0.00
J-42	0.00	2951.79	79.20	0.00
J-31	0.00	2952.13	76.32	0.00
J-35	0.00	2952.30	56.89	0.00
J-101	4.72	2952.95	95.09	0.00



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Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-106	3.38	2950.65	96.04	0.00
J-33	0.00	2952.25	64.67	0.00
J-123	3.38	2952.25	72.90	0.00
J-100	0.00	2954.81	102.18	0.00
J-103	3.38	2952.92	89.22	0.00
J-104	3.38	2952.55	65.23	0.00
J-117	2.02	2950.31	102.83	0.00
J-110	4.06	2950.65	88.24	0.00
J-108	2.02	2950.65	87.81	0.00
J-109	2.02	2950.65	86.94	0.00
J-305	1.36	2947.52	81.68	0.00
S145	0.00	2955.25	104.10	0.00
J-207	2.70	2950.84	93.53	0.00

Sereno Canyon Phase 4 Max Day fire flow J22

J-208	0.68	2950.84	96.12	0.00
J-206	0.68	2950.98	115.25	0.00
J-204	2.70	2951.59	108.58	0.00
J-205	2.70	2951.59	100.35	0.00
J-203	12.82	2952.85	101.33	0.00
J-200	7.42	2954.47	106.36	0.00
J-211	0.00	2953.18	98.00	0.00
J-201	3.38	2954.04	116.57	0.00
J-202	10.12	2954.03	97.94	0.00
J-119	0.00	2950.15	111.43	0.00
J-120	2.02	2950.15	115.76	0.00
J-121	0.00	2950.17	115.77	0.00
J-122	45.90	2950.16	118.36	0.00
J-210	4.06	2950.94	116.96	0.00
J-209	0.68	2950.98	114.81	0.00
J-113	1.36	2950.42	103.74	0.00
J-116	0.68	2950.21	106.68	0.00
J-25	5.52	2937.32	44.12	0.00
J-34	0.68	2952.27	62.51	0.00
J-400	0.00	2717.00	0.00	0.00
R-1	-1917.42	2717.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-1	-41.58	0.27	0.05	Open
P-2	1.72	0.01	0.00	Open
P-3	151.87	0.97	0.56	Open
P-4	146.35	0.93	0.52	Open
P-5	140.85	0.90	0.48	Open
P-6	2.06	0.01	0.00	Open



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Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-7	-3.44	0.02	0.00	Open
P-8	1707.02	4.84	6.82	Open
P-9	786.79	2.23	1.63	Open
P-10	784.03	2.22	1.62	Open
P-11	19.94	0.13	0.01	Open
P-12	-49.90	0.14	0.01	Open
P-13	-34.10	0.10	0.00	Open

Sereno Canyon Phase 4 Max Day fire flow J22

P-14	920.23	5.87	15.66	Open
P-15	300.34	1.92	1.97	Open
P-16	932.81	5.95	16.06	Open
P-17	-576.49	3.68	6.59	Open
P-18	-273.63	1.75	1.66	Open
P-19	-604.98	3.86	7.20	Open
P-20	3.10	0.02	0.00	Open
P-22	-1.38	0.01	0.00	Open
P-23	15.88	0.10	0.01	Open
P-24	2.48	0.02	0.00	Open
P-25	-24.35	0.16	0.02	Open
P-26	2.06	0.01	0.00	Open
P-27	9.30	0.06	0.00	Open
P-28	-644.87	4.12	8.11	Open
P-29	133.64	0.38	0.06	Open
P-30	127.78	0.36	0.06	Open
P-31	95.86	0.27	0.03	Open
P-32	75.84	0.22	0.02	Open
P-33	81.98	0.23	0.02	Open
P-34	47.88	0.14	0.01	Open
P-35	286.70	1.83	1.81	Open
P-36	-1421.70	4.03	4.86	Open
P-37	-1066.68	3.03	2.86	Open
P-38	-29.13	0.08	0.00	Open
P-39	-35.89	0.10	0.01	Open
P-40	-48.71	0.14	0.01	Open
P-41	148.76	0.95	0.54	Open
P-42	146.04	0.93	0.52	Open
P-43	142.66	0.91	0.50	Open
P-44	140.62	0.90	0.48	Open
P-45	175.28	1.12	0.73	Open
P-46	165.84	1.06	0.66	Open
P-47	151.66	0.43	0.08	Open
P-48	-140.48	0.40	0.07	Open
P-49	-495.50	3.16	4.98	Open
P-50	-501.00	3.20	5.08	Open
P-51	-362.91	2.32	2.79	Open
P-52	-519.26	3.31	5.43	Open
P-53	-282.47	1.80	1.76	Open
P-54	47.10	0.30	0.06	Open



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
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Sereno Canyon Phase 4 Max Day fire flow J22

P-55	-3.38	0.02	0.00	Open
P-56	3.38	0.02	0.00	Open
P-57	302.25	1.93	1.99	Open
P-58	112.04	0.72	0.32	Open
P-59	-4.06	0.03	0.00	Open
P-60	2.02	0.01	0.00	Open
P-61	1584.01	4.49	5.94	Open
P-62	1281.76	3.64	4.01	Open
P-63	-201.53	0.57	0.13	Open
P-64	0.68	0.00	0.00	Open
P-65	-204.91	0.58	0.13	Open
P-66	-294.27	1.88	1.90	Open
P-67	-2.70	0.02	0.00	Open
P-68	-299.67	1.91	1.96	Open
P-69	160.25	1.02	0.62	Open
P-70	160.25	1.02	0.62	Open
P-71	-152.23	0.97	0.56	Open
P-72	333.41	2.13	2.39	Open
P-73	165.73	1.06	0.65	Open
P-74	10.12	0.06	0.00	Open
P-75	-2.02	0.01	0.00	Open
P-76	-38.04	0.24	0.04	Open
P-77	-88.00	0.25	0.03	Open
P-78	-88.68	0.25	0.03	Open
P-79	12.43	0.08	0.01	Open
P-80	29.85	0.19	0.03	Open
P-81	-306.29	1.96	2.04	Open
P-82	311.81	1.99	2.11	Open
P-83	1040.25	2.95	2.73	Open
P-84	236.79	1.51	1.27	Open
P-85	-8.10	0.05	0.00	Open
P-86	-1.36	0.01	0.00	Open
P-87	-2.02	0.01	0.00	Open
P-88	-0.68	0.00	0.00	Open
P-89	36.02	0.23	0.04	Open
P-90	-83.94	0.54	0.19	Open
P-91	45.90	0.29	0.06	Open
P-92	-60.88	0.39	0.10	Open
P-93	-99.02	0.63	0.25	Open
P-94	183.45	1.17	0.79	Open
P-95	-64.26	0.41	0.11	Open
P-96	-64.94	0.41	0.12	Open
P-97	115.42	0.74	0.34	Open
P-98	-290.12	1.85	1.85	Open
P-99	-11.48	0.03	0.00	Open
P-100	-2.02	0.01	0.00	Open
P-101	1917.42	1.36	0.29	Open

Sereno Canyon Phase 4 Max Day fire flow J22



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-21	-288.76	1.84	1.83	Open
PUMP1	0.00	0.00	0.00	Closed Pump
PUMP2	0.00	0.00	0.00	Closed Pump
PUMP3	0.00	0.00	0.00	Closed Pump
PUMP4	1917.43	0.00	-238.26	Open Pump
1	1917.42	5.44	0.00	Open Valve

Sereno Canyon Phase 4 Max Day fire flow J23

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12/2/2017 10:31:39 AM

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

Input File: Sereno Canyon Phase 4 Max Day fire flow J23.net

Sereno Canyon

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in
P-1	J-32	J-36	955.6	8
P-2	J-36	J-37	121.6	8
P-3	J-30	J-38	957.7	8
P-4	J-38	J-39	400	8
P-5	J-39	J-29	841.9	8
P-6	J-39	J-40	83.23	8
P-7	J-28	J-27	505.5	8
P-8	J-2	J-3	452.1	12
P-9	J-3	J-4	195.3	12
P-10	J-4	J-41	148.7	12
P-11	J-14	J-11	890.1	8
P-12	J-12	J-11	340.4	12
P-13	J-11	J-9	458.8	12
P-14	J-3	J-19	223.6	8
P-15	J-20	J-21	310.5	8
P-16	J-21	J-22	93.71	8
P-17	J-22	J-24	192.7	8
P-18	J-24	J-20	511.2	8
P-19	J-20	J-19	293.1	8
P-20	J-5	J-17	587.4	8
P-22	J-18	J-4	378.4	8
P-23	J-7	J-13	601.7	8
P-24	J-8	J-14	610.4	8
P-25	J-14	J-15	540.4	8
P-26	J-15	J-16	224.8	8
P-27	J-22	J-23	128.3	8
P-28	J-21	J-41	699	8
P-29	J-41	J-5	172.5	12
P-30	J-5	J-6	197.8	12
P-31	J-6	J-7	466.8	12
P-32	J-7	J-8	339.3	12

Sereno Canyon Phase 4 Max Day fire flow J23

P-33	J-8	J-9	384	12
P-34	J-9	J-10	522	12
P-35	J-26	J-2	531.2	8
P-36	J-2	J-1	557.4	12
P-37	J-1	J-102	754.8	12
P-38	J-102	J-105	819.5	12



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in
P-39	J-105	J-107	511.2	12
P-40	J-107	J-111	1032	12
P-41	J-111	J-112	449.2	8
P-42	J-112	J-114	204.1	8
P-43	J-114	J-115	198.3	8
P-44	J-115	J-118	154.9	8
P-45	J-118	J-300	1588	8
P-46	J-300	J-302	757	8
P-47	J-302	J-304	469.1	12
P-48	J-304	J-1	500.9	12
P-49	J-1	J-27	271.1	8
P-50	J-27	J-29	112.3	8
P-51	J-29	J-30	411.1	8
P-52	J-30	J-42	43.31	8
P-53	J-42	J-31	191.5	8
P-54	J-35	J-36	438.3	8
P-55	J-106	J-105	800.8	8
P-56	J-33	J-123	375.5	8
P-57	J-100	J-103	951.8	8
P-58	J-104	J-35	775.1	8
P-59	J-110	J-108	595.1	8
P-60	J-108	J-109	353.1	8
P-61	S145	J-100	74.44	12
P-62	J-100	J-101	464.5	12
P-63	J-111	J-207	1424	12
P-64	J-207	J-208	997.1	8
P-65	J-207	J-206	1045	12
P-66	J-206	J-204	317.1	8
P-67	J-205	J-204	465.7	8
P-68	J-204	J-203	643.7	8
P-69	J-200	J-211	2106	8
P-70	J-211	J-203	536.3	8
P-71	J-203	J-201	2125	8
P-72	S145	J-200	327.3	8

Sereno Canyon Phase 4 Max Day fire flow J23

P-73	J-200	J-201	667.2	8
P-74	J-201	J-202	1059	8
P-75	J-120	J-119	186.5	8
P-76	J-119	J-121	389	8
P-77	J-210	J-209	1327	12
P-78	J-209	J-206	257.6	12
P-79	J-13	J-8	394	8
P-80	J-6	J-15	462	8
P-81	J-24	J-25	535	8
P-82	J-19	J-25	884	8
P-83	J-101	J-102	845.5	12
P-84	J-101	J-42	913.6	8
P-85	J-108	J-107	309.2	8



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in	
P-86	J-113	J-112	191.9	8	
P-87	J-117	J-114	573.8	8	
P-88	J-116	J-115	172.9	8	
P-89	J-119	J-118	421	8	
P-90	J-121	J-210	4137	8	
P-91	J-121	J-122	131.6	8	
P-92	J-32	J-33	221	8	
P-93	J-31	J-32	387	8	
P-94	J-103	J-31	1000	8	
P-95	J-33	J-34	245	8	
P-96	J-34	J-35	223.9	8	
P-97	J-103	J-104	1106	8	
P-98	J-305	J-304	506.9	8	
P-99	J-303	J-302	412.7	12	
P-100	J-301	J-300	178.5	8	
P-101	R-1	J-400	10	24	
P-21	J-26	J-305	427	8	
PUMP1	J-400	J-401	#N/A	#N/A	Pump
PUMP2	J-400	J-401	#N/A	#N/A	Pump
PUMP3	J-400	J-401	#N/A	#N/A	Pump
PUMP4	J-400	J-401	#N/A	#N/A	Pump
1	J-401	S145	#N/A	12	Valve

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
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Sereno Canyon Phase 4 Max Day fire flow J23

PUMP1	0.00	0.00	0.00	0.00	0.00	0.00
PUMP2	0.00	0.00	0.00	0.00	0.00	0.00
PUMP3	0.00	0.00	0.00	0.00	0.00	0.00
PUMP4	100.00	75.00	1000.62	114.75	114.75	0.00

Demand Charge: 0.00
Total Cost: 0.00

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-23	1500.00	2930.75	43.22	0.00
J-32	3.44	2952.86	70.13	0.00
J-36	3.80	2952.91	54.56	0.00
J-37	1.72	2952.91	51.09	0.00
J-30	4.48	2952.20	78.73	0.00
J-38	5.52	2951.67	61.82	0.00
J-39	3.44	2951.46	68.23	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-29	2.76	2951.06	73.90	0.00
J-40	2.06	2951.46	68.01	0.00
J-28	3.44	2950.49	82.11	0.00
J-27	2.06	2950.49	70.41	0.00
J-2	1.38	2946.46	72.56	0.00
J-3	0.00	2943.39	64.47	0.00
J-4	1.38	2943.08	65.24	0.00
J-41	5.52	2942.84	66.14	0.00
J-14	6.90	2942.79	69.24	0.00
J-11	4.14	2942.78	76.17	0.00
J-12	49.90	2942.78	70.10	0.00
J-9	0.00	2942.78	84.83	0.00
J-6	2.07	2942.82	67.08	0.00
J-19	3.44	2939.92	57.59	0.00
J-24	3.44	2936.98	56.32	0.00
J-20	31.00	2937.82	48.67	0.00
J-21	12.40	2937.21	48.41	0.00
J-22	3.10	2935.72	47.54	0.00
J-5	2.76	2942.83	66.65	0.00

Sereno Canyon Phase 4 Max Day fire flow J23

J-17	3.10	2942.83	79.65	0.00
J-18	1.38	2943.08	73.69	0.00
J-7	4.14	2942.80	76.61	0.00
J-13	3.45	2942.80	87.00	0.00
J-8	3.80	2942.79	80.94	0.00
J-15	3.44	2942.80	58.63	0.00
J-16	2.06	2942.80	54.08	0.00
J-303	11.48	2949.15	90.63	0.00
J-301	2.02	2949.64	95.60	0.00
J-10	47.88	2942.78	91.76	0.00
J-26	2.06	2947.41	78.60	0.00
J-1	0.00	2949.15	74.59	0.00
J-102	2.70	2951.29	80.72	0.00
J-105	3.38	2951.29	88.52	0.00
J-107	4.72	2951.30	93.29	0.00
J-111	4.06	2951.31	96.33	0.00
J-112	1.36	2951.07	104.89	0.00
J-114	1.36	2950.96	106.14	0.00
J-115	1.36	2950.86	107.40	0.00
J-118	1.36	2950.79	107.80	0.00
J-300	7.42	2949.64	96.47	0.00
J-302	2.70	2949.15	88.46	0.00
J-304	2.02	2949.12	81.51	0.00
J-42	0.00	2952.43	79.48	0.00
J-31	0.00	2952.77	76.59	0.00
J-35	0.00	2952.94	57.17	0.00
J-101	4.72	2953.58	95.36	0.00



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Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-106	3.38	2951.29	96.32	0.00
J-33	0.00	2952.88	64.94	0.00
J-123	3.38	2952.88	73.18	0.00
J-100	0.00	2955.44	102.45	0.00
J-103	3.38	2953.55	89.50	0.00
J-104	3.38	2953.18	65.51	0.00
J-117	2.02	2950.96	103.11	0.00
J-110	4.06	2951.29	88.52	0.00
J-108	2.02	2951.30	88.09	0.00
J-109	2.02	2951.30	87.22	0.00
J-305	1.36	2948.19	81.97	0.00
S145	0.00	2955.87	104.37	0.00
J-207	2.70	2951.49	93.81	0.00

Sereno Canyon Phase 4 Max Day fire flow J23

J-208	0.68	2951.49	96.41	0.00
J-206	0.68	2951.63	115.53	0.00
J-204	2.70	2952.23	108.86	0.00
J-205	2.70	2952.23	100.62	0.00
J-203	12.82	2953.48	101.60	0.00
J-200	7.42	2955.10	106.63	0.00
J-211	0.00	2953.81	98.28	0.00
J-201	3.38	2954.66	116.84	0.00
J-202	10.12	2954.66	98.21	0.00
J-119	0.00	2950.80	111.71	0.00
J-120	2.02	2950.80	116.04	0.00
J-121	0.00	2950.82	116.05	0.00
J-122	45.90	2950.81	118.64	0.00
J-210	4.06	2951.59	117.24	0.00
J-209	0.68	2951.62	115.09	0.00
J-113	1.36	2951.07	104.02	0.00
J-116	0.68	2950.86	106.97	0.00
J-25	5.52	2938.06	44.44	0.00
J-34	0.68	2952.91	62.79	0.00
J-400	0.00	2717.00	0.00	0.00
R-1	-1911.22	2717.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-1	-41.43	0.26	0.05	Open
P-2	1.72	0.01	0.00	Open
P-3	151.37	0.97	0.55	Open
P-4	145.85	0.93	0.52	Open
P-5	140.35	0.90	0.48	Open
P-6	2.06	0.01	0.00	Open



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Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-7	-3.44	0.02	0.00	Open
P-8	1700.82	4.82	6.78	Open
P-9	784.20	2.22	1.62	Open
P-10	781.44	2.22	1.61	Open
P-11	19.94	0.13	0.01	Open
P-12	-49.90	0.14	0.01	Open
P-13	-34.10	0.10	0.00	Open

Sereno Canyon Phase 4 Max Day fire flow J23

P-14	916.62	5.85	15.55	Open
P-15	299.10	1.91	1.95	Open
P-16	928.98	5.93	15.94	Open
P-17	-574.12	3.66	6.54	Open
P-18	-272.50	1.74	1.64	Open
P-19	-602.60	3.85	7.15	Open
P-20	3.10	0.02	0.00	Open
P-22	-1.38	0.01	0.00	Open
P-23	15.88	0.10	0.01	Open
P-24	2.48	0.02	0.00	Open
P-25	-24.35	0.16	0.02	Open
P-26	2.06	0.01	0.00	Open
P-27	1500.00	9.57	38.70	Open
P-28	-642.28	4.10	8.05	Open
P-29	133.64	0.38	0.06	Open
P-30	127.78	0.36	0.06	Open
P-31	95.86	0.27	0.03	Open
P-32	75.84	0.22	0.02	Open
P-33	81.98	0.23	0.02	Open
P-34	47.88	0.14	0.01	Open
P-35	285.65	1.82	1.79	Open
P-36	-1416.55	4.02	4.83	Open
P-37	-1062.89	3.02	2.84	Open
P-38	-28.78	0.08	0.00	Open
P-39	-35.54	0.10	0.01	Open
P-40	-48.36	0.14	0.01	Open
P-41	148.35	0.95	0.53	Open
P-42	145.63	0.93	0.52	Open
P-43	142.25	0.91	0.49	Open
P-44	140.21	0.89	0.48	Open
P-45	174.62	1.11	0.72	Open
P-46	165.18	1.05	0.65	Open
P-47	151.00	0.43	0.08	Open
P-48	-140.09	0.40	0.07	Open
P-49	-493.75	3.15	4.94	Open
P-50	-499.25	3.19	5.05	Open
P-51	-361.66	2.31	2.78	Open
P-52	-517.51	3.30	5.39	Open
P-53	-281.49	1.80	1.75	Open
P-54	46.95	0.30	0.06	Open



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
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Sereno Canyon Phase 4 Max Day fire flow J23

P-55	-3.38	0.02	0.00	Open
P-56	3.38	0.02	0.00	Open
P-57	301.27	1.92	1.98	Open
P-58	111.67	0.71	0.32	Open
P-59	-4.06	0.03	0.00	Open
P-60	2.02	0.01	0.00	Open
P-61	1578.82	4.48	5.90	Open
P-62	1277.55	3.62	3.99	Open
P-63	-200.77	0.57	0.13	Open
P-64	0.68	0.00	0.00	Open
P-65	-204.15	0.58	0.13	Open
P-66	-293.26	1.87	1.88	Open
P-67	-2.70	0.02	0.00	Open
P-68	-298.66	1.91	1.95	Open
P-69	159.74	1.02	0.61	Open
P-70	159.74	1.02	0.61	Open
P-71	-151.74	0.97	0.56	Open
P-72	332.40	2.12	2.38	Open
P-73	165.24	1.05	0.65	Open
P-74	10.12	0.06	0.00	Open
P-75	-2.02	0.01	0.00	Open
P-76	-37.79	0.24	0.04	Open
P-77	-87.75	0.25	0.03	Open
P-78	-88.43	0.25	0.03	Open
P-79	12.43	0.08	0.01	Open
P-80	29.85	0.19	0.03	Open
P-81	-305.06	1.95	2.03	Open
P-82	310.58	1.98	2.10	Open
P-83	1036.81	2.94	2.71	Open
P-84	236.02	1.51	1.26	Open
P-85	-8.10	0.05	0.00	Open
P-86	-1.36	0.01	0.00	Open
P-87	-2.02	0.01	0.00	Open
P-88	-0.68	0.00	0.00	Open
P-89	35.77	0.23	0.04	Open
P-90	-83.69	0.53	0.18	Open
P-91	45.90	0.29	0.06	Open
P-92	-60.66	0.39	0.10	Open
P-93	-98.65	0.63	0.25	Open
P-94	182.84	1.17	0.79	Open
P-95	-64.04	0.41	0.11	Open
P-96	-64.72	0.41	0.11	Open
P-97	115.05	0.73	0.33	Open
P-98	-289.07	1.85	1.83	Open
P-99	-11.48	0.03	0.00	Open
P-100	-2.02	0.01	0.00	Open
P-101	1911.22	1.36	0.29	Open

Sereno Canyon Phase 4 Max Day fire flow J23



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-21	-287.71	1.84	1.82	Open
PUMP1	0.00	0.00	0.00	Closed Pump
PUMP2	0.00	0.00	0.00	Closed Pump
PUMP3	0.00	0.00	0.00	Closed Pump
PUMP4	1911.23	0.00	-238.88	Open Pump
1	1911.22	5.42	0.00	Open Valve

Sereno Canyon Phase 4 Max Day fire flow J24

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

Input File: Sereno Canyon Phase 4 Max Day fire flow J24.net

Sereno Canyon

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in
P-1	J-32	J-36	955.6	8
P-2	J-36	J-37	121.6	8
P-3	J-30	J-38	957.7	8
P-4	J-38	J-39	400	8
P-5	J-39	J-29	841.9	8
P-6	J-39	J-40	83.23	8
P-7	J-28	J-27	505.5	8
P-8	J-2	J-3	452.1	12
P-9	J-3	J-4	195.3	12
P-10	J-4	J-41	148.7	12
P-11	J-14	J-11	890.1	8
P-12	J-12	J-11	340.4	12
P-13	J-11	J-9	458.8	12
P-14	J-3	J-19	223.6	12
P-15	J-20	J-21	310.5	8
P-16	J-21	J-22	93.71	8
P-17	J-22	J-24	192.7	8
P-18	J-24	J-20	511.2	8
P-19	J-20	J-19	293.1	12
P-20	J-5	J-17	587.4	8
P-22	J-18	J-4	378.4	8
P-23	J-7	J-13	601.7	8
P-24	J-8	J-14	610.4	8
P-25	J-14	J-15	540.4	8
P-26	J-15	J-16	224.8	8
P-27	J-22	J-23	128.3	8
P-28	J-21	J-41	699	8
P-29	J-41	J-5	172.5	12
P-30	J-5	J-6	197.8	12
P-31	J-6	J-7	466.8	12
P-32	J-7	J-8	339.3	12

Sereno Canyon Phase 4 Max Day fire flow J24

P-33	J-8	J-9	384	12
P-34	J-9	J-10	522	12
P-35	J-26	J-2	531.2	8
P-36	J-2	J-1	557.4	12
P-37	J-1	J-102	754.8	12
P-38	J-102	J-105	819.5	12



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in
P-39	J-105	J-107	511.2	12
P-40	J-107	J-111	1032	12
P-41	J-111	J-112	449.2	8
P-42	J-112	J-114	204.1	8
P-43	J-114	J-115	198.3	8
P-44	J-115	J-118	154.9	8
P-45	J-118	J-300	1588	8
P-46	J-300	J-302	757	8
P-47	J-302	J-304	469.1	12
P-48	J-304	J-1	500.9	12
P-49	J-1	J-27	271.1	8
P-50	J-27	J-29	112.3	8
P-51	J-29	J-30	411.1	8
P-52	J-30	J-42	43.31	8
P-53	J-42	J-31	191.5	8
P-54	J-35	J-36	438.3	8
P-55	J-106	J-105	800.8	8
P-56	J-33	J-123	375.5	8
P-57	J-100	J-103	951.8	8
P-58	J-104	J-35	775.1	8
P-59	J-110	J-108	595.1	8
P-60	J-108	J-109	353.1	8
P-61	S145	J-100	74.44	12
P-62	J-100	J-101	464.5	12
P-63	J-111	J-207	1424	12
P-64	J-207	J-208	997.1	8
P-65	J-207	J-206	1045	12
P-66	J-206	J-204	317.1	8
P-67	J-205	J-204	465.7	8
P-68	J-204	J-203	643.7	8
P-69	J-200	J-211	2106	8
P-70	J-211	J-203	536.3	8
P-71	J-203	J-201	2125	8
P-72	S145	J-200	327.3	8

Sereno Canyon Phase 4 Max Day fire flow J24

P-73	J-200	J-201	667.2	8
P-74	J-201	J-202	1059	8
P-75	J-120	J-119	186.5	8
P-76	J-119	J-121	389	8
P-77	J-210	J-209	1327	12
P-78	J-209	J-206	257.6	12
P-79	J-13	J-8	394	8
P-80	J-6	J-15	462	8
P-81	J-24	J-25	535	8
P-82	J-19	J-25	884	8
P-83	J-101	J-102	845.5	12
P-84	J-101	J-42	913.6	8
P-85	J-108	J-107	309.2	8



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in	
P-86	J-113	J-112	191.9	8	
P-87	J-117	J-114	573.8	8	
P-88	J-116	J-115	172.9	8	
P-89	J-119	J-118	421	8	
P-90	J-121	J-210	4137	8	
P-91	J-121	J-122	131.6	8	
P-92	J-32	J-33	221	8	
P-93	J-31	J-32	387	8	
P-94	J-103	J-31	1000	8	
P-95	J-33	J-34	245	8	
P-96	J-34	J-35	223.9	8	
P-97	J-103	J-104	1106	8	
P-98	J-305	J-304	506.9	8	
P-99	J-303	J-302	412.7	12	
P-100	J-301	J-300	178.5	8	
P-101	R-1	J-400	10	24	
P-21	J-26	J-305	427	8	
PUMP1	J-400	J-401	#N/A	#N/A	Pump
PUMP2	J-400	J-401	#N/A	#N/A	Pump
PUMP3	J-400	J-401	#N/A	#N/A	Pump
PUMP4	J-400	J-401	#N/A	#N/A	Pump
1	J-401	S145	#N/A	12	Valve

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
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Sereno Canyon Phase 4 Max Day fire flow J24

PUMP1	0.00	0.00	0.00	0.00	0.00	0.00
PUMP2	0.00	0.00	0.00	0.00	0.00	0.00
PUMP3	0.00	0.00	0.00	0.00	0.00	0.00
PUMP4	100.00	75.00	998.17	114.81	114.81	0.00

Demand Charge: 0.00
Total Cost: 0.00

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-24	1500.00	2938.43	56.95	0.00
J-32	3.44	2952.26	69.87	0.00
J-36	3.80	2952.31	54.30	0.00
J-37	1.72	2952.31	50.83	0.00
J-30	4.48	2951.59	78.47	0.00
J-38	5.52	2951.06	61.55	0.00
J-39	3.44	2950.85	67.96	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-29	2.76	2950.44	73.64	0.00
J-40	2.06	2950.85	67.75	0.00
J-28	3.44	2949.87	81.84	0.00
J-27	2.06	2949.87	70.14	0.00
J-2	1.38	2945.81	72.28	0.00
J-3	0.00	2942.73	64.18	0.00
J-4	1.38	2942.60	65.04	0.00
J-41	5.52	2942.50	65.99	0.00
J-14	6.90	2942.45	69.09	0.00
J-11	4.14	2942.44	76.02	0.00
J-12	49.90	2942.44	69.95	0.00
J-9	0.00	2942.44	84.69	0.00
J-6	2.07	2942.48	66.93	0.00
J-19	3.44	2941.91	58.46	0.00
J-20	31.00	2941.34	50.19	0.00
J-21	12.40	2940.69	49.91	0.00
J-22	3.10	2939.93	49.37	0.00
J-5	2.76	2942.49	66.51	0.00
J-17	3.10	2942.49	79.51	0.00

Sereno Canyon Phase 4 Max Day fire flow J24

J-18	1.38	2942.60	73.49	0.00
J-7	4.14	2942.46	76.46	0.00
J-13	3.45	2942.46	86.86	0.00
J-8	3.80	2942.45	80.79	0.00
J-15	3.44	2942.46	58.48	0.00
J-16	2.06	2942.46	53.93	0.00
J-23	9.30	2939.93	47.20	0.00
J-303	11.48	2948.53	90.35	0.00
J-301	2.02	2949.02	95.34	0.00
J-10	47.88	2942.44	91.62	0.00
J-26	2.06	2946.77	78.33	0.00
J-1	0.00	2948.52	74.32	0.00
J-102	2.70	2950.68	80.45	0.00
J-105	3.38	2950.68	88.26	0.00
J-107	4.72	2950.68	93.02	0.00
J-111	4.06	2950.69	96.06	0.00
J-112	1.36	2950.45	104.62	0.00
J-114	1.36	2950.35	105.88	0.00
J-115	1.36	2950.25	107.13	0.00
J-118	1.36	2950.17	107.53	0.00
J-300	7.42	2949.02	96.20	0.00
J-302	2.70	2948.53	88.19	0.00
J-304	2.02	2948.49	81.24	0.00
J-42	0.00	2951.82	79.22	0.00
J-31	0.00	2952.16	76.33	0.00
J-35	0.00	2952.34	56.91	0.00
J-101	4.72	2952.98	95.10	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-106	3.38	2950.68	96.05	0.00
J-33	0.00	2952.28	64.68	0.00
J-123	3.38	2952.28	72.92	0.00
J-100	0.00	2954.85	102.19	0.00
J-103	3.38	2952.95	89.24	0.00
J-104	3.38	2952.58	65.25	0.00
J-117	2.02	2950.35	102.84	0.00
J-110	4.06	2950.68	88.26	0.00
J-108	2.02	2950.68	87.82	0.00
J-109	2.02	2950.68	86.96	0.00
J-305	1.36	2947.55	81.70	0.00
S145	0.00	2955.29	104.12	0.00
J-207	2.70	2950.88	93.54	0.00

Sereno Canyon Phase 4 Max Day fire flow J24

J-208	0.68	2950.88	96.14	0.00
J-206	0.68	2951.02	115.27	0.00
J-204	2.70	2951.62	108.59	0.00
J-205	2.70	2951.62	100.36	0.00
J-203	12.82	2952.88	101.34	0.00
J-200	7.42	2954.51	106.38	0.00
J-211	0.00	2953.21	98.02	0.00
J-201	3.38	2954.07	116.59	0.00
J-202	10.12	2954.07	97.95	0.00
J-119	0.00	2950.19	111.44	0.00
J-120	2.02	2950.19	115.77	0.00
J-121	0.00	2950.21	115.78	0.00
J-122	45.90	2950.20	118.38	0.00
J-210	4.06	2950.98	116.98	0.00
J-209	0.68	2951.01	114.83	0.00
J-113	1.36	2950.45	103.75	0.00
J-116	0.68	2950.25	106.70	0.00
J-25	5.52	2939.72	45.16	0.00
J-34	0.68	2952.31	62.53	0.00
J-400	0.00	2717.00	0.00	0.00
R-1	-1917.08	2717.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-1	-41.57	0.27	0.05	Open
P-2	1.72	0.01	0.00	Open
P-3	151.85	0.97	0.56	Open
P-4	146.33	0.93	0.52	Open
P-5	140.83	0.90	0.48	Open
P-6	2.06	0.01	0.00	Open



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Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-7	-3.44	0.02	0.00	Open
P-8	1706.68	4.84	6.82	Open
P-9	489.76	1.39	0.68	Open
P-10	487.00	1.38	0.67	Open
P-11	19.94	0.13	0.01	Open
P-12	-49.90	0.14	0.01	Open
P-13	-34.10	0.10	0.00	Open

Sereno Canyon Phase 4 Max Day fire flow J24

P-14	1216.92	3.45	3.65	Open
P-15	309.13	1.97	2.08	Open
P-16	644.57	4.11	8.10	Open
P-17	632.17	4.03	7.81	Open
P-18	-532.76	3.40	5.69	Open
P-19	-872.89	2.48	1.97	Open
P-20	3.10	0.02	0.00	Open
P-22	-1.38	0.01	0.00	Open
P-23	15.88	0.10	0.01	Open
P-24	2.48	0.02	0.00	Open
P-25	-24.35	0.16	0.02	Open
P-26	2.06	0.01	0.00	Open
P-27	9.30	0.06	0.00	Open
P-28	-347.84	2.22	2.58	Open
P-29	133.64	0.38	0.06	Open
P-30	127.78	0.36	0.06	Open
P-31	95.86	0.27	0.03	Open
P-32	75.84	0.22	0.02	Open
P-33	81.98	0.23	0.02	Open
P-34	47.88	0.14	0.01	Open
P-35	286.64	1.83	1.81	Open
P-36	-1421.42	4.03	4.86	Open
P-37	-1066.47	3.03	2.86	Open
P-38	-29.11	0.08	0.00	Open
P-39	-35.87	0.10	0.01	Open
P-40	-48.69	0.14	0.01	Open
P-41	148.73	0.95	0.54	Open
P-42	146.01	0.93	0.52	Open
P-43	142.63	0.91	0.50	Open
P-44	140.59	0.90	0.48	Open
P-45	175.24	1.12	0.73	Open
P-46	165.80	1.06	0.66	Open
P-47	151.62	0.43	0.08	Open
P-48	-140.46	0.40	0.07	Open
P-49	-495.41	3.16	4.97	Open
P-50	-500.91	3.20	5.08	Open
P-51	-362.84	2.32	2.79	Open
P-52	-519.17	3.31	5.42	Open
P-53	-282.42	1.80	1.76	Open
P-54	47.09	0.30	0.06	Open



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
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Sereno Canyon Phase 4 Max Day fire flow J24

P-55	-3.38	0.02	0.00	Open
P-56	3.38	0.02	0.00	Open
P-57	302.20	1.93	1.99	Open
P-58	112.02	0.72	0.32	Open
P-59	-4.06	0.03	0.00	Open
P-60	2.02	0.01	0.00	Open
P-61	1583.73	4.49	5.94	Open
P-62	1281.53	3.64	4.01	Open
P-63	-201.49	0.57	0.13	Open
P-64	0.68	0.00	0.00	Open
P-65	-204.87	0.58	0.13	Open
P-66	-294.21	1.88	1.89	Open
P-67	-2.70	0.02	0.00	Open
P-68	-299.61	1.91	1.96	Open
P-69	160.23	1.02	0.61	Open
P-70	160.23	1.02	0.61	Open
P-71	-152.21	0.97	0.56	Open
P-72	333.35	2.13	2.39	Open
P-73	165.71	1.06	0.65	Open
P-74	10.12	0.06	0.00	Open
P-75	-2.02	0.01	0.00	Open
P-76	-38.03	0.24	0.04	Open
P-77	-87.99	0.25	0.03	Open
P-78	-88.67	0.25	0.03	Open
P-79	12.43	0.08	0.01	Open
P-80	29.85	0.19	0.03	Open
P-81	-335.07	2.14	2.41	Open
P-82	340.59	2.17	2.49	Open
P-83	1040.06	2.95	2.73	Open
P-84	236.75	1.51	1.27	Open
P-85	-8.10	0.05	0.00	Open
P-86	-1.36	0.01	0.00	Open
P-87	-2.02	0.01	0.00	Open
P-88	-0.68	0.00	0.00	Open
P-89	36.01	0.23	0.04	Open
P-90	-83.93	0.54	0.19	Open
P-91	45.90	0.29	0.06	Open
P-92	-60.87	0.39	0.10	Open
P-93	-99.00	0.63	0.25	Open
P-94	183.41	1.17	0.79	Open
P-95	-64.25	0.41	0.11	Open
P-96	-64.93	0.41	0.12	Open
P-97	115.40	0.74	0.33	Open
P-98	-290.06	1.85	1.85	Open
P-99	-11.48	0.03	0.00	Open
P-100	-2.02	0.01	0.00	Open
P-101	1917.08	1.36	0.29	Open

Sereno Canyon Phase 4 Max Day fire flow J24



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-21	-288.70	1.84	1.83	Open
PUMP1	0.00	0.00	0.00	Closed Pump
PUMP2	0.00	0.00	0.00	Closed Pump
PUMP3	0.00	0.00	0.00	Closed Pump
PUMP4	1917.08	0.00	-238.29	Open Pump
1	1917.08	5.44	0.00	Open Valve

Sereno Canyon Phase 4 Max Day fire flow J25

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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: Sereno Canyon Phase 4 Max Day fire flow J25.net

Sereno Canyon

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in
P-1	J-32	J-36	955.6	8
P-2	J-36	J-37	121.6	8
P-3	J-30	J-38	957.7	8
P-4	J-38	J-39	400	8
P-5	J-39	J-29	841.9	8
P-6	J-39	J-40	83.23	8
P-7	J-28	J-27	505.5	8
P-8	J-2	J-3	452.1	12
P-9	J-3	J-4	195.3	12
P-10	J-4	J-41	148.7	12
P-11	J-14	J-11	890.1	8
P-12	J-12	J-11	340.4	12
P-13	J-11	J-9	458.8	12
P-14	J-3	J-19	223.6	8
P-15	J-20	J-21	310.5	8
P-16	J-21	J-22	93.71	8
P-17	J-22	J-24	192.7	8
P-18	J-24	J-20	511.2	8
P-19	J-20	J-19	293.1	8
P-20	J-5	J-17	587.4	8
P-22	J-18	J-4	378.4	8
P-23	J-7	J-13	601.7	8
P-24	J-8	J-14	610.4	8
P-25	J-14	J-15	540.4	8
P-26	J-15	J-16	224.8	8
P-27	J-22	J-23	128.3	8
P-28	J-21	J-41	699	8
P-29	J-41	J-5	172.5	12
P-30	J-5	J-6	197.8	12
P-31	J-6	J-7	466.8	12
P-32	J-7	J-8	339.3	12

Sereno Canyon Phase 4 Max Day fire flow J25

P-33	J-8	J-9	384	12
P-34	J-9	J-10	522	12
P-35	J-26	J-2	531.2	8
P-36	J-2	J-1	557.4	12
P-37	J-1	J-102	754.8	12
P-38	J-102	J-105	819.5	12



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in
P-39	J-105	J-107	511.2	12
P-40	J-107	J-111	1032	12
P-41	J-111	J-112	449.2	8
P-42	J-112	J-114	204.1	8
P-43	J-114	J-115	198.3	8
P-44	J-115	J-118	154.9	8
P-45	J-118	J-300	1588	8
P-46	J-300	J-302	757	8
P-47	J-302	J-304	469.1	12
P-48	J-304	J-1	500.9	12
P-49	J-1	J-27	271.1	8
P-50	J-27	J-29	112.3	8
P-51	J-29	J-30	411.1	8
P-52	J-30	J-42	43.31	8
P-53	J-42	J-31	191.5	8
P-54	J-35	J-36	438.3	8
P-55	J-106	J-105	800.8	8
P-56	J-33	J-123	375.5	8
P-57	J-100	J-103	951.8	8
P-58	J-104	J-35	775.1	8
P-59	J-110	J-108	595.1	8
P-60	J-108	J-109	353.1	8
P-61	S145	J-100	74.44	12
P-62	J-100	J-101	464.5	12
P-63	J-111	J-207	1424	12
P-64	J-207	J-208	997.1	8
P-65	J-207	J-206	1045	12
P-66	J-206	J-204	317.1	8
P-67	J-205	J-204	465.7	8
P-68	J-204	J-203	643.7	8
P-69	J-200	J-211	2106	8
P-70	J-211	J-203	536.3	8
P-71	J-203	J-201	2125	8
P-72	S145	J-200	327.3	8

Sereno Canyon Phase 4 Max Day fire flow J25

P-73	J-200	J-201	667.2	8
P-74	J-201	J-202	1059	8
P-75	J-120	J-119	186.5	8
P-76	J-119	J-121	389	8
P-77	J-210	J-209	1327	12
P-78	J-209	J-206	257.6	12
P-79	J-13	J-8	394	8
P-80	J-6	J-15	462	8
P-81	J-24	J-25	535	8
P-82	J-19	J-25	884	8
P-83	J-101	J-102	845.5	12
P-84	J-101	J-42	913.6	8
P-85	J-108	J-107	309.2	8



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in	
P-86	J-113	J-112	191.9	8	
P-87	J-117	J-114	573.8	8	
P-88	J-116	J-115	172.9	8	
P-89	J-119	J-118	421	8	
P-90	J-121	J-210	4137	8	
P-91	J-121	J-122	131.6	8	
P-92	J-32	J-33	221	8	
P-93	J-31	J-32	387	8	
P-94	J-103	J-31	1000	8	
P-95	J-33	J-34	245	8	
P-96	J-34	J-35	223.9	8	
P-97	J-103	J-104	1106	8	
P-98	J-305	J-304	506.9	8	
P-99	J-303	J-302	412.7	12	
P-100	J-301	J-300	178.5	8	
P-101	R-1	J-400	10	24	
P-21	J-26	J-305	427	8	
PUMP1	J-400	J-401	#N/A	#N/A	Pump
PUMP2	J-400	J-401	#N/A	#N/A	Pump
PUMP3	J-400	J-401	#N/A	#N/A	Pump
PUMP4	J-400	J-401	#N/A	#N/A	Pump
1	J-401	S145	#N/A	12	Valve

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
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Sereno Canyon Phase 4 Max Day fire flow J25

PUMP1	0.00	0.00	0.00	0.00	0.00	0.00
PUMP2	0.00	0.00	0.00	0.00	0.00	0.00
PUMP3	0.00	0.00	0.00	0.00	0.00	0.00
PUMP4	100.00	75.00	1188.24	101.08	101.08	0.00

Demand Charge: 0.00
Total Cost: 0.00

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-25	1000.00	2987.85	66.01	0.00
J-32	3.44	2998.94	90.10	0.00
J-36	3.80	2998.96	74.51	0.00
J-37	1.72	2998.96	71.05	0.00
J-30	4.48	2998.57	98.82	0.00
J-38	5.52	2998.27	82.01	0.00
J-39	3.44	2998.16	88.46	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-29	2.76	2997.94	94.22	0.00
J-40	2.06	2998.16	88.25	0.00
J-28	3.44	2997.63	102.53	0.00
J-27	2.06	2997.63	90.83	0.00
J-2	1.38	2995.48	93.80	0.00
J-3	0.00	2993.85	86.34	0.00
J-4	1.38	2993.71	87.18	0.00
J-41	5.52	2993.60	88.13	0.00
J-14	6.90	2993.55	91.23	0.00
J-11	4.14	2993.54	98.16	0.00
J-12	49.90	2993.54	92.09	0.00
J-9	0.00	2993.54	106.83	0.00
J-6	2.07	2993.57	89.08	0.00
J-19	3.44	2991.81	80.08	0.00
J-24	6.20	2990.89	79.68	0.00
J-20	31.00	2991.49	71.92	0.00
J-21	12.40	2991.50	71.93	0.00
J-22	3.10	2991.29	71.62	0.00
J-5	2.76	2993.59	88.65	0.00

Sereno Canyon Phase 4 Max Day fire flow J25

J-17	3.10	2993.59	101.65	0.00
J-18	1.38	2993.71	95.63	0.00
J-7	4.14	2993.56	98.60	0.00
J-13	3.45	2993.55	109.00	0.00
J-8	3.80	2993.55	102.93	0.00
J-15	3.44	2993.56	80.62	0.00
J-16	2.06	2993.56	76.07	0.00
J-23	9.30	2991.29	69.45	0.00
J-303	11.48	2996.90	111.32	0.00
J-301	2.02	2997.15	116.19	0.00
J-10	47.88	2993.54	113.76	0.00
J-26	2.06	2995.98	99.65	0.00
J-1	0.00	2996.91	95.29	0.00
J-102	2.70	2998.06	100.99	0.00
J-105	3.38	2998.06	108.79	0.00
J-107	4.72	2998.06	113.55	0.00
J-111	4.06	2998.06	116.59	0.00
J-112	1.36	2997.91	125.19	0.00
J-114	1.36	2997.85	126.46	0.00
J-115	1.36	2997.78	127.73	0.00
J-118	1.36	2997.74	128.14	0.00
J-300	7.42	2997.15	117.05	0.00
J-302	2.70	2996.90	109.15	0.00
J-304	2.02	2996.89	102.21	0.00
J-42	0.00	2998.70	99.53	0.00
J-31	0.00	2998.89	96.58	0.00
J-35	0.00	2998.98	77.12	0.00
J-101	4.72	2999.36	115.20	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-106	3.38	2998.06	116.58	0.00
J-33	0.00	2998.95	84.90	0.00
J-123	3.38	2998.95	93.14	0.00
J-100	0.00	3000.42	121.94	0.00
J-103	3.38	2999.33	109.34	0.00
J-104	3.38	2999.12	85.41	0.00
J-117	2.02	2997.85	123.42	0.00
J-110	4.06	2998.06	108.78	0.00
J-108	2.02	2998.06	108.35	0.00
J-109	2.02	2998.06	107.49	0.00
J-305	1.36	2996.39	102.86	0.00
S145	0.00	3000.67	123.78	0.00

Sereno Canyon Phase 4 Max Day fire flow J25

J-207	2.70	2998.16	114.03	0.00
J-208	0.68	2998.16	116.63	0.00
J-206	0.68	2998.23	135.72	0.00
J-204	2.70	2998.56	128.93	0.00
J-205	2.70	2998.56	120.70	0.00
J-203	12.82	2999.26	121.44	0.00
J-200	7.42	3000.20	126.18	0.00
J-211	0.00	2999.45	118.05	0.00
J-201	3.38	2999.94	136.46	0.00
J-202	10.12	2999.94	117.83	0.00
J-119	0.00	2997.74	132.04	0.00
J-120	2.02	2997.74	136.38	0.00
J-121	0.00	2997.75	136.38	0.00
J-122	45.90	2997.74	138.98	0.00
J-210	4.06	2998.21	137.44	0.00
J-209	0.68	2998.23	135.29	0.00
J-113	1.36	2997.91	124.32	0.00
J-116	0.68	2997.78	127.30	0.00
J-34	0.68	2998.96	82.75	0.00
J-400	0.00	2717.00	0.00	0.00
R-1	-1417.76	2717.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-1	-29.49	0.19	0.03	Open
P-2	1.72	0.01	0.00	Open
P-3	111.23	0.71	0.31	Open
P-4	105.71	0.67	0.28	Open
P-5	100.21	0.64	0.26	Open
P-6	2.06	0.01	0.00	Open



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-7	-3.44	0.02	0.00	Open
P-8	1207.36	3.43	3.59	Open
P-9	518.54	1.47	0.75	Open
P-10	515.78	1.46	0.74	Open
P-11	19.96	0.13	0.01	Open
P-12	-49.90	0.14	0.01	Open
P-13	-34.08	0.10	0.01	Open

Sereno Canyon Phase 4 Max Day fire flow J25

P-14	688.82	4.40	9.16	Open
P-15	-40.87	0.26	0.05	Open
P-16	323.35	2.06	2.26	Open
P-17	310.95	1.98	2.10	Open
P-18	-227.34	1.45	1.18	Open
P-19	-217.47	1.39	1.08	Open
P-20	3.10	0.02	0.00	Open
P-22	-1.38	0.01	0.00	Open
P-23	15.88	0.10	0.01	Open
P-24	2.52	0.02	0.00	Open
P-25	-24.34	0.16	0.02	Open
P-26	2.06	0.01	0.00	Open
P-27	9.30	0.06	0.00	Open
P-28	-376.62	2.40	2.99	Open
P-29	133.64	0.38	0.06	Open
P-30	127.78	0.36	0.06	Open
P-31	95.87	0.27	0.03	Open
P-32	75.84	0.22	0.02	Open
P-33	81.96	0.23	0.02	Open
P-34	47.88	0.14	0.01	Open
P-35	202.20	1.29	0.95	Open
P-36	-1006.54	2.86	2.57	Open
P-37	-761.11	2.16	1.53	Open
P-38	-0.72	0.00	0.00	Open
P-39	-7.48	0.02	0.00	Open
P-40	-20.30	0.06	0.00	Open
P-41	116.18	0.74	0.34	Open
P-42	113.46	0.72	0.32	Open
P-43	110.08	0.70	0.31	Open
P-44	108.04	0.69	0.30	Open
P-45	122.30	0.78	0.37	Open
P-46	112.86	0.72	0.32	Open
P-47	98.68	0.28	0.03	Open
P-48	-108.96	0.31	0.04	Open
P-49	-354.39	2.26	2.67	Open
P-50	-359.89	2.30	2.75	Open
P-51	-262.44	1.68	1.53	Open
P-52	-378.15	2.41	3.02	Open
P-53	-203.72	1.30	0.96	Open
P-54	35.01	0.22	0.04	Open



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
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Sereno Canyon Phase 4 Max Day fire flow J25

P-55	-3.38	0.02	0.00	Open
P-56	3.38	0.02	0.00	Open
P-57	223.50	1.43	1.14	Open
P-58	82.31	0.53	0.18	Open
P-59	-4.06	0.03	0.00	Open
P-60	2.02	0.01	0.00	Open
P-61	1165.74	3.31	3.36	Open
P-62	942.25	2.67	2.27	Open
P-63	-140.54	0.40	0.07	Open
P-64	0.68	0.00	0.00	Open
P-65	-143.92	0.41	0.07	Open
P-66	-212.88	1.36	1.04	Open
P-67	-2.70	0.02	0.00	Open
P-68	-218.28	1.39	1.09	Open
P-69	118.97	0.76	0.35	Open
P-70	118.97	0.76	0.35	Open
P-71	-112.13	0.72	0.32	Open
P-72	252.02	1.61	1.42	Open
P-73	125.63	0.80	0.39	Open
P-74	10.12	0.06	0.00	Open
P-75	-2.02	0.01	0.00	Open
P-76	-17.64	0.11	0.01	Open
P-77	-67.60	0.19	0.02	Open
P-78	-68.28	0.19	0.02	Open
P-79	12.43	0.08	0.01	Open
P-80	29.84	0.19	0.03	Open
P-81	532.09	3.40	5.68	Open
P-82	467.91	2.99	4.47	Open
P-83	763.09	2.16	1.54	Open
P-84	174.43	1.11	0.72	Open
P-85	-8.10	0.05	0.00	Open
P-86	-1.36	0.01	0.00	Open
P-87	-2.02	0.01	0.00	Open
P-88	-0.68	0.00	0.00	Open
P-89	15.62	0.10	0.01	Open
P-90	-63.54	0.41	0.11	Open
P-91	45.90	0.29	0.06	Open
P-92	-43.24	0.28	0.05	Open
P-93	-69.29	0.44	0.13	Open
P-94	134.43	0.86	0.44	Open
P-95	-46.62	0.30	0.06	Open
P-96	-47.30	0.30	0.06	Open
P-97	85.69	0.55	0.19	Open
P-98	-205.62	1.31	0.98	Open
P-99	-11.48	0.03	0.00	Open
P-100	-2.02	0.01	0.00	Open
P-101	1417.76	1.01	0.17	Open

Sereno Canyon Phase 4 Max Day fire flow J25



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-21	-204.26	1.30	0.96	Open
PUMP1	0.00	0.00	0.00	Closed Pump
PUMP2	0.00	0.00	0.00	Closed Pump
PUMP3	0.00	0.00	0.00	Closed Pump
PUMP4	1417.76	0.00	-283.67	Open Pump
1	1417.76	4.02	0.00	Open Valve

Sereno Canyon Phase 4 Max Day fire flow J26

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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: Sereno Canyon Phase 4 Max Day fire flow J26.net

Sereno Canyon

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in
P-1	J-32	J-36	955.6	8
P-2	J-36	J-37	121.6	8
P-3	J-30	J-38	957.7	8
P-4	J-38	J-39	400	8
P-5	J-39	J-29	841.9	8
P-6	J-39	J-40	83.23	8
P-7	J-28	J-27	505.5	8
P-8	J-2	J-3	452.1	12
P-9	J-3	J-4	195.3	12
P-10	J-4	J-41	148.7	12
P-11	J-14	J-11	890.1	8
P-12	J-12	J-11	340.4	12
P-13	J-11	J-9	458.8	12
P-14	J-3	J-19	223.6	8
P-15	J-20	J-21	310.5	8
P-16	J-21	J-22	93.71	8
P-17	J-22	J-24	192.7	8
P-18	J-24	J-20	511.2	8
P-19	J-20	J-19	293.1	8
P-20	J-5	J-17	587.4	8
P-22	J-18	J-4	378.4	8
P-23	J-7	J-13	601.7	8
P-24	J-8	J-14	610.4	8
P-25	J-14	J-15	540.4	8
P-26	J-15	J-16	224.8	8
P-27	J-22	J-23	128.3	8
P-28	J-21	J-41	699	8
P-29	J-41	J-5	172.5	12
P-30	J-5	J-6	197.8	12
P-31	J-6	J-7	466.8	12
P-32	J-7	J-8	339.3	12

Sereno Canyon Phase 4 Max Day fire flow J26

P-33	J-8	J-9	384	12
P-34	J-9	J-10	522	12
P-35	J-26	J-2	531.2	8
P-36	J-2	J-1	557.4	12
P-37	J-1	J-102	754.8	12
P-38	J-102	J-105	819.5	12



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in
P-39	J-105	J-107	511.2	12
P-40	J-107	J-111	1032	12
P-41	J-111	J-112	449.2	8
P-42	J-112	J-114	204.1	8
P-43	J-114	J-115	198.3	8
P-44	J-115	J-118	154.9	8
P-45	J-118	J-300	1588	8
P-46	J-300	J-302	757	8
P-47	J-302	J-304	469.1	12
P-48	J-304	J-1	500.9	12
P-49	J-1	J-27	271.1	8
P-50	J-27	J-29	112.3	8
P-51	J-29	J-30	411.1	8
P-52	J-30	J-42	43.31	8
P-53	J-42	J-31	191.5	8
P-54	J-35	J-36	438.3	8
P-55	J-106	J-105	800.8	8
P-56	J-33	J-123	375.5	8
P-57	J-100	J-103	951.8	8
P-58	J-104	J-35	775.1	8
P-59	J-110	J-108	595.1	8
P-60	J-108	J-109	353.1	8
P-61	S145	J-100	74.44	12
P-62	J-100	J-101	464.5	12
P-63	J-111	J-207	1424	12
P-64	J-207	J-208	997.1	8
P-65	J-207	J-206	1045	12
P-66	J-206	J-204	317.1	8
P-67	J-205	J-204	465.7	8
P-68	J-204	J-203	643.7	8
P-69	J-200	J-211	2106	8
P-70	J-211	J-203	536.3	8
P-71	J-203	J-201	2125	8
P-72	S145	J-200	327.3	8

Sereno Canyon Phase 4 Max Day fire flow J26

P-73	J-200	J-201	667.2	8
P-74	J-201	J-202	1059	8
P-75	J-120	J-119	186.5	8
P-76	J-119	J-121	389	8
P-77	J-210	J-209	1327	12
P-78	J-209	J-206	257.6	12
P-79	J-13	J-8	394	8
P-80	J-6	J-15	462	8
P-81	J-24	J-25	535	8
P-82	J-19	J-25	884	8
P-83	J-101	J-102	845.5	12
P-84	J-101	J-42	913.6	8
P-85	J-108	J-107	309.2	8



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in	
P-86	J-113	J-112	191.9	8	
P-87	J-117	J-114	573.8	8	
P-88	J-116	J-115	172.9	8	
P-89	J-119	J-118	421	8	
P-90	J-121	J-210	4137	8	
P-91	J-121	J-122	131.6	8	
P-92	J-32	J-33	221	8	
P-93	J-31	J-32	387	8	
P-94	J-103	J-31	1000	8	
P-95	J-33	J-34	245	8	
P-96	J-34	J-35	223.9	8	
P-97	J-103	J-104	1106	8	
P-98	J-305	J-304	506.9	8	
P-99	J-303	J-302	412.7	12	
P-100	J-301	J-300	178.5	8	
P-101	R-1	J-400	10	24	
P-21	J-26	J-305	427	8	
PUMP1	J-400	J-401	#N/A	#N/A	Pump
PUMP2	J-400	J-401	#N/A	#N/A	Pump
PUMP3	J-400	J-401	#N/A	#N/A	Pump
PUMP4	J-400	J-401	#N/A	#N/A	Pump
1	J-401	S145	#N/A	12	Valve

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
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Sereno Canyon Phase 4 Max Day fire flow J26

PUMP1	0.00	0.00	0.00	0.00	0.00	0.00
PUMP2	0.00	0.00	0.00	0.00	0.00	0.00
PUMP3	0.00	0.00	0.00	0.00	0.00	0.00
PUMP4	100.00	75.00	1187.16	101.23	101.23	0.00

Demand Charge: 0.00
Total Cost: 0.00

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-26	1000.00	2992.58	98.18	0.00
J-32	3.44	2998.67	89.99	0.00
J-36	3.80	2998.70	74.40	0.00
J-37	1.72	2998.70	70.93	0.00
J-30	4.48	2998.31	98.71	0.00
J-38	5.52	2998.01	81.90	0.00
J-39	3.44	2997.90	88.35	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-29	2.76	2997.68	94.10	0.00
J-40	2.06	2997.90	88.13	0.00
J-28	3.44	2997.37	102.42	0.00
J-27	2.06	2997.37	90.72	0.00
J-2	1.38	2995.79	93.93	0.00
J-3	0.00	2995.72	87.15	0.00
J-4	1.38	2995.71	88.05	0.00
J-41	5.52	2995.69	89.04	0.00
J-14	6.90	2995.65	92.14	0.00
J-11	4.14	2995.64	99.07	0.00
J-12	49.90	2995.63	93.00	0.00
J-9	0.00	2995.64	107.74	0.00
J-6	2.07	2995.67	89.98	0.00
J-19	3.44	2995.70	81.76	0.00
J-24	6.20	2995.69	81.76	0.00
J-20	31.00	2995.69	73.74	0.00
J-21	12.40	2995.69	73.74	0.00
J-22	3.10	2995.69	73.53	0.00
J-5	2.76	2995.68	89.56	0.00

Sereno Canyon Phase 4 Max Day fire flow J26

J-17	3.10	2995.68	102.55	0.00
J-18	1.38	2995.71	96.50	0.00
J-7	4.14	2995.66	99.51	0.00
J-13	3.45	2995.65	109.91	0.00
J-8	3.80	2995.65	103.84	0.00
J-15	3.44	2995.66	81.53	0.00
J-16	2.06	2995.66	76.98	0.00
J-23	9.30	2995.69	71.36	0.00
J-303	11.48	2996.49	111.14	0.00
J-301	2.02	2996.76	116.02	0.00
J-10	47.88	2995.64	114.67	0.00
J-1	0.00	2996.65	95.17	0.00
J-102	2.70	2997.79	100.87	0.00
J-105	3.38	2997.79	108.67	0.00
J-107	4.72	2997.79	113.43	0.00
J-111	4.06	2997.79	116.47	0.00
J-112	1.36	2997.62	125.06	0.00
J-114	1.36	2997.55	126.33	0.00
J-115	1.36	2997.48	127.60	0.00
J-118	1.36	2997.43	128.01	0.00
J-300	7.42	2996.76	116.89	0.00
J-302	2.70	2996.49	108.97	0.00
J-304	2.02	2996.47	102.03	0.00
J-42	0.00	2998.44	99.42	0.00
J-31	0.00	2998.62	96.46	0.00
J-35	0.00	2998.72	77.00	0.00
J-101	4.72	2999.10	115.08	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-106	3.38	2997.79	116.47	0.00
J-33	0.00	2998.69	84.79	0.00
J-123	3.38	2998.69	93.02	0.00
J-100	0.00	3000.15	121.82	0.00
J-103	3.38	2999.07	109.22	0.00
J-104	3.38	2998.86	85.30	0.00
J-117	2.02	2997.55	123.29	0.00
J-110	4.06	2997.79	108.67	0.00
J-108	2.02	2997.79	108.23	0.00
J-109	2.02	2997.79	107.37	0.00
J-305	1.36	2994.35	101.98	0.00
S145	0.00	3000.41	123.67	0.00
J-207	2.70	2997.88	113.91	0.00

Sereno Canyon Phase 4 Max Day fire flow J26

J-208	0.68	2997.88	116.51	0.00
J-206	0.68	2997.95	135.60	0.00
J-204	2.70	2998.29	128.81	0.00
J-205	2.70	2998.29	120.58	0.00
J-203	12.82	2998.99	121.32	0.00
J-200	7.42	2999.94	126.06	0.00
J-211	0.00	2999.19	117.94	0.00
J-201	3.38	2999.67	136.35	0.00
J-202	10.12	2999.67	117.71	0.00
J-119	0.00	2997.43	131.91	0.00
J-120	2.02	2997.43	136.24	0.00
J-121	0.00	2997.44	136.25	0.00
J-122	45.90	2997.43	138.84	0.00
J-210	4.06	2997.93	137.32	0.00
J-209	0.68	2997.95	135.17	0.00
J-113	1.36	2997.62	124.19	0.00
J-116	0.68	2997.48	127.17	0.00
J-25	5.52	2995.69	69.41	0.00
J-34	0.68	2998.70	82.63	0.00
J-400	0.00	2717.00	0.00	0.00
R-1	-1421.22	2717.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-1	-29.52	0.19	0.03	Open
P-2	1.72	0.01	0.00	Open
P-3	111.18	0.71	0.31	Open
P-4	105.66	0.67	0.28	Open
P-5	100.16	0.64	0.26	Open
P-6	2.06	0.01	0.00	Open



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-7	-3.44	0.02	0.00	Open
P-8	212.88	0.60	0.14	Open
P-9	155.77	0.44	0.08	Open
P-10	153.01	0.43	0.08	Open
P-11	19.94	0.13	0.01	Open
P-12	-49.90	0.14	0.01	Open
P-13	-34.10	0.10	0.01	Open

Sereno Canyon Phase 4 Max Day fire flow J26

P-14	57.11	0.36	0.09	Open
P-15	4.46	0.03	0.00	Open
P-16	5.91	0.04	0.00	Open
P-17	-6.49	0.04	0.00	Open
P-18	-0.81	0.01	0.00	Open
P-19	-36.27	0.23	0.04	Open
P-20	3.10	0.02	0.00	Open
P-22	-1.38	0.01	0.00	Open
P-23	15.88	0.10	0.01	Open
P-24	2.48	0.02	0.00	Open
P-25	-24.35	0.16	0.02	Open
P-26	2.06	0.01	0.00	Open
P-27	9.30	0.06	0.00	Open
P-28	-13.85	0.09	0.01	Open
P-29	133.64	0.38	0.06	Open
P-30	127.78	0.36	0.06	Open
P-31	95.86	0.27	0.03	Open
P-32	75.84	0.22	0.02	Open
P-33	81.98	0.23	0.02	Open
P-34	47.88	0.14	0.01	Open
P-35	-550.42	3.51	6.05	Open
P-36	-764.68	2.17	1.54	Open
P-37	-756.66	2.15	1.51	Open
P-38	6.43	0.02	0.00	Open
P-39	-0.33	0.00	0.00	Open
P-40	-13.15	0.04	0.00	Open
P-41	122.24	0.78	0.37	Open
P-42	119.52	0.76	0.36	Open
P-43	116.14	0.74	0.34	Open
P-44	114.10	0.73	0.33	Open
P-45	130.38	0.83	0.42	Open
P-46	120.94	0.77	0.37	Open
P-47	106.76	0.30	0.04	Open
P-48	-346.20	0.98	0.36	Open
P-49	-354.22	2.26	2.67	Open
P-50	-359.72	2.30	2.75	Open
P-51	-262.32	1.67	1.53	Open
P-52	-377.98	2.41	3.01	Open
P-53	-203.89	1.30	0.96	Open
P-54	35.04	0.22	0.04	Open



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
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Sereno Canyon Phase 4 Max Day fire flow J26

P-55	-3.38	0.02	0.00	Open
P-56	3.38	0.02	0.00	Open
P-57	223.67	1.43	1.14	Open
P-58	82.37	0.53	0.18	Open
P-59	-4.06	0.03	0.00	Open
P-60	2.02	0.01	0.00	Open
P-61	1168.28	3.31	3.38	Open
P-62	944.61	2.68	2.28	Open
P-63	-139.45	0.40	0.07	Open
P-64	0.68	0.00	0.00	Open
P-65	-142.83	0.41	0.07	Open
P-66	-213.80	1.36	1.05	Open
P-67	-2.70	0.02	0.00	Open
P-68	-219.20	1.40	1.10	Open
P-69	119.44	0.76	0.36	Open
P-70	119.44	0.76	0.36	Open
P-71	-112.58	0.72	0.32	Open
P-72	252.94	1.61	1.43	Open
P-73	126.08	0.80	0.39	Open
P-74	10.12	0.06	0.00	Open
P-75	-2.02	0.01	0.00	Open
P-76	-19.66	0.13	0.01	Open
P-77	-69.62	0.20	0.02	Open
P-78	-70.30	0.20	0.02	Open
P-79	12.43	0.08	0.01	Open
P-80	29.85	0.19	0.03	Open
P-81	-11.88	0.08	0.01	Open
P-82	17.40	0.11	0.01	Open
P-83	765.80	2.17	1.55	Open
P-84	174.09	1.11	0.72	Open
P-85	-8.10	0.05	0.00	Open
P-86	-1.36	0.01	0.00	Open
P-87	-2.02	0.01	0.00	Open
P-88	-0.68	0.00	0.00	Open
P-89	17.64	0.11	0.01	Open
P-90	-65.56	0.42	0.12	Open
P-91	45.90	0.29	0.06	Open
P-92	-43.27	0.28	0.05	Open
P-93	-69.35	0.44	0.13	Open
P-94	134.54	0.86	0.44	Open
P-95	-46.65	0.30	0.06	Open
P-96	-47.33	0.30	0.06	Open
P-97	85.75	0.55	0.19	Open
P-98	-450.94	2.88	4.18	Open
P-99	-11.48	0.03	0.00	Open
P-100	-2.02	0.01	0.00	Open
P-101	1421.22	1.01	0.17	Open

Sereno Canyon Phase 4 Max Day fire flow J26



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-21	-449.58	2.87	4.16	Open
PUMP1	0.00	0.00	0.00	Closed Pump
PUMP2	0.00	0.00	0.00	Closed Pump
PUMP3	0.00	0.00	0.00	Closed Pump
PUMP4	1421.23	0.00	-283.41	Open Pump
1	1421.22	4.03	0.00	Open Valve

Sereno Canyon Phase 4 Max Day fire flow J27

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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: Sereno Canyon Phase 4 Max Day fire flow J27.net

Sereno Canyon

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in
P-1	J-32	J-36	955.6	8
P-2	J-36	J-37	121.6	8
P-3	J-30	J-38	957.7	8
P-4	J-38	J-39	400	8
P-5	J-39	J-29	841.9	8
P-6	J-39	J-40	83.23	8
P-7	J-28	J-27	505.5	8
P-8	J-2	J-3	452.1	12
P-9	J-3	J-4	195.3	12
P-10	J-4	J-41	148.7	12
P-11	J-14	J-11	890.1	8
P-12	J-12	J-11	340.4	12
P-13	J-11	J-9	458.8	12
P-14	J-3	J-19	223.6	8
P-15	J-20	J-21	310.5	8
P-16	J-21	J-22	93.71	8
P-17	J-22	J-24	192.7	8
P-18	J-24	J-20	511.2	8
P-19	J-20	J-19	293.1	8
P-20	J-5	J-17	587.4	8
P-22	J-18	J-4	378.4	8
P-23	J-7	J-13	601.7	8
P-24	J-8	J-14	610.4	8
P-25	J-14	J-15	540.4	8
P-26	J-15	J-16	224.8	8
P-27	J-22	J-23	128.3	8
P-28	J-21	J-41	699	8
P-29	J-41	J-5	172.5	12
P-30	J-5	J-6	197.8	12
P-31	J-6	J-7	466.8	12
P-32	J-7	J-8	339.3	12

Sereno Canyon Phase 4 Max Day fire flow J27

P-33	J-8	J-9	384	12
P-34	J-9	J-10	522	12
P-35	J-26	J-2	531.2	8
P-36	J-2	J-1	557.4	12
P-37	J-1	J-102	754.8	12
P-38	J-102	J-105	819.5	12



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in
P-39	J-105	J-107	511.2	12
P-40	J-107	J-111	1032	12
P-41	J-111	J-112	449.2	8
P-42	J-112	J-114	204.1	8
P-43	J-114	J-115	198.3	8
P-44	J-115	J-118	154.9	8
P-45	J-118	J-300	1588	8
P-46	J-300	J-302	757	8
P-47	J-302	J-304	469.1	12
P-48	J-304	J-1	500.9	12
P-49	J-1	J-27	271.1	8
P-50	J-27	J-29	112.3	8
P-51	J-29	J-30	411.1	8
P-52	J-30	J-42	43.31	8
P-53	J-42	J-31	191.5	8
P-54	J-35	J-36	438.3	8
P-55	J-106	J-105	800.8	8
P-56	J-33	J-123	375.5	8
P-57	J-100	J-103	951.8	8
P-58	J-104	J-35	775.1	8
P-59	J-110	J-108	595.1	8
P-60	J-108	J-109	353.1	8
P-61	S145	J-100	74.44	12
P-62	J-100	J-101	464.5	12
P-63	J-111	J-207	1424	12
P-64	J-207	J-208	997.1	8
P-65	J-207	J-206	1045	12
P-66	J-206	J-204	317.1	8
P-67	J-205	J-204	465.7	8
P-68	J-204	J-203	643.7	8
P-69	J-200	J-211	2106	8
P-70	J-211	J-203	536.3	8
P-71	J-203	J-201	2125	8
P-72	S145	J-200	327.3	8

Sereno Canyon Phase 4 Max Day fire flow J27

P-73	J-200	J-201	667.2	8
P-74	J-201	J-202	1059	8
P-75	J-120	J-119	186.5	8
P-76	J-119	J-121	389	8
P-77	J-210	J-209	1327	12
P-78	J-209	J-206	257.6	12
P-79	J-13	J-8	394	8
P-80	J-6	J-15	462	8
P-81	J-24	J-25	535	8
P-82	J-19	J-25	884	8
P-83	J-101	J-102	845.5	12
P-84	J-101	J-42	913.6	8
P-85	J-108	J-107	309.2	8



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Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in	
P-86	J-113	J-112	191.9	8	
P-87	J-117	J-114	573.8	8	
P-88	J-116	J-115	172.9	8	
P-89	J-119	J-118	421	8	
P-90	J-121	J-210	4137	8	
P-91	J-121	J-122	131.6	8	
P-92	J-32	J-33	221	8	
P-93	J-31	J-32	387	8	
P-94	J-103	J-31	1000	8	
P-95	J-33	J-34	245	8	
P-96	J-34	J-35	223.9	8	
P-97	J-103	J-104	1106	8	
P-98	J-305	J-304	506.9	8	
P-99	J-303	J-302	412.7	12	
P-100	J-301	J-300	178.5	8	
P-101	R-1	J-400	10	24	
P-21	J-26	J-305	427	8	
PUMP1	J-400	J-401	#N/A	#N/A	Pump
PUMP2	J-400	J-401	#N/A	#N/A	Pump
PUMP3	J-400	J-401	#N/A	#N/A	Pump
PUMP4	J-400	J-401	#N/A	#N/A	Pump
1	J-401	S145	#N/A	12	Valve

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
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Sereno Canyon Phase 4 Max Day fire flow J27

PUMP1	0.00	0.00	0.00	0.00	0.00	0.00
PUMP2	0.00	0.00	0.00	0.00	0.00	0.00
PUMP3	0.00	0.00	0.00	0.00	0.00	0.00
PUMP4	100.00	75.00	1187.15	101.23	101.23	0.00

Demand Charge: 0.00
Total Cost: 0.00

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-27	1000.00	2995.86	90.07	0.00
J-32	3.44	2998.08	89.73	0.00
J-36	3.80	2998.12	74.15	0.00
J-37	1.72	2998.12	70.68	0.00
J-30	4.48	2997.52	98.37	0.00
J-38	5.52	2997.00	81.46	0.00
J-39	3.44	2996.80	87.87	0.00



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Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-29	2.76	2996.41	93.55	0.00
J-40	2.06	2996.80	87.66	0.00
J-28	3.44	2995.86	101.76	0.00
J-2	1.38	2997.24	94.56	0.00
J-3	0.00	2997.17	87.77	0.00
J-4	1.38	2997.16	88.68	0.00
J-41	5.52	2997.14	89.67	0.00
J-14	6.90	2997.10	92.77	0.00
J-11	4.14	2997.09	99.70	0.00
J-12	49.90	2997.09	93.63	0.00
J-9	0.00	2997.09	108.36	0.00
J-6	2.07	2997.12	90.61	0.00
J-19	3.44	2997.15	82.39	0.00
J-24	6.20	2997.14	82.39	0.00
J-20	31.00	2997.14	74.37	0.00
J-21	12.40	2997.14	74.37	0.00
J-22	3.10	2997.14	74.15	0.00
J-5	2.76	2997.13	90.18	0.00
J-17	3.10	2997.13	103.18	0.00

Sereno Canyon Phase 4 Max Day fire flow J27

J-18	1.38	2997.16	97.13	0.00
J-7	4.14	2997.11	100.14	0.00
J-13	3.45	2997.10	110.54	0.00
J-8	3.80	2997.10	104.47	0.00
J-15	3.44	2997.11	82.16	0.00
J-16	2.06	2997.11	77.61	0.00
J-23	9.30	2997.14	71.99	0.00
J-303	11.48	2997.31	111.49	0.00
J-301	2.02	2997.48	116.33	0.00
J-10	47.88	2997.09	115.30	0.00
J-26	2.07	2997.26	100.20	0.00
J-1	0.00	2997.30	95.45	0.00
J-102	2.70	2998.16	101.03	0.00
J-105	3.38	2998.16	108.83	0.00
J-107	4.72	2998.16	113.60	0.00
J-111	4.06	2998.17	116.63	0.00
J-112	1.36	2998.04	125.24	0.00
J-114	1.36	2997.99	126.52	0.00
J-115	1.36	2997.94	127.80	0.00
J-118	1.36	2997.91	128.22	0.00
J-300	7.42	2997.48	117.20	0.00
J-302	2.70	2997.31	109.33	0.00
J-304	2.02	2997.30	102.39	0.00
J-42	0.00	2997.74	99.12	0.00
J-31	0.00	2998.01	96.20	0.00
J-35	0.00	2998.14	76.76	0.00
J-101	4.72	2999.14	115.10	0.00



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Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-106	3.38	2998.16	116.63	0.00
J-33	0.00	2998.10	84.54	0.00
J-123	3.38	2998.10	92.77	0.00
J-100	0.00	3000.15	121.82	0.00
J-103	3.38	2998.63	109.03	0.00
J-104	3.38	2998.34	85.07	0.00
J-117	2.02	2997.99	123.49	0.00
J-110	4.06	2998.16	108.83	0.00
J-108	2.02	2998.16	108.40	0.00
J-109	2.02	2998.16	107.53	0.00
J-305	1.36	2997.28	103.24	0.00
S145	0.00	3000.41	123.67	0.00
J-207	2.70	2998.25	114.07	0.00

Sereno Canyon Phase 4 Max Day fire flow J27

J-208	0.68	2998.25	116.67	0.00
J-206	0.68	2998.31	135.76	0.00
J-204	2.70	2998.59	128.95	0.00
J-205	2.70	2998.59	120.71	0.00
J-203	12.82	2999.19	121.41	0.00
J-200	7.42	3000.00	126.09	0.00
J-211	0.00	2999.35	118.01	0.00
J-201	3.38	2999.77	136.39	0.00
J-202	10.12	2999.77	117.76	0.00
J-119	0.00	2997.91	132.12	0.00
J-120	2.02	2997.91	136.45	0.00
J-121	0.00	2997.91	136.45	0.00
J-122	45.90	2997.90	139.05	0.00
J-210	4.06	2998.29	137.48	0.00
J-209	0.68	2998.31	135.32	0.00
J-113	1.36	2998.04	124.38	0.00
J-116	0.68	2997.94	127.37	0.00
J-25	5.52	2997.14	70.04	0.00
J-34	0.68	2998.12	82.38	0.00
J-400	0.00	2717.00	0.00	0.00
R-1	-1421.23	2717.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-1	-36.24	0.23	0.04	Open
P-2	1.72	0.01	0.00	Open
P-3	149.02	0.95	0.54	Open
P-4	143.50	0.92	0.50	Open
P-5	138.00	0.88	0.47	Open
P-6	2.06	0.01	0.00	Open



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-7	-3.44	0.02	0.00	Open
P-8	212.88	0.60	0.14	Open
P-9	155.77	0.44	0.08	Open
P-10	153.01	0.43	0.08	Open
P-11	19.94	0.13	0.01	Open
P-12	-49.90	0.14	0.01	Open
P-13	-34.10	0.10	0.00	Open

Sereno Canyon Phase 4 Max Day fire flow J27

P-14	57.11	0.36	0.09	Open
P-15	4.46	0.03	0.00	Open
P-16	5.91	0.04	0.00	Open
P-17	-6.49	0.04	0.00	Open
P-18	-0.81	0.01	0.00	Open
P-19	-36.27	0.23	0.04	Open
P-20	3.10	0.02	0.00	Open
P-22	-1.38	0.01	0.00	Open
P-23	15.88	0.10	0.01	Open
P-24	2.48	0.02	0.00	Open
P-25	-24.35	0.16	0.02	Open
P-26	2.06	0.01	0.00	Open
P-27	9.30	0.06	0.00	Open
P-28	-13.85	0.09	0.01	Open
P-29	133.64	0.38	0.06	Open
P-30	127.78	0.36	0.06	Open
P-31	95.86	0.27	0.03	Open
P-32	75.84	0.22	0.02	Open
P-33	81.98	0.23	0.02	Open
P-34	47.88	0.14	0.01	Open
P-35	35.66	0.23	0.04	Open
P-36	-178.60	0.51	0.10	Open
P-37	-653.00	1.85	1.15	Open
P-38	-2.48	0.01	0.00	Open
P-39	-9.24	0.03	0.00	Open
P-40	-22.06	0.06	0.00	Open
P-41	102.97	0.66	0.27	Open
P-42	100.25	0.64	0.26	Open
P-43	96.87	0.62	0.24	Open
P-44	94.83	0.61	0.23	Open
P-45	102.68	0.66	0.27	Open
P-46	93.24	0.60	0.23	Open
P-47	79.06	0.22	0.02	Open
P-48	37.94	0.11	0.01	Open
P-49	512.35	3.27	5.29	Open
P-50	-491.09	3.13	4.89	Open
P-51	-355.85	2.27	2.69	Open
P-52	-509.35	3.25	5.24	Open
P-53	-247.68	1.58	1.38	Open
P-54	41.76	0.27	0.05	Open



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
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Sereno Canyon Phase 4 Max Day fire flow J27

P-55	-3.38	0.02	0.00	Open
P-56	3.38	0.02	0.00	Open
P-57	267.45	1.71	1.59	Open
P-58	98.91	0.63	0.25	Open
P-59	-4.06	0.03	0.00	Open
P-60	2.02	0.01	0.00	Open
P-61	1187.07	3.37	3.48	Open
P-62	919.61	2.61	2.17	Open
P-63	-129.09	0.37	0.06	Open
P-64	0.68	0.00	0.00	Open
P-65	-132.47	0.38	0.06	Open
P-66	-195.02	1.24	0.89	Open
P-67	-2.70	0.02	0.00	Open
P-68	-200.42	1.28	0.93	Open
P-69	109.91	0.70	0.31	Open
P-70	109.91	0.70	0.31	Open
P-71	-103.33	0.66	0.27	Open
P-72	234.16	1.49	1.24	Open
P-73	116.83	0.75	0.34	Open
P-74	10.12	0.06	0.00	Open
P-75	-2.02	0.01	0.00	Open
P-76	-11.23	0.07	0.00	Open
P-77	-61.19	0.17	0.01	Open
P-78	-61.87	0.18	0.01	Open
P-79	12.43	0.08	0.00	Open
P-80	29.85	0.19	0.03	Open
P-81	-11.88	0.08	0.01	Open
P-82	17.40	0.11	0.01	Open
P-83	653.22	1.85	1.15	Open
P-84	261.68	1.67	1.53	Open
P-85	-8.10	0.05	0.00	Open
P-86	-1.36	0.01	0.00	Open
P-87	-2.02	0.01	0.00	Open
P-88	-0.68	0.00	0.00	Open
P-89	9.21	0.06	0.00	Open
P-90	-57.13	0.36	0.09	Open
P-91	45.90	0.29	0.06	Open
P-92	-53.09	0.34	0.08	Open
P-93	-85.89	0.55	0.19	Open
P-94	161.79	1.03	0.63	Open
P-95	-56.47	0.36	0.09	Open
P-96	-57.15	0.36	0.09	Open
P-97	102.29	0.65	0.27	Open
P-98	-39.09	0.25	0.05	Open
P-99	-11.48	0.03	0.00	Open
P-100	-2.02	0.01	0.00	Open
P-101	1421.23	1.01	0.17	Open

Sereno Canyon Phase 4 Max Day fire flow J27



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-21	-37.73	0.24	0.04	Open
PUMP1	0.00	0.00	0.00	Closed Pump
PUMP2	0.00	0.00	0.00	Closed Pump
PUMP3	0.00	0.00	0.00	Closed Pump
PUMP4	1421.24	0.00	-283.41	Open Pump
1	1421.23	4.03	0.00	Open Valve

Sereno Canyon Phase 4 Max Day fire flow J28

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: Sereno Canyon Phase 4 Max Day fire flow J28.net

Sereno Canyon

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in
P-1	J-32	J-36	955.6	8
P-2	J-36	J-37	121.6	8
P-3	J-30	J-38	957.7	8
P-4	J-38	J-39	400	8
P-5	J-39	J-29	841.9	8
P-6	J-39	J-40	83.23	8
P-7	J-28	J-27	505.5	8
P-8	J-2	J-3	452.1	12
P-9	J-3	J-4	195.3	12
P-10	J-4	J-41	148.7	12
P-11	J-14	J-11	890.1	8
P-12	J-12	J-11	340.4	12
P-13	J-11	J-9	458.8	12
P-14	J-3	J-19	223.6	8
P-15	J-20	J-21	310.5	8
P-16	J-21	J-22	93.71	8
P-17	J-22	J-24	192.7	8
P-18	J-24	J-20	511.2	8
P-19	J-20	J-19	293.1	8
P-20	J-5	J-17	587.4	8
P-22	J-18	J-4	378.4	8
P-23	J-7	J-13	601.7	8
P-24	J-8	J-14	610.4	8
P-25	J-14	J-15	540.4	8
P-26	J-15	J-16	224.8	8
P-27	J-22	J-23	128.3	8
P-28	J-21	J-41	699	8
P-29	J-41	J-5	172.5	12
P-30	J-5	J-6	197.8	12
P-31	J-6	J-7	466.8	12
P-32	J-7	J-8	339.3	12

Sereno Canyon Phase 4 Max Day fire flow J28

P-33	J-8	J-9	384	12
P-34	J-9	J-10	522	12
P-35	J-26	J-2	531.2	8
P-36	J-2	J-1	557.4	12
P-37	J-1	J-102	754.8	12
P-38	J-102	J-105	819.5	12



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in
P-39	J-105	J-107	511.2	12
P-40	J-107	J-111	1032	12
P-41	J-111	J-112	449.2	8
P-42	J-112	J-114	204.1	8
P-43	J-114	J-115	198.3	8
P-44	J-115	J-118	154.9	8
P-45	J-118	J-300	1588	8
P-46	J-300	J-302	757	8
P-47	J-302	J-304	469.1	12
P-48	J-304	J-1	500.9	12
P-49	J-1	J-27	271.1	8
P-50	J-27	J-29	112.3	8
P-51	J-29	J-30	411.1	8
P-52	J-30	J-42	43.31	8
P-53	J-42	J-31	191.5	8
P-54	J-35	J-36	438.3	8
P-55	J-106	J-105	800.8	8
P-56	J-33	J-123	375.5	8
P-57	J-100	J-103	951.8	8
P-58	J-104	J-35	775.1	8
P-59	J-110	J-108	595.1	8
P-60	J-108	J-109	353.1	8
P-61	S145	J-100	74.44	12
P-62	J-100	J-101	464.5	12
P-63	J-111	J-207	1424	12
P-64	J-207	J-208	997.1	8
P-65	J-207	J-206	1045	12
P-66	J-206	J-204	317.1	8
P-67	J-205	J-204	465.7	8
P-68	J-204	J-203	643.7	8
P-69	J-200	J-211	2106	8
P-70	J-211	J-203	536.3	8
P-71	J-203	J-201	2125	8
P-72	S145	J-200	327.3	8

Sereno Canyon Phase 4 Max Day fire flow J28

P-73	J-200	J-201	667.2	8
P-74	J-201	J-202	1059	8
P-75	J-120	J-119	186.5	8
P-76	J-119	J-121	389	8
P-77	J-210	J-209	1327	12
P-78	J-209	J-206	257.6	12
P-79	J-13	J-8	394	8
P-80	J-6	J-15	462	8
P-81	J-24	J-25	535	8
P-82	J-19	J-25	884	8
P-83	J-101	J-102	845.5	12
P-84	J-101	J-42	913.6	8
P-85	J-108	J-107	309.2	8



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in	
P-86	J-113	J-112	191.9	8	
P-87	J-117	J-114	573.8	8	
P-88	J-116	J-115	172.9	8	
P-89	J-119	J-118	421	8	
P-90	J-121	J-210	4137	8	
P-91	J-121	J-122	131.6	8	
P-92	J-32	J-33	221	8	
P-93	J-31	J-32	387	8	
P-94	J-103	J-31	1000	8	
P-95	J-33	J-34	245	8	
P-96	J-34	J-35	223.9	8	
P-97	J-103	J-104	1106	8	
P-98	J-305	J-304	506.9	8	
P-99	J-303	J-302	412.7	12	
P-100	J-301	J-300	178.5	8	
P-101	R-1	J-400	10	24	
P-21	J-26	J-305	427	8	
PUMP1	J-400	J-401	#N/A	#N/A	Pump
PUMP2	J-400	J-401	#N/A	#N/A	Pump
PUMP3	J-400	J-401	#N/A	#N/A	Pump
PUMP4	J-400	J-401	#N/A	#N/A	Pump
1	J-401	S145	#N/A	12	Valve

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
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Sereno Canyon Phase 4 Max Day fire flow J28

PUMP1	0.00	0.00	0.00	0.00	0.00	0.00
PUMP2	0.00	0.00	0.00	0.00	0.00	0.00
PUMP3	0.00	0.00	0.00	0.00	0.00	0.00
PUMP4	100.00	75.00	1187.58	101.17	101.17	0.00

Demand Charge: 0.00
Total Cost: 0.00

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-28	1000.00	2986.74	97.81	0.00
J-32	3.44	2998.19	89.78	0.00
J-36	3.80	2998.23	74.19	0.00
J-37	1.72	2998.23	70.73	0.00
J-30	4.48	2997.63	98.41	0.00
J-38	5.52	2997.11	81.51	0.00
J-39	3.44	2996.91	87.92	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-29	2.76	2996.52	93.60	0.00
J-40	2.06	2996.91	87.71	0.00
J-27	2.07	2995.97	90.11	0.00
J-2	1.38	2997.35	94.61	0.00
J-3	0.00	2997.28	87.82	0.00
J-4	1.38	2997.26	88.72	0.00
J-41	5.52	2997.25	89.72	0.00
J-14	6.90	2997.21	92.82	0.00
J-11	4.14	2997.20	99.74	0.00
J-12	49.90	2997.19	93.68	0.00
J-9	0.00	2997.20	108.41	0.00
J-6	2.07	2997.23	90.66	0.00
J-19	3.44	2997.26	82.44	0.00
J-24	6.20	2997.25	82.43	0.00
J-20	31.00	2997.25	74.42	0.00
J-21	12.40	2997.25	74.42	0.00
J-22	3.10	2997.25	74.20	0.00
J-5	2.76	2997.24	90.23	0.00
J-17	3.10	2997.24	103.23	0.00

Sereno Canyon Phase 4 Max Day fire flow J28

J-18	1.38	2997.26	97.17	0.00
J-7	4.14	2997.22	100.19	0.00
J-13	3.45	2997.21	110.58	0.00
J-8	3.80	2997.21	104.52	0.00
J-15	3.44	2997.22	82.21	0.00
J-16	2.06	2997.22	77.66	0.00
J-23	9.30	2997.25	72.04	0.00
J-303	11.48	2997.42	111.54	0.00
J-301	2.02	2997.59	116.38	0.00
J-10	47.88	2997.19	115.34	0.00
J-26	2.07	2997.37	100.25	0.00
J-1	0.00	2997.40	95.50	0.00
J-102	2.70	2998.27	101.08	0.00
J-105	3.38	2998.27	108.88	0.00
J-107	4.72	2998.27	113.64	0.00
J-111	4.06	2998.27	116.68	0.00
J-112	1.36	2998.15	125.29	0.00
J-114	1.36	2998.10	126.57	0.00
J-115	1.36	2998.05	127.85	0.00
J-118	1.36	2998.02	128.26	0.00
J-300	7.42	2997.59	117.25	0.00
J-302	2.70	2997.42	109.37	0.00
J-304	2.02	2997.41	102.44	0.00
J-42	0.00	2997.85	99.16	0.00
J-31	0.00	2998.12	96.24	0.00
J-35	0.00	2998.25	76.80	0.00
J-101	4.72	2999.24	115.15	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-106	3.38	2998.27	116.68	0.00
J-33	0.00	2998.21	84.58	0.00
J-123	3.38	2998.21	92.82	0.00
J-100	0.00	3000.25	121.87	0.00
J-103	3.38	2998.74	109.08	0.00
J-104	3.38	2998.45	85.12	0.00
J-117	2.02	2998.10	123.53	0.00
J-110	4.06	2998.27	108.88	0.00
J-108	2.02	2998.27	108.44	0.00
J-109	2.02	2998.27	107.58	0.00
J-305	1.36	2997.38	103.29	0.00
S145	0.00	3000.51	123.71	0.00
J-207	2.70	2998.35	114.11	0.00

Sereno Canyon Phase 4 Max Day fire flow J28

J-208	0.68	2998.35	116.71	0.00
J-206	0.68	2998.42	135.80	0.00
J-204	2.70	2998.70	128.99	0.00
J-205	2.70	2998.70	120.76	0.00
J-203	12.82	2999.30	121.45	0.00
J-200	7.42	3000.10	126.13	0.00
J-211	0.00	2999.46	118.06	0.00
J-201	3.38	2999.87	136.44	0.00
J-202	10.12	2999.87	117.80	0.00
J-119	0.00	2998.02	132.16	0.00
J-120	2.02	2998.02	136.50	0.00
J-121	0.00	2998.02	136.50	0.00
J-122	45.90	2998.01	139.09	0.00
J-210	4.06	2998.39	137.53	0.00
J-209	0.68	2998.41	135.37	0.00
J-113	1.36	2998.15	124.42	0.00
J-116	0.68	2998.05	127.41	0.00
J-25	5.52	2997.25	70.09	0.00
J-34	0.68	2998.23	82.43	0.00
J-400	0.00	2717.00	0.00	0.00
R-1	-1419.86	2717.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-1	-36.20	0.23	0.04	Open
P-2	1.72	0.01	0.00	Open
P-3	148.85	0.95	0.54	Open
P-4	143.33	0.91	0.50	Open
P-5	137.83	0.88	0.47	Open
P-6	2.06	0.01	0.00	Open



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-7	-1000.00	6.38	18.27	Open
P-8	212.88	0.60	0.14	Open
P-9	155.77	0.44	0.08	Open
P-10	153.01	0.43	0.08	Open
P-11	19.94	0.13	0.01	Open
P-12	-49.90	0.14	0.01	Open
P-13	-34.10	0.10	0.00	Open

Sereno Canyon Phase 4 Max Day fire flow J28

P-14	57.11	0.36	0.09	Open
P-15	4.46	0.03	0.00	Open
P-16	5.91	0.04	0.00	Open
P-17	-6.49	0.04	0.00	Open
P-18	-0.81	0.01	0.00	Open
P-19	-36.27	0.23	0.04	Open
P-20	3.10	0.02	0.00	Open
P-22	-1.38	0.01	0.00	Open
P-23	15.88	0.10	0.01	Open
P-24	2.48	0.02	0.00	Open
P-25	-24.35	0.16	0.02	Open
P-26	2.06	0.01	0.00	Open
P-27	9.30	0.06	0.00	Open
P-28	-13.85	0.09	0.01	Open
P-29	133.64	0.38	0.06	Open
P-30	127.78	0.36	0.06	Open
P-31	95.86	0.27	0.03	Open
P-32	75.84	0.22	0.02	Open
P-33	81.98	0.23	0.02	Open
P-34	47.88	0.14	0.01	Open
P-35	35.66	0.23	0.04	Open
P-36	-178.60	0.51	0.10	Open
P-37	-652.34	1.85	1.15	Open
P-38	-2.40	0.01	0.00	Open
P-39	-9.16	0.03	0.00	Open
P-40	-21.98	0.06	0.00	Open
P-41	102.90	0.66	0.27	Open
P-42	100.18	0.64	0.26	Open
P-43	96.80	0.62	0.24	Open
P-44	94.76	0.60	0.23	Open
P-45	102.56	0.65	0.27	Open
P-46	93.12	0.59	0.23	Open
P-47	78.94	0.22	0.02	Open
P-48	37.83	0.11	0.01	Open
P-49	511.58	3.27	5.28	Open
P-50	-490.49	3.13	4.88	Open
P-51	-355.43	2.27	2.69	Open
P-52	-508.75	3.25	5.23	Open
P-53	-247.39	1.58	1.37	Open
P-54	41.72	0.27	0.05	Open



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
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Sereno Canyon Phase 4 Max Day fire flow J28

P-55	-3.38	0.02	0.00	Open
P-56	3.38	0.02	0.00	Open
P-57	267.17	1.71	1.58	Open
P-58	98.80	0.63	0.25	Open
P-59	-4.06	0.03	0.00	Open
P-60	2.02	0.01	0.00	Open
P-61	1185.89	3.36	3.48	Open
P-62	918.73	2.61	2.17	Open
P-63	-128.94	0.37	0.06	Open
P-64	0.68	0.00	0.00	Open
P-65	-132.32	0.38	0.06	Open
P-66	-194.83	1.24	0.88	Open
P-67	-2.70	0.02	0.00	Open
P-68	-200.23	1.28	0.93	Open
P-69	109.81	0.70	0.31	Open
P-70	109.81	0.70	0.31	Open
P-71	-103.23	0.66	0.27	Open
P-72	233.97	1.49	1.24	Open
P-73	116.73	0.75	0.34	Open
P-74	10.12	0.06	0.00	Open
P-75	-2.02	0.01	0.00	Open
P-76	-11.19	0.07	0.00	Open
P-77	-61.15	0.17	0.01	Open
P-78	-61.83	0.18	0.01	Open
P-79	12.43	0.08	0.00	Open
P-80	29.85	0.19	0.03	Open
P-81	-11.88	0.08	0.01	Open
P-82	17.40	0.11	0.01	Open
P-83	652.64	1.85	1.15	Open
P-84	261.37	1.67	1.52	Open
P-85	-8.10	0.05	0.00	Open
P-86	-1.36	0.01	0.00	Open
P-87	-2.02	0.01	0.00	Open
P-88	-0.68	0.00	0.00	Open
P-89	9.17	0.06	0.00	Open
P-90	-57.09	0.36	0.09	Open
P-91	45.90	0.29	0.06	Open
P-92	-53.02	0.34	0.08	Open
P-93	-85.78	0.55	0.19	Open
P-94	161.61	1.03	0.62	Open
P-95	-56.40	0.36	0.09	Open
P-96	-57.08	0.36	0.09	Open
P-97	102.18	0.65	0.27	Open
P-98	-39.09	0.25	0.05	Open
P-99	-11.48	0.03	0.00	Open
P-100	-2.02	0.01	0.00	Open
P-101	1419.86	1.01	0.17	Open

Sereno Canyon Phase 4 Max Day fire flow J28



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-21	-37.73	0.24	0.04	Open
PUMP1	0.00	0.00	0.00	Closed Pump
PUMP2	0.00	0.00	0.00	Closed Pump
PUMP3	0.00	0.00	0.00	Closed Pump
PUMP4	1419.87	0.00	-283.51	Open Pump
1	1419.86	4.03	0.00	Open Valve

Sereno Canyon Phase 4 Max Day fire flow J29

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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: Sereno Canyon Phase 4 Max Day fire flow J29.net

Sereno Canyon

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in
P-1	J-32	J-36	955.6	8
P-2	J-36	J-37	121.6	8
P-3	J-30	J-38	957.7	8
P-4	J-38	J-39	400	8
P-5	J-39	J-29	841.9	8
P-6	J-39	J-40	83.23	8
P-7	J-28	J-27	505.5	8
P-8	J-2	J-3	452.1	12
P-9	J-3	J-4	195.3	12
P-10	J-4	J-41	148.7	12
P-11	J-14	J-11	890.1	8
P-12	J-12	J-11	340.4	12
P-13	J-11	J-9	458.8	12
P-14	J-3	J-19	223.6	8
P-15	J-20	J-21	310.5	8
P-16	J-21	J-22	93.71	8
P-17	J-22	J-24	192.7	8
P-18	J-24	J-20	511.2	8
P-19	J-20	J-19	293.1	8
P-20	J-5	J-17	587.4	8
P-22	J-18	J-4	378.4	8
P-23	J-7	J-13	601.7	8
P-24	J-8	J-14	610.4	8
P-25	J-14	J-15	540.4	8
P-26	J-15	J-16	224.8	8
P-27	J-22	J-23	128.3	8
P-28	J-21	J-41	699	8
P-29	J-41	J-5	172.5	12
P-30	J-5	J-6	197.8	12
P-31	J-6	J-7	466.8	12
P-32	J-7	J-8	339.3	12

Sereno Canyon Phase 4 Max Day fire flow J29

P-33	J-8	J-9	384	12
P-34	J-9	J-10	522	12
P-35	J-26	J-2	531.2	8
P-36	J-2	J-1	557.4	12
P-37	J-1	J-102	754.8	12
P-38	J-102	J-105	819.5	12



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in
P-39	J-105	J-107	511.2	12
P-40	J-107	J-111	1032	12
P-41	J-111	J-112	449.2	8
P-42	J-112	J-114	204.1	8
P-43	J-114	J-115	198.3	8
P-44	J-115	J-118	154.9	8
P-45	J-118	J-300	1588	8
P-46	J-300	J-302	757	8
P-47	J-302	J-304	469.1	12
P-48	J-304	J-1	500.9	12
P-49	J-1	J-27	271.1	8
P-50	J-27	J-29	112.3	8
P-51	J-29	J-30	411.1	8
P-52	J-30	J-42	43.31	8
P-53	J-42	J-31	191.5	8
P-54	J-35	J-36	438.3	8
P-55	J-106	J-105	800.8	8
P-56	J-33	J-123	375.5	8
P-57	J-100	J-103	951.8	8
P-58	J-104	J-35	775.1	8
P-59	J-110	J-108	595.1	8
P-60	J-108	J-109	353.1	8
P-61	S145	J-100	74.44	12
P-62	J-100	J-101	464.5	12
P-63	J-111	J-207	1424	12
P-64	J-207	J-208	997.1	8
P-65	J-207	J-206	1045	12
P-66	J-206	J-204	317.1	8
P-67	J-205	J-204	465.7	8
P-68	J-204	J-203	643.7	8
P-69	J-200	J-211	2106	8
P-70	J-211	J-203	536.3	8
P-71	J-203	J-201	2125	8
P-72	S145	J-200	327.3	8

Sereno Canyon Phase 4 Max Day fire flow J29

P-73	J-200	J-201	667.2	8
P-74	J-201	J-202	1059	8
P-75	J-120	J-119	186.5	8
P-76	J-119	J-121	389	8
P-77	J-210	J-209	1327	12
P-78	J-209	J-206	257.6	12
P-79	J-13	J-8	394	8
P-80	J-6	J-15	462	8
P-81	J-24	J-25	535	8
P-82	J-19	J-25	884	8
P-83	J-101	J-102	845.5	12
P-84	J-101	J-42	913.6	8
P-85	J-108	J-107	309.2	8



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in	
P-86	J-113	J-112	191.9	8	
P-87	J-117	J-114	573.8	8	
P-88	J-116	J-115	172.9	8	
P-89	J-119	J-118	421	8	
P-90	J-121	J-210	4137	8	
P-91	J-121	J-122	131.6	8	
P-92	J-32	J-33	221	8	
P-93	J-31	J-32	387	8	
P-94	J-103	J-31	1000	8	
P-95	J-33	J-34	245	8	
P-96	J-34	J-35	223.9	8	
P-97	J-103	J-104	1106	8	
P-98	J-305	J-304	506.9	8	
P-99	J-303	J-302	412.7	12	
P-100	J-301	J-300	178.5	8	
P-101	R-1	J-400	10	24	
P-21	J-26	J-305	427	8	
PUMP1	J-400	J-401	#N/A	#N/A	Pump
PUMP2	J-400	J-401	#N/A	#N/A	Pump
PUMP3	J-400	J-401	#N/A	#N/A	Pump
PUMP4	J-400	J-401	#N/A	#N/A	Pump
1	J-401	S145	#N/A	12	Valve

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
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Sereno Canyon Phase 4 Max Day fire flow J29

PUMP1	0.00	0.00	0.00	0.00	0.00	0.00
PUMP2	0.00	0.00	0.00	0.00	0.00	0.00
PUMP3	0.00	0.00	0.00	0.00	0.00	0.00
PUMP4	100.00	75.00	1187.37	101.20	101.20	0.00

Demand Charge: 0.00
Total Cost: 0.00

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-29	1000.00	2995.91	93.34	0.00
J-32	3.44	2997.88	89.64	0.00
J-36	3.80	2997.92	74.06	0.00
J-37	1.72	2997.92	70.59	0.00
J-30	4.48	2997.22	98.24	0.00
J-38	5.52	2996.62	81.29	0.00
J-39	3.44	2996.38	87.69	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-40	2.06	2996.38	87.47	0.00
J-28	3.45	2996.39	101.99	0.00
J-27	2.07	2996.39	90.30	0.00
J-2	1.38	2997.52	94.69	0.00
J-3	0.00	2997.46	87.90	0.00
J-4	1.38	2997.44	88.80	0.00
J-41	5.52	2997.43	89.79	0.00
J-14	6.90	2997.39	92.89	0.00
J-11	4.14	2997.37	99.82	0.00
J-12	49.90	2997.37	93.75	0.00
J-9	0.00	2997.38	108.49	0.00
J-6	2.07	2997.41	90.74	0.00
J-19	3.44	2997.44	82.52	0.00
J-24	6.20	2997.43	82.51	0.00
J-20	31.00	2997.43	74.50	0.00
J-21	12.40	2997.43	74.50	0.00
J-22	3.10	2997.43	74.28	0.00
J-5	2.76	2997.42	90.31	0.00

Sereno Canyon Phase 4 Max Day fire flow J29

J-17	3.10	2997.42	103.31	0.00
J-18	1.38	2997.44	97.25	0.00
J-7	4.14	2997.39	100.26	0.00
J-13	3.45	2997.39	110.66	0.00
J-8	3.80	2997.39	104.59	0.00
J-15	3.44	2997.40	82.28	0.00
J-16	2.06	2997.40	77.73	0.00
J-23	9.30	2997.42	72.11	0.00
J-303	11.48	2997.59	111.61	0.00
J-301	2.02	2997.74	116.44	0.00
J-10	47.88	2997.37	115.42	0.00
J-26	2.07	2997.54	100.33	0.00
J-1	0.00	2997.58	95.58	0.00
J-102	2.70	2998.35	101.11	0.00
J-105	3.38	2998.35	108.91	0.00
J-107	4.72	2998.35	113.68	0.00
J-111	4.06	2998.35	116.71	0.00
J-112	1.36	2998.24	125.33	0.00
J-114	1.36	2998.19	126.61	0.00
J-115	1.36	2998.15	127.89	0.00
J-118	1.36	2998.11	128.31	0.00
J-300	7.42	2997.74	117.31	0.00
J-302	2.70	2997.59	109.45	0.00
J-304	2.02	2997.58	102.51	0.00
J-42	0.00	2997.49	99.01	0.00
J-31	0.00	2997.79	96.10	0.00
J-35	0.00	2997.95	76.67	0.00
J-101	4.72	2999.21	115.13	0.00



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Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-106	3.38	2998.35	116.71	0.00
J-33	0.00	2997.90	84.45	0.00
J-123	3.38	2997.90	92.68	0.00
J-100	0.00	3000.19	121.84	0.00
J-103	3.38	2998.50	108.97	0.00
J-104	3.38	2998.16	85.00	0.00
J-117	2.02	2998.19	123.57	0.00
J-110	4.06	2998.35	108.91	0.00
J-108	2.02	2998.35	108.48	0.00
J-109	2.02	2998.35	107.61	0.00
J-305	1.36	2997.56	103.37	0.00
S145	0.00	3000.46	123.69	0.00

Sereno Canyon Phase 4 Max Day fire flow J29

J-207	2.70	2998.43	114.14	0.00
J-208	0.68	2998.43	116.74	0.00
J-206	0.68	2998.49	135.83	0.00
J-204	2.70	2998.75	129.01	0.00
J-205	2.70	2998.75	120.78	0.00
J-203	12.82	2999.31	121.46	0.00
J-200	7.42	3000.07	126.12	0.00
J-211	0.00	2999.47	118.06	0.00
J-201	3.38	2999.86	136.43	0.00
J-202	10.12	2999.85	117.79	0.00
J-119	0.00	2998.12	132.21	0.00
J-120	2.02	2998.12	136.54	0.00
J-121	0.00	2998.12	136.54	0.00
J-122	45.90	2998.11	139.14	0.00
J-210	4.06	2998.47	137.56	0.00
J-209	0.68	2998.48	135.40	0.00
J-113	1.36	2998.24	124.46	0.00
J-116	0.68	2998.15	127.45	0.00
J-25	5.52	2997.43	70.16	0.00
J-34	0.68	2997.92	82.29	0.00
J-400	0.00	2717.00	0.00	0.00
R-1	-1420.55	2717.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-1	-38.90	0.25	0.04	Open
P-2	1.72	0.01	0.00	Open
P-3	162.99	1.04	0.63	Open
P-4	157.47	1.01	0.60	Open
P-5	151.97	0.97	0.56	Open
P-6	2.06	0.01	0.00	Open



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Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-7	-3.45	0.02	0.00	Open
P-8	212.88	0.60	0.14	Open
P-9	155.77	0.44	0.08	Open
P-10	153.01	0.43	0.08	Open
P-11	19.94	0.13	0.01	Open
P-12	-49.90	0.14	0.01	Open

Sereno Canyon Phase 4 Max Day fire flow J29

P-13	-34.10	0.10	0.00	Open
P-14	57.11	0.36	0.09	Open
P-15	4.46	0.03	0.00	Open
P-16	5.91	0.04	0.00	Open
P-17	-6.49	0.04	0.00	Open
P-18	-0.81	0.01	0.00	Open
P-19	-36.27	0.23	0.04	Open
P-20	3.10	0.02	0.00	Open
P-22	-1.38	0.01	0.00	Open
P-23	15.88	0.10	0.01	Open
P-24	2.48	0.02	0.00	Open
P-25	-24.35	0.16	0.02	Open
P-26	2.06	0.01	0.00	Open
P-27	9.30	0.06	0.00	Open
P-28	-13.85	0.09	0.01	Open
P-29	133.64	0.38	0.06	Open
P-30	127.78	0.36	0.06	Open
P-31	95.86	0.27	0.03	Open
P-32	75.84	0.22	0.02	Open
P-33	81.98	0.23	0.02	Open
P-34	47.88	0.14	0.01	Open
P-35	35.41	0.23	0.04	Open
P-36	-178.85	0.51	0.10	Open
P-37	-610.86	1.73	1.02	Open
P-38	-2.67	0.01	0.00	Open
P-39	-9.43	0.03	0.00	Open
P-40	-22.25	0.06	0.00	Open
P-41	98.26	0.63	0.25	Open
P-42	95.54	0.61	0.24	Open
P-43	92.16	0.59	0.22	Open
P-44	90.12	0.58	0.21	Open
P-45	95.61	0.61	0.24	Open
P-46	86.17	0.55	0.19	Open
P-47	71.99	0.20	0.02	Open
P-48	31.12	0.09	0.00	Open
P-49	463.14	2.96	4.39	Open
P-50	457.62	2.92	4.29	Open
P-51	-390.41	2.49	3.20	Open
P-52	-557.88	3.56	6.20	Open
P-53	-265.00	1.69	1.56	Open
P-54	44.42	0.28	0.06	Open



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
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Sereno Canyon Phase 4 Max Day fire flow J29

P-55	-3.38	0.02	0.00	Open
P-56	3.38	0.02	0.00	Open
P-57	284.78	1.82	1.78	Open
P-58	105.45	0.67	0.28	Open
P-59	-4.06	0.03	0.00	Open
P-60	2.02	0.01	0.00	Open
P-61	1193.28	3.39	3.52	Open
P-62	908.50	2.58	2.12	Open
P-63	-124.57	0.35	0.05	Open
P-64	0.68	0.00	0.00	Open
P-65	-127.95	0.36	0.06	Open
P-66	-188.13	1.20	0.83	Open
P-67	-2.70	0.02	0.00	Open
P-68	-193.53	1.24	0.87	Open
P-69	106.42	0.68	0.29	Open
P-70	106.42	0.68	0.29	Open
P-71	-99.93	0.64	0.26	Open
P-72	227.27	1.45	1.17	Open
P-73	113.43	0.72	0.32	Open
P-74	10.12	0.06	0.00	Open
P-75	-2.02	0.01	0.00	Open
P-76	-8.86	0.06	0.00	Open
P-77	-58.82	0.17	0.01	Open
P-78	-59.50	0.17	0.01	Open
P-79	12.43	0.08	0.01	Open
P-80	29.85	0.19	0.03	Open
P-81	-11.88	0.08	0.01	Open
P-82	17.40	0.11	0.01	Open
P-83	610.90	1.73	1.02	Open
P-84	292.89	1.87	1.88	Open
P-85	-8.10	0.05	0.00	Open
P-86	-1.36	0.01	0.00	Open
P-87	-2.02	0.01	0.00	Open
P-88	-0.68	0.00	0.00	Open
P-89	6.84	0.04	0.00	Open
P-90	-54.76	0.35	0.08	Open
P-91	45.90	0.29	0.06	Open
P-92	-56.97	0.36	0.09	Open
P-93	-92.43	0.59	0.22	Open
P-94	172.57	1.10	0.71	Open
P-95	-60.35	0.39	0.10	Open
P-96	-61.03	0.39	0.10	Open
P-97	108.83	0.69	0.30	Open
P-98	-38.84	0.25	0.04	Open
P-99	-11.48	0.03	0.00	Open
P-100	-2.02	0.01	0.00	Open
P-101	1420.55	1.01	0.17	Open

Sereno Canyon Phase 4 Max Day fire flow J29



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-21	-37.48	0.24	0.04	Open
PUMP1	0.00	0.00	0.00	Closed Pump
PUMP2	0.00	0.00	0.00	Closed Pump
PUMP3	0.00	0.00	0.00	Closed Pump
PUMP4	1420.56	0.00	-283.46	Open Pump
1	1420.55	4.03	0.00	Open Valve

Sereno Canyon Phase 4 Max Day fire flow J30

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12/2/2017 10:33:16 AM

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

Input File: Sereno Canyon Phase 4 Max Day fire flow J30.net

Sereno Canyon

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in
P-1	J-32	J-36	955.6	8
P-2	J-36	J-37	121.6	8
P-3	J-30	J-38	957.7	8
P-4	J-38	J-39	400	8
P-5	J-39	J-29	841.9	8
P-6	J-39	J-40	83.23	8
P-7	J-28	J-27	505.5	8
P-8	J-2	J-3	452.1	12
P-9	J-3	J-4	195.3	12
P-10	J-4	J-41	148.7	12
P-11	J-14	J-11	890.1	8
P-12	J-12	J-11	340.4	12
P-13	J-11	J-9	458.8	12
P-14	J-3	J-19	223.6	8
P-15	J-20	J-21	310.5	8
P-16	J-21	J-22	93.71	8
P-17	J-22	J-24	192.7	8
P-18	J-24	J-20	511.2	8
P-19	J-20	J-19	293.1	8
P-20	J-5	J-17	587.4	8
P-22	J-18	J-4	378.4	8
P-23	J-7	J-13	601.7	8
P-24	J-8	J-14	610.4	8
P-25	J-14	J-15	540.4	8
P-26	J-15	J-16	224.8	8
P-27	J-22	J-23	128.3	8
P-28	J-21	J-41	699	8
P-29	J-41	J-5	172.5	12
P-30	J-5	J-6	197.8	12
P-31	J-6	J-7	466.8	12
P-32	J-7	J-8	339.3	12

Sereno Canyon Phase 4 Max Day fire flow J30

P-33	J-8	J-9	384	12
P-34	J-9	J-10	522	12
P-35	J-26	J-2	531.2	8
P-36	J-2	J-1	557.4	12
P-37	J-1	J-102	754.8	12
P-38	J-102	J-105	819.5	12



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in
P-39	J-105	J-107	511.2	12
P-40	J-107	J-111	1032	12
P-41	J-111	J-112	449.2	8
P-42	J-112	J-114	204.1	8
P-43	J-114	J-115	198.3	8
P-44	J-115	J-118	154.9	8
P-45	J-118	J-300	1588	8
P-46	J-300	J-302	757	8
P-47	J-302	J-304	469.1	12
P-48	J-304	J-1	500.9	12
P-49	J-1	J-27	271.1	8
P-50	J-27	J-29	112.3	8
P-51	J-29	J-30	411.1	8
P-52	J-30	J-42	43.31	8
P-53	J-42	J-31	191.5	8
P-54	J-35	J-36	438.3	8
P-55	J-106	J-105	800.8	8
P-56	J-33	J-123	375.5	8
P-57	J-100	J-103	951.8	8
P-58	J-104	J-35	775.1	8
P-59	J-110	J-108	595.1	8
P-60	J-108	J-109	353.1	8
P-61	S145	J-100	74.44	12
P-62	J-100	J-101	464.5	12
P-63	J-111	J-207	1424	12
P-64	J-207	J-208	997.1	8
P-65	J-207	J-206	1045	12
P-66	J-206	J-204	317.1	8
P-67	J-205	J-204	465.7	8
P-68	J-204	J-203	643.7	8
P-69	J-200	J-211	2106	8
P-70	J-211	J-203	536.3	8
P-71	J-203	J-201	2125	8
P-72	S145	J-200	327.3	8

Sereno Canyon Phase 4 Max Day fire flow J30

P-73	J-200	J-201	667.2	8
P-74	J-201	J-202	1059	8
P-75	J-120	J-119	186.5	8
P-76	J-119	J-121	389	8
P-77	J-210	J-209	1327	12
P-78	J-209	J-206	257.6	12
P-79	J-13	J-8	394	8
P-80	J-6	J-15	462	8
P-81	J-24	J-25	535	8
P-82	J-19	J-25	884	8
P-83	J-101	J-102	845.5	12
P-84	J-101	J-42	913.6	8
P-85	J-108	J-107	309.2	8



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in	
P-86	J-113	J-112	191.9	8	
P-87	J-117	J-114	573.8	8	
P-88	J-116	J-115	172.9	8	
P-89	J-119	J-118	421	8	
P-90	J-121	J-210	4137	8	
P-91	J-121	J-122	131.6	8	
P-92	J-32	J-33	221	8	
P-93	J-31	J-32	387	8	
P-94	J-103	J-31	1000	8	
P-95	J-33	J-34	245	8	
P-96	J-34	J-35	223.9	8	
P-97	J-103	J-104	1106	8	
P-98	J-305	J-304	506.9	8	
P-99	J-303	J-302	412.7	12	
P-100	J-301	J-300	178.5	8	
P-101	R-1	J-400	10	24	
P-21	J-26	J-305	427	8	
PUMP1	J-400	J-401	#N/A	#N/A	Pump
PUMP2	J-400	J-401	#N/A	#N/A	Pump
PUMP3	J-400	J-401	#N/A	#N/A	Pump
PUMP4	J-400	J-401	#N/A	#N/A	Pump
1	J-401	S145	#N/A	12	Valve

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
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Sereno Canyon Phase 4 Max Day fire flow J30

PUMP1	0.00	0.00	0.00	0.00	0.00	0.00
PUMP2	0.00	0.00	0.00	0.00	0.00	0.00
PUMP3	0.00	0.00	0.00	0.00	0.00	0.00
PUMP4	100.00	75.00	1187.91	101.13	101.13	0.00

Demand Charge: 0.00
Total Cost: 0.00

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-32	3.44	2997.41	89.44	0.00
J-36	3.80	2997.46	73.86	0.00
J-37	1.72	2997.46	70.39	0.00
J-30	1000.00	2996.55	97.95	0.00
J-38	5.52	2996.77	81.36	0.00
J-39	3.44	2996.87	87.90	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-29	2.76	2997.11	93.86	0.00
J-40	2.06	2996.87	87.69	0.00
J-28	3.45	2997.41	102.44	0.00
J-27	2.07	2997.41	90.74	0.00
J-2	1.38	2998.10	94.94	0.00
J-3	0.00	2998.04	88.15	0.00
J-4	1.38	2998.02	89.05	0.00
J-41	5.52	2998.01	90.04	0.00
J-14	6.90	2997.97	93.15	0.00
J-11	4.14	2997.96	100.07	0.00
J-12	49.90	2997.95	94.01	0.00
J-9	0.00	2997.96	108.74	0.00
J-6	2.07	2997.99	90.99	0.00
J-19	3.44	2998.02	82.77	0.00
J-24	6.20	2998.01	82.76	0.00
J-20	31.00	2998.01	74.75	0.00
J-21	12.40	2998.01	74.75	0.00
J-22	3.10	2998.01	74.53	0.00
J-5	2.76	2998.00	90.56	0.00
J-17	3.10	2998.00	103.56	0.00

Sereno Canyon Phase 4 Max Day fire flow J30

J-18	1.38	2998.02	97.50	0.00
J-7	4.14	2997.97	100.51	0.00
J-13	3.45	2997.97	110.91	0.00
J-8	3.80	2997.97	104.84	0.00
J-15	3.44	2997.98	82.53	0.00
J-16	2.06	2997.98	77.98	0.00
J-23	9.30	2998.01	72.36	0.00
J-303	11.48	2998.17	111.86	0.00
J-301	2.02	2998.27	116.68	0.00
J-10	47.88	2997.95	115.67	0.00
J-26	2.07	2998.12	100.58	0.00
J-1	0.00	2998.16	95.83	0.00
J-102	2.70	2998.74	101.28	0.00
J-105	3.38	2998.74	109.08	0.00
J-107	4.72	2998.74	113.84	0.00
J-111	4.06	2998.74	116.88	0.00
J-112	1.36	2998.65	125.51	0.00
J-114	1.36	2998.61	126.79	0.00
J-115	1.36	2998.57	128.07	0.00
J-118	1.36	2998.55	128.49	0.00
J-300	7.42	2998.27	117.54	0.00
J-302	2.70	2998.17	109.70	0.00
J-304	2.02	2998.16	102.76	0.00
J-42	0.00	2996.91	98.75	0.00
J-31	0.00	2997.30	95.89	0.00
J-35	0.00	2997.49	76.47	0.00
J-101	4.72	2999.38	115.21	0.00



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Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-106	3.38	2998.74	116.88	0.00
J-33	0.00	2997.43	84.25	0.00
J-123	3.38	2997.43	92.48	0.00
J-100	0.00	3000.32	121.90	0.00
J-103	3.38	2998.19	108.84	0.00
J-104	3.38	2997.77	84.83	0.00
J-117	2.02	2998.61	123.75	0.00
J-110	4.06	2998.74	109.08	0.00
J-108	2.02	2998.74	108.64	0.00
J-109	2.02	2998.74	107.78	0.00
J-305	1.36	2998.14	103.62	0.00
S145	0.00	3000.59	123.74	0.00
J-207	2.70	2998.81	114.31	0.00

Sereno Canyon Phase 4 Max Day fire flow J30

J-208	0.68	2998.81	116.91	0.00
J-206	0.68	2998.86	135.99	0.00
J-204	2.70	2999.09	129.16	0.00
J-205	2.70	2999.09	120.93	0.00
J-203	12.82	2999.57	121.57	0.00
J-200	7.42	3000.24	126.20	0.00
J-211	0.00	2999.71	118.17	0.00
J-201	3.38	3000.05	136.51	0.00
J-202	10.12	3000.05	117.88	0.00
J-119	0.00	2998.55	132.39	0.00
J-120	2.02	2998.55	136.73	0.00
J-121	0.00	2998.55	136.73	0.00
J-122	45.90	2998.54	139.32	0.00
J-210	4.06	2998.84	137.72	0.00
J-209	0.68	2998.86	135.56	0.00
J-113	1.36	2998.65	124.64	0.00
J-116	0.68	2998.57	127.64	0.00
J-25	5.52	2998.01	70.42	0.00
J-34	0.68	2997.46	82.09	0.00
J-400	0.00	2717.00	0.00	0.00
R-1	-1418.83	2717.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-1	-44.62	0.28	0.06	Open
P-2	1.72	0.01	0.00	Open
P-3	-94.49	0.60	0.23	Open
P-4	-100.01	0.64	0.26	Open
P-5	-105.51	0.67	0.28	Open
P-6	2.06	0.01	0.00	Open



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-7	-3.45	0.02	0.00	Open
P-8	212.88	0.60	0.14	Open
P-9	155.77	0.44	0.08	Open
P-10	153.01	0.43	0.08	Open
P-11	19.94	0.13	0.01	Open
P-12	-49.90	0.14	0.01	Open
P-13	-34.10	0.10	0.00	Open

Sereno Canyon Phase 4 Max Day fire flow J30

P-14	57.11	0.36	0.09	Open
P-15	4.46	0.03	0.00	Open
P-16	5.91	0.04	0.00	Open
P-17	-6.49	0.04	0.00	Open
P-18	-0.81	0.01	0.00	Open
P-19	-36.27	0.23	0.04	Open
P-20	3.10	0.02	0.00	Open
P-22	-1.38	0.01	0.00	Open
P-23	15.88	0.10	0.01	Open
P-24	2.48	0.02	0.00	Open
P-25	-24.35	0.16	0.02	Open
P-26	2.06	0.01	0.00	Open
P-27	9.30	0.06	0.00	Open
P-28	-13.85	0.09	0.01	Open
P-29	133.64	0.38	0.06	Open
P-30	127.78	0.36	0.06	Open
P-31	95.86	0.27	0.03	Open
P-32	75.84	0.22	0.02	Open
P-33	81.98	0.23	0.02	Open
P-34	47.88	0.14	0.01	Open
P-35	35.02	0.22	0.04	Open
P-36	-179.24	0.51	0.11	Open
P-37	-523.17	1.48	0.76	Open
P-38	-3.37	0.01	0.00	Open
P-39	-10.13	0.03	0.00	Open
P-40	-22.95	0.07	0.00	Open
P-41	88.43	0.56	0.20	Open
P-42	85.71	0.55	0.19	Open
P-43	82.33	0.53	0.18	Open
P-44	80.29	0.51	0.17	Open
P-45	80.83	0.52	0.17	Open
P-46	71.39	0.46	0.14	Open
P-47	57.21	0.16	0.01	Open
P-48	16.74	0.05	0.00	Open
P-49	360.67	2.30	2.76	Open
P-50	355.15	2.27	2.68	Open
P-51	246.88	1.58	1.37	Open
P-52	-658.63	4.20	8.43	Open
P-53	-302.27	1.93	1.99	Open
P-54	50.14	0.32	0.07	Open



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
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Sereno Canyon Phase 4 Max Day fire flow J30

P-55	-3.38	0.02	0.00	Open
P-56	3.38	0.02	0.00	Open
P-57	322.05	2.06	2.24	Open
P-58	119.52	0.76	0.36	Open
P-59	-4.06	0.03	0.00	Open
P-60	2.02	0.01	0.00	Open
P-61	1205.63	3.42	3.58	Open
P-62	883.58	2.51	2.02	Open
P-63	-115.43	0.33	0.05	Open
P-64	0.68	0.00	0.00	Open
P-65	-118.81	0.34	0.05	Open
P-66	-174.06	1.11	0.72	Open
P-67	-2.70	0.02	0.00	Open
P-68	-179.46	1.15	0.76	Open
P-69	99.28	0.63	0.25	Open
P-70	99.28	0.63	0.25	Open
P-71	-93.00	0.59	0.22	Open
P-72	213.20	1.36	1.04	Open
P-73	106.50	0.68	0.29	Open
P-74	10.12	0.06	0.00	Open
P-75	-2.02	0.01	0.00	Open
P-76	-3.92	0.03	0.00	Open
P-77	-53.88	0.15	0.01	Open
P-78	-54.56	0.15	0.01	Open
P-79	12.43	0.08	0.00	Open
P-80	29.85	0.19	0.03	Open
P-81	-11.88	0.08	0.01	Open
P-82	17.40	0.11	0.01	Open
P-83	522.50	1.48	0.76	Open
P-84	356.36	2.27	2.70	Open
P-85	-8.10	0.05	0.00	Open
P-86	-1.36	0.01	0.00	Open
P-87	-2.02	0.01	0.00	Open
P-88	-0.68	0.00	0.00	Open
P-89	1.90	0.01	0.00	Open
P-90	-49.82	0.32	0.07	Open
P-91	45.90	0.29	0.06	Open
P-92	-65.32	0.42	0.12	Open
P-93	-106.50	0.68	0.29	Open
P-94	195.77	1.25	0.89	Open
P-95	-68.70	0.44	0.13	Open
P-96	-69.38	0.44	0.13	Open
P-97	122.90	0.78	0.38	Open
P-98	-38.45	0.25	0.04	Open
P-99	-11.48	0.03	0.00	Open
P-100	-2.02	0.01	0.00	Open
P-101	1418.83	1.01	0.17	Open

Sereno Canyon Phase 4 Max Day fire flow J30



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-21	-37.09	0.24	0.04	Open
PUMP1	0.00	0.00	0.00	Closed Pump
PUMP2	0.00	0.00	0.00	Closed Pump
PUMP3	0.00	0.00	0.00	Closed Pump
PUMP4	1418.84	0.00	-283.59	Open Pump
1	1418.83	4.02	0.00	Open Valve

Sereno Canyon Phase 4 Max Day fire flow J31

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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: Sereno Canyon Phase 4 Max Day fire flow J31.net

Sereno Canyon

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in
P-1	J-32	J-36	955.6	8
P-2	J-36	J-37	121.6	8
P-3	J-30	J-38	957.7	8
P-4	J-38	J-39	400	8
P-5	J-39	J-29	841.9	8
P-6	J-39	J-40	83.23	8
P-7	J-28	J-27	505.5	8
P-8	J-2	J-3	452.1	12
P-9	J-3	J-4	195.3	12
P-10	J-4	J-41	148.7	12
P-11	J-14	J-11	890.1	8
P-12	J-12	J-11	340.4	12
P-13	J-11	J-9	458.8	12
P-14	J-3	J-19	223.6	8
P-15	J-20	J-21	310.5	8
P-16	J-21	J-22	93.71	8
P-17	J-22	J-24	192.7	8
P-18	J-24	J-20	511.2	8
P-19	J-20	J-19	293.1	8
P-20	J-5	J-17	587.4	8
P-22	J-18	J-4	378.4	8
P-23	J-7	J-13	601.7	8
P-24	J-8	J-14	610.4	8
P-25	J-14	J-15	540.4	8
P-26	J-15	J-16	224.8	8
P-27	J-22	J-23	128.3	8
P-28	J-21	J-41	699	8
P-29	J-41	J-5	172.5	12
P-30	J-5	J-6	197.8	12
P-31	J-6	J-7	466.8	12
P-32	J-7	J-8	339.3	12

Sereno Canyon Phase 4 Max Day fire flow J31

P-33	J-8	J-9	384	12
P-34	J-9	J-10	522	12
P-35	J-26	J-2	531.2	8
P-36	J-2	J-1	557.4	12
P-37	J-1	J-102	754.8	12
P-38	J-102	J-105	819.5	12



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in
P-39	J-105	J-107	511.2	12
P-40	J-107	J-111	1032	12
P-41	J-111	J-112	449.2	8
P-42	J-112	J-114	204.1	8
P-43	J-114	J-115	198.3	8
P-44	J-115	J-118	154.9	8
P-45	J-118	J-300	1588	8
P-46	J-300	J-302	757	8
P-47	J-302	J-304	469.1	12
P-48	J-304	J-1	500.9	12
P-49	J-1	J-27	271.1	8
P-50	J-27	J-29	112.3	8
P-51	J-29	J-30	411.1	8
P-52	J-30	J-42	43.31	8
P-53	J-42	J-31	191.5	8
P-54	J-35	J-36	438.3	8
P-55	J-106	J-105	800.8	8
P-56	J-33	J-123	375.5	8
P-57	J-100	J-103	951.8	8
P-58	J-104	J-35	775.1	8
P-59	J-110	J-108	595.1	8
P-60	J-108	J-109	353.1	8
P-61	S145	J-100	74.44	12
P-62	J-100	J-101	464.5	12
P-63	J-111	J-207	1424	12
P-64	J-207	J-208	997.1	8
P-65	J-207	J-206	1045	12
P-66	J-206	J-204	317.1	8
P-67	J-205	J-204	465.7	8
P-68	J-204	J-203	643.7	8
P-69	J-200	J-211	2106	8
P-70	J-211	J-203	536.3	8
P-71	J-203	J-201	2125	8
P-72	S145	J-200	327.3	8

Sereno Canyon Phase 4 Max Day fire flow J31

P-73	J-200	J-201	667.2	8
P-74	J-201	J-202	1059	8
P-75	J-120	J-119	186.5	8
P-76	J-119	J-121	389	8
P-77	J-210	J-209	1327	12
P-78	J-209	J-206	257.6	12
P-79	J-13	J-8	394	8
P-80	J-6	J-15	462	8
P-81	J-24	J-25	535	8
P-82	J-19	J-25	884	8
P-83	J-101	J-102	845.5	12
P-84	J-101	J-42	913.6	8
P-85	J-108	J-107	309.2	8



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in	
P-86	J-113	J-112	191.9	8	
P-87	J-117	J-114	573.8	8	
P-88	J-116	J-115	172.9	8	
P-89	J-119	J-118	421	8	
P-90	J-121	J-210	4137	8	
P-91	J-121	J-122	131.6	8	
P-92	J-32	J-33	221	8	
P-93	J-31	J-32	387	8	
P-94	J-103	J-31	1000	8	
P-95	J-33	J-34	245	8	
P-96	J-34	J-35	223.9	8	
P-97	J-103	J-104	1106	8	
P-98	J-305	J-304	506.9	8	
P-99	J-303	J-302	412.7	12	
P-100	J-301	J-300	178.5	8	
P-101	R-1	J-400	10	24	
P-21	J-26	J-305	427	8	
PUMP1	J-400	J-401	#N/A	#N/A	Pump
PUMP2	J-400	J-401	#N/A	#N/A	Pump
PUMP3	J-400	J-401	#N/A	#N/A	Pump
PUMP4	J-400	J-401	#N/A	#N/A	Pump
1	J-401	S145	#N/A	12	Valve

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
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Sereno Canyon Phase 4 Max Day fire flow J31

PUMP1	0.00	0.00	0.00	0.00	0.00	0.00
PUMP2	0.00	0.00	0.00	0.00	0.00	0.00
PUMP3	0.00	0.00	0.00	0.00	0.00	0.00
PUMP4	100.00	75.00	1186.50	101.33	101.33	0.00

Demand Charge: 0.00
Total Cost: 0.00

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-31	1000.00	2995.45	95.09	0.00
J-32	3.44	2995.62	88.66	0.00
J-36	3.80	2995.71	73.10	0.00
J-37	1.72	2995.71	69.64	0.00
J-30	4.48	2996.97	98.13	0.00
J-38	5.52	2997.12	81.51	0.00
J-39	3.44	2997.20	88.04	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-29	2.76	2997.37	93.97	0.00
J-40	2.06	2997.20	87.83	0.00
J-28	3.45	2997.59	102.51	0.00
J-27	2.07	2997.59	90.81	0.00
J-2	1.38	2998.07	94.92	0.00
J-3	0.00	2998.01	88.14	0.00
J-4	1.38	2997.99	89.04	0.00
J-41	5.52	2997.98	90.03	0.00
J-14	6.90	2997.94	93.13	0.00
J-11	4.14	2997.92	100.06	0.00
J-12	49.90	2997.92	93.99	0.00
J-9	0.00	2997.93	108.73	0.00
J-6	2.07	2997.96	90.98	0.00
J-19	3.44	2997.99	82.75	0.00
J-24	6.20	2997.98	82.75	0.00
J-20	31.00	2997.98	74.73	0.00
J-21	12.40	2997.98	74.73	0.00
J-22	3.10	2997.98	74.52	0.00
J-5	2.76	2997.97	90.55	0.00

Sereno Canyon Phase 4 Max Day fire flow J31

J-17	3.10	2997.97	103.55	0.00
J-18	1.38	2997.99	97.49	0.00
J-7	4.14	2997.94	100.50	0.00
J-13	3.45	2997.94	110.90	0.00
J-8	3.80	2997.94	104.83	0.00
J-15	3.44	2997.95	82.52	0.00
J-16	2.06	2997.95	77.97	0.00
J-23	9.30	2997.98	72.35	0.00
J-303	11.48	2998.14	111.85	0.00
J-301	2.02	2998.22	116.65	0.00
J-10	47.88	2997.92	115.66	0.00
J-26	2.07	2998.09	100.57	0.00
J-1	0.00	2998.13	95.82	0.00
J-102	2.70	2998.61	101.22	0.00
J-105	3.38	2998.61	109.02	0.00
J-107	4.72	2998.61	113.79	0.00
J-111	4.06	2998.61	116.82	0.00
J-112	1.36	2998.53	125.45	0.00
J-114	1.36	2998.50	126.74	0.00
J-115	1.36	2998.47	128.03	0.00
J-118	1.36	2998.44	128.45	0.00
J-300	7.42	2998.22	117.52	0.00
J-302	2.70	2998.14	109.68	0.00
J-304	2.02	2998.13	102.75	0.00
J-42	0.00	2996.89	98.75	0.00
J-35	0.00	2995.76	75.72	0.00
J-101	4.72	2999.16	115.11	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-106	3.38	2998.61	116.82	0.00
J-33	0.00	2995.66	83.48	0.00
J-123	3.38	2995.66	91.71	0.00
J-100	0.00	2999.98	121.75	0.00
J-103	3.38	2996.79	108.23	0.00
J-104	3.38	2996.17	84.14	0.00
J-117	2.02	2998.50	123.71	0.00
J-110	4.06	2998.61	109.02	0.00
J-108	2.02	2998.61	108.59	0.00
J-109	2.02	2998.61	107.72	0.00
J-305	1.36	2998.11	103.61	0.00
S145	0.00	3000.25	123.60	0.00
J-207	2.70	2998.67	114.25	0.00

Sereno Canyon Phase 4 Max Day fire flow J31

J-208	0.68	2998.67	116.85	0.00
J-206	0.68	2998.72	135.93	0.00
J-204	2.70	2998.92	129.09	0.00
J-205	2.70	2998.92	120.85	0.00
J-203	12.82	2999.35	121.47	0.00
J-200	7.42	2999.94	126.07	0.00
J-211	0.00	2999.47	118.06	0.00
J-201	3.38	2999.77	136.39	0.00
J-202	10.12	2999.77	117.76	0.00
J-119	0.00	2998.44	132.35	0.00
J-120	2.02	2998.44	136.68	0.00
J-121	0.00	2998.44	136.68	0.00
J-122	45.90	2998.43	139.28	0.00
J-210	4.06	2998.70	137.66	0.00
J-209	0.68	2998.71	135.50	0.00
J-113	1.36	2998.53	124.59	0.00
J-116	0.68	2998.47	127.59	0.00
J-25	5.52	2997.98	70.40	0.00
J-34	0.68	2995.71	81.34	0.00
J-400	0.00	2717.00	0.00	0.00
R-1	-1423.31	2717.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-1	-56.56	0.36	0.09	Open
P-2	1.72	0.01	0.00	Open
P-3	-78.00	0.50	0.16	Open
P-4	-83.52	0.53	0.18	Open
P-5	-89.02	0.57	0.21	Open
P-6	2.06	0.01	0.00	Open



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-7	-3.45	0.02	0.00	Open
P-8	212.88	0.60	0.14	Open
P-9	155.77	0.44	0.08	Open
P-10	153.01	0.43	0.08	Open
P-11	19.94	0.13	0.01	Open
P-12	-49.90	0.14	0.01	Open
P-13	-34.10	0.10	0.00	Open

Sereno Canyon Phase 4 Max Day fire flow J31

P-14	57.11	0.36	0.09	Open
P-15	4.46	0.03	0.00	Open
P-16	5.91	0.04	0.00	Open
P-17	-6.49	0.04	0.00	Open
P-18	-0.81	0.01	0.00	Open
P-19	-36.27	0.23	0.04	Open
P-20	3.10	0.02	0.00	Open
P-22	-1.38	0.01	0.00	Open
P-23	15.88	0.10	0.01	Open
P-24	2.48	0.02	0.00	Open
P-25	-24.35	0.16	0.02	Open
P-26	2.06	0.01	0.00	Open
P-27	9.30	0.06	0.00	Open
P-28	-13.85	0.09	0.01	Open
P-29	133.64	0.38	0.06	Open
P-30	127.78	0.36	0.06	Open
P-31	95.86	0.27	0.03	Open
P-32	75.84	0.22	0.02	Open
P-33	81.98	0.23	0.02	Open
P-34	47.88	0.14	0.01	Open
P-35	34.89	0.22	0.04	Open
P-36	-179.37	0.51	0.11	Open
P-37	-474.47	1.35	0.64	Open
P-38	0.01	0.00	0.00	Open
P-39	-6.75	0.02	0.00	Open
P-40	-19.57	0.06	0.00	Open
P-41	83.20	0.53	0.18	Open
P-42	80.48	0.51	0.17	Open
P-43	77.10	0.49	0.16	Open
P-44	75.06	0.48	0.15	Open
P-45	72.34	0.46	0.14	Open
P-46	62.90	0.40	0.11	Open
P-47	48.72	0.14	0.01	Open
P-48	8.38	0.02	0.00	Open
P-49	303.47	1.94	2.01	Open
P-50	297.95	1.90	1.94	Open
P-51	206.17	1.32	0.98	Open
P-52	279.69	1.79	1.72	Open
P-53	619.87	3.96	7.53	Open
P-54	62.08	0.40	0.11	Open



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
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Sereno Canyon Phase 4 Max Day fire flow J31

P-55	-3.38	0.02	0.00	Open
P-56	3.38	0.02	0.00	Open
P-57	399.91	2.55	3.35	Open
P-58	148.90	0.95	0.54	Open
P-59	-4.06	0.03	0.00	Open
P-60	2.02	0.01	0.00	Open
P-61	1221.99	3.47	3.68	Open
P-62	822.07	2.33	1.76	Open
P-63	-106.83	0.30	0.04	Open
P-64	0.68	0.00	0.00	Open
P-65	-110.21	0.31	0.04	Open
P-66	-162.18	1.04	0.63	Open
P-67	-2.70	0.02	0.00	Open
P-68	-167.58	1.07	0.67	Open
P-69	93.26	0.60	0.23	Open
P-70	93.26	0.60	0.23	Open
P-71	-87.14	0.56	0.20	Open
P-72	201.32	1.29	0.94	Open
P-73	100.64	0.64	0.26	Open
P-74	10.12	0.06	0.00	Open
P-75	-2.02	0.01	0.00	Open
P-76	-0.66	0.00	0.00	Open
P-77	-50.62	0.14	0.01	Open
P-78	-51.30	0.15	0.01	Open
P-79	12.43	0.08	0.00	Open
P-80	29.85	0.19	0.03	Open
P-81	-11.88	0.08	0.01	Open
P-82	17.40	0.11	0.01	Open
P-83	477.18	1.35	0.64	Open
P-84	340.17	2.17	2.48	Open
P-85	-8.10	0.05	0.00	Open
P-86	-1.36	0.01	0.00	Open
P-87	-2.02	0.01	0.00	Open
P-88	-0.68	0.00	0.00	Open
P-89	-1.36	0.01	0.00	Open
P-90	-46.56	0.30	0.06	Open
P-91	45.90	0.29	0.06	Open
P-92	-82.76	0.53	0.18	Open
P-93	-135.88	0.87	0.45	Open
P-94	244.25	1.56	1.34	Open
P-95	-86.14	0.55	0.20	Open
P-96	-86.82	0.55	0.20	Open
P-97	152.28	0.97	0.56	Open
P-98	-38.32	0.24	0.04	Open
P-99	-11.48	0.03	0.00	Open
P-100	-2.02	0.01	0.00	Open
P-101	1423.31	1.01	0.17	Open

Sereno Canyon Phase 4 Max Day fire flow J31



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-21	-36.96	0.24	0.04	Open
PUMP1	0.00	0.00	0.00	Closed Pump
PUMP2	0.00	0.00	0.00	Closed Pump
PUMP3	0.00	0.00	0.00	Closed Pump
PUMP4	1423.32	0.00	-283.25	Open Pump
1	1423.31	4.04	0.00	Open Valve

Sereno Canyon Phase 4 Max Day fire flow J32

P-33	J-8	J-9	384	12
P-34	J-9	J-10	522	12
P-35	J-26	J-2	531.2	8
P-36	J-2	J-1	557.4	12
P-37	J-1	J-102	754.8	12
P-38	J-102	J-105	819.5	12



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in
P-39	J-105	J-107	511.2	12
P-40	J-107	J-111	1032	12
P-41	J-111	J-112	449.2	8
P-42	J-112	J-114	204.1	8
P-43	J-114	J-115	198.3	8
P-44	J-115	J-118	154.9	8
P-45	J-118	J-300	1588	8
P-46	J-300	J-302	757	8
P-47	J-302	J-304	469.1	12
P-48	J-304	J-1	500.9	12
P-49	J-1	J-27	271.1	8
P-50	J-27	J-29	112.3	8
P-51	J-29	J-30	411.1	8
P-52	J-30	J-42	43.31	8
P-53	J-42	J-31	191.5	8
P-54	J-35	J-36	438.3	8
P-55	J-106	J-105	800.8	8
P-56	J-33	J-123	375.5	8
P-57	J-100	J-103	951.8	8
P-58	J-104	J-35	775.1	8
P-59	J-110	J-108	595.1	8
P-60	J-108	J-109	353.1	8
P-61	S145	J-100	74.44	12
P-62	J-100	J-101	464.5	12
P-63	J-111	J-207	1424	12
P-64	J-207	J-208	997.1	8
P-65	J-207	J-206	1045	12
P-66	J-206	J-204	317.1	8
P-67	J-205	J-204	465.7	8
P-68	J-204	J-203	643.7	8
P-69	J-200	J-211	2106	8
P-70	J-211	J-203	536.3	8
P-71	J-203	J-201	2125	8
P-72	S145	J-200	327.3	8

Sereno Canyon Phase 4 Max Day fire flow J32

P-73	J-200	J-201	667.2	8
P-74	J-201	J-202	1059	8
P-75	J-120	J-119	186.5	8
P-76	J-119	J-121	389	8
P-77	J-210	J-209	1327	12
P-78	J-209	J-206	257.6	12
P-79	J-13	J-8	394	8
P-80	J-6	J-15	462	8
P-81	J-24	J-25	535	8
P-82	J-19	J-25	884	8
P-83	J-101	J-102	845.5	12
P-84	J-101	J-42	913.6	8
P-85	J-108	J-107	309.2	8



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in	
P-86	J-113	J-112	191.9	8	
P-87	J-117	J-114	573.8	8	
P-88	J-116	J-115	172.9	8	
P-89	J-119	J-118	421	8	
P-90	J-121	J-210	4137	8	
P-91	J-121	J-122	131.6	8	
P-92	J-32	J-33	221	8	
P-93	J-31	J-32	387	8	
P-94	J-103	J-31	1000	8	
P-95	J-33	J-34	245	8	
P-96	J-34	J-35	223.9	8	
P-97	J-103	J-104	1106	8	
P-98	J-305	J-304	506.9	8	
P-99	J-303	J-302	412.7	12	
P-100	J-301	J-300	178.5	8	
P-101	R-1	J-400	10	24	
P-21	J-26	J-305	427	8	
PUMP1	J-400	J-401	#N/A	#N/A	Pump
PUMP2	J-400	J-401	#N/A	#N/A	Pump
PUMP3	J-400	J-401	#N/A	#N/A	Pump
PUMP4	J-400	J-401	#N/A	#N/A	Pump
1	J-401	S145	#N/A	12	Valve

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
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Sereno Canyon Phase 4 Max Day fire flow J32

PUMP1	0.00	0.00	0.00	0.00	0.00	0.00
PUMP2	0.00	0.00	0.00	0.00	0.00	0.00
PUMP3	0.00	0.00	0.00	0.00	0.00	0.00
PUMP4	100.00	75.00	1187.58	101.17	101.17	0.00

Demand Charge: 0.00
Total Cost: 0.00

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-32	1000.00	2992.36	87.25	0.00
J-36	3.80	2992.69	71.79	0.00
J-37	1.72	2992.69	68.33	0.00
J-30	4.48	2997.48	98.35	0.00
J-38	5.52	2997.62	81.73	0.00
J-39	3.44	2997.68	88.25	0.00



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Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-29	2.76	2997.83	94.17	0.00
J-40	2.06	2997.68	88.04	0.00
J-28	3.45	2998.03	102.70	0.00
J-27	2.07	2998.03	91.00	0.00
J-2	1.38	2998.45	95.09	0.00
J-3	0.00	2998.38	88.30	0.00
J-4	1.38	2998.37	89.20	0.00
J-41	5.52	2998.36	90.19	0.00
J-14	6.90	2998.31	93.29	0.00
J-11	4.14	2998.30	100.22	0.00
J-12	49.90	2998.30	94.15	0.00
J-9	0.00	2998.30	108.89	0.00
J-6	2.07	2998.33	91.14	0.00
J-19	3.44	2998.36	82.92	0.00
J-24	6.20	2998.35	82.91	0.00
J-20	31.00	2998.35	74.90	0.00
J-21	12.40	2998.35	74.90	0.00
J-22	3.10	2998.35	74.68	0.00
J-5	2.76	2998.35	90.71	0.00
J-17	3.10	2998.35	103.71	0.00

Sereno Canyon Phase 4 Max Day fire flow J32

J-18	1.38	2998.37	97.65	0.00
J-7	4.14	2998.32	100.66	0.00
J-13	3.45	2998.31	111.06	0.00
J-8	3.80	2998.31	104.99	0.00
J-15	3.44	2998.32	82.68	0.00
J-16	2.06	2998.32	78.13	0.00
J-23	9.30	2998.35	72.51	0.00
J-303	11.48	2998.51	112.01	0.00
J-301	2.02	2998.59	116.81	0.00
J-10	47.88	2998.30	115.82	0.00
J-26	2.07	2998.47	100.73	0.00
J-1	0.00	2998.51	95.98	0.00
J-102	2.70	2998.96	101.37	0.00
J-105	3.38	2998.96	109.17	0.00
J-107	4.72	2998.96	113.94	0.00
J-111	4.06	2998.96	116.97	0.00
J-112	1.36	2998.88	125.61	0.00
J-114	1.36	2998.85	126.89	0.00
J-115	1.36	2998.82	128.18	0.00
J-118	1.36	2998.79	128.60	0.00
J-300	7.42	2998.59	117.68	0.00
J-302	2.70	2998.51	109.85	0.00
J-304	2.02	2998.51	102.91	0.00
J-42	0.00	2997.42	98.97	0.00
J-31	0.00	2996.13	95.38	0.00
J-35	0.00	2992.85	74.46	0.00
J-101	4.72	2999.47	115.25	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-106	3.38	2998.96	116.97	0.00
J-33	0.00	2992.51	82.12	0.00
J-123	3.38	2992.51	90.35	0.00
J-100	0.00	3000.23	121.86	0.00
J-103	3.38	2996.54	108.13	0.00
J-104	3.38	2994.35	83.35	0.00
J-117	2.02	2998.85	123.86	0.00
J-110	4.06	2998.96	109.17	0.00
J-108	2.02	2998.96	108.74	0.00
J-109	2.02	2998.96	107.87	0.00
J-305	1.36	2998.49	103.77	0.00
S145	0.00	3000.51	123.71	0.00
J-207	2.70	2999.01	114.40	0.00

Sereno Canyon Phase 4 Max Day fire flow J32

J-208	0.68	2999.01	117.00	0.00
J-206	0.68	2999.05	136.08	0.00
J-204	2.70	2999.24	129.23	0.00
J-205	2.70	2999.24	121.00	0.00
J-203	12.82	2999.65	121.61	0.00
J-200	7.42	3000.21	126.18	0.00
J-211	0.00	2999.76	118.19	0.00
J-201	3.38	3000.05	136.51	0.00
J-202	10.12	3000.05	117.88	0.00
J-119	0.00	2998.79	132.50	0.00
J-120	2.02	2998.79	136.83	0.00
J-121	0.00	2998.79	136.83	0.00
J-122	45.90	2998.79	139.43	0.00
J-210	4.06	2999.04	137.81	0.00
J-209	0.68	2999.05	135.65	0.00
J-113	1.36	2998.88	124.74	0.00
J-116	0.68	2998.82	127.74	0.00
J-25	5.52	2998.35	70.56	0.00
J-34	0.68	2992.69	80.03	0.00
J-400	0.00	2717.00	0.00	0.00
R-1	-1419.87	2717.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-1	-116.98	0.75	0.34	Open
P-2	1.72	0.01	0.00	Open
P-3	-72.36	0.46	0.14	Open
P-4	-77.88	0.50	0.16	Open
P-5	-83.38	0.53	0.18	Open
P-6	2.06	0.01	0.00	Open



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-7	-3.45	0.02	0.00	Open
P-8	212.88	0.60	0.14	Open
P-9	155.77	0.44	0.08	Open
P-10	153.01	0.43	0.08	Open
P-11	19.94	0.13	0.01	Open
P-12	-49.90	0.14	0.01	Open
P-13	-34.10	0.10	0.00	Open

Sereno Canyon Phase 4 Max Day fire flow J32

P-14	57.11	0.36	0.09	Open
P-15	4.46	0.03	0.00	Open
P-16	5.91	0.04	0.00	Open
P-17	-6.49	0.04	0.00	Open
P-18	-0.81	0.01	0.00	Open
P-19	-36.27	0.23	0.04	Open
P-20	3.10	0.02	0.00	Open
P-22	-1.38	0.01	0.00	Open
P-23	15.88	0.10	0.01	Open
P-24	2.48	0.02	0.00	Open
P-25	-24.35	0.16	0.02	Open
P-26	2.06	0.01	0.00	Open
P-27	9.30	0.06	0.00	Open
P-28	-13.85	0.09	0.01	Open
P-29	133.64	0.38	0.06	Open
P-30	127.78	0.36	0.06	Open
P-31	95.86	0.27	0.03	Open
P-32	75.84	0.22	0.02	Open
P-33	81.98	0.23	0.02	Open
P-34	47.88	0.14	0.01	Open
P-35	34.86	0.22	0.04	Open
P-36	-179.40	0.51	0.11	Open
P-37	-457.85	1.30	0.60	Open
P-38	2.15	0.01	0.00	Open
P-39	-4.61	0.01	0.00	Open
P-40	-17.43	0.05	0.00	Open
P-41	81.47	0.52	0.18	Open
P-42	78.75	0.50	0.17	Open
P-43	75.37	0.48	0.15	Open
P-44	73.33	0.47	0.15	Open
P-45	69.37	0.44	0.13	Open
P-46	59.93	0.38	0.10	Open
P-47	45.75	0.13	0.01	Open
P-48	5.44	0.02	0.00	Open
P-49	283.89	1.81	1.77	Open
P-50	278.37	1.78	1.71	Open
P-51	192.23	1.23	0.86	Open
P-52	260.11	1.66	1.51	Open
P-53	583.01	3.72	6.73	Open
P-54	122.50	0.78	0.37	Open



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
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Sereno Canyon Phase 4 Max Day fire flow J32

P-55	-3.38	0.02	0.00	Open
P-56	3.38	0.02	0.00	Open
P-57	433.33	2.77	3.88	Open
P-58	297.63	1.90	1.94	Open
P-59	-4.06	0.03	0.00	Open
P-60	2.02	0.01	0.00	Open
P-61	1223.66	3.47	3.68	Open
P-62	790.32	2.24	1.64	Open
P-63	-102.96	0.29	0.04	Open
P-64	0.68	0.00	0.00	Open
P-65	-106.34	0.30	0.04	Open
P-66	-157.07	1.00	0.59	Open
P-67	-2.70	0.02	0.00	Open
P-68	-162.47	1.04	0.63	Open
P-69	90.67	0.58	0.21	Open
P-70	90.67	0.58	0.21	Open
P-71	-84.62	0.54	0.19	Open
P-72	196.21	1.25	0.89	Open
P-73	98.12	0.63	0.25	Open
P-74	10.12	0.06	0.00	Open
P-75	-2.02	0.01	0.00	Open
P-76	0.59	0.00	0.00	Open
P-77	-49.37	0.14	0.01	Open
P-78	-50.05	0.14	0.01	Open
P-79	12.43	0.08	0.01	Open
P-80	29.85	0.19	0.03	Open
P-81	-11.88	0.08	0.01	Open
P-82	17.40	0.11	0.01	Open
P-83	462.70	1.31	0.61	Open
P-84	322.90	2.06	2.25	Open
P-85	-8.10	0.05	0.00	Open
P-86	-1.36	0.01	0.00	Open
P-87	-2.02	0.01	0.00	Open
P-88	-0.68	0.00	0.00	Open
P-89	-2.61	0.02	0.00	Open
P-90	-45.31	0.29	0.06	Open
P-91	45.90	0.29	0.06	Open
P-92	-171.07	1.09	0.69	Open
P-93	711.95	4.54	9.74	Open
P-94	128.94	0.82	0.41	Open
P-95	-174.45	1.11	0.72	Open
P-96	-175.13	1.12	0.73	Open
P-97	301.01	1.92	1.98	Open
P-98	-38.29	0.24	0.04	Open
P-99	-11.48	0.03	0.00	Open
P-100	-2.02	0.01	0.00	Open
P-101	1419.87	1.01	0.17	Open

Sereno Canyon Phase 4 Max Day fire flow J32



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-21	-36.93	0.24	0.04	Open
PUMP1	0.00	0.00	0.00	Closed Pump
PUMP2	0.00	0.00	0.00	Closed Pump
PUMP3	0.00	0.00	0.00	Closed Pump
PUMP4	1419.88	0.00	-283.51	Open Pump
1	1419.87	4.03	0.00	Open Valve

Sereno Canyon Phase 4 Max Day fire flow J33

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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: Sereno Canyon Phase 4 Max Day fire flow J33.net

Sereno Canyon

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in
P-1	J-32	J-36	955.6	8
P-2	J-36	J-37	121.6	8
P-3	J-30	J-38	957.7	8
P-4	J-38	J-39	400	8
P-5	J-39	J-29	841.9	8
P-6	J-39	J-40	83.23	8
P-7	J-28	J-27	505.5	8
P-8	J-2	J-3	452.1	12
P-9	J-3	J-4	195.3	12
P-10	J-4	J-41	148.7	12
P-11	J-14	J-11	890.1	8
P-12	J-12	J-11	340.4	12
P-13	J-11	J-9	458.8	12
P-14	J-3	J-19	223.6	8
P-15	J-20	J-21	310.5	8
P-16	J-21	J-22	93.71	8
P-17	J-22	J-24	192.7	8
P-18	J-24	J-20	511.2	8
P-19	J-20	J-19	293.1	8
P-20	J-5	J-17	587.4	8
P-22	J-18	J-4	378.4	8
P-23	J-7	J-13	601.7	8
P-24	J-8	J-14	610.4	8
P-25	J-14	J-15	540.4	8
P-26	J-15	J-16	224.8	8
P-27	J-22	J-23	128.3	8
P-28	J-21	J-41	699	8
P-29	J-41	J-5	172.5	12
P-30	J-5	J-6	197.8	12
P-31	J-6	J-7	466.8	12
P-32	J-7	J-8	339.3	12

Sereno Canyon Phase 4 Max Day fire flow J33

P-33	J-8	J-9	384	12
P-34	J-9	J-10	522	12
P-35	J-26	J-2	531.2	8
P-36	J-2	J-1	557.4	12
P-37	J-1	J-102	754.8	12
P-38	J-102	J-105	819.5	12



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in
P-39	J-105	J-107	511.2	12
P-40	J-107	J-111	1032	12
P-41	J-111	J-112	449.2	8
P-42	J-112	J-114	204.1	8
P-43	J-114	J-115	198.3	8
P-44	J-115	J-118	154.9	8
P-45	J-118	J-300	1588	8
P-46	J-300	J-302	757	8
P-47	J-302	J-304	469.1	12
P-48	J-304	J-1	500.9	12
P-49	J-1	J-27	271.1	8
P-50	J-27	J-29	112.3	8
P-51	J-29	J-30	411.1	8
P-52	J-30	J-42	43.31	8
P-53	J-42	J-31	191.5	8
P-54	J-35	J-36	438.3	8
P-55	J-106	J-105	800.8	8
P-56	J-33	J-123	375.5	8
P-57	J-100	J-103	951.8	8
P-58	J-104	J-35	775.1	8
P-59	J-110	J-108	595.1	8
P-60	J-108	J-109	353.1	8
P-61	S145	J-100	74.44	12
P-62	J-100	J-101	464.5	12
P-63	J-111	J-207	1424	12
P-64	J-207	J-208	997.1	8
P-65	J-207	J-206	1045	12
P-66	J-206	J-204	317.1	8
P-67	J-205	J-204	465.7	8
P-68	J-204	J-203	643.7	8
P-69	J-200	J-211	2106	8
P-70	J-211	J-203	536.3	8
P-71	J-203	J-201	2125	8
P-72	S145	J-200	327.3	8

Sereno Canyon Phase 4 Max Day fire flow J33

P-73	J-200	J-201	667.2	8
P-74	J-201	J-202	1059	8
P-75	J-120	J-119	186.5	8
P-76	J-119	J-121	389	8
P-77	J-210	J-209	1327	12
P-78	J-209	J-206	257.6	12
P-79	J-13	J-8	394	8
P-80	J-6	J-15	462	8
P-81	J-24	J-25	535	8
P-82	J-19	J-25	884	8
P-83	J-101	J-102	845.5	12
P-84	J-101	J-42	913.6	8
P-85	J-108	J-107	309.2	8



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in	
P-86	J-113	J-112	191.9	8	
P-87	J-117	J-114	573.8	8	
P-88	J-116	J-115	172.9	8	
P-89	J-119	J-118	421	8	
P-90	J-121	J-210	4137	8	
P-91	J-121	J-122	131.6	8	
P-92	J-32	J-33	221	8	
P-93	J-31	J-32	387	8	
P-94	J-103	J-31	1000	8	
P-95	J-33	J-34	245	8	
P-96	J-34	J-35	223.9	8	
P-97	J-103	J-104	1106	8	
P-98	J-305	J-304	506.9	8	
P-99	J-303	J-302	412.7	12	
P-100	J-301	J-300	178.5	8	
P-101	R-1	J-400	10	24	
P-21	J-26	J-305	427	8	
PUMP1	J-400	J-401	#N/A	#N/A	Pump
PUMP2	J-400	J-401	#N/A	#N/A	Pump
PUMP3	J-400	J-401	#N/A	#N/A	Pump
PUMP4	J-400	J-401	#N/A	#N/A	Pump
1	J-401	S145	#N/A	12	Valve

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
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Sereno Canyon Phase 4 Max Day fire flow J33

PUMP1	0.00	0.00	0.00	0.00	0.00	0.00
PUMP2	0.00	0.00	0.00	0.00	0.00	0.00
PUMP3	0.00	0.00	0.00	0.00	0.00	0.00
PUMP4	100.00	75.00	1186.50	101.33	101.33	0.00
Demand Charge:						0.00
Total Cost:						0.00

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-33	1000.00	2990.61	81.29	0.00
J-32	3.44	2992.27	87.21	0.00
J-36	3.80	2992.13	71.55	0.00
J-37	1.72	2992.13	68.08	0.00
J-30	4.48	2997.23	98.24	0.00
J-38	5.52	2997.36	81.62	0.00
J-39	3.44	2997.43	88.15	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-29	2.76	2997.58	94.06	0.00
J-40	2.06	2997.43	87.93	0.00
J-28	3.45	2997.77	102.59	0.00
J-27	2.07	2997.77	90.89	0.00
J-2	1.38	2998.19	94.98	0.00
J-3	0.00	2998.13	88.19	0.00
J-4	1.38	2998.11	89.09	0.00
J-41	5.52	2998.10	90.08	0.00
J-14	6.90	2998.06	93.18	0.00
J-11	4.14	2998.04	100.11	0.00
J-12	49.90	2998.04	94.04	0.00
J-9	0.00	2998.05	108.78	0.00
J-6	2.07	2998.08	91.03	0.00
J-19	3.44	2998.11	82.81	0.00
J-24	6.20	2998.10	82.80	0.00
J-20	31.00	2998.10	74.79	0.00
J-21	12.40	2998.10	74.79	0.00
J-22	3.10	2998.10	74.57	0.00
J-5	2.76	2998.09	90.60	0.00

Sereno Canyon Phase 4 Max Day fire flow J33

J-17	3.10	2998.09	103.60	0.00
J-18	1.38	2998.11	97.54	0.00
J-7	4.14	2998.06	100.55	0.00
J-13	3.45	2998.06	110.95	0.00
J-8	3.80	2998.06	104.88	0.00
J-15	3.44	2998.07	82.57	0.00
J-16	2.06	2998.07	78.02	0.00
J-23	9.30	2998.10	72.40	0.00
J-303	11.48	2998.26	111.90	0.00
J-301	2.02	2998.33	116.70	0.00
J-10	47.88	2998.04	115.71	0.00
J-26	2.07	2998.21	100.62	0.00
J-1	0.00	2998.25	95.87	0.00
J-102	2.70	2998.70	101.26	0.00
J-105	3.38	2998.70	109.06	0.00
J-107	4.72	2998.70	113.83	0.00
J-111	4.06	2998.70	116.86	0.00
J-112	1.36	2998.62	125.49	0.00
J-114	1.36	2998.59	126.78	0.00
J-115	1.36	2998.56	128.07	0.00
J-118	1.36	2998.54	128.49	0.00
J-300	7.42	2998.33	117.57	0.00
J-302	2.70	2998.26	109.74	0.00
J-304	2.02	2998.25	102.80	0.00
J-42	0.00	2997.16	98.86	0.00
J-31	0.00	2995.88	95.27	0.00
J-35	0.00	2992.07	74.12	0.00
J-101	4.72	2999.21	115.13	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-106	3.38	2998.70	116.86	0.00
J-123	3.38	2990.61	89.52	0.00
J-100	0.00	2999.97	121.75	0.00
J-103	3.38	2996.21	107.98	0.00
J-104	3.38	2993.76	83.09	0.00
J-117	2.02	2998.59	123.75	0.00
J-110	4.06	2998.70	109.06	0.00
J-108	2.02	2998.70	108.63	0.00
J-109	2.02	2998.70	107.76	0.00
J-305	1.36	2998.23	103.66	0.00
S145	0.00	3000.25	123.60	0.00
J-207	2.70	2998.76	114.29	0.00

Sereno Canyon Phase 4 Max Day fire flow J33

J-208	0.68	2998.76	116.89	0.00
J-206	0.68	2998.80	135.97	0.00
J-204	2.70	2998.99	129.12	0.00
J-205	2.70	2998.99	120.88	0.00
J-203	12.82	2999.39	121.49	0.00
J-200	7.42	2999.96	126.07	0.00
J-211	0.00	2999.51	118.08	0.00
J-201	3.38	2999.79	136.40	0.00
J-202	10.12	2999.79	117.77	0.00
J-119	0.00	2998.54	132.39	0.00
J-120	2.02	2998.54	136.72	0.00
J-121	0.00	2998.54	136.72	0.00
J-122	45.90	2998.53	139.32	0.00
J-210	4.06	2998.78	137.70	0.00
J-209	0.68	2998.80	135.53	0.00
J-113	1.36	2998.62	124.63	0.00
J-116	0.68	2998.56	127.63	0.00
J-25	5.52	2998.10	70.45	0.00
J-34	0.68	2991.37	79.45	0.00
J-400	0.00	2717.00	0.00	0.00
R-1	-1423.31	2717.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-1	74.00	0.47	0.15	Open
P-2	1.72	0.01	0.00	Open
P-3	-72.20	0.46	0.14	Open
P-4	-77.72	0.50	0.16	Open
P-5	-83.22	0.53	0.18	Open
P-6	2.06	0.01	0.00	Open



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-7	-3.45	0.02	0.00	Open
P-8	212.88	0.60	0.14	Open
P-9	155.77	0.44	0.08	Open
P-10	153.01	0.43	0.08	Open
P-11	19.94	0.13	0.01	Open
P-12	-49.90	0.14	0.01	Open
P-13	-34.10	0.10	0.00	Open

Sereno Canyon Phase 4 Max Day fire flow J33

P-14	57.11	0.36	0.09	Open
P-15	4.46	0.03	0.00	Open
P-16	5.91	0.04	0.00	Open
P-17	-6.49	0.04	0.00	Open
P-18	-0.81	0.01	0.00	Open
P-19	-36.27	0.23	0.04	Open
P-20	3.10	0.02	0.00	Open
P-22	-1.38	0.01	0.00	Open
P-23	15.88	0.10	0.01	Open
P-24	2.48	0.02	0.00	Open
P-25	-24.35	0.16	0.02	Open
P-26	2.06	0.01	0.00	Open
P-27	9.30	0.06	0.00	Open
P-28	-13.85	0.09	0.01	Open
P-29	133.64	0.38	0.06	Open
P-30	127.78	0.36	0.06	Open
P-31	95.86	0.27	0.03	Open
P-32	75.84	0.22	0.02	Open
P-33	81.98	0.23	0.02	Open
P-34	47.88	0.14	0.01	Open
P-35	34.86	0.22	0.04	Open
P-36	-179.40	0.51	0.11	Open
P-37	-457.38	1.30	0.60	Open
P-38	2.15	0.01	0.00	Open
P-39	-4.61	0.01	0.00	Open
P-40	-17.43	0.05	0.00	Open
P-41	81.42	0.52	0.18	Open
P-42	78.70	0.50	0.17	Open
P-43	75.32	0.48	0.15	Open
P-44	73.28	0.47	0.15	Open
P-45	69.29	0.44	0.13	Open
P-46	59.85	0.38	0.10	Open
P-47	45.67	0.13	0.01	Open
P-48	5.35	0.02	0.00	Open
P-49	283.33	1.81	1.77	Open
P-50	277.81	1.77	1.70	Open
P-51	191.83	1.22	0.86	Open
P-52	259.55	1.66	1.51	Open
P-53	581.96	3.71	6.70	Open
P-54	-68.48	0.44	0.13	Open



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
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Sereno Canyon Phase 4 Max Day fire flow J33

P-55	-3.38	0.02	0.00	Open
P-56	3.38	0.02	0.00	Open
P-57	437.82	2.79	3.96	Open
P-58	316.92	2.02	2.17	Open
P-59	-4.06	0.03	0.00	Open
P-60	2.02	0.01	0.00	Open
P-61	1227.17	3.48	3.70	Open
P-62	789.35	2.24	1.64	Open
P-63	-102.91	0.29	0.04	Open
P-64	0.68	0.00	0.00	Open
P-65	-106.29	0.30	0.04	Open
P-66	-157.00	1.00	0.59	Open
P-67	-2.70	0.02	0.00	Open
P-68	-162.40	1.04	0.63	Open
P-69	90.63	0.58	0.21	Open
P-70	90.63	0.58	0.21	Open
P-71	-84.59	0.54	0.19	Open
P-72	196.14	1.25	0.89	Open
P-73	98.09	0.63	0.25	Open
P-74	10.12	0.06	0.00	Open
P-75	-2.02	0.01	0.00	Open
P-76	0.61	0.00	0.00	Open
P-77	-49.35	0.14	0.01	Open
P-78	-50.03	0.14	0.01	Open
P-79	12.43	0.08	0.01	Open
P-80	29.85	0.19	0.03	Open
P-81	-11.88	0.08	0.01	Open
P-82	17.40	0.11	0.01	Open
P-83	462.23	1.31	0.61	Open
P-84	322.40	2.06	2.24	Open
P-85	-8.10	0.05	0.00	Open
P-86	-1.36	0.01	0.00	Open
P-87	-2.02	0.01	0.00	Open
P-88	-0.68	0.00	0.00	Open
P-89	-2.63	0.02	0.00	Open
P-90	-45.29	0.29	0.06	Open
P-91	45.90	0.29	0.06	Open
P-92	618.66	3.95	7.51	Open
P-93	696.10	4.44	9.34	Open
P-94	114.15	0.73	0.33	Open
P-95	-384.72	2.46	3.11	Open
P-96	-385.40	2.46	3.12	Open
P-97	320.30	2.04	2.22	Open
P-98	-38.29	0.24	0.04	Open
P-99	-11.48	0.03	0.00	Open
P-100	-2.02	0.01	0.00	Open
P-101	1423.31	1.01	0.17	Open

Sereno Canyon Phase 4 Max Day fire flow J33



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-21	-36.93	0.24	0.04	Open
PUMP1	0.00	0.00	0.00	Closed Pump
PUMP2	0.00	0.00	0.00	Closed Pump
PUMP3	0.00	0.00	0.00	Closed Pump
PUMP4	1423.31	0.00	-283.25	Open Pump
1	1423.31	4.04	0.00	Open Valve

Sereno Canyon Phase 4 Max Day fire flow J34

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12/2/2017 10:34:32 AM

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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: Sereno Canyon Phase 4 Max Day fire flow J34.net

Sereno Canyon

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in
P-1	J-32	J-36	955.6	8
P-2	J-36	J-37	121.6	8
P-3	J-30	J-38	957.7	8
P-4	J-38	J-39	400	8
P-5	J-39	J-29	841.9	8
P-6	J-39	J-40	83.23	8
P-7	J-28	J-27	505.5	8
P-8	J-2	J-3	452.1	12
P-9	J-3	J-4	195.3	12
P-10	J-4	J-41	148.7	12
P-11	J-14	J-11	890.1	8
P-12	J-12	J-11	340.4	12
P-13	J-11	J-9	458.8	12
P-14	J-3	J-19	223.6	8
P-15	J-20	J-21	310.5	8
P-16	J-21	J-22	93.71	8
P-17	J-22	J-24	192.7	8
P-18	J-24	J-20	511.2	8
P-19	J-20	J-19	293.1	8
P-20	J-5	J-17	587.4	8
P-22	J-18	J-4	378.4	8
P-23	J-7	J-13	601.7	8
P-24	J-8	J-14	610.4	8
P-25	J-14	J-15	540.4	8
P-26	J-15	J-16	224.8	8
P-27	J-22	J-23	128.3	8
P-28	J-21	J-41	699	8
P-29	J-41	J-5	172.5	12
P-30	J-5	J-6	197.8	12
P-31	J-6	J-7	466.8	12
P-32	J-7	J-8	339.3	12

Sereno Canyon Phase 4 Max Day fire flow J34

P-33	J-8	J-9	384	12
P-34	J-9	J-10	522	12
P-35	J-26	J-2	531.2	8
P-36	J-2	J-1	557.4	12
P-37	J-1	J-102	754.8	12
P-38	J-102	J-105	819.5	12



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in
P-39	J-105	J-107	511.2	12
P-40	J-107	J-111	1032	12
P-41	J-111	J-112	449.2	8
P-42	J-112	J-114	204.1	8
P-43	J-114	J-115	198.3	8
P-44	J-115	J-118	154.9	8
P-45	J-118	J-300	1588	8
P-46	J-300	J-302	757	8
P-47	J-302	J-304	469.1	12
P-48	J-304	J-1	500.9	12
P-49	J-1	J-27	271.1	8
P-50	J-27	J-29	112.3	8
P-51	J-29	J-30	411.1	8
P-52	J-30	J-42	43.31	8
P-53	J-42	J-31	191.5	8
P-54	J-35	J-36	438.3	8
P-55	J-106	J-105	800.8	8
P-56	J-33	J-123	375.5	8
P-57	J-100	J-103	951.8	8
P-58	J-104	J-35	775.1	8
P-59	J-110	J-108	595.1	8
P-60	J-108	J-109	353.1	8
P-61	S145	J-100	74.44	12
P-62	J-100	J-101	464.5	12
P-63	J-111	J-207	1424	12
P-64	J-207	J-208	997.1	8
P-65	J-207	J-206	1045	12
P-66	J-206	J-204	317.1	8
P-67	J-205	J-204	465.7	8
P-68	J-204	J-203	643.7	8
P-69	J-200	J-211	2106	8
P-70	J-211	J-203	536.3	8
P-71	J-203	J-201	2125	8
P-72	S145	J-200	327.3	8

Sereno Canyon Phase 4 Max Day fire flow J34

P-73	J-200	J-201	667.2	8
P-74	J-201	J-202	1059	8
P-75	J-120	J-119	186.5	8
P-76	J-119	J-121	389	8
P-77	J-210	J-209	1327	12
P-78	J-209	J-206	257.6	12
P-79	J-13	J-8	394	8
P-80	J-6	J-15	462	8
P-81	J-24	J-25	535	8
P-82	J-19	J-25	884	8
P-83	J-101	J-102	845.5	12
P-84	J-101	J-42	913.6	8
P-85	J-108	J-107	309.2	8



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in	
P-86	J-113	J-112	191.9	8	
P-87	J-117	J-114	573.8	8	
P-88	J-116	J-115	172.9	8	
P-89	J-119	J-118	421	8	
P-90	J-121	J-210	4137	8	
P-91	J-121	J-122	131.6	8	
P-92	J-32	J-33	221	8	
P-93	J-31	J-32	387	8	
P-94	J-103	J-31	1000	8	
P-95	J-33	J-34	245	8	
P-96	J-34	J-35	223.9	8	
P-97	J-103	J-104	1106	8	
P-98	J-305	J-304	506.9	8	
P-99	J-303	J-302	412.7	12	
P-100	J-301	J-300	178.5	8	
P-101	R-1	J-400	10	24	
P-21	J-26	J-305	427	8	
PUMP1	J-400	J-401	#N/A	#N/A	Pump
PUMP2	J-400	J-401	#N/A	#N/A	Pump
PUMP3	J-400	J-401	#N/A	#N/A	Pump
PUMP4	J-400	J-401	#N/A	#N/A	Pump
1	J-401	S145	#N/A	12	Valve

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
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Sereno Canyon Phase 4 Max Day fire flow J34

PUMP1	0.00	0.00	0.00	0.00	0.00	0.00
PUMP2	0.00	0.00	0.00	0.00	0.00	0.00
PUMP3	0.00	0.00	0.00	0.00	0.00	0.00
PUMP4	100.00	75.00	1186.71	101.30	101.30	0.00

Demand Charge: 0.00
Total Cost: 0.00

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-34	1000.00	2990.33	79.00	0.00
J-32	3.44	2992.58	87.34	0.00
J-36	3.80	2991.84	71.43	0.00
J-37	1.72	2991.84	67.96	0.00
J-30	4.48	2997.31	98.27	0.00
J-38	5.52	2997.44	81.65	0.00
J-39	3.44	2997.50	88.18	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-29	2.76	2997.65	94.09	0.00
J-40	2.06	2997.50	87.96	0.00
J-28	3.45	2997.84	102.62	0.00
J-27	2.07	2997.84	90.92	0.00
J-2	1.38	2998.26	95.00	0.00
J-3	0.00	2998.19	88.22	0.00
J-4	1.38	2998.18	89.12	0.00
J-41	5.52	2998.16	90.11	0.00
J-14	6.90	2998.12	93.21	0.00
J-11	4.14	2998.11	100.14	0.00
J-12	49.90	2998.10	94.07	0.00
J-9	0.00	2998.11	108.81	0.00
J-6	2.07	2998.14	91.05	0.00
J-19	3.44	2998.17	82.83	0.00
J-24	6.20	2998.16	82.83	0.00
J-20	31.00	2998.16	74.81	0.00
J-21	12.40	2998.16	74.81	0.00
J-22	3.10	2998.16	74.60	0.00
J-5	2.76	2998.15	90.63	0.00

Sereno Canyon Phase 4 Max Day fire flow J34

J-17	3.10	2998.15	103.62	0.00
J-18	1.38	2998.18	97.57	0.00
J-7	4.14	2998.13	100.58	0.00
J-13	3.45	2998.12	110.98	0.00
J-8	3.80	2998.12	104.91	0.00
J-15	3.44	2998.13	82.60	0.00
J-16	2.06	2998.13	78.05	0.00
J-23	9.30	2998.16	72.43	0.00
J-303	11.48	2998.32	111.93	0.00
J-301	2.02	2998.39	116.73	0.00
J-10	47.88	2998.10	115.74	0.00
J-26	2.07	2998.28	100.65	0.00
J-1	0.00	2998.31	95.90	0.00
J-102	2.70	2998.76	101.29	0.00
J-105	3.38	2998.76	109.09	0.00
J-107	4.72	2998.76	113.85	0.00
J-111	4.06	2998.76	116.89	0.00
J-112	1.36	2998.68	125.52	0.00
J-114	1.36	2998.65	126.81	0.00
J-115	1.36	2998.62	128.09	0.00
J-118	1.36	2998.60	128.52	0.00
J-300	7.42	2998.39	117.59	0.00
J-302	2.70	2998.32	109.76	0.00
J-304	2.02	2998.31	102.83	0.00
J-42	0.00	2997.24	98.90	0.00
J-31	0.00	2995.97	95.31	0.00
J-35	0.00	2991.52	73.89	0.00
J-101	4.72	2999.27	115.16	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-106	3.38	2998.76	116.89	0.00
J-33	0.00	2991.50	81.68	0.00
J-123	3.38	2991.50	89.91	0.00
J-100	0.00	3000.02	121.77	0.00
J-103	3.38	2996.21	107.98	0.00
J-104	3.38	2993.43	82.95	0.00
J-117	2.02	2998.65	123.77	0.00
J-110	4.06	2998.76	109.09	0.00
J-108	2.02	2998.76	108.65	0.00
J-109	2.02	2998.76	107.79	0.00
J-305	1.36	2998.29	103.69	0.00
S145	0.00	3000.30	123.62	0.00

Sereno Canyon Phase 4 Max Day fire flow J34

J-207	2.70	2998.82	114.31	0.00
J-208	0.68	2998.82	116.91	0.00
J-206	0.68	2998.86	135.99	0.00
J-204	2.70	2999.04	129.14	0.00
J-205	2.70	2999.04	120.91	0.00
J-203	12.82	2999.45	121.52	0.00
J-200	7.42	3000.01	126.09	0.00
J-211	0.00	2999.56	118.10	0.00
J-201	3.38	2999.84	136.42	0.00
J-202	10.12	2999.84	117.79	0.00
J-119	0.00	2998.60	132.42	0.00
J-120	2.02	2998.60	136.75	0.00
J-121	0.00	2998.60	136.75	0.00
J-122	45.90	2998.59	139.34	0.00
J-210	4.06	2998.84	137.72	0.00
J-209	0.68	2998.85	135.56	0.00
J-113	1.36	2998.68	124.65	0.00
J-116	0.68	2998.62	127.66	0.00
J-25	5.52	2998.16	70.48	0.00
J-400	0.00	2717.00	0.00	0.00
R-1	-1422.63	2717.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-1	180.84	1.15	0.77	Open
P-2	1.72	0.01	0.00	Open
P-3	-71.61	0.46	0.14	Open
P-4	-77.13	0.49	0.16	Open
P-5	-82.63	0.53	0.18	Open
P-6	2.06	0.01	0.00	Open



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-7	-3.45	0.02	0.00	Open
P-8	212.88	0.60	0.14	Open
P-9	155.77	0.44	0.08	Open
P-10	153.01	0.43	0.08	Open
P-11	19.94	0.13	0.01	Open
P-12	-49.90	0.14	0.01	Open
P-13	-34.10	0.10	0.01	Open

Sereno Canyon Phase 4 Max Day fire flow J34

P-14	57.11	0.36	0.09	Open
P-15	4.46	0.03	0.00	Open
P-16	5.91	0.04	0.00	Open
P-17	-6.49	0.04	0.00	Open
P-18	-0.81	0.01	0.00	Open
P-19	-36.27	0.23	0.04	Open
P-20	3.10	0.02	0.00	Open
P-22	-1.38	0.01	0.00	Open
P-23	15.88	0.10	0.01	Open
P-24	2.48	0.02	0.00	Open
P-25	-24.35	0.16	0.02	Open
P-26	2.06	0.01	0.00	Open
P-27	9.30	0.06	0.00	Open
P-28	-13.85	0.09	0.01	Open
P-29	133.64	0.38	0.06	Open
P-30	127.78	0.36	0.06	Open
P-31	95.86	0.27	0.03	Open
P-32	75.84	0.22	0.02	Open
P-33	81.98	0.23	0.02	Open
P-34	47.88	0.14	0.01	Open
P-35	34.86	0.22	0.04	Open
P-36	-179.40	0.51	0.11	Open
P-37	-455.64	1.29	0.59	Open
P-38	2.38	0.01	0.00	Open
P-39	-4.38	0.01	0.00	Open
P-40	-17.20	0.05	0.00	Open
P-41	81.24	0.52	0.17	Open
P-42	78.52	0.50	0.17	Open
P-43	75.14	0.48	0.15	Open
P-44	73.10	0.47	0.14	Open
P-45	68.97	0.44	0.13	Open
P-46	59.53	0.38	0.10	Open
P-47	45.35	0.13	0.01	Open
P-48	5.05	0.01	0.00	Open
P-49	281.28	1.80	1.74	Open
P-50	275.76	1.76	1.68	Open
P-51	190.37	1.22	0.85	Open
P-52	257.50	1.64	1.48	Open
P-53	578.10	3.69	6.62	Open
P-54	-175.32	1.12	0.73	Open



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
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Sereno Canyon Phase 4 Max Day fire flow J34

P-55	-3.38	0.02	0.00	Open
P-56	3.38	0.02	0.00	Open
P-57	441.00	2.81	4.01	Open
P-58	339.04	2.16	2.46	Open
P-59	-4.06	0.03	0.00	Open
P-60	2.02	0.01	0.00	Open
P-61	1227.03	3.48	3.70	Open
P-62	786.03	2.23	1.62	Open
P-63	-102.50	0.29	0.04	Open
P-64	0.68	0.00	0.00	Open
P-65	-105.88	0.30	0.04	Open
P-66	-156.46	1.00	0.59	Open
P-67	-2.70	0.02	0.00	Open
P-68	-161.86	1.03	0.63	Open
P-69	90.36	0.58	0.21	Open
P-70	90.36	0.58	0.21	Open
P-71	-84.32	0.54	0.19	Open
P-72	195.60	1.25	0.89	Open
P-73	97.82	0.62	0.25	Open
P-74	10.12	0.06	0.00	Open
P-75	-2.02	0.01	0.00	Open
P-76	0.74	0.00	0.00	Open
P-77	-49.22	0.14	0.01	Open
P-78	-49.90	0.14	0.01	Open
P-79	12.43	0.08	0.01	Open
P-80	29.85	0.19	0.03	Open
P-81	-11.88	0.08	0.01	Open
P-82	17.40	0.11	0.01	Open
P-83	460.71	1.31	0.60	Open
P-84	320.60	2.05	2.22	Open
P-85	-8.10	0.05	0.00	Open
P-86	-1.36	0.01	0.00	Open
P-87	-2.02	0.01	0.00	Open
P-88	-0.68	0.00	0.00	Open
P-89	-2.76	0.02	0.00	Open
P-90	-45.16	0.29	0.06	Open
P-91	45.90	0.29	0.06	Open
P-92	489.01	3.12	4.86	Open
P-93	673.30	4.30	8.78	Open
P-94	95.20	0.61	0.23	Open
P-95	485.63	3.10	4.79	Open
P-96	-514.37	3.28	5.33	Open
P-97	342.42	2.19	2.51	Open
P-98	-38.29	0.24	0.04	Open
P-99	-11.48	0.03	0.00	Open
P-100	-2.02	0.01	0.00	Open
P-101	1422.63	1.01	0.17	Open

Sereno Canyon Phase 4 Max Day fire flow J34



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-21	-36.93	0.24	0.04	Open
PUMP1	0.00	0.00	0.00	Closed Pump
PUMP2	0.00	0.00	0.00	Closed Pump
PUMP3	0.00	0.00	0.00	Closed Pump
PUMP4	1422.64	0.00	-283.30	Open Pump
1	1422.63	4.04	0.00	Open Valve

Sereno Canyon Phase 4 Max Day fire flow J35

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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: Sereno Canyon Phase 4 Max Day fire flow J35.net

Sereno Canyon

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in
P-1	J-32	J-36	955.6	8
P-2	J-36	J-37	121.6	8
P-3	J-30	J-38	957.7	8
P-4	J-38	J-39	400	8
P-5	J-39	J-29	841.9	8
P-6	J-39	J-40	83.23	8
P-7	J-28	J-27	505.5	8
P-8	J-2	J-3	452.1	12
P-9	J-3	J-4	195.3	12
P-10	J-4	J-41	148.7	12
P-11	J-14	J-11	890.1	8
P-12	J-12	J-11	340.4	12
P-13	J-11	J-9	458.8	12
P-14	J-3	J-19	223.6	8
P-15	J-20	J-21	310.5	8
P-16	J-21	J-22	93.71	8
P-17	J-22	J-24	192.7	8
P-18	J-24	J-20	511.2	8
P-19	J-20	J-19	293.1	8
P-20	J-5	J-17	587.4	8
P-22	J-18	J-4	378.4	8
P-23	J-7	J-13	601.7	8
P-24	J-8	J-14	610.4	8
P-25	J-14	J-15	540.4	8
P-26	J-15	J-16	224.8	8
P-27	J-22	J-23	128.3	8
P-28	J-21	J-41	699	8
P-29	J-41	J-5	172.5	12
P-30	J-5	J-6	197.8	12
P-31	J-6	J-7	466.8	12
P-32	J-7	J-8	339.3	12

Sereno Canyon Phase 4 Max Day fire flow J35

P-33	J-8	J-9	384	12
P-34	J-9	J-10	522	12
P-35	J-26	J-2	531.2	8
P-36	J-2	J-1	557.4	12
P-37	J-1	J-102	754.8	12
P-38	J-102	J-105	819.5	12



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in
P-39	J-105	J-107	511.2	12
P-40	J-107	J-111	1032	12
P-41	J-111	J-112	449.2	8
P-42	J-112	J-114	204.1	8
P-43	J-114	J-115	198.3	8
P-44	J-115	J-118	154.9	8
P-45	J-118	J-300	1588	8
P-46	J-300	J-302	757	8
P-47	J-302	J-304	469.1	12
P-48	J-304	J-1	500.9	12
P-49	J-1	J-27	271.1	8
P-50	J-27	J-29	112.3	8
P-51	J-29	J-30	411.1	8
P-52	J-30	J-42	43.31	8
P-53	J-42	J-31	191.5	8
P-54	J-35	J-36	438.3	8
P-55	J-106	J-105	800.8	8
P-56	J-33	J-123	375.5	8
P-57	J-100	J-103	951.8	8
P-58	J-104	J-35	775.1	8
P-59	J-110	J-108	595.1	8
P-60	J-108	J-109	353.1	8
P-61	S145	J-100	74.44	12
P-62	J-100	J-101	464.5	12
P-63	J-111	J-207	1424	12
P-64	J-207	J-208	997.1	8
P-65	J-207	J-206	1045	12
P-66	J-206	J-204	317.1	8
P-67	J-205	J-204	465.7	8
P-68	J-204	J-203	643.7	8
P-69	J-200	J-211	2106	8
P-70	J-211	J-203	536.3	8
P-71	J-203	J-201	2125	8
P-72	S145	J-200	327.3	8

Sereno Canyon Phase 4 Max Day fire flow J35

P-73	J-200	J-201	667.2	8
P-74	J-201	J-202	1059	8
P-75	J-120	J-119	186.5	8
P-76	J-119	J-121	389	8
P-77	J-210	J-209	1327	12
P-78	J-209	J-206	257.6	12
P-79	J-13	J-8	394	8
P-80	J-6	J-15	462	8
P-81	J-24	J-25	535	8
P-82	J-19	J-25	884	8
P-83	J-101	J-102	845.5	12
P-84	J-101	J-42	913.6	8
P-85	J-108	J-107	309.2	8



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in	
P-86	J-113	J-112	191.9	8	
P-87	J-117	J-114	573.8	8	
P-88	J-116	J-115	172.9	8	
P-89	J-119	J-118	421	8	
P-90	J-121	J-210	4137	8	
P-91	J-121	J-122	131.6	8	
P-92	J-32	J-33	221	8	
P-93	J-31	J-32	387	8	
P-94	J-103	J-31	1000	8	
P-95	J-33	J-34	245	8	
P-96	J-34	J-35	223.9	8	
P-97	J-103	J-104	1106	8	
P-98	J-305	J-304	506.9	8	
P-99	J-303	J-302	412.7	12	
P-100	J-301	J-300	178.5	8	
P-101	R-1	J-400	10	24	
P-21	J-26	J-305	427	8	
PUMP1	J-400	J-401	#N/A	#N/A	Pump
PUMP2	J-400	J-401	#N/A	#N/A	Pump
PUMP3	J-400	J-401	#N/A	#N/A	Pump
PUMP4	J-400	J-401	#N/A	#N/A	Pump
1	J-401	S145	#N/A	12	Valve

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
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Sereno Canyon Phase 4 Max Day fire flow J35

PUMP1	0.00	0.00	0.00	0.00	0.00	0.00
PUMP2	0.00	0.00	0.00	0.00	0.00	0.00
PUMP3	0.00	0.00	0.00	0.00	0.00	0.00
PUMP4	100.00	75.00	1186.50	101.33	101.33	0.00

Demand Charge: 0.00
Total Cost: 0.00

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-35	1000.00	2990.70	73.53	0.00
J-32	3.44	2992.80	87.44	0.00
J-36	3.80	2991.34	71.21	0.00
J-37	1.72	2991.34	67.74	0.00
J-30	4.48	2997.27	98.26	0.00
J-38	5.52	2997.41	81.64	0.00
J-39	3.44	2997.47	88.16	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-29	2.76	2997.62	94.08	0.00
J-40	2.06	2997.47	87.95	0.00
J-28	3.45	2997.81	102.61	0.00
J-27	2.07	2997.81	90.91	0.00
J-2	1.38	2998.21	94.99	0.00
J-3	0.00	2998.15	88.20	0.00
J-4	1.38	2998.13	89.10	0.00
J-41	5.52	2998.12	90.09	0.00
J-14	6.90	2998.08	93.19	0.00
J-11	4.14	2998.07	100.12	0.00
J-12	49.90	2998.06	94.05	0.00
J-9	0.00	2998.07	108.79	0.00
J-6	2.07	2998.10	91.04	0.00
J-19	3.44	2998.13	82.82	0.00
J-24	6.20	2998.12	82.81	0.00
J-20	31.00	2998.12	74.80	0.00
J-21	12.40	2998.12	74.80	0.00
J-22	3.10	2998.12	74.58	0.00
J-5	2.76	2998.11	90.61	0.00

Sereno Canyon Phase 4 Max Day fire flow J35

J-17	3.10	2998.11	103.61	0.00
J-18	1.38	2998.13	97.55	0.00
J-7	4.14	2998.08	100.56	0.00
J-13	3.45	2998.08	110.96	0.00
J-8	3.80	2998.08	104.89	0.00
J-15	3.44	2998.09	82.58	0.00
J-16	2.06	2998.09	78.03	0.00
J-23	9.30	2998.12	72.41	0.00
J-303	11.48	2998.28	111.91	0.00
J-301	2.02	2998.35	116.71	0.00
J-10	47.88	2998.06	115.72	0.00
J-26	2.07	2998.23	100.63	0.00
J-1	0.00	2998.27	95.88	0.00
J-102	2.70	2998.72	101.27	0.00
J-105	3.38	2998.72	109.07	0.00
J-107	4.72	2998.72	113.84	0.00
J-111	4.06	2998.72	116.87	0.00
J-112	1.36	2998.64	125.50	0.00
J-114	1.36	2998.61	126.79	0.00
J-115	1.36	2998.58	128.07	0.00
J-118	1.36	2998.55	128.50	0.00
J-300	7.42	2998.35	117.58	0.00
J-302	2.70	2998.28	109.74	0.00
J-304	2.02	2998.27	102.81	0.00
J-42	0.00	2997.21	98.88	0.00
J-31	0.00	2995.96	95.31	0.00
J-101	4.72	2999.22	115.14	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-106	3.38	2998.72	116.87	0.00
J-33	0.00	2992.12	81.95	0.00
J-123	3.38	2992.12	90.18	0.00
J-100	0.00	2999.97	121.75	0.00
J-103	3.38	2996.10	107.93	0.00
J-104	3.38	2992.90	82.72	0.00
J-117	2.02	2998.61	123.75	0.00
J-110	4.06	2998.72	109.07	0.00
J-108	2.02	2998.72	108.64	0.00
J-109	2.02	2998.72	107.77	0.00
J-305	1.36	2998.25	103.67	0.00
S145	0.00	3000.25	123.60	0.00
J-207	2.70	2998.77	114.29	0.00

Sereno Canyon Phase 4 Max Day fire flow J35

J-208	0.68	2998.77	116.89	0.00
J-206	0.68	2998.81	135.97	0.00
J-204	2.70	2999.00	129.12	0.00
J-205	2.70	2999.00	120.89	0.00
J-203	12.82	2999.40	121.50	0.00
J-200	7.42	2999.96	126.07	0.00
J-211	0.00	2999.51	118.08	0.00
J-201	3.38	2999.80	136.40	0.00
J-202	10.12	2999.79	117.77	0.00
J-119	0.00	2998.55	132.40	0.00
J-120	2.02	2998.55	136.73	0.00
J-121	0.00	2998.55	136.73	0.00
J-122	45.90	2998.55	139.33	0.00
J-210	4.06	2998.80	137.70	0.00
J-209	0.68	2998.81	135.54	0.00
J-113	1.36	2998.64	124.63	0.00
J-116	0.68	2998.58	127.64	0.00
J-25	5.52	2998.12	70.46	0.00
J-34	0.68	2991.38	79.46	0.00
J-400	0.00	2717.00	0.00	0.00
R-1	-1423.31	2717.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-1	261.44	1.67	1.52	Open
P-2	1.72	0.01	0.00	Open
P-3	-71.14	0.45	0.14	Open
P-4	-76.66	0.49	0.16	Open
P-5	-82.16	0.52	0.18	Open
P-6	2.06	0.01	0.00	Open



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Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-7	-3.45	0.02	0.00	Open
P-8	212.88	0.60	0.14	Open
P-9	155.77	0.44	0.08	Open
P-10	153.01	0.43	0.08	Open
P-11	19.94	0.13	0.01	Open
P-12	-49.90	0.14	0.01	Open
P-13	-34.10	0.10	0.00	Open

Sereno Canyon Phase 4 Max Day fire flow J35

P-14	57.11	0.36	0.09	Open
P-15	4.46	0.03	0.00	Open
P-16	5.91	0.04	0.00	Open
P-17	-6.49	0.04	0.00	Open
P-18	-0.81	0.01	0.00	Open
P-19	-36.27	0.23	0.04	Open
P-20	3.10	0.02	0.00	Open
P-22	-1.38	0.01	0.00	Open
P-23	15.88	0.10	0.01	Open
P-24	2.48	0.02	0.00	Open
P-25	-24.35	0.16	0.02	Open
P-26	2.06	0.01	0.00	Open
P-27	9.30	0.06	0.00	Open
P-28	-13.85	0.09	0.01	Open
P-29	133.64	0.38	0.06	Open
P-30	127.78	0.36	0.06	Open
P-31	95.86	0.27	0.03	Open
P-32	75.84	0.22	0.02	Open
P-33	81.98	0.23	0.02	Open
P-34	47.88	0.14	0.01	Open
P-35	34.86	0.22	0.04	Open
P-36	-179.40	0.51	0.11	Open
P-37	-454.25	1.29	0.59	Open
P-38	2.53	0.01	0.00	Open
P-39	-4.23	0.01	0.00	Open
P-40	-17.05	0.05	0.00	Open
P-41	81.09	0.52	0.17	Open
P-42	78.37	0.50	0.16	Open
P-43	74.99	0.48	0.15	Open
P-44	72.95	0.47	0.14	Open
P-45	68.73	0.44	0.13	Open
P-46	59.29	0.38	0.10	Open
P-47	45.11	0.13	0.01	Open
P-48	4.80	0.01	0.00	Open
P-49	279.64	1.78	1.73	Open
P-50	274.12	1.75	1.66	Open
P-51	189.21	1.21	0.84	Open
P-52	255.86	1.63	1.47	Open
P-53	575.02	3.67	6.55	Open
P-54	-255.92	1.63	1.46	Open



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
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Sereno Canyon Phase 4 Max Day fire flow J35

P-55	-3.38	0.02	0.00	Open
P-56	3.38	0.02	0.00	Open
P-57	444.76	2.84	4.07	Open
P-58	365.94	2.34	2.84	Open
P-59	-4.06	0.03	0.00	Open
P-60	2.02	0.01	0.00	Open
P-61	1228.12	3.48	3.71	Open
P-62	783.36	2.22	1.61	Open
P-63	-102.20	0.29	0.04	Open
P-64	0.68	0.00	0.00	Open
P-65	-105.58	0.30	0.04	Open
P-66	-156.05	1.00	0.59	Open
P-67	-2.70	0.02	0.00	Open
P-68	-161.45	1.03	0.62	Open
P-69	90.15	0.58	0.21	Open
P-70	90.15	0.58	0.21	Open
P-71	-84.12	0.54	0.19	Open
P-72	195.19	1.25	0.89	Open
P-73	97.62	0.62	0.25	Open
P-74	10.12	0.06	0.00	Open
P-75	-2.02	0.01	0.00	Open
P-76	0.85	0.01	0.00	Open
P-77	-49.11	0.14	0.01	Open
P-78	-49.79	0.14	0.01	Open
P-79	12.43	0.08	0.01	Open
P-80	29.85	0.19	0.03	Open
P-81	-11.88	0.08	0.01	Open
P-82	17.40	0.11	0.01	Open
P-83	459.48	1.30	0.60	Open
P-84	319.16	2.04	2.20	Open
P-85	-8.10	0.05	0.00	Open
P-86	-1.36	0.01	0.00	Open
P-87	-2.02	0.01	0.00	Open
P-88	-0.68	0.00	0.00	Open
P-89	-2.87	0.02	0.00	Open
P-90	-45.05	0.29	0.06	Open
P-91	45.90	0.29	0.06	Open
P-92	382.20	2.44	3.08	Open
P-93	647.08	4.13	8.16	Open
P-94	72.06	0.46	0.14	Open
P-95	378.82	2.42	3.03	Open
P-96	378.14	2.41	3.02	Open
P-97	369.32	2.36	2.89	Open
P-98	-38.29	0.24	0.04	Open
P-99	-11.48	0.03	0.00	Open
P-100	-2.02	0.01	0.00	Open
P-101	1423.31	1.01	0.17	Open

Sereno Canyon Phase 4 Max Day fire flow J35



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-21	-36.93	0.24	0.04	Open
PUMP1	0.00	0.00	0.00	Closed Pump
PUMP2	0.00	0.00	0.00	Closed Pump
PUMP3	0.00	0.00	0.00	Closed Pump
PUMP4	1423.32	0.00	-283.25	Open Pump
1	1423.31	4.04	0.00	Open Valve

Sereno Canyon Phase 4 Max Day fire flow J36

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12/2/2017 10:35:00 AM

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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: Sereno Canyon Phase 4 Max Day fire flow J36.net

Sereno Canyon

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in
P-1	J-32	J-36	955.6	8
P-2	J-36	J-37	121.6	8
P-3	J-30	J-38	957.7	8
P-4	J-38	J-39	400	8
P-5	J-39	J-29	841.9	8
P-6	J-39	J-40	83.23	8
P-7	J-28	J-27	505.5	8
P-8	J-2	J-3	452.1	12
P-9	J-3	J-4	195.3	12
P-10	J-4	J-41	148.7	12
P-11	J-14	J-11	890.1	8
P-12	J-12	J-11	340.4	12
P-13	J-11	J-9	458.8	12
P-14	J-3	J-19	223.6	8
P-15	J-20	J-21	310.5	8
P-16	J-21	J-22	93.71	8
P-17	J-22	J-24	192.7	8
P-18	J-24	J-20	511.2	8
P-19	J-20	J-19	293.1	8
P-20	J-5	J-17	587.4	8
P-22	J-18	J-4	378.4	8
P-23	J-7	J-13	601.7	8
P-24	J-8	J-14	610.4	8
P-25	J-14	J-15	540.4	8
P-26	J-15	J-16	224.8	8
P-27	J-22	J-23	128.3	8
P-28	J-21	J-41	699	8
P-29	J-41	J-5	172.5	12
P-30	J-5	J-6	197.8	12
P-31	J-6	J-7	466.8	12
P-32	J-7	J-8	339.3	12

Sereno Canyon Phase 4 Max Day fire flow J36

P-33	J-8	J-9	384	12
P-34	J-9	J-10	522	12
P-35	J-26	J-2	531.2	8
P-36	J-2	J-1	557.4	12
P-37	J-1	J-102	754.8	12
P-38	J-102	J-105	819.5	12



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in
P-39	J-105	J-107	511.2	12
P-40	J-107	J-111	1032	12
P-41	J-111	J-112	449.2	8
P-42	J-112	J-114	204.1	8
P-43	J-114	J-115	198.3	8
P-44	J-115	J-118	154.9	8
P-45	J-118	J-300	1588	8
P-46	J-300	J-302	757	8
P-47	J-302	J-304	469.1	12
P-48	J-304	J-1	500.9	12
P-49	J-1	J-27	271.1	8
P-50	J-27	J-29	112.3	8
P-51	J-29	J-30	411.1	8
P-52	J-30	J-42	43.31	8
P-53	J-42	J-31	191.5	8
P-54	J-35	J-36	438.3	8
P-55	J-106	J-105	800.8	8
P-56	J-33	J-123	375.5	8
P-57	J-100	J-103	951.8	8
P-58	J-104	J-35	775.1	8
P-59	J-110	J-108	595.1	8
P-60	J-108	J-109	353.1	8
P-61	S145	J-100	74.44	12
P-62	J-100	J-101	464.5	12
P-63	J-111	J-207	1424	12
P-64	J-207	J-208	997.1	8
P-65	J-207	J-206	1045	12
P-66	J-206	J-204	317.1	8
P-67	J-205	J-204	465.7	8
P-68	J-204	J-203	643.7	8
P-69	J-200	J-211	2106	8
P-70	J-211	J-203	536.3	8
P-71	J-203	J-201	2125	8
P-72	S145	J-200	327.3	8

Sereno Canyon Phase 4 Max Day fire flow J36

P-73	J-200	J-201	667.2	8
P-74	J-201	J-202	1059	8
P-75	J-120	J-119	186.5	8
P-76	J-119	J-121	389	8
P-77	J-210	J-209	1327	12
P-78	J-209	J-206	257.6	12
P-79	J-13	J-8	394	8
P-80	J-6	J-15	462	8
P-81	J-24	J-25	535	8
P-82	J-19	J-25	884	8
P-83	J-101	J-102	845.5	12
P-84	J-101	J-42	913.6	8
P-85	J-108	J-107	309.2	8



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in	
P-86	J-113	J-112	191.9	8	
P-87	J-117	J-114	573.8	8	
P-88	J-116	J-115	172.9	8	
P-89	J-119	J-118	421	8	
P-90	J-121	J-210	4137	8	
P-91	J-121	J-122	131.6	8	
P-92	J-32	J-33	221	8	
P-93	J-31	J-32	387	8	
P-94	J-103	J-31	1000	8	
P-95	J-33	J-34	245	8	
P-96	J-34	J-35	223.9	8	
P-97	J-103	J-104	1106	8	
P-98	J-305	J-304	506.9	8	
P-99	J-303	J-302	412.7	12	
P-100	J-301	J-300	178.5	8	
P-101	R-1	J-400	10	24	
P-21	J-26	J-305	427	8	
PUMP1	J-400	J-401	#N/A	#N/A	Pump
PUMP2	J-400	J-401	#N/A	#N/A	Pump
PUMP3	J-400	J-401	#N/A	#N/A	Pump
PUMP4	J-400	J-401	#N/A	#N/A	Pump
1	J-401	S145	#N/A	12	Valve

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
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Sereno Canyon Phase 4 Max Day fire flow J36

PUMP1	0.00	0.00	0.00	0.00	0.00	0.00
PUMP2	0.00	0.00	0.00	0.00	0.00	0.00
PUMP3	0.00	0.00	0.00	0.00	0.00	0.00
PUMP4	100.00	75.00	1187.69	101.16	101.16	0.00

Demand Charge: 0.00
Total Cost: 0.00

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-32	3.44	2992.80	87.44	0.00
J-36	1000.00	2989.11	70.24	0.00
J-37	1.72	2989.11	66.77	0.00
J-30	4.48	2997.55	98.38	0.00
J-38	5.52	2997.68	81.76	0.00
J-39	3.44	2997.74	88.28	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-29	2.76	2997.90	94.20	0.00
J-40	2.06	2997.74	88.07	0.00
J-28	3.45	2998.08	102.73	0.00
J-27	2.07	2998.08	91.03	0.00
J-2	1.38	2998.50	95.11	0.00
J-3	0.00	2998.43	88.32	0.00
J-4	1.38	2998.41	89.22	0.00
J-41	5.52	2998.40	90.21	0.00
J-14	6.90	2998.36	93.31	0.00
J-11	4.14	2998.35	100.24	0.00
J-12	49.90	2998.34	94.17	0.00
J-9	0.00	2998.35	108.91	0.00
J-6	2.07	2998.38	91.16	0.00
J-19	3.44	2998.41	82.94	0.00
J-24	6.20	2998.40	82.93	0.00
J-20	31.00	2998.40	74.92	0.00
J-21	12.40	2998.40	74.92	0.00
J-22	3.10	2998.40	74.70	0.00
J-5	2.76	2998.39	90.73	0.00
J-17	3.10	2998.39	103.73	0.00

Sereno Canyon Phase 4 Max Day fire flow J36

J-18	1.38	2998.41	97.67	0.00
J-7	4.14	2998.37	100.68	0.00
J-13	3.45	2998.36	111.08	0.00
J-8	3.80	2998.36	105.01	0.00
J-15	3.44	2998.37	82.70	0.00
J-16	2.06	2998.37	78.15	0.00
J-23	9.30	2998.40	72.53	0.00
J-303	11.48	2998.56	112.03	0.00
J-301	2.02	2998.63	116.83	0.00
J-10	47.88	2998.34	115.84	0.00
J-26	2.07	2998.51	100.75	0.00
J-1	0.00	2998.55	96.00	0.00
J-102	2.70	2999.00	101.39	0.00
J-105	3.38	2999.00	109.19	0.00
J-107	4.72	2999.00	113.96	0.00
J-111	4.06	2999.00	116.99	0.00
J-112	1.36	2998.92	125.62	0.00
J-114	1.36	2998.89	126.91	0.00
J-115	1.36	2998.86	128.20	0.00
J-118	1.36	2998.84	128.62	0.00
J-300	7.42	2998.63	117.70	0.00
J-302	2.70	2998.56	109.87	0.00
J-304	2.02	2998.55	102.93	0.00
J-42	0.00	2997.49	99.00	0.00
J-31	0.00	2996.22	95.42	0.00
J-35	0.00	2991.93	74.06	0.00
J-101	4.72	2999.51	115.26	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-106	3.38	2999.00	116.99	0.00
J-33	0.00	2992.52	82.12	0.00
J-123	3.38	2992.52	90.35	0.00
J-100	0.00	3000.26	121.87	0.00
J-103	3.38	2996.47	108.10	0.00
J-104	3.38	2993.78	83.10	0.00
J-117	2.02	2998.89	123.88	0.00
J-110	4.06	2999.00	109.19	0.00
J-108	2.02	2999.00	108.76	0.00
J-109	2.02	2999.00	107.89	0.00
J-305	1.36	2998.53	103.79	0.00
S145	0.00	3000.53	123.72	0.00
J-207	2.70	2999.05	114.41	0.00

Sereno Canyon Phase 4 Max Day fire flow J36

J-208	0.68	2999.05	117.01	0.00
J-206	0.68	2999.09	136.10	0.00
J-204	2.70	2999.28	129.25	0.00
J-205	2.70	2999.28	121.01	0.00
J-203	12.82	2999.68	121.62	0.00
J-200	7.42	3000.24	126.20	0.00
J-211	0.00	2999.80	118.20	0.00
J-201	3.38	3000.08	136.52	0.00
J-202	10.12	3000.08	117.89	0.00
J-119	0.00	2998.84	132.52	0.00
J-120	2.02	2998.84	136.85	0.00
J-121	0.00	2998.84	136.85	0.00
J-122	45.90	2998.83	139.45	0.00
J-210	4.06	2999.08	137.82	0.00
J-209	0.68	2999.09	135.66	0.00
J-113	1.36	2998.92	124.76	0.00
J-116	0.68	2998.86	127.76	0.00
J-25	5.52	2998.40	70.58	0.00
J-34	0.68	2992.21	79.82	0.00
J-400	0.00	2717.00	0.00	0.00
R-1	-1419.51	2717.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-1	432.52	2.76	3.87	Open
P-2	1.72	0.01	0.00	Open
P-3	-71.42	0.46	0.14	Open
P-4	-76.94	0.49	0.16	Open
P-5	-82.44	0.53	0.18	Open
P-6	2.06	0.01	0.00	Open



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Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-7	-3.45	0.02	0.00	Open
P-8	212.88	0.60	0.14	Open
P-9	155.77	0.44	0.08	Open
P-10	153.01	0.43	0.08	Open
P-11	19.94	0.13	0.01	Open
P-12	-49.90	0.14	0.01	Open
P-13	-34.10	0.10	0.00	Open

Sereno Canyon Phase 4 Max Day fire flow J36

P-14	57.11	0.36	0.09	Open
P-15	4.46	0.03	0.00	Open
P-16	5.91	0.04	0.00	Open
P-17	-6.49	0.04	0.00	Open
P-18	-0.81	0.01	0.00	Open
P-19	-36.27	0.23	0.04	Open
P-20	3.10	0.02	0.00	Open
P-22	-1.38	0.01	0.00	Open
P-23	15.88	0.10	0.01	Open
P-24	2.48	0.02	0.00	Open
P-25	-24.35	0.16	0.02	Open
P-26	2.06	0.01	0.00	Open
P-27	9.30	0.06	0.00	Open
P-28	-13.85	0.09	0.01	Open
P-29	133.64	0.38	0.06	Open
P-30	127.78	0.36	0.06	Open
P-31	95.86	0.27	0.03	Open
P-32	75.84	0.22	0.02	Open
P-33	81.98	0.23	0.02	Open
P-34	47.88	0.14	0.01	Open
P-35	34.86	0.22	0.04	Open
P-36	-179.40	0.51	0.11	Open
P-37	-455.07	1.29	0.59	Open
P-38	2.50	0.01	0.00	Open
P-39	-4.26	0.01	0.00	Open
P-40	-17.08	0.05	0.00	Open
P-41	81.18	0.52	0.18	Open
P-42	78.46	0.50	0.16	Open
P-43	75.08	0.48	0.15	Open
P-44	73.04	0.47	0.14	Open
P-45	68.87	0.44	0.13	Open
P-46	59.43	0.38	0.10	Open
P-47	45.25	0.13	0.01	Open
P-48	4.94	0.01	0.00	Open
P-49	280.61	1.79	1.74	Open
P-50	275.09	1.76	1.67	Open
P-51	189.90	1.21	0.84	Open
P-52	256.83	1.64	1.48	Open
P-53	576.86	3.68	6.59	Open
P-54	569.20	3.63	6.43	Open



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
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Sereno Canyon Phase 4 Max Day fire flow J36

P-55	-3.38	0.02	0.00	Open
P-56	3.38	0.02	0.00	Open
P-57	439.12	2.80	3.98	Open
P-58	333.58	2.13	2.39	Open
P-59	-4.06	0.03	0.00	Open
P-60	2.02	0.01	0.00	Open
P-61	1224.14	3.47	3.69	Open
P-62	785.02	2.23	1.62	Open
P-63	-102.32	0.29	0.04	Open
P-64	0.68	0.00	0.00	Open
P-65	-105.70	0.30	0.04	Open
P-66	-156.23	1.00	0.59	Open
P-67	-2.70	0.02	0.00	Open
P-68	-161.63	1.03	0.62	Open
P-69	90.24	0.58	0.21	Open
P-70	90.24	0.58	0.21	Open
P-71	-84.21	0.54	0.19	Open
P-72	195.37	1.25	0.89	Open
P-73	97.71	0.62	0.25	Open
P-74	10.12	0.06	0.00	Open
P-75	-2.02	0.01	0.00	Open
P-76	0.79	0.01	0.00	Open
P-77	-49.17	0.14	0.01	Open
P-78	-49.85	0.14	0.01	Open
P-79	12.43	0.08	0.01	Open
P-80	29.85	0.19	0.03	Open
P-81	-11.88	0.08	0.01	Open
P-82	17.40	0.11	0.01	Open
P-83	460.28	1.31	0.60	Open
P-84	320.02	2.04	2.21	Open
P-85	-8.10	0.05	0.00	Open
P-86	-1.36	0.01	0.00	Open
P-87	-2.02	0.01	0.00	Open
P-88	-0.68	0.00	0.00	Open
P-89	-2.81	0.02	0.00	Open
P-90	-45.11	0.29	0.06	Open
P-91	45.90	0.29	0.06	Open
P-92	239.68	1.53	1.30	Open
P-93	675.64	4.31	8.84	Open
P-94	98.78	0.63	0.25	Open
P-95	236.30	1.51	1.26	Open
P-96	235.62	1.50	1.26	Open
P-97	336.96	2.15	2.44	Open
P-98	-38.29	0.24	0.04	Open
P-99	-11.48	0.03	0.00	Open
P-100	-2.02	0.01	0.00	Open
P-101	1419.51	1.01	0.17	Open

Sereno Canyon Phase 4 Max Day fire flow J36



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-21	-36.93	0.24	0.04	Open
PUMP1	0.00	0.00	0.00	Closed Pump
PUMP2	0.00	0.00	0.00	Closed Pump
PUMP3	0.00	0.00	0.00	Closed Pump
PUMP4	1419.52	0.00	-283.54	Open Pump
1	1419.51	4.03	0.00	Open Valve

Sereno Canyon Phase 4 Max Day fire flow J37

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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: Sereno Canyon Phase 4 Max Day fire flow J37.net

Sereno Canyon

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in
P-1	J-32	J-36	955.6	8
P-2	J-36	J-37	121.6	8
P-3	J-30	J-38	957.7	8
P-4	J-38	J-39	400	8
P-5	J-39	J-29	841.9	8
P-6	J-39	J-40	83.23	8
P-7	J-28	J-27	505.5	8
P-8	J-2	J-3	452.1	12
P-9	J-3	J-4	195.3	12
P-10	J-4	J-41	148.7	12
P-11	J-14	J-11	890.1	8
P-12	J-12	J-11	340.4	12
P-13	J-11	J-9	458.8	12
P-14	J-3	J-19	223.6	8
P-15	J-20	J-21	310.5	8
P-16	J-21	J-22	93.71	8
P-17	J-22	J-24	192.7	8
P-18	J-24	J-20	511.2	8
P-19	J-20	J-19	293.1	8
P-20	J-5	J-17	587.4	8
P-22	J-18	J-4	378.4	8
P-23	J-7	J-13	601.7	8
P-24	J-8	J-14	610.4	8
P-25	J-14	J-15	540.4	8
P-26	J-15	J-16	224.8	8
P-27	J-22	J-23	128.3	8
P-28	J-21	J-41	699	8
P-29	J-41	J-5	172.5	12
P-30	J-5	J-6	197.8	12
P-31	J-6	J-7	466.8	12
P-32	J-7	J-8	339.3	12

Sereno Canyon Phase 4 Max Day fire flow J37

P-33	J-8	J-9	384	12
P-34	J-9	J-10	522	12
P-35	J-26	J-2	531.2	8
P-36	J-2	J-1	557.4	12
P-37	J-1	J-102	754.8	12
P-38	J-102	J-105	819.5	12



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in
P-39	J-105	J-107	511.2	12
P-40	J-107	J-111	1032	12
P-41	J-111	J-112	449.2	8
P-42	J-112	J-114	204.1	8
P-43	J-114	J-115	198.3	8
P-44	J-115	J-118	154.9	8
P-45	J-118	J-300	1588	8
P-46	J-300	J-302	757	8
P-47	J-302	J-304	469.1	12
P-48	J-304	J-1	500.9	12
P-49	J-1	J-27	271.1	8
P-50	J-27	J-29	112.3	8
P-51	J-29	J-30	411.1	8
P-52	J-30	J-42	43.31	8
P-53	J-42	J-31	191.5	8
P-54	J-35	J-36	438.3	8
P-55	J-106	J-105	800.8	8
P-56	J-33	J-123	375.5	8
P-57	J-100	J-103	951.8	8
P-58	J-104	J-35	775.1	8
P-59	J-110	J-108	595.1	8
P-60	J-108	J-109	353.1	8
P-61	S145	J-100	74.44	12
P-62	J-100	J-101	464.5	12
P-63	J-111	J-207	1424	12
P-64	J-207	J-208	997.1	8
P-65	J-207	J-206	1045	12
P-66	J-206	J-204	317.1	8
P-67	J-205	J-204	465.7	8
P-68	J-204	J-203	643.7	8
P-69	J-200	J-211	2106	8
P-70	J-211	J-203	536.3	8
P-71	J-203	J-201	2125	8
P-72	S145	J-200	327.3	8

Sereno Canyon Phase 4 Max Day fire flow J37

P-73	J-200	J-201	667.2	8
P-74	J-201	J-202	1059	8
P-75	J-120	J-119	186.5	8
P-76	J-119	J-121	389	8
P-77	J-210	J-209	1327	12
P-78	J-209	J-206	257.6	12
P-79	J-13	J-8	394	8
P-80	J-6	J-15	462	8
P-81	J-24	J-25	535	8
P-82	J-19	J-25	884	8
P-83	J-101	J-102	845.5	12
P-84	J-101	J-42	913.6	8
P-85	J-108	J-107	309.2	8



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in	
P-86	J-113	J-112	191.9	8	
P-87	J-117	J-114	573.8	8	
P-88	J-116	J-115	172.9	8	
P-89	J-119	J-118	421	8	
P-90	J-121	J-210	4137	8	
P-91	J-121	J-122	131.6	8	
P-92	J-32	J-33	221	8	
P-93	J-31	J-32	387	8	
P-94	J-103	J-31	1000	8	
P-95	J-33	J-34	245	8	
P-96	J-34	J-35	223.9	8	
P-97	J-103	J-104	1106	8	
P-98	J-305	J-304	506.9	8	
P-99	J-303	J-302	412.7	12	
P-100	J-301	J-300	178.5	8	
P-101	R-1	J-400	10	24	
P-21	J-26	J-305	427	8	
PUMP1	J-400	J-401	#N/A	#N/A	Pump
PUMP2	J-400	J-401	#N/A	#N/A	Pump
PUMP3	J-400	J-401	#N/A	#N/A	Pump
PUMP4	J-400	J-401	#N/A	#N/A	Pump
1	J-401	S145	#N/A	12	Valve

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
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Sereno Canyon Phase 4 Max Day fire flow J37

PUMP1	0.00	0.00	0.00	0.00	0.00	0.00
PUMP2	0.00	0.00	0.00	0.00	0.00	0.00
PUMP3	0.00	0.00	0.00	0.00	0.00	0.00
PUMP4	100.00	75.00	1187.04	101.25	101.25	0.00

Demand Charge: 0.00
Total Cost: 0.00

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-32	3.44	2992.62	87.36	0.00
J-36	3.80	2988.91	70.15	0.00
J-37	1000.00	2986.69	65.73	0.00
J-30	4.48	2997.38	98.31	0.00
J-38	5.52	2997.52	81.68	0.00
J-39	3.44	2997.58	88.21	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-29	2.76	2997.73	94.13	0.00
J-40	2.06	2997.58	87.99	0.00
J-28	3.45	2997.92	102.66	0.00
J-27	2.07	2997.92	90.96	0.00
J-2	1.38	2998.33	95.04	0.00
J-3	0.00	2998.27	88.25	0.00
J-4	1.38	2998.25	89.15	0.00
J-41	5.52	2998.24	90.14	0.00
J-14	6.90	2998.20	93.24	0.00
J-11	4.14	2998.19	100.17	0.00
J-12	49.90	2998.18	94.11	0.00
J-9	0.00	2998.19	108.84	0.00
J-6	2.07	2998.22	91.09	0.00
J-19	3.44	2998.25	82.87	0.00
J-24	6.20	2998.24	82.86	0.00
J-20	31.00	2998.24	74.85	0.00
J-21	12.40	2998.24	74.85	0.00
J-22	3.10	2998.24	74.63	0.00
J-5	2.76	2998.23	90.66	0.00
J-17	3.10	2998.23	103.66	0.00

Sereno Canyon Phase 4 Max Day fire flow J37

J-18	1.38	2998.25	97.60	0.00
J-7	4.14	2998.20	100.61	0.00
J-13	3.45	2998.20	111.01	0.00
J-8	3.80	2998.20	104.94	0.00
J-15	3.44	2998.21	82.63	0.00
J-16	2.06	2998.21	78.08	0.00
J-23	9.30	2998.24	72.46	0.00
J-303	11.48	2998.40	111.96	0.00
J-301	2.02	2998.47	116.76	0.00
J-10	47.88	2998.18	115.77	0.00
J-26	2.07	2998.35	100.68	0.00
J-1	0.00	2998.39	95.93	0.00
J-102	2.70	2998.84	101.32	0.00
J-105	3.38	2998.84	109.12	0.00
J-107	4.72	2998.84	113.89	0.00
J-111	4.06	2998.84	116.92	0.00
J-112	1.36	2998.76	125.55	0.00
J-114	1.36	2998.73	126.84	0.00
J-115	1.36	2998.70	128.13	0.00
J-118	1.36	2998.68	128.55	0.00
J-300	7.42	2998.47	117.63	0.00
J-302	2.70	2998.40	109.80	0.00
J-304	2.02	2998.39	102.86	0.00
J-42	0.00	2997.32	98.93	0.00
J-31	0.00	2996.05	95.35	0.00
J-35	0.00	2991.74	73.98	0.00
J-101	4.72	2999.35	115.19	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-106	3.38	2998.84	116.92	0.00
J-33	0.00	2992.33	82.04	0.00
J-123	3.38	2992.33	90.27	0.00
J-100	0.00	3000.10	121.80	0.00
J-103	3.38	2996.30	108.02	0.00
J-104	3.38	2993.60	83.02	0.00
J-117	2.02	2998.73	123.81	0.00
J-110	4.06	2998.84	109.12	0.00
J-108	2.02	2998.84	108.69	0.00
J-109	2.02	2998.84	107.82	0.00
J-305	1.36	2998.37	103.72	0.00
S145	0.00	3000.38	123.65	0.00
J-207	2.70	2998.89	114.35	0.00

Sereno Canyon Phase 4 Max Day fire flow J37

J-208	0.68	2998.89	116.94	0.00
J-206	0.68	2998.94	136.03	0.00
J-204	2.70	2999.12	129.18	0.00
J-205	2.70	2999.12	120.94	0.00
J-203	12.82	2999.52	121.55	0.00
J-200	7.42	3000.09	126.13	0.00
J-211	0.00	2999.64	118.13	0.00
J-201	3.38	2999.92	136.46	0.00
J-202	10.12	2999.92	117.82	0.00
J-119	0.00	2998.68	132.45	0.00
J-120	2.02	2998.68	136.78	0.00
J-121	0.00	2998.68	136.78	0.00
J-122	45.90	2998.67	139.38	0.00
J-210	4.06	2998.92	137.75	0.00
J-209	0.68	2998.93	135.59	0.00
J-113	1.36	2998.76	124.69	0.00
J-116	0.68	2998.70	127.69	0.00
J-25	5.52	2998.24	70.52	0.00
J-34	0.68	2992.02	79.74	0.00
J-400	0.00	2717.00	0.00	0.00
R-1	-1421.59	2717.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-1	433.42	2.77	3.88	Open
P-2	1000.00	6.38	18.27	Open
P-3	-71.61	0.46	0.14	Open
P-4	-77.13	0.49	0.16	Open
P-5	-82.63	0.53	0.18	Open
P-6	2.06	0.01	0.00	Open



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-7	-3.45	0.02	0.00	Open
P-8	212.88	0.60	0.14	Open
P-9	155.77	0.44	0.08	Open
P-10	153.01	0.43	0.08	Open
P-11	19.94	0.13	0.01	Open
P-12	-49.90	0.14	0.01	Open
P-13	-34.10	0.10	0.00	Open

Sereno Canyon Phase 4 Max Day fire flow J37

P-14	57.11	0.36	0.09	Open
P-15	4.46	0.03	0.00	Open
P-16	5.91	0.04	0.00	Open
P-17	-6.49	0.04	0.00	Open
P-18	-0.81	0.01	0.00	Open
P-19	-36.27	0.23	0.04	Open
P-20	3.10	0.02	0.00	Open
P-22	-1.38	0.01	0.00	Open
P-23	15.88	0.10	0.01	Open
P-24	2.48	0.02	0.00	Open
P-25	-24.35	0.16	0.02	Open
P-26	2.06	0.01	0.00	Open
P-27	9.30	0.06	0.00	Open
P-28	-13.85	0.09	0.01	Open
P-29	133.64	0.38	0.06	Open
P-30	127.78	0.36	0.06	Open
P-31	95.86	0.27	0.03	Open
P-32	75.84	0.22	0.02	Open
P-33	81.98	0.23	0.02	Open
P-34	47.88	0.14	0.01	Open
P-35	34.86	0.22	0.04	Open
P-36	-179.40	0.51	0.11	Open
P-37	-455.64	1.29	0.59	Open
P-38	2.39	0.01	0.00	Open
P-39	-4.37	0.01	0.00	Open
P-40	-17.19	0.05	0.00	Open
P-41	81.24	0.52	0.18	Open
P-42	78.52	0.50	0.16	Open
P-43	75.14	0.48	0.15	Open
P-44	73.10	0.47	0.14	Open
P-45	68.97	0.44	0.13	Open
P-46	59.53	0.38	0.10	Open
P-47	45.35	0.13	0.01	Open
P-48	5.05	0.01	0.00	Open
P-49	281.29	1.80	1.74	Open
P-50	275.77	1.76	1.68	Open
P-51	190.38	1.22	0.85	Open
P-52	257.51	1.64	1.48	Open
P-53	578.12	3.69	6.62	Open
P-54	570.38	3.64	6.46	Open



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
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Sereno Canyon Phase 4 Max Day fire flow J37

P-55	-3.38	0.02	0.00	Open
P-56	3.38	0.02	0.00	Open
P-57	439.94	2.81	3.99	Open
P-58	334.26	2.13	2.40	Open
P-59	-4.06	0.03	0.00	Open
P-60	2.02	0.01	0.00	Open
P-61	1226.01	3.48	3.70	Open
P-62	786.07	2.23	1.62	Open
P-63	-102.49	0.29	0.04	Open
P-64	0.68	0.00	0.00	Open
P-65	-105.87	0.30	0.04	Open
P-66	-156.44	1.00	0.59	Open
P-67	-2.70	0.02	0.00	Open
P-68	-161.84	1.03	0.63	Open
P-69	90.35	0.58	0.21	Open
P-70	90.35	0.58	0.21	Open
P-71	-84.31	0.54	0.19	Open
P-72	195.58	1.25	0.89	Open
P-73	97.81	0.62	0.25	Open
P-74	10.12	0.06	0.00	Open
P-75	-2.02	0.01	0.00	Open
P-76	0.75	0.00	0.00	Open
P-77	-49.21	0.14	0.01	Open
P-78	-49.89	0.14	0.01	Open
P-79	12.43	0.08	0.00	Open
P-80	29.85	0.19	0.03	Open
P-81	-11.88	0.08	0.01	Open
P-82	17.40	0.11	0.01	Open
P-83	460.74	1.31	0.60	Open
P-84	320.61	2.05	2.22	Open
P-85	-8.10	0.05	0.00	Open
P-86	-1.36	0.01	0.00	Open
P-87	-2.02	0.01	0.00	Open
P-88	-0.68	0.00	0.00	Open
P-89	-2.77	0.02	0.00	Open
P-90	-45.15	0.29	0.06	Open
P-91	45.90	0.29	0.06	Open
P-92	240.18	1.53	1.30	Open
P-93	677.04	4.32	8.87	Open
P-94	98.92	0.63	0.25	Open
P-95	236.80	1.51	1.27	Open
P-96	236.12	1.51	1.26	Open
P-97	337.64	2.16	2.45	Open
P-98	-38.29	0.24	0.04	Open
P-99	-11.48	0.03	0.00	Open
P-100	-2.02	0.01	0.00	Open
P-101	1421.59	1.01	0.17	Open

Sereno Canyon Phase 4 Max Day fire flow J37



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-21	-36.93	0.24	0.04	Open
PUMP1	0.00	0.00	0.00	Closed Pump
PUMP2	0.00	0.00	0.00	Closed Pump
PUMP3	0.00	0.00	0.00	Closed Pump
PUMP4	1421.60	0.00	-283.38	Open Pump
1	1421.59	4.03	0.00	Open Valve

Sereno Canyon Phase 4 Max Day fire flow J38

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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: Sereno Canyon Phase 4 Max Day fire flow J38.net

Sereno Canyon

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in
P-1	J-32	J-36	955.6	8
P-2	J-36	J-37	121.6	8
P-3	J-30	J-38	957.7	8
P-4	J-38	J-39	400	8
P-5	J-39	J-29	841.9	8
P-6	J-39	J-40	83.23	8
P-7	J-28	J-27	505.5	8
P-8	J-2	J-3	452.1	12
P-9	J-3	J-4	195.3	12
P-10	J-4	J-41	148.7	12
P-11	J-14	J-11	890.1	8
P-12	J-12	J-11	340.4	12
P-13	J-11	J-9	458.8	12
P-14	J-3	J-19	223.6	8
P-15	J-20	J-21	310.5	8
P-16	J-21	J-22	93.71	8
P-17	J-22	J-24	192.7	8
P-18	J-24	J-20	511.2	8
P-19	J-20	J-19	293.1	8
P-20	J-5	J-17	587.4	8
P-22	J-18	J-4	378.4	8
P-23	J-7	J-13	601.7	8
P-24	J-8	J-14	610.4	8
P-25	J-14	J-15	540.4	8
P-26	J-15	J-16	224.8	8
P-27	J-22	J-23	128.3	8
P-28	J-21	J-41	699	8
P-29	J-41	J-5	172.5	12
P-30	J-5	J-6	197.8	12
P-31	J-6	J-7	466.8	12
P-32	J-7	J-8	339.3	12

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P-33	J-8	J-9	384	12
P-34	J-9	J-10	522	12
P-35	J-26	J-2	531.2	8
P-36	J-2	J-1	557.4	12
P-37	J-1	J-102	754.8	12
P-38	J-102	J-105	819.5	12



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in
P-39	J-105	J-107	511.2	12
P-40	J-107	J-111	1032	12
P-41	J-111	J-112	449.2	8
P-42	J-112	J-114	204.1	8
P-43	J-114	J-115	198.3	8
P-44	J-115	J-118	154.9	8
P-45	J-118	J-300	1588	8
P-46	J-300	J-302	757	8
P-47	J-302	J-304	469.1	12
P-48	J-304	J-1	500.9	12
P-49	J-1	J-27	271.1	8
P-50	J-27	J-29	112.3	8
P-51	J-29	J-30	411.1	8
P-52	J-30	J-42	43.31	8
P-53	J-42	J-31	191.5	8
P-54	J-35	J-36	438.3	8
P-55	J-106	J-105	800.8	8
P-56	J-33	J-123	375.5	8
P-57	J-100	J-103	951.8	8
P-58	J-104	J-35	775.1	8
P-59	J-110	J-108	595.1	8
P-60	J-108	J-109	353.1	8
P-61	S145	J-100	74.44	12
P-62	J-100	J-101	464.5	12
P-63	J-111	J-207	1424	12
P-64	J-207	J-208	997.1	8
P-65	J-207	J-206	1045	12
P-66	J-206	J-204	317.1	8
P-67	J-205	J-204	465.7	8
P-68	J-204	J-203	643.7	8
P-69	J-200	J-211	2106	8
P-70	J-211	J-203	536.3	8
P-71	J-203	J-201	2125	8
P-72	S145	J-200	327.3	8

Sereno Canyon Phase 4 Max Day fire flow J38

P-73	J-200	J-201	667.2	8
P-74	J-201	J-202	1059	8
P-75	J-120	J-119	186.5	8
P-76	J-119	J-121	389	8
P-77	J-210	J-209	1327	12
P-78	J-209	J-206	257.6	12
P-79	J-13	J-8	394	8
P-80	J-6	J-15	462	8
P-81	J-24	J-25	535	8
P-82	J-19	J-25	884	8
P-83	J-101	J-102	845.5	12
P-84	J-101	J-42	913.6	8
P-85	J-108	J-107	309.2	8



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Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in	
P-86	J-113	J-112	191.9	8	
P-87	J-117	J-114	573.8	8	
P-88	J-116	J-115	172.9	8	
P-89	J-119	J-118	421	8	
P-90	J-121	J-210	4137	8	
P-91	J-121	J-122	131.6	8	
P-92	J-32	J-33	221	8	
P-93	J-31	J-32	387	8	
P-94	J-103	J-31	1000	8	
P-95	J-33	J-34	245	8	
P-96	J-34	J-35	223.9	8	
P-97	J-103	J-104	1106	8	
P-98	J-305	J-304	506.9	8	
P-99	J-303	J-302	412.7	12	
P-100	J-301	J-300	178.5	8	
P-101	R-1	J-400	10	24	
P-21	J-26	J-305	427	8	
PUMP1	J-400	J-401	#N/A	#N/A	Pump
PUMP2	J-400	J-401	#N/A	#N/A	Pump
PUMP3	J-400	J-401	#N/A	#N/A	Pump
PUMP4	J-400	J-401	#N/A	#N/A	Pump
1	J-401	S145	#N/A	12	Valve

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
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Sereno Canyon Phase 4 Max Day fire flow J38

PUMP1	0.00	0.00	0.00	0.00	0.00	0.00
PUMP2	0.00	0.00	0.00	0.00	0.00	0.00
PUMP3	0.00	0.00	0.00	0.00	0.00	0.00
PUMP4	100.00	75.00	1188.23	101.08	101.08	0.00

Demand Charge: 0.00
Total Cost: 0.00

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-32	3.44	2997.71	89.57	0.00
J-36	3.80	2997.76	73.99	0.00
J-37	1.72	2997.76	70.52	0.00
J-30	4.48	2996.92	98.11	0.00
J-38	1000.00	2991.36	79.02	0.00
J-39	3.44	2993.10	86.27	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-29	2.76	2996.85	93.75	0.00
J-40	2.06	2993.10	86.05	0.00
J-28	3.45	2997.21	102.35	0.00
J-27	2.07	2997.21	90.65	0.00
J-2	1.38	2998.04	94.91	0.00
J-3	0.00	2997.97	88.12	0.00
J-4	1.38	2997.96	89.02	0.00
J-41	5.52	2997.95	90.02	0.00
J-14	6.90	2997.90	93.12	0.00
J-11	4.14	2997.89	100.04	0.00
J-12	49.90	2997.89	93.98	0.00
J-9	0.00	2997.89	108.71	0.00
J-6	2.07	2997.92	90.96	0.00
J-19	3.44	2997.95	82.74	0.00
J-24	6.20	2997.94	82.73	0.00
J-20	31.00	2997.94	74.72	0.00
J-21	12.40	2997.94	74.72	0.00
J-22	3.10	2997.94	74.50	0.00
J-5	2.76	2997.94	90.53	0.00
J-17	3.10	2997.94	103.53	0.00

Sereno Canyon Phase 4 Max Day fire flow J38

J-18	1.38	2997.96	97.47	0.00
J-7	4.14	2997.91	100.49	0.00
J-13	3.45	2997.90	110.88	0.00
J-8	3.80	2997.90	104.82	0.00
J-15	3.44	2997.91	82.51	0.00
J-16	2.06	2997.91	77.96	0.00
J-23	9.30	2997.94	72.34	0.00
J-303	11.48	2998.10	111.84	0.00
J-301	2.02	2998.22	116.65	0.00
J-10	47.88	2997.89	115.64	0.00
J-26	2.07	2998.06	100.55	0.00
J-1	0.00	2998.10	95.80	0.00
J-102	2.70	2998.73	101.28	0.00
J-105	3.38	2998.73	109.08	0.00
J-107	4.72	2998.73	113.84	0.00
J-111	4.06	2998.74	116.88	0.00
J-112	1.36	2998.64	125.50	0.00
J-114	1.36	2998.60	126.78	0.00
J-115	1.36	2998.56	128.07	0.00
J-118	1.36	2998.53	128.49	0.00
J-300	7.42	2998.22	117.52	0.00
J-302	2.70	2998.10	109.67	0.00
J-304	2.02	2998.10	102.73	0.00
J-42	0.00	2997.25	98.90	0.00
J-31	0.00	2997.60	96.02	0.00
J-35	0.00	2997.79	76.60	0.00
J-101	4.72	2999.45	115.24	0.00



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Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-106	3.38	2998.73	116.88	0.00
J-33	0.00	2997.73	84.38	0.00
J-123	3.38	2997.73	92.61	0.00
J-100	0.00	3000.40	121.93	0.00
J-103	3.38	2998.43	108.94	0.00
J-104	3.38	2998.04	84.94	0.00
J-117	2.02	2998.60	123.75	0.00
J-110	4.06	2998.73	109.08	0.00
J-108	2.02	2998.73	108.64	0.00
J-109	2.02	2998.73	107.78	0.00
J-305	1.36	2998.08	103.59	0.00
S145	0.00	3000.66	123.78	0.00
J-207	2.70	2998.81	114.31	0.00

Sereno Canyon Phase 4 Max Day fire flow J38

J-208	0.68	2998.81	116.91	0.00
J-206	0.68	2998.86	136.00	0.00
J-204	2.70	2999.10	129.17	0.00
J-205	2.70	2999.10	120.93	0.00
J-203	12.82	2999.61	121.59	0.00
J-200	7.42	3000.31	126.22	0.00
J-211	0.00	2999.75	118.18	0.00
J-201	3.38	3000.11	136.54	0.00
J-202	10.12	3000.10	117.90	0.00
J-119	0.00	2998.53	132.39	0.00
J-120	2.02	2998.53	136.72	0.00
J-121	0.00	2998.53	136.72	0.00
J-122	45.90	2998.52	139.32	0.00
J-210	4.06	2998.84	137.72	0.00
J-209	0.68	2998.86	135.56	0.00
J-113	1.36	2998.64	124.63	0.00
J-116	0.68	2998.56	127.63	0.00
J-25	5.52	2997.94	70.39	0.00
J-34	0.68	2997.76	82.22	0.00
J-400	0.00	2717.00	0.00	0.00
R-1	-1417.79	2717.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-1	-42.58	0.27	0.05	Open
P-2	1.72	0.01	0.00	Open
P-3	538.73	3.44	5.81	Open
P-4	-461.27	2.94	4.36	Open
P-5	-466.77	2.98	4.45	Open
P-6	2.06	0.01	0.00	Open



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-7	-3.45	0.02	0.00	Open
P-8	212.88	0.60	0.14	Open
P-9	155.77	0.44	0.08	Open
P-10	153.01	0.43	0.08	Open
P-11	19.94	0.13	0.01	Open
P-12	-49.90	0.14	0.01	Open
P-13	-34.10	0.10	0.01	Open

Sereno Canyon Phase 4 Max Day fire flow J38

P-14	57.11	0.36	0.09	Open
P-15	4.46	0.03	0.00	Open
P-16	5.91	0.04	0.00	Open
P-17	-6.49	0.04	0.00	Open
P-18	-0.81	0.01	0.00	Open
P-19	-36.27	0.23	0.04	Open
P-20	3.10	0.02	0.00	Open
P-22	-1.38	0.01	0.00	Open
P-23	15.88	0.10	0.01	Open
P-24	2.48	0.02	0.00	Open
P-25	-24.35	0.16	0.02	Open
P-26	2.06	0.01	0.00	Open
P-27	9.30	0.06	0.00	Open
P-28	-13.85	0.09	0.01	Open
P-29	133.64	0.38	0.06	Open
P-30	127.78	0.36	0.06	Open
P-31	95.86	0.27	0.03	Open
P-32	75.84	0.22	0.02	Open
P-33	81.98	0.23	0.02	Open
P-34	47.88	0.14	0.01	Open
P-35	35.13	0.22	0.04	Open
P-36	-179.13	0.51	0.10	Open
P-37	-552.44	1.57	0.84	Open
P-38	-2.97	0.01	0.00	Open
P-39	-9.73	0.03	0.00	Open
P-40	-22.55	0.06	0.00	Open
P-41	91.73	0.59	0.22	Open
P-42	89.01	0.57	0.21	Open
P-43	85.63	0.55	0.19	Open
P-44	83.59	0.53	0.18	Open
P-45	85.77	0.55	0.19	Open
P-46	76.33	0.49	0.16	Open
P-47	62.15	0.18	0.02	Open
P-48	21.57	0.06	0.00	Open
P-49	394.88	2.52	3.27	Open
P-50	389.36	2.49	3.18	Open
P-51	-80.17	0.51	0.17	Open
P-52	-623.38	3.98	7.61	Open
P-53	-288.98	1.84	1.83	Open
P-54	48.10	0.31	0.07	Open



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
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Sereno Canyon Phase 4 Max Day fire flow J38

P-55	-3.38	0.02	0.00	Open
P-56	3.38	0.02	0.00	Open
P-57	308.76	1.97	2.07	Open
P-58	114.50	0.73	0.33	Open
P-59	-4.06	0.03	0.00	Open
P-60	2.02	0.01	0.00	Open
P-61	1200.05	3.40	3.55	Open
P-62	891.29	2.53	2.05	Open
P-63	-118.34	0.34	0.05	Open
P-64	0.68	0.00	0.00	Open
P-65	-121.72	0.35	0.05	Open
P-66	-178.60	1.14	0.75	Open
P-67	-2.70	0.02	0.00	Open
P-68	-184.00	1.17	0.79	Open
P-69	101.59	0.65	0.26	Open
P-70	101.59	0.65	0.26	Open
P-71	-95.23	0.61	0.23	Open
P-72	217.74	1.39	1.09	Open
P-73	108.73	0.69	0.30	Open
P-74	10.12	0.06	0.00	Open
P-75	-2.02	0.01	0.00	Open
P-76	-5.56	0.04	0.00	Open
P-77	-55.52	0.16	0.01	Open
P-78	-56.20	0.16	0.01	Open
P-79	12.43	0.08	0.01	Open
P-80	29.85	0.19	0.03	Open
P-81	-11.88	0.08	0.01	Open
P-82	17.40	0.11	0.01	Open
P-83	552.17	1.57	0.84	Open
P-84	334.40	2.13	2.40	Open
P-85	-8.10	0.05	0.00	Open
P-86	-1.36	0.01	0.00	Open
P-87	-2.02	0.01	0.00	Open
P-88	-0.68	0.00	0.00	Open
P-89	3.54	0.02	0.00	Open
P-90	-51.46	0.33	0.08	Open
P-91	45.90	0.29	0.06	Open
P-92	-62.34	0.40	0.11	Open
P-93	-101.48	0.65	0.26	Open
P-94	187.50	1.20	0.82	Open
P-95	-65.72	0.42	0.12	Open
P-96	-66.40	0.42	0.12	Open
P-97	117.88	0.75	0.35	Open
P-98	-38.56	0.25	0.04	Open
P-99	-11.48	0.03	0.00	Open
P-100	-2.02	0.01	0.00	Open
P-101	1417.79	1.01	0.17	Open

Sereno Canyon Phase 4 Max Day fire flow J38



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-21	-37.20	0.24	0.04	Open
PUMP1	0.00	0.00	0.00	Closed Pump
PUMP2	0.00	0.00	0.00	Closed Pump
PUMP3	0.00	0.00	0.00	Closed Pump
PUMP4	1417.80	0.00	-283.67	Open Pump
1	1417.79	4.02	0.00	Open Valve

Sereno Canyon Phase 4 Max Day fire flow J39

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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: Sereno Canyon Phase 4 Max Day fire flow J39.net

Sereno Canyon

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in
P-1	J-32	J-36	955.6	8
P-2	J-36	J-37	121.6	8
P-3	J-30	J-38	957.7	8
P-4	J-38	J-39	400	8
P-5	J-39	J-29	841.9	8
P-6	J-39	J-40	83.23	8
P-7	J-28	J-27	505.5	8
P-8	J-2	J-3	452.1	12
P-9	J-3	J-4	195.3	12
P-10	J-4	J-41	148.7	12
P-11	J-14	J-11	890.1	8
P-12	J-12	J-11	340.4	12
P-13	J-11	J-9	458.8	12
P-14	J-3	J-19	223.6	8
P-15	J-20	J-21	310.5	8
P-16	J-21	J-22	93.71	8
P-17	J-22	J-24	192.7	8
P-18	J-24	J-20	511.2	8
P-19	J-20	J-19	293.1	8
P-20	J-5	J-17	587.4	8
P-22	J-18	J-4	378.4	8
P-23	J-7	J-13	601.7	8
P-24	J-8	J-14	610.4	8
P-25	J-14	J-15	540.4	8
P-26	J-15	J-16	224.8	8
P-27	J-22	J-23	128.3	8
P-28	J-21	J-41	699	8
P-29	J-41	J-5	172.5	12
P-30	J-5	J-6	197.8	12
P-31	J-6	J-7	466.8	12
P-32	J-7	J-8	339.3	12

Sereno Canyon Phase 4 Max Day fire flow J39

P-33	J-8	J-9	384	12
P-34	J-9	J-10	522	12
P-35	J-26	J-2	531.2	8
P-36	J-2	J-1	557.4	12
P-37	J-1	J-102	754.8	12
P-38	J-102	J-105	819.5	12



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in
P-39	J-105	J-107	511.2	12
P-40	J-107	J-111	1032	12
P-41	J-111	J-112	449.2	8
P-42	J-112	J-114	204.1	8
P-43	J-114	J-115	198.3	8
P-44	J-115	J-118	154.9	8
P-45	J-118	J-300	1588	8
P-46	J-300	J-302	757	8
P-47	J-302	J-304	469.1	12
P-48	J-304	J-1	500.9	12
P-49	J-1	J-27	271.1	8
P-50	J-27	J-29	112.3	8
P-51	J-29	J-30	411.1	8
P-52	J-30	J-42	43.31	8
P-53	J-42	J-31	191.5	8
P-54	J-35	J-36	438.3	8
P-55	J-106	J-105	800.8	8
P-56	J-33	J-123	375.5	8
P-57	J-100	J-103	951.8	8
P-58	J-104	J-35	775.1	8
P-59	J-110	J-108	595.1	8
P-60	J-108	J-109	353.1	8
P-61	S145	J-100	74.44	12
P-62	J-100	J-101	464.5	12
P-63	J-111	J-207	1424	12
P-64	J-207	J-208	997.1	8
P-65	J-207	J-206	1045	12
P-66	J-206	J-204	317.1	8
P-67	J-205	J-204	465.7	8
P-68	J-204	J-203	643.7	8
P-69	J-200	J-211	2106	8
P-70	J-211	J-203	536.3	8
P-71	J-203	J-201	2125	8
P-72	S145	J-200	327.3	8

Sereno Canyon Phase 4 Max Day fire flow J39

P-73	J-200	J-201	667.2	8
P-74	J-201	J-202	1059	8
P-75	J-120	J-119	186.5	8
P-76	J-119	J-121	389	8
P-77	J-210	J-209	1327	12
P-78	J-209	J-206	257.6	12
P-79	J-13	J-8	394	8
P-80	J-6	J-15	462	8
P-81	J-24	J-25	535	8
P-82	J-19	J-25	884	8
P-83	J-101	J-102	845.5	12
P-84	J-101	J-42	913.6	8
P-85	J-108	J-107	309.2	8



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in	
P-86	J-113	J-112	191.9	8	
P-87	J-117	J-114	573.8	8	
P-88	J-116	J-115	172.9	8	
P-89	J-119	J-118	421	8	
P-90	J-121	J-210	4137	8	
P-91	J-121	J-122	131.6	8	
P-92	J-32	J-33	221	8	
P-93	J-31	J-32	387	8	
P-94	J-103	J-31	1000	8	
P-95	J-33	J-34	245	8	
P-96	J-34	J-35	223.9	8	
P-97	J-103	J-104	1106	8	
P-98	J-305	J-304	506.9	8	
P-99	J-303	J-302	412.7	12	
P-100	J-301	J-300	178.5	8	
P-101	R-1	J-400	10	24	
P-21	J-26	J-305	427	8	
PUMP1	J-400	J-401	#N/A	#N/A	Pump
PUMP2	J-400	J-401	#N/A	#N/A	Pump
PUMP3	J-400	J-401	#N/A	#N/A	Pump
PUMP4	J-400	J-401	#N/A	#N/A	Pump
1	J-401	S145	#N/A	12	Valve

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
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Sereno Canyon Phase 4 Max Day fire flow J39

PUMP1	0.00	0.00	0.00	0.00	0.00	0.00
PUMP2	0.00	0.00	0.00	0.00	0.00	0.00
PUMP3	0.00	0.00	0.00	0.00	0.00	0.00
PUMP4	100.00	75.00	1187.58	101.17	101.17	0.00

Demand Charge: 0.00
Total Cost: 0.00

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-32	3.44	2997.60	89.52	0.00
J-36	3.80	2997.65	73.94	0.00
J-37	1.72	2997.65	70.48	0.00
J-30	4.48	2996.84	98.07	0.00
J-38	5.52	2992.91	79.69	0.00
J-39	1000.00	2991.31	85.49	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-29	2.76	2996.58	93.63	0.00
J-40	2.06	2991.31	85.28	0.00
J-28	3.45	2996.96	102.24	0.00
J-27	2.07	2996.96	90.54	0.00
J-2	1.38	2997.83	94.82	0.00
J-3	0.00	2997.77	88.03	0.00
J-4	1.38	2997.75	88.93	0.00
J-41	5.52	2997.74	89.93	0.00
J-14	6.90	2997.69	93.03	0.00
J-11	4.14	2997.68	99.95	0.00
J-12	49.90	2997.68	93.89	0.00
J-9	0.00	2997.68	108.62	0.00
J-6	2.07	2997.72	90.87	0.00
J-19	3.44	2997.75	82.65	0.00
J-24	6.20	2997.73	82.64	0.00
J-20	31.00	2997.73	74.63	0.00
J-21	12.40	2997.73	74.63	0.00
J-22	3.10	2997.73	74.41	0.00
J-5	2.76	2997.73	90.44	0.00
J-17	3.10	2997.73	103.44	0.00

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J-18	1.38	2997.75	97.38	0.00
J-7	4.14	2997.70	100.40	0.00
J-13	3.45	2997.70	110.79	0.00
J-8	3.80	2997.69	104.73	0.00
J-15	3.44	2997.70	82.42	0.00
J-16	2.06	2997.70	77.87	0.00
J-23	9.30	2997.73	72.25	0.00
J-303	11.48	2997.90	111.75	0.00
J-301	2.02	2998.02	116.57	0.00
J-10	47.88	2997.68	115.55	0.00
J-26	2.07	2997.85	100.46	0.00
J-1	0.00	2997.89	95.71	0.00
J-102	2.70	2998.55	101.20	0.00
J-105	3.38	2998.55	109.00	0.00
J-107	4.72	2998.55	113.76	0.00
J-111	4.06	2998.55	116.80	0.00
J-112	1.36	2998.45	125.42	0.00
J-114	1.36	2998.41	126.70	0.00
J-115	1.36	2998.37	127.98	0.00
J-118	1.36	2998.34	128.40	0.00
J-300	7.42	2998.02	117.43	0.00
J-302	2.70	2997.90	109.58	0.00
J-304	2.02	2997.89	102.64	0.00
J-42	0.00	2997.16	98.86	0.00
J-31	0.00	2997.50	95.98	0.00
J-35	0.00	2997.68	76.56	0.00
J-101	4.72	2999.28	115.16	0.00



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Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-106	3.38	2998.55	116.79	0.00
J-33	0.00	2997.63	84.33	0.00
J-123	3.38	2997.63	92.56	0.00
J-100	0.00	3000.24	121.86	0.00
J-103	3.38	2998.31	108.89	0.00
J-104	3.38	2997.93	84.90	0.00
J-117	2.02	2998.41	123.67	0.00
J-110	4.06	2998.55	109.00	0.00
J-108	2.02	2998.55	108.56	0.00
J-109	2.02	2998.55	107.70	0.00
J-305	1.36	2997.87	103.50	0.00
S145	0.00	3000.51	123.71	0.00
J-207	2.70	2998.62	114.23	0.00

Sereno Canyon Phase 4 Max Day fire flow J39

J-208	0.68	2998.62	116.83	0.00
J-206	0.68	2998.68	135.92	0.00
J-204	2.70	2998.92	129.09	0.00
J-205	2.70	2998.92	120.86	0.00
J-203	12.82	2999.44	121.51	0.00
J-200	7.42	3000.15	126.15	0.00
J-211	0.00	2999.58	118.11	0.00
J-201	3.38	2999.94	136.47	0.00
J-202	10.12	2999.94	117.83	0.00
J-119	0.00	2998.34	132.30	0.00
J-120	2.02	2998.34	136.64	0.00
J-121	0.00	2998.34	136.64	0.00
J-122	45.90	2998.33	139.23	0.00
J-210	4.06	2998.66	137.64	0.00
J-209	0.68	2998.67	135.48	0.00
J-113	1.36	2998.45	124.55	0.00
J-116	0.68	2998.37	127.55	0.00
J-25	5.52	2997.74	70.30	0.00
J-34	0.68	2997.66	82.18	0.00
J-400	0.00	2717.00	0.00	0.00
R-1	-1419.87	2717.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-1	-42.07	0.27	0.05	Open
P-2	1.72	0.01	0.00	Open
P-3	446.54	2.85	4.10	Open
P-4	441.02	2.81	4.01	Open
P-5	-561.04	3.58	6.26	Open
P-6	2.06	0.01	0.00	Open



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-7	-3.45	0.02	0.00	Open
P-8	212.88	0.60	0.14	Open
P-9	155.77	0.44	0.08	Open
P-10	153.01	0.43	0.08	Open
P-11	19.94	0.13	0.01	Open
P-12	-49.90	0.14	0.01	Open
P-13	-34.10	0.10	0.00	Open

Sereno Canyon Phase 4 Max Day fire flow J39

P-14	57.11	0.36	0.09	Open
P-15	4.46	0.03	0.00	Open
P-16	5.91	0.04	0.00	Open
P-17	-6.49	0.04	0.00	Open
P-18	-0.81	0.01	0.00	Open
P-19	-36.27	0.23	0.04	Open
P-20	3.10	0.02	0.00	Open
P-22	-1.38	0.01	0.00	Open
P-23	15.88	0.10	0.01	Open
P-24	2.48	0.02	0.00	Open
P-25	-24.35	0.16	0.02	Open
P-26	2.06	0.01	0.00	Open
P-27	9.30	0.06	0.00	Open
P-28	-13.85	0.09	0.01	Open
P-29	133.64	0.38	0.06	Open
P-30	127.78	0.36	0.06	Open
P-31	95.86	0.27	0.03	Open
P-32	75.84	0.22	0.02	Open
P-33	81.98	0.23	0.02	Open
P-34	47.88	0.14	0.01	Open
P-35	35.17	0.22	0.04	Open
P-36	-179.09	0.51	0.10	Open
P-37	-562.12	1.59	0.87	Open
P-38	-3.01	0.01	0.00	Open
P-39	-9.77	0.03	0.00	Open
P-40	-22.59	0.06	0.00	Open
P-41	92.80	0.59	0.22	Open
P-42	90.08	0.57	0.21	Open
P-43	86.70	0.55	0.20	Open
P-44	84.66	0.54	0.19	Open
P-45	87.41	0.56	0.20	Open
P-46	77.97	0.50	0.16	Open
P-47	63.79	0.18	0.02	Open
P-48	23.16	0.07	0.00	Open
P-49	406.19	2.59	3.44	Open
P-50	400.67	2.56	3.36	Open
P-51	-163.13	1.04	0.64	Open
P-52	-614.15	3.92	7.40	Open
P-53	-285.63	1.82	1.79	Open
P-54	47.59	0.30	0.07	Open



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
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Sereno Canyon Phase 4 Max Day fire flow J39

P-55	-3.38	0.02	0.00	Open
P-56	3.38	0.02	0.00	Open
P-57	305.41	1.95	2.03	Open
P-58	113.24	0.72	0.32	Open
P-59	-4.06	0.03	0.00	Open
P-60	2.02	0.01	0.00	Open
P-61	1200.46	3.41	3.56	Open
P-62	895.04	2.54	2.06	Open
P-63	-119.45	0.34	0.05	Open
P-64	0.68	0.00	0.00	Open
P-65	-122.83	0.35	0.05	Open
P-66	-180.27	1.15	0.76	Open
P-67	-2.70	0.02	0.00	Open
P-68	-185.67	1.19	0.81	Open
P-69	102.43	0.65	0.27	Open
P-70	102.43	0.65	0.27	Open
P-71	-96.06	0.61	0.24	Open
P-72	219.41	1.40	1.10	Open
P-73	109.56	0.70	0.30	Open
P-74	10.12	0.06	0.00	Open
P-75	-2.02	0.01	0.00	Open
P-76	-6.12	0.04	0.00	Open
P-77	-56.08	0.16	0.01	Open
P-78	-56.76	0.16	0.01	Open
P-79	12.43	0.08	0.01	Open
P-80	29.85	0.19	0.03	Open
P-81	-11.88	0.08	0.01	Open
P-82	17.40	0.11	0.01	Open
P-83	561.81	1.59	0.87	Open
P-84	328.51	2.10	2.32	Open
P-85	-8.10	0.05	0.00	Open
P-86	-1.36	0.01	0.00	Open
P-87	-2.02	0.01	0.00	Open
P-88	-0.68	0.00	0.00	Open
P-89	4.10	0.03	0.00	Open
P-90	-52.02	0.33	0.08	Open
P-91	45.90	0.29	0.06	Open
P-92	-61.59	0.39	0.10	Open
P-93	-100.22	0.64	0.26	Open
P-94	185.42	1.18	0.81	Open
P-95	-64.97	0.41	0.12	Open
P-96	-65.65	0.42	0.12	Open
P-97	116.62	0.74	0.34	Open
P-98	-38.60	0.25	0.04	Open
P-99	-11.48	0.03	0.00	Open
P-100	-2.02	0.01	0.00	Open
P-101	1419.87	1.01	0.17	Open

Sereno Canyon Phase 4 Max Day fire flow J39



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-21	-37.24	0.24	0.04	Open
PUMP1	0.00	0.00	0.00	Closed Pump
PUMP2	0.00	0.00	0.00	Closed Pump
PUMP3	0.00	0.00	0.00	Closed Pump
PUMP4	1419.88	0.00	-283.51	Open Pump
1	1419.87	4.03	0.00	Open Valve

Sereno Canyon Phase 4 Max Day fire flow J40

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12/2/2017 10:53:38 AM

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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: Sereno Canyon Phase 4 Max Day fire flow J40.net

Sereno Canyon

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in
P-1	J-32	J-36	955.6	8
P-2	J-36	J-37	121.6	8
P-3	J-30	J-38	957.7	8
P-4	J-38	J-39	400	8
P-5	J-39	J-29	841.9	8
P-6	J-39	J-40	83.23	8
P-7	J-28	J-27	505.5	8
P-8	J-2	J-3	452.1	12
P-9	J-3	J-4	195.3	12
P-10	J-4	J-41	148.7	12
P-11	J-14	J-11	890.1	8
P-12	J-12	J-11	340.4	12
P-13	J-11	J-9	458.8	12
P-14	J-3	J-19	223.6	8
P-15	J-20	J-21	310.5	8
P-16	J-21	J-22	93.71	8
P-17	J-22	J-24	192.7	8
P-18	J-24	J-20	511.2	8
P-19	J-20	J-19	293.1	8
P-20	J-5	J-17	587.4	8
P-22	J-18	J-4	378.4	8
P-23	J-7	J-13	601.7	8
P-24	J-8	J-14	610.4	8
P-25	J-14	J-15	540.4	8
P-26	J-15	J-16	224.8	8
P-27	J-22	J-23	128.3	8
P-28	J-21	J-41	699	8
P-29	J-41	J-5	172.5	12
P-30	J-5	J-6	197.8	12
P-31	J-6	J-7	466.8	12
P-32	J-7	J-8	339.3	12

Sereno Canyon Phase 4 Max Day fire flow J40

P-33	J-8	J-9	384	12
P-34	J-9	J-10	522	12
P-35	J-26	J-2	531.2	8
P-36	J-2	J-1	557.4	12
P-37	J-1	J-102	754.8	12
P-38	J-102	J-105	819.5	12



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in
P-39	J-105	J-107	511.2	12
P-40	J-107	J-111	1032	12
P-41	J-111	J-112	449.2	8
P-42	J-112	J-114	204.1	8
P-43	J-114	J-115	198.3	8
P-44	J-115	J-118	154.9	8
P-45	J-118	J-300	1588	8
P-46	J-300	J-302	757	8
P-47	J-302	J-304	469.1	12
P-48	J-304	J-1	500.9	12
P-49	J-1	J-27	271.1	8
P-50	J-27	J-29	112.3	8
P-51	J-29	J-30	411.1	8
P-52	J-30	J-42	43.31	8
P-53	J-42	J-31	191.5	8
P-54	J-35	J-36	438.3	8
P-55	J-106	J-105	800.8	8
P-56	J-33	J-123	375.5	8
P-57	J-100	J-103	951.8	8
P-58	J-104	J-35	775.1	8
P-59	J-110	J-108	595.1	8
P-60	J-108	J-109	353.1	8
P-61	S145	J-100	74.44	12
P-62	J-100	J-101	464.5	12
P-63	J-111	J-207	1424	12
P-64	J-207	J-208	997.1	8
P-65	J-207	J-206	1045	12
P-66	J-206	J-204	317.1	8
P-67	J-205	J-204	465.7	8
P-68	J-204	J-203	643.7	8
P-69	J-200	J-211	2106	8
P-70	J-211	J-203	536.3	8
P-71	J-203	J-201	2125	8
P-72	S145	J-200	327.3	8

Sereno Canyon Phase 4 Max Day fire flow J40

P-73	J-200	J-201	667.2	8
P-74	J-201	J-202	1059	8
P-75	J-120	J-119	186.5	8
P-76	J-119	J-121	389	8
P-77	J-210	J-209	1327	12
P-78	J-209	J-206	257.6	12
P-79	J-13	J-8	394	8
P-80	J-6	J-15	462	8
P-81	J-24	J-25	535	8
P-82	J-19	J-25	884	8
P-83	J-101	J-102	845.5	12
P-84	J-101	J-42	913.6	8
P-85	J-108	J-107	309.2	8



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in	
P-86	J-113	J-112	191.9	8	
P-87	J-117	J-114	573.8	8	
P-88	J-116	J-115	172.9	8	
P-89	J-119	J-118	421	8	
P-90	J-121	J-210	4137	8	
P-91	J-121	J-122	131.6	8	
P-92	J-32	J-33	221	8	
P-93	J-31	J-32	387	8	
P-94	J-103	J-31	1000	8	
P-95	J-33	J-34	245	8	
P-96	J-34	J-35	223.9	8	
P-97	J-103	J-104	1106	8	
P-98	J-305	J-304	506.9	8	
P-99	J-303	J-302	412.7	12	
P-100	J-301	J-300	178.5	8	
P-101	R-1	J-400	10	24	
P-21	J-26	J-305	427	8	
PUMP1	J-400	J-401	#N/A	#N/A	Pump
PUMP2	J-400	J-401	#N/A	#N/A	Pump
PUMP3	J-400	J-401	#N/A	#N/A	Pump
PUMP4	J-400	J-401	#N/A	#N/A	Pump
1	J-401	S145	#N/A	12	Valve

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
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Sereno Canyon Phase 4 Max Day fire flow J40

PUMP1	0.00	0.00	0.00	0.00	0.00	0.00
PUMP2	0.00	0.00	0.00	0.00	0.00	0.00
PUMP3	0.00	0.00	0.00	0.00	0.00	0.00
PUMP4	100.00	75.00	1187.15	101.23	101.23	0.00

Demand Charge: 0.00
Total Cost: 0.00

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-40	1000.00	2989.66	84.56	0.00
J-32	3.44	2997.49	89.47	0.00
J-36	3.80	2997.54	73.90	0.00
J-37	1.72	2997.54	70.43	0.00
J-30	4.48	2996.73	98.02	0.00
J-38	5.52	2992.79	79.64	0.00
J-39	3.44	2991.18	85.44	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-29	2.76	2996.47	93.58	0.00
J-28	3.45	2996.84	102.19	0.00
J-27	2.07	2996.84	90.49	0.00
J-2	1.38	2997.72	94.77	0.00
J-3	0.00	2997.66	87.98	0.00
J-4	1.38	2997.64	88.89	0.00
J-41	5.52	2997.63	89.88	0.00
J-14	6.90	2997.59	92.98	0.00
J-11	4.14	2997.57	99.91	0.00
J-12	49.90	2997.57	93.84	0.00
J-9	0.00	2997.58	108.57	0.00
J-6	2.07	2997.61	90.82	0.00
J-19	3.44	2997.64	82.60	0.00
J-24	6.20	2997.63	82.60	0.00
J-20	31.00	2997.63	74.58	0.00
J-21	12.40	2997.63	74.58	0.00
J-22	3.10	2997.63	74.37	0.00
J-5	2.76	2997.62	90.39	0.00
J-17	3.10	2997.62	103.39	0.00

Sereno Canyon Phase 4 Max Day fire flow J40

J-18	1.38	2997.64	97.34	0.00
J-7	4.14	2997.59	100.35	0.00
J-13	3.45	2997.59	110.75	0.00
J-8	3.80	2997.59	104.68	0.00
J-15	3.44	2997.60	82.37	0.00
J-16	2.06	2997.60	77.82	0.00
J-23	9.30	2997.62	72.20	0.00
J-303	11.48	2997.79	111.70	0.00
J-301	2.02	2997.91	116.52	0.00
J-10	47.88	2997.57	115.51	0.00
J-26	2.07	2997.74	100.41	0.00
J-1	0.00	2997.78	95.66	0.00
J-102	2.70	2998.44	101.15	0.00
J-105	3.38	2998.44	108.95	0.00
J-107	4.72	2998.44	113.72	0.00
J-111	4.06	2998.44	116.75	0.00
J-112	1.36	2998.34	125.37	0.00
J-114	1.36	2998.30	126.65	0.00
J-115	1.36	2998.26	127.94	0.00
J-118	1.36	2998.23	128.36	0.00
J-300	7.42	2997.91	117.39	0.00
J-302	2.70	2997.79	109.53	0.00
J-304	2.02	2997.78	102.60	0.00
J-42	0.00	2997.05	98.81	0.00
J-31	0.00	2997.39	95.93	0.00
J-35	0.00	2997.57	76.51	0.00
J-101	4.72	2999.18	115.12	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-106	3.38	2998.44	116.75	0.00
J-33	0.00	2997.52	84.28	0.00
J-123	3.38	2997.52	92.52	0.00
J-100	0.00	3000.14	121.82	0.00
J-103	3.38	2998.20	108.85	0.00
J-104	3.38	2997.82	84.85	0.00
J-117	2.02	2998.30	123.62	0.00
J-110	4.06	2998.44	108.95	0.00
J-108	2.02	2998.44	108.52	0.00
J-109	2.02	2998.44	107.65	0.00
J-305	1.36	2997.76	103.45	0.00
S145	0.00	3000.40	123.67	0.00
J-207	2.70	2998.51	114.18	0.00

Sereno Canyon Phase 4 Max Day fire flow J40

J-208	0.68	2998.51	116.78	0.00
J-206	0.68	2998.57	135.87	0.00
J-204	2.70	2998.81	129.04	0.00
J-205	2.70	2998.81	120.81	0.00
J-203	12.82	2999.33	121.47	0.00
J-200	7.42	3000.04	126.11	0.00
J-211	0.00	2999.48	118.06	0.00
J-201	3.38	2999.84	136.42	0.00
J-202	10.12	2999.84	117.79	0.00
J-119	0.00	2998.23	132.26	0.00
J-120	2.02	2998.23	136.59	0.00
J-121	0.00	2998.23	136.59	0.00
J-122	45.90	2998.22	139.19	0.00
J-210	4.06	2998.55	137.59	0.00
J-209	0.68	2998.57	135.43	0.00
J-113	1.36	2998.34	124.51	0.00
J-116	0.68	2998.26	127.50	0.00
J-25	5.52	2997.63	70.25	0.00
J-34	0.68	2997.55	82.13	0.00
J-400	0.00	2717.00	0.00	0.00
R-1	-1421.25	2717.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-1	-42.12	0.27	0.05	Open
P-2	1.72	0.01	0.00	Open
P-3	447.14	2.85	4.11	Open
P-4	441.62	2.82	4.02	Open
P-5	-561.82	3.59	6.28	Open
P-6	1000.00	6.38	18.27	Open



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-7	-3.45	0.02	0.00	Open
P-8	212.88	0.60	0.14	Open
P-9	155.77	0.44	0.08	Open
P-10	153.01	0.43	0.08	Open
P-11	19.94	0.13	0.01	Open
P-12	-49.90	0.14	0.01	Open
P-13	-34.10	0.10	0.00	Open

Sereno Canyon Phase 4 Max Day fire flow J40

P-14	57.11	0.36	0.09	Open
P-15	4.46	0.03	0.00	Open
P-16	5.91	0.04	0.00	Open
P-17	-6.49	0.04	0.00	Open
P-18	-0.81	0.01	0.00	Open
P-19	-36.27	0.23	0.04	Open
P-20	3.10	0.02	0.00	Open
P-22	-1.38	0.01	0.00	Open
P-23	15.88	0.10	0.01	Open
P-24	2.48	0.02	0.00	Open
P-25	-24.35	0.16	0.02	Open
P-26	2.06	0.01	0.00	Open
P-27	9.30	0.06	0.00	Open
P-28	-13.85	0.09	0.01	Open
P-29	133.64	0.38	0.06	Open
P-30	127.78	0.36	0.06	Open
P-31	95.86	0.27	0.03	Open
P-32	75.84	0.22	0.02	Open
P-33	81.98	0.23	0.02	Open
P-34	47.88	0.14	0.01	Open
P-35	35.17	0.22	0.04	Open
P-36	-179.09	0.51	0.11	Open
P-37	-562.65	1.60	0.87	Open
P-38	-3.09	0.01	0.00	Open
P-39	-9.85	0.03	0.00	Open
P-40	-22.67	0.06	0.00	Open
P-41	92.86	0.59	0.22	Open
P-42	90.14	0.58	0.21	Open
P-43	86.76	0.55	0.20	Open
P-44	84.72	0.54	0.19	Open
P-45	87.50	0.56	0.20	Open
P-46	78.06	0.50	0.16	Open
P-47	63.88	0.18	0.02	Open
P-48	23.26	0.07	0.00	Open
P-49	406.82	2.60	3.45	Open
P-50	401.30	2.56	3.37	Open
P-51	-163.28	1.04	0.64	Open
P-52	-614.90	3.92	7.42	Open
P-53	-285.98	1.83	1.80	Open
P-54	47.64	0.30	0.06	Open



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
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Sereno Canyon Phase 4 Max Day fire flow J40

P-55	-3.38	0.02	0.00	Open
P-56	3.38	0.02	0.00	Open
P-57	305.76	1.95	2.04	Open
P-58	113.37	0.72	0.32	Open
P-59	-4.06	0.03	0.00	Open
P-60	2.02	0.01	0.00	Open
P-61	1201.66	3.41	3.56	Open
P-62	895.90	2.54	2.07	Open
P-63	-119.58	0.34	0.05	Open
P-64	0.68	0.00	0.00	Open
P-65	-122.96	0.35	0.05	Open
P-66	-180.45	1.15	0.77	Open
P-67	-2.70	0.02	0.00	Open
P-68	-185.85	1.19	0.81	Open
P-69	102.52	0.65	0.27	Open
P-70	102.52	0.65	0.27	Open
P-71	-96.15	0.61	0.24	Open
P-72	219.59	1.40	1.10	Open
P-73	109.65	0.70	0.30	Open
P-74	10.12	0.06	0.00	Open
P-75	-2.02	0.01	0.00	Open
P-76	-6.16	0.04	0.00	Open
P-77	-56.12	0.16	0.01	Open
P-78	-56.80	0.16	0.01	Open
P-79	12.43	0.08	0.01	Open
P-80	29.85	0.19	0.03	Open
P-81	-11.88	0.08	0.01	Open
P-82	17.40	0.11	0.01	Open
P-83	562.26	1.60	0.87	Open
P-84	328.92	2.10	2.33	Open
P-85	-8.10	0.05	0.00	Open
P-86	-1.36	0.01	0.00	Open
P-87	-2.02	0.01	0.00	Open
P-88	-0.68	0.00	0.00	Open
P-89	4.14	0.03	0.00	Open
P-90	-52.06	0.33	0.08	Open
P-91	45.90	0.29	0.06	Open
P-92	-61.67	0.39	0.10	Open
P-93	-100.35	0.64	0.26	Open
P-94	185.63	1.18	0.81	Open
P-95	-65.05	0.42	0.12	Open
P-96	-65.73	0.42	0.12	Open
P-97	116.75	0.75	0.34	Open
P-98	-38.60	0.25	0.04	Open
P-99	-11.48	0.03	0.00	Open
P-100	-2.02	0.01	0.00	Open
P-101	1421.25	1.01	0.17	Open

Sereno Canyon Phase 4 Max Day fire flow J40



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-21	-37.24	0.24	0.04	Open
PUMP1	0.00	0.00	0.00	Closed Pump
PUMP2	0.00	0.00	0.00	Closed Pump
PUMP3	0.00	0.00	0.00	Closed Pump
PUMP4	1421.26	0.00	-283.41	Open Pump
1	1421.25	4.03	0.00	Open Valve

Sereno Canyon Phase 4 Max Day fire flow J41

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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: Sereno Canyon Phase 4 Max Day fire flow J41.net

Sereno Canyon

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in
P-1	J-32	J-36	955.6	8
P-2	J-36	J-37	121.6	8
P-3	J-30	J-38	957.7	8
P-4	J-38	J-39	400	8
P-5	J-39	J-29	841.9	8
P-6	J-39	J-40	83.23	8
P-7	J-28	J-27	505.5	8
P-8	J-2	J-3	452.1	12
P-9	J-3	J-4	195.3	12
P-10	J-4	J-41	148.7	12
P-11	J-14	J-11	890.1	8
P-12	J-12	J-11	340.4	12
P-13	J-11	J-9	458.8	12
P-14	J-3	J-19	223.6	8
P-15	J-20	J-21	310.5	8
P-16	J-21	J-22	93.71	8
P-17	J-22	J-24	192.7	8
P-18	J-24	J-20	511.2	8
P-19	J-20	J-19	293.1	8
P-20	J-5	J-17	587.4	8
P-22	J-18	J-4	378.4	8
P-23	J-7	J-13	601.7	8
P-24	J-8	J-14	610.4	8
P-25	J-14	J-15	540.4	8
P-26	J-15	J-16	224.8	8
P-27	J-22	J-23	128.3	8
P-28	J-21	J-41	699	8
P-29	J-41	J-5	172.5	12
P-30	J-5	J-6	197.8	12
P-31	J-6	J-7	466.8	12
P-32	J-7	J-8	339.3	12

Sereno Canyon Phase 4 Max Day fire flow J41

P-33	J-8	J-9	384	12
P-34	J-9	J-10	522	12
P-35	J-26	J-2	531.2	8
P-36	J-2	J-1	557.4	12
P-37	J-1	J-102	754.8	12
P-38	J-102	J-105	819.5	12



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in
P-39	J-105	J-107	511.2	12
P-40	J-107	J-111	1032	12
P-41	J-111	J-112	449.2	8
P-42	J-112	J-114	204.1	8
P-43	J-114	J-115	198.3	8
P-44	J-115	J-118	154.9	8
P-45	J-118	J-300	1588	8
P-46	J-300	J-302	757	8
P-47	J-302	J-304	469.1	12
P-48	J-304	J-1	500.9	12
P-49	J-1	J-27	271.1	8
P-50	J-27	J-29	112.3	8
P-51	J-29	J-30	411.1	8
P-52	J-30	J-42	43.31	8
P-53	J-42	J-31	191.5	8
P-54	J-35	J-36	438.3	8
P-55	J-106	J-105	800.8	8
P-56	J-33	J-123	375.5	8
P-57	J-100	J-103	951.8	8
P-58	J-104	J-35	775.1	8
P-59	J-110	J-108	595.1	8
P-60	J-108	J-109	353.1	8
P-61	S145	J-100	74.44	12
P-62	J-100	J-101	464.5	12
P-63	J-111	J-207	1424	12
P-64	J-207	J-208	997.1	8
P-65	J-207	J-206	1045	12
P-66	J-206	J-204	317.1	8
P-67	J-205	J-204	465.7	8
P-68	J-204	J-203	643.7	8
P-69	J-200	J-211	2106	8
P-70	J-211	J-203	536.3	8
P-71	J-203	J-201	2125	8
P-72	S145	J-200	327.3	8

Sereno Canyon Phase 4 Max Day fire flow J41

P-73	J-200	J-201	667.2	8
P-74	J-201	J-202	1059	8
P-75	J-120	J-119	186.5	8
P-76	J-119	J-121	389	8
P-77	J-210	J-209	1327	12
P-78	J-209	J-206	257.6	12
P-79	J-13	J-8	394	8
P-80	J-6	J-15	462	8
P-81	J-24	J-25	535	8
P-82	J-19	J-25	884	8
P-83	J-101	J-102	845.5	12
P-84	J-101	J-42	913.6	8
P-85	J-108	J-107	309.2	8



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in	
P-86	J-113	J-112	191.9	8	
P-87	J-117	J-114	573.8	8	
P-88	J-116	J-115	172.9	8	
P-89	J-119	J-118	421	8	
P-90	J-121	J-210	4137	8	
P-91	J-121	J-122	131.6	8	
P-92	J-32	J-33	221	8	
P-93	J-31	J-32	387	8	
P-94	J-103	J-31	1000	8	
P-95	J-33	J-34	245	8	
P-96	J-34	J-35	223.9	8	
P-97	J-103	J-104	1106	8	
P-98	J-305	J-304	506.9	8	
P-99	J-303	J-302	412.7	12	
P-100	J-301	J-300	178.5	8	
P-101	R-1	J-400	10	24	
P-21	J-26	J-305	427	8	
PUMP1	J-400	J-401	#N/A	#N/A	Pump
PUMP2	J-400	J-401	#N/A	#N/A	Pump
PUMP3	J-400	J-401	#N/A	#N/A	Pump
PUMP4	J-400	J-401	#N/A	#N/A	Pump
1	J-401	S145	#N/A	12	Valve

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
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Sereno Canyon Phase 4 Max Day fire flow J41

PUMP1	0.00	0.00	0.00	0.00	0.00	0.00
PUMP2	0.00	0.00	0.00	0.00	0.00	0.00
PUMP3	0.00	0.00	0.00	0.00	0.00	0.00
PUMP4	100.00	75.00	1189.12	100.96	100.96	0.00

Demand Charge: 0.00
Total Cost: 0.00

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-41	1000.00	2993.24	87.98	0.00
J-32	3.44	2999.15	90.19	0.00
J-36	3.80	2999.18	74.60	0.00
J-37	1.72	2999.18	71.14	0.00
J-30	4.48	2998.79	98.92	0.00
J-38	5.52	2998.49	82.11	0.00
J-39	3.44	2998.38	88.56	0.00



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Sereno Canyon

Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-29	2.76	2998.16	94.31	0.00
J-40	2.06	2998.38	88.34	0.00
J-28	3.44	2997.85	102.63	0.00
J-27	2.06	2997.85	90.93	0.00
J-2	1.38	2995.71	93.90	0.00
J-3	0.00	2994.09	86.44	0.00
J-4	1.38	2993.61	87.14	0.00
J-14	6.90	2993.20	91.08	0.00
J-11	4.14	2993.19	98.01	0.00
J-12	49.90	2993.18	91.94	0.00
J-9	0.00	2993.19	106.67	0.00
J-6	2.06	2993.22	88.92	0.00
J-19	3.44	2993.84	80.96	0.00
J-24	3.44	2993.68	80.89	0.00
J-20	31.00	2993.69	72.88	0.00
J-21	12.40	2993.63	72.85	0.00
J-22	3.10	2993.64	72.64	0.00
J-5	2.76	2993.23	88.49	0.00
J-17	3.10	2993.23	101.49	0.00

Sereno Canyon Phase 4 Max Day fire flow J41

J-18	1.38	2993.61	95.59	0.00
J-7	4.14	2993.21	98.45	0.00
J-13	3.44	2993.20	108.85	0.00
J-8	3.80	2993.20	102.78	0.00
J-15	3.44	2993.21	80.47	0.00
J-16	2.06	2993.21	75.92	0.00
J-23	9.30	2993.64	70.47	0.00
J-303	11.48	2997.13	111.41	0.00
J-301	2.02	2997.37	116.28	0.00
J-10	47.88	2993.18	113.60	0.00
J-26	2.06	2996.21	99.75	0.00
J-1	0.00	2997.13	95.38	0.00
J-102	2.70	2998.28	101.08	0.00
J-105	3.38	2998.28	108.88	0.00
J-107	4.72	2998.28	113.65	0.00
J-111	4.06	2998.28	116.68	0.00
J-112	1.36	2998.13	125.28	0.00
J-114	1.36	2998.06	126.55	0.00
J-115	1.36	2998.00	127.82	0.00
J-118	1.36	2997.96	128.24	0.00
J-300	7.42	2997.37	117.15	0.00
J-302	2.70	2997.13	109.25	0.00
J-304	2.02	2997.11	102.31	0.00
J-42	0.00	2998.92	99.62	0.00
J-31	0.00	2999.10	96.67	0.00
J-35	0.00	2999.19	77.21	0.00
J-101	4.72	2999.57	115.29	0.00



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Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-106	3.38	2998.28	116.68	0.00
J-33	0.00	2999.16	85.00	0.00
J-123	3.38	2999.16	93.23	0.00
J-100	0.00	3000.62	122.03	0.00
J-103	3.38	2999.54	109.43	0.00
J-104	3.38	2999.33	85.50	0.00
J-117	2.02	2998.06	123.52	0.00
J-110	4.06	2998.28	108.88	0.00
J-108	2.02	2998.28	108.45	0.00
J-109	2.02	2998.28	107.58	0.00
J-305	1.36	2996.62	102.96	0.00
S145	0.00	3000.87	123.87	0.00
J-207	2.70	2998.38	114.12	0.00

Sereno Canyon Phase 4 Max Day fire flow J41

J-208	0.68	2998.38	116.72	0.00
J-206	0.68	2998.45	135.82	0.00
J-204	2.70	2998.78	129.03	0.00
J-205	2.70	2998.78	120.79	0.00
J-203	12.82	2999.48	121.53	0.00
J-200	7.42	3000.41	126.27	0.00
J-211	0.00	2999.67	118.15	0.00
J-201	3.38	3000.15	136.55	0.00
J-202	10.12	3000.15	117.92	0.00
J-119	0.00	2997.96	132.14	0.00
J-120	2.02	2997.96	136.47	0.00
J-121	0.00	2997.97	136.47	0.00
J-122	45.90	2997.96	139.07	0.00
J-210	4.06	2998.42	137.54	0.00
J-209	0.68	2998.45	135.38	0.00
J-113	1.36	2998.13	124.41	0.00
J-116	0.68	2998.00	127.39	0.00
J-25	5.52	2993.73	68.56	0.00
J-34	0.68	2999.18	82.84	0.00
J-400	0.00	2717.00	0.00	0.00
R-1	-1414.99	2717.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-1	-29.42	0.19	0.03	Open
P-2	1.72	0.01	0.00	Open
P-3	111.00	0.71	0.31	Open
P-4	105.48	0.67	0.28	Open
P-5	99.98	0.64	0.26	Open
P-6	2.06	0.01	0.00	Open



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Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-7	-3.44	0.02	0.00	Open
P-8	1204.58	3.42	3.58	Open
P-9	985.77	2.80	2.47	Open
P-10	983.01	2.79	2.46	Open
P-11	19.96	0.13	0.01	Open
P-12	-49.90	0.14	0.01	Open
P-13	-34.08	0.10	0.00	Open

Sereno Canyon Phase 4 Max Day fire flow J41

P-14	218.81	1.40	1.10	Open
P-15	88.83	0.57	0.21	Open
P-16	-74.18	0.47	0.15	Open
P-17	-86.58	0.55	0.20	Open
P-18	-27.84	0.18	0.02	Open
P-19	-147.67	0.94	0.53	Open
P-20	3.10	0.02	0.00	Open
P-22	-1.38	0.01	0.00	Open
P-23	15.88	0.10	0.01	Open
P-24	2.52	0.02	0.00	Open
P-25	-24.34	0.16	0.02	Open
P-26	2.06	0.01	0.00	Open
P-27	9.30	0.06	0.00	Open
P-28	150.61	0.96	0.55	Open
P-29	133.62	0.38	0.06	Open
P-30	127.76	0.36	0.06	Open
P-31	95.86	0.27	0.03	Open
P-32	75.84	0.22	0.02	Open
P-33	81.96	0.23	0.02	Open
P-34	47.88	0.14	0.01	Open
P-35	201.73	1.29	0.94	Open
P-36	-1004.23	2.85	2.55	Open
P-37	-759.41	2.15	1.52	Open
P-38	-0.56	0.00	0.00	Open
P-39	-7.32	0.02	0.00	Open
P-40	-20.14	0.06	0.00	Open
P-41	116.00	0.74	0.34	Open
P-42	113.28	0.72	0.32	Open
P-43	109.90	0.70	0.31	Open
P-44	107.86	0.69	0.30	Open
P-45	122.00	0.78	0.37	Open
P-46	112.56	0.72	0.32	Open
P-47	98.38	0.28	0.03	Open
P-48	-108.79	0.31	0.04	Open
P-49	-353.60	2.26	2.66	Open
P-50	-359.10	2.29	2.74	Open
P-51	-261.88	1.67	1.53	Open
P-52	-377.36	2.41	3.00	Open
P-53	-203.28	1.30	0.96	Open
P-54	34.94	0.22	0.04	Open



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
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Sereno Canyon Phase 4 Max Day fire flow J41

P-55	-3.38	0.02	0.00	Open
P-56	3.38	0.02	0.00	Open
P-57	223.06	1.42	1.13	Open
P-58	82.14	0.52	0.18	Open
P-59	-4.06	0.03	0.00	Open
P-60	2.02	0.01	0.00	Open
P-61	1163.42	3.30	3.36	Open
P-62	940.36	2.67	2.26	Open
P-63	-140.20	0.40	0.07	Open
P-64	0.68	0.00	0.00	Open
P-65	-143.58	0.41	0.07	Open
P-66	-212.42	1.36	1.04	Open
P-67	-2.70	0.02	0.00	Open
P-68	-217.82	1.39	1.09	Open
P-69	118.74	0.76	0.35	Open
P-70	118.74	0.76	0.35	Open
P-71	-111.91	0.71	0.32	Open
P-72	251.56	1.61	1.42	Open
P-73	125.41	0.80	0.39	Open
P-74	10.12	0.06	0.00	Open
P-75	-2.02	0.01	0.00	Open
P-76	-17.53	0.11	0.01	Open
P-77	-67.49	0.19	0.02	Open
P-78	-68.17	0.19	0.02	Open
P-79	12.44	0.08	0.01	Open
P-80	29.84	0.19	0.03	Open
P-81	-62.18	0.40	0.11	Open
P-82	67.70	0.43	0.12	Open
P-83	761.55	2.16	1.53	Open
P-84	174.09	1.11	0.72	Open
P-85	-8.10	0.05	0.00	Open
P-86	-1.36	0.01	0.00	Open
P-87	-2.02	0.01	0.00	Open
P-88	-0.68	0.00	0.00	Open
P-89	15.51	0.10	0.01	Open
P-90	-63.43	0.40	0.11	Open
P-91	45.90	0.29	0.06	Open
P-92	-43.14	0.28	0.05	Open
P-93	-69.12	0.44	0.13	Open
P-94	134.16	0.86	0.44	Open
P-95	-46.52	0.30	0.06	Open
P-96	-47.20	0.30	0.06	Open
P-97	85.52	0.55	0.19	Open
P-98	-205.15	1.31	0.97	Open
P-99	-11.48	0.03	0.00	Open
P-100	-2.02	0.01	0.00	Open
P-101	1414.99	1.00	0.17	Open

Sereno Canyon Phase 4 Max Day fire flow J41



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Sereno Canyon

Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-21	-203.79	1.30	0.96	Open
PUMP1	0.00	0.00	0.00	Closed Pump
PUMP2	0.00	0.00	0.00	Closed Pump
PUMP3	0.00	0.00	0.00	Closed Pump
PUMP4	1414.99	0.00	-283.88	Open Pump
1	1414.98	4.01	0.00	Open Valve

Sereno Canyon Phase 4 Max Day fire flow J42

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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: Sereno Canyon Phase 4 Max Day fire flow J42.net

Sereno Canyon

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in
P-1	J-32	J-36	955.6	8
P-2	J-36	J-37	121.6	8
P-3	J-30	J-38	957.7	8
P-4	J-38	J-39	400	8
P-5	J-39	J-29	841.9	8
P-6	J-39	J-40	83.23	8
P-7	J-28	J-27	505.5	8
P-8	J-2	J-3	452.1	12
P-9	J-3	J-4	195.3	12
P-10	J-4	J-41	148.7	12
P-11	J-14	J-11	890.1	8
P-12	J-12	J-11	340.4	12
P-13	J-11	J-9	458.8	12
P-14	J-3	J-19	223.6	8
P-15	J-20	J-21	310.5	8
P-16	J-21	J-22	93.71	8
P-17	J-22	J-24	192.7	8
P-18	J-24	J-20	511.2	8
P-19	J-20	J-19	293.1	8
P-20	J-5	J-17	587.4	8
P-22	J-18	J-4	378.4	8
P-23	J-7	J-13	601.7	8
P-24	J-8	J-14	610.4	8
P-25	J-14	J-15	540.4	8
P-26	J-15	J-16	224.8	8
P-27	J-22	J-23	128.3	8
P-28	J-21	J-41	699	8
P-29	J-41	J-5	172.5	12
P-30	J-5	J-6	197.8	12
P-31	J-6	J-7	466.8	12
P-32	J-7	J-8	339.3	12

Sereno Canyon Phase 4 Max Day fire flow J42

P-33	J-8	J-9	384	12
P-34	J-9	J-10	522	12
P-35	J-26	J-2	531.2	8
P-36	J-2	J-1	557.4	12
P-37	J-1	J-102	754.8	12
P-38	J-102	J-105	819.5	12



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in
P-39	J-105	J-107	511.2	12
P-40	J-107	J-111	1032	12
P-41	J-111	J-112	449.2	8
P-42	J-112	J-114	204.1	8
P-43	J-114	J-115	198.3	8
P-44	J-115	J-118	154.9	8
P-45	J-118	J-300	1588	8
P-46	J-300	J-302	757	8
P-47	J-302	J-304	469.1	12
P-48	J-304	J-1	500.9	12
P-49	J-1	J-27	271.1	8
P-50	J-27	J-29	112.3	8
P-51	J-29	J-30	411.1	8
P-52	J-30	J-42	43.31	8
P-53	J-42	J-31	191.5	8
P-54	J-35	J-36	438.3	8
P-55	J-106	J-105	800.8	8
P-56	J-33	J-123	375.5	8
P-57	J-100	J-103	951.8	8
P-58	J-104	J-35	775.1	8
P-59	J-110	J-108	595.1	8
P-60	J-108	J-109	353.1	8
P-61	S145	J-100	74.44	12
P-62	J-100	J-101	464.5	12
P-63	J-111	J-207	1424	12
P-64	J-207	J-208	997.1	8
P-65	J-207	J-206	1045	12
P-66	J-206	J-204	317.1	8
P-67	J-205	J-204	465.7	8
P-68	J-204	J-203	643.7	8
P-69	J-200	J-211	2106	8
P-70	J-211	J-203	536.3	8
P-71	J-203	J-201	2125	8
P-72	S145	J-200	327.3	8

Sereno Canyon Phase 4 Max Day fire flow J42

P-73	J-200	J-201	667.2	8
P-74	J-201	J-202	1059	8
P-75	J-120	J-119	186.5	8
P-76	J-119	J-121	389	8
P-77	J-210	J-209	1327	12
P-78	J-209	J-206	257.6	12
P-79	J-13	J-8	394	8
P-80	J-6	J-15	462	8
P-81	J-24	J-25	535	8
P-82	J-19	J-25	884	8
P-83	J-101	J-102	845.5	12
P-84	J-101	J-42	913.6	8
P-85	J-108	J-107	309.2	8



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Sereno Canyon

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length ft	Diameter in	
P-86	J-113	J-112	191.9	8	
P-87	J-117	J-114	573.8	8	
P-88	J-116	J-115	172.9	8	
P-89	J-119	J-118	421	8	
P-90	J-121	J-210	4137	8	
P-91	J-121	J-122	131.6	8	
P-92	J-32	J-33	221	8	
P-93	J-31	J-32	387	8	
P-94	J-103	J-31	1000	8	
P-95	J-33	J-34	245	8	
P-96	J-34	J-35	223.9	8	
P-97	J-103	J-104	1106	8	
P-98	J-305	J-304	506.9	8	
P-99	J-303	J-302	412.7	12	
P-100	J-301	J-300	178.5	8	
P-101	R-1	J-400	10	24	
P-21	J-26	J-305	427	8	
PUMP1	J-400	J-401	#N/A	#N/A	Pump
PUMP2	J-400	J-401	#N/A	#N/A	Pump
PUMP3	J-400	J-401	#N/A	#N/A	Pump
PUMP4	J-400	J-401	#N/A	#N/A	Pump
1	J-401	S145	#N/A	12	Valve

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /Mgal	Avg. Kw	Peak Kw	Cost /day
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Sereno Canyon Phase 4 Max Day fire flow J42

PUMP1	0.00	0.00	0.00	0.00	0.00	0.00
PUMP2	0.00	0.00	0.00	0.00	0.00	0.00
PUMP3	0.00	0.00	0.00	0.00	0.00	0.00
PUMP4	100.00	75.00	1186.50	101.33	101.33	0.00

Demand Charge: 0.00
Total Cost: 0.00

Node Results:

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-42	1000.00	2996.37	98.52	0.00
J-32	3.44	2996.90	89.22	0.00
J-36	3.80	2996.96	73.64	0.00
J-37	1.72	2996.96	70.18	0.00
J-30	4.48	2996.47	97.91	0.00
J-38	5.52	2996.66	81.31	0.00
J-39	3.44	2996.76	87.85	0.00



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Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-29	2.76	2996.97	93.80	0.00
J-40	2.06	2996.76	87.64	0.00
J-28	3.45	2997.24	102.36	0.00
J-27	2.07	2997.24	90.66	0.00
J-2	1.38	2997.85	94.83	0.00
J-3	0.00	2997.78	88.04	0.00
J-4	1.38	2997.77	88.94	0.00
J-41	5.52	2997.76	89.93	0.00
J-14	6.90	2997.71	93.03	0.00
J-11	4.14	2997.70	99.96	0.00
J-12	49.90	2997.70	93.89	0.00
J-9	0.00	2997.70	108.63	0.00
J-6	2.07	2997.73	90.88	0.00
J-19	3.44	2997.76	82.66	0.00
J-24	6.20	2997.75	82.65	0.00
J-20	31.00	2997.75	74.64	0.00
J-21	12.40	2997.75	74.64	0.00
J-22	3.10	2997.75	74.42	0.00
J-5	2.76	2997.75	90.45	0.00

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J-17	3.10	2997.75	103.45	0.00
J-18	1.38	2997.77	97.39	0.00
J-7	4.14	2997.72	100.40	0.00
J-13	3.45	2997.71	110.80	0.00
J-8	3.80	2997.71	104.73	0.00
J-15	3.44	2997.72	82.42	0.00
J-16	2.06	2997.72	77.87	0.00
J-23	9.30	2997.75	72.25	0.00
J-303	11.48	2997.91	111.75	0.00
J-301	2.02	2998.01	116.56	0.00
J-10	47.88	2997.70	115.56	0.00
J-26	2.07	2997.87	100.47	0.00
J-1	0.00	2997.91	95.72	0.00
J-102	2.70	2998.45	101.15	0.00
J-105	3.38	2998.45	108.95	0.00
J-107	4.72	2998.45	113.72	0.00
J-111	4.06	2998.45	116.75	0.00
J-112	1.36	2998.36	125.38	0.00
J-114	1.36	2998.32	126.66	0.00
J-115	1.36	2998.29	127.95	0.00
J-118	1.36	2998.27	128.37	0.00
J-300	7.42	2998.01	117.43	0.00
J-302	2.70	2997.91	109.59	0.00
J-304	2.02	2997.91	102.65	0.00
J-31	0.00	2996.78	95.66	0.00
J-35	0.00	2996.99	76.26	0.00
J-101	4.72	2999.05	115.06	0.00



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Node Results: (continued)

Node ID	Demand GPM	Head ft	Pressure psi	Quality
J-106	3.38	2998.45	116.75	0.00
J-33	0.00	2996.93	84.03	0.00
J-123	3.38	2996.93	92.26	0.00
J-100	0.00	2999.98	121.75	0.00
J-103	3.38	2997.72	108.64	0.00
J-104	3.38	2997.28	84.62	0.00
J-117	2.02	2998.32	123.63	0.00
J-110	4.06	2998.45	108.95	0.00
J-108	2.02	2998.45	108.52	0.00
J-109	2.02	2998.45	107.65	0.00
J-305	1.36	2997.89	103.51	0.00
S145	0.00	3000.25	123.60	0.00
J-207	2.70	2998.51	114.18	0.00

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J-208	0.68	2998.51	116.78	0.00
J-206	0.68	2998.56	135.87	0.00
J-204	2.70	2998.79	129.03	0.00
J-205	2.70	2998.79	120.80	0.00
J-203	12.82	2999.26	121.44	0.00
J-200	7.42	2999.92	126.05	0.00
J-211	0.00	2999.39	118.03	0.00
J-201	3.38	2999.73	136.37	0.00
J-202	10.12	2999.72	117.74	0.00
J-119	0.00	2998.27	132.27	0.00
J-120	2.02	2998.27	136.60	0.00
J-121	0.00	2998.27	136.60	0.00
J-122	45.90	2998.26	139.20	0.00
J-210	4.06	2998.55	137.59	0.00
J-209	0.68	2998.56	135.43	0.00
J-113	1.36	2998.36	124.51	0.00
J-116	0.68	2998.29	127.52	0.00
J-25	5.52	2997.75	70.30	0.00
J-34	0.68	2996.96	81.88	0.00
J-400	0.00	2717.00	0.00	0.00
R-1	-1423.31	2717.00	0.00	0.00 Reservoir

Link Results:

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-1	-46.15	0.29	0.06	Open
P-2	1.72	0.01	0.00	Open
P-3	-88.37	0.56	0.20	Open
P-4	-93.89	0.60	0.23	Open
P-5	-99.39	0.63	0.25	Open
P-6	2.06	0.01	0.00	Open



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Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-7	-3.45	0.02	0.00	Open
P-8	212.88	0.60	0.14	Open
P-9	155.77	0.44	0.08	Open
P-10	153.01	0.43	0.08	Open
P-11	19.94	0.13	0.01	Open
P-12	-49.90	0.14	0.01	Open
P-13	-34.10	0.10	0.00	Open

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P-14	57.11	0.36	0.09	Open
P-15	4.46	0.03	0.00	Open
P-16	5.91	0.04	0.00	Open
P-17	-6.49	0.04	0.00	Open
P-18	-0.81	0.01	0.00	Open
P-19	-36.27	0.23	0.04	Open
P-20	3.10	0.02	0.00	Open
P-22	-1.38	0.01	0.00	Open
P-23	15.88	0.10	0.01	Open
P-24	2.48	0.02	0.00	Open
P-25	-24.35	0.16	0.02	Open
P-26	2.06	0.01	0.00	Open
P-27	9.30	0.06	0.00	Open
P-28	-13.85	0.09	0.01	Open
P-29	133.64	0.38	0.06	Open
P-30	127.78	0.36	0.06	Open
P-31	95.86	0.27	0.03	Open
P-32	75.84	0.22	0.02	Open
P-33	81.98	0.23	0.02	Open
P-34	47.88	0.14	0.01	Open
P-35	34.97	0.22	0.04	Open
P-36	-179.29	0.51	0.11	Open
P-37	-505.00	1.43	0.72	Open
P-38	-3.89	0.01	0.00	Open
P-39	-10.65	0.03	0.00	Open
P-40	-23.47	0.07	0.00	Open
P-41	86.36	0.55	0.20	Open
P-42	83.64	0.53	0.19	Open
P-43	80.26	0.51	0.17	Open
P-44	78.22	0.50	0.16	Open
P-45	77.78	0.50	0.16	Open
P-46	68.34	0.44	0.13	Open
P-47	54.16	0.15	0.01	Open
P-48	13.74	0.04	0.00	Open
P-49	339.45	2.17	2.47	Open
P-50	333.93	2.13	2.40	Open
P-51	231.78	1.48	1.22	Open
P-52	315.67	2.01	2.16	Open
P-53	-312.22	1.99	2.12	Open
P-54	51.67	0.33	0.08	Open



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Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
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P-55	-3.38	0.02	0.00	Open
P-56	3.38	0.02	0.00	Open
P-57	332.00	2.12	2.37	Open
P-58	123.27	0.79	0.38	Open
P-59	-4.06	0.03	0.00	Open
P-60	2.02	0.01	0.00	Open
P-61	1212.64	3.44	3.62	Open
P-62	880.65	2.50	2.00	Open
P-63	-113.89	0.32	0.05	Open
P-64	0.68	0.00	0.00	Open
P-65	-117.27	0.33	0.05	Open
P-66	-171.53	1.09	0.70	Open
P-67	-2.70	0.02	0.00	Open
P-68	-176.93	1.13	0.74	Open
P-69	98.00	0.63	0.25	Open
P-70	98.00	0.63	0.25	Open
P-71	-91.75	0.59	0.22	Open
P-72	210.67	1.34	1.02	Open
P-73	105.25	0.67	0.28	Open
P-74	10.12	0.06	0.00	Open
P-75	-2.02	0.01	0.00	Open
P-76	-2.93	0.02	0.00	Open
P-77	-52.89	0.15	0.01	Open
P-78	-53.57	0.15	0.01	Open
P-79	12.43	0.08	0.01	Open
P-80	29.85	0.19	0.03	Open
P-81	-11.88	0.08	0.01	Open
P-82	17.40	0.11	0.01	Open
P-83	503.81	1.43	0.71	Open
P-84	372.11	2.38	2.93	Open
P-85	-8.10	0.05	0.00	Open
P-86	-1.36	0.01	0.00	Open
P-87	-2.02	0.01	0.00	Open
P-88	-0.68	0.00	0.00	Open
P-89	0.91	0.01	0.00	Open
P-90	-48.83	0.31	0.07	Open
P-91	45.90	0.29	0.06	Open
P-92	-67.55	0.43	0.12	Open
P-93	-110.25	0.70	0.31	Open
P-94	201.97	1.29	0.94	Open
P-95	-70.93	0.45	0.14	Open
P-96	-71.61	0.46	0.14	Open
P-97	126.65	0.81	0.40	Open
P-98	-38.40	0.25	0.04	Open
P-99	-11.48	0.03	0.00	Open
P-100	-2.02	0.01	0.00	Open
P-101	1423.31	1.01	0.17	Open

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Link Results: (continued)

Link ID	Flow GPM	Velocity fps	Unit Headloss ft/Kft	Status
P-21	-37.04	0.24	0.04	Open
PUMP1	0.00	0.00	0.00	Closed Pump
PUMP2	0.00	0.00	0.00	Closed Pump
PUMP3	0.00	0.00	0.00	Closed Pump
PUMP4	1423.32	0.00	-283.25	Open Pump
1	1423.31	4.04	0.00	Open Valve