



THE AURORA HIGHLANDS SUBDIVISION FILING NUMBER 7 AND FUTURE FILINGS ADJACENT TO THE EAST - PLANNING AREAS

64B, 65 & 80

PRELIMINARY UTILITY REPORT

August 2020

Prepared For:



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APPROVED FOR ONE YEAR FROM THIS DATE

City Engineer	Date
Aurora Water Department	Date

ENGINEER'S CERTIFICATION:

I hereby certify that this Preliminary Utility Report and plan for The Aurora Highlands Subdivision Filing Number 7 and Future Filings Adjacent to the East - Planning Areas 64, 65 & 80, was prepared by me (or under my direction supervision) in accordance with the provisions of the Aurora Water, Sanitary Sewer, and Storm Drainage Infrastructure Standards and Specifications for the owners thereof.

Eric Pearson, P.E. Date
State of Colorado No. 45415
For and on behalf of CAGE Civil Engineering

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SCOPE

The purpose of this Preliminary Utility Report for The Aurora Highlands Subdivision Filing Number 7 and Future Filings Adjacent to the East - Planning Areas 64B, 65 & 80 is to review at a preliminary level the feasibility, design characteristics, and layout of the proposed development with regards to water distribution and sanitary sewer infrastructure.

The intent of this report is to provide a preliminary design including water demands/modeling and sanitary sewer generations associated with The Aurora Highlands Subdivision Filing Number 7 and Future Filings Adjacent to the East - Planning Areas 64, 65 & 80. This report will also demonstrate conformance with *The Aurora Highlands Master Utility Report*.

A. INTRODUCTION

1. Location

- The Aurora Highlands Subdivision Filing Number 7 and Future Filings Adjacent to the East - Planning Areas 64, 65 & 80 is located in northeastern Aurora, Colorado. The site is located north of 26th Avenue, east of Main Street (future alignment), and southwest of West Village Avenue (future alignment).
- The site is located in the southwest quarter of Section 30, Township 3 south, Range 65 west of the Sixth Principal Meridian, City of Aurora, Adams County Colorado.
- See Vicinity Map below for overall site location:



VICINITY MAP

2. Proposed Development

- The Aurora Highlands Subdivision Filing Number 7 and Future Filings Adjacent to the East - Planning Areas 64, 65 & 80 consists of a variety of proposed land uses that include: 730 Single-Family Detached Lots, 172 Duplex Lots, and neighborhood parks and open space.

B. DOMESTIC WATER

1. System Layout

- The Aurora Highlands Subdivision Filing Number 7 and Future Filings Adjacent to the East - Planning Areas 64, 65 & 80 will be served by the City of Aurora (COA) water system with the proposed development integrating into Pressure Zone 3
- Water transmission to the proposed development area is conveyed by means of multiple 12-inch waterlines.
- The proposed water system has been currently modeled with 8-inch PVC interior lines to serve the development (see Appendix B for details).
- The system has been studied under the assumption of full build out of the surrounding water network per *The Aurora Highlands Master Utility Study*, HR Green, January 2020. The full build out condition will be capable of serving the entirety of The Aurora Highlands Subdivision Filing Number 7 and Future Filings Adjacent to the East – Planning Areas 64 & 65. Planning Area 80 will be served by a future water transmission line to be built with the associated future collector.

2. Water System Design Criteria

- The proposed water system to serve The Aurora Highlands Subdivision Filing Number 7 and Future Filings Adjacent to the East - Planning Areas 64, 65 & 80 is designed in accordance with Section 5.00 – Design Criteria and Construction Plans of the City of Aurora Water, Sanitary Sewer and Storm Drainage Infrastructure Standards and Specifications (COA Standards and Specifications).
 - DIP or PVC pipe shall be used exclusively.
 - The water distribution system must be designed to meet the Maximum Hour demand to Average Day demand ratio of 4.5:1 gallons per capita per day (gpcpd).
 - The water distribution system has been analyzed to meet the Maximum Day demand plus Fire Flow demand with a residual pressure of no less than 20 psi at any point within the water distribution system.
 - The maximum velocity in 8" to 12" mains during the Maximum Hour demand shall not exceed 3.0 fps
 - The maximum velocity in waterlines 6" or smaller during the Maximum Hour demand

shall not exceed 2.5 fps.

- The minimum diameter for water mains in a single family detached residential area shall be 8". 6" water mains may be used in a single family detached residential area as directed by COA for potential water quality issues.
- 4", 10" and 14" water mains are not permitted.

3. Water Demand Calculations

- Water demand calculations have been completed and applied to the proposed water system in accordance with COA Standards and Specifications. In calculating demands, the total number of units was counted within The Aurora Highlands Subdivision Filing Number 7 and Future Filings Adjacent to the East - Planning Areas 64, 65 & 80 development and classified as single-family lots (2.77 people/unit)
- Domestic water demand for residential loading is based on **101 gpcpd** with the respective Maximum Day and Maximum Hour factors of 2.8 and 4.5

TABLE 1: SYSTEM WIDE DEMANDS

Zoning	System Wide Demands					
	Average Day (gpd)	Average Day (gpm)	Max Day (gpm)	Max Day (mgd)	Max Hour (gpm)	Max Hour (mgd)
Residential	181571	126	353	0.51	567	0.82
Total	181571	126	353	0.51	567	0.82

4. Hydraulic Models

- The proposed water distribution system for The Aurora Highlands Subdivision Filing Number 7 and Future Filings Adjacent to the East - Planning Areas 64, 65 & 80 has been modeled using Bentley WaterCAD. Utilizing the calculated demands. Several scenarios were run within the model to accurately capture proposed operating conditions of the water system:
 - Average Day Demand
 - Max Hour Demand
 - Max Day Demand
 - Max Day Demand + Fire Flow Analysis
- Reservoir elevations of the connections to the water mains in West Village Avenue and Hogan Park Street are based on pressures obtained from *The Aurora Highlands Master Utility Study*, HR Green, January 2020.
- Water system elevations were assigned to junctions according to the proposed elevations.
- A Hazen-Williams factor of C=150 is applied to proposed PVC waterlines.

- Demand for the future school in Planning Area 59 from *The Aurora Highlands Master Utility Study* was added to the model to account for the full future demand on the network.

5. Hydraulic Modeling Results

Average Day / Max Hour / Max Day Analysis

TABLE 2: HYDRAULIC MODELING RESULTS

Scenario	Minimum Pressure (psi)	Node	Maximum Pressure (psi)	Node	Maximum Velocity (fps)	Pipe
Average Day	69	J-73	99	J-43	0.44	P-2
Max Hour	68	J-73	99	J-43	1.86	P-10
Max Day	68	J-147	99	J-43	2.20	P-7(1)

Fire Flow Analysis

- In accordance with COA Standards and Specifications the Max Day Demand Fire Flow Scenario was run to verify adequate fire flow system wide with a residual pressure of no less than 20 psi. The Fire Flow analysis is an integrated function which analyzes a selection designated as fire hydrants. This analysis provides the maximum available fire flow at the selected hydrants with a minimum residual pressure of 20 psi.
- The scenario was run utilizing all junctions representing residential, commercial, and industrial fire flow availability. The following fire flow requirements were used:
 - Residential, 1,500 gal/minute for 2 hours
 - School, 3,500 gal/minute for 3 hours
- The Fire Flow analysis indicated that the proposed water system satisfies the fire flow constraints of the minimum flow needed per demand calculations and a minimum pressure residual of 20 psi.

C. SANITARY SEWER

1. System Layout

- The proposed system will require a network of 8-inch mains to serve the different basins of the proposed development.
- The proposed system is planned to connect to an 8-inch and 12-inch sanitary main provided with the West Village Avenue construction and an 8-inch sanitary main provided with the Hogan Park Street construction. The West Village Avenue and Hogan Park Street sanitary mains were analyzed in *The Aurora Highlands Master Utility Study*.

2. Sanitary Sewer Design Criteria

- The proposed sanitary sewer system to serve The Aurora Highlands Subdivision Filing Number 7 and Future Filings Adjacent to the East - Planning Areas 64, 65 & 80

development is designed in accordance with Section 5.00 – Utility Design Criteria and Construction Plans of the City of Aurora Water, Sanitary Sewer and Storm Drainage Infrastructure Standards and Specifications (COA Standards and Specifications).

- Maximum and minimum peaking factors of 4 and 1.7, respectively.
- Assume infiltration at 10% of average flow.
- Flow velocity shall not exceed 10 fps flowing full or half full.
- A Manning's "n" value of 0.011 for new PVC pipe.
- A minimum slope of 0.4% was utilized for analysis.
- Depth of flow in pipes 12 inches or smaller should not exceed 75% of capacity.
- Depth of flow in pipes larger than 12 inches should not exceed 80% of capacity.
- Minimum velocity of 2 fps at least once per day. Minimum slope of 0.4% will be analyzed for pipes to meet the 2 fps requirement.

3. Sanitary Sewer Flow Generations

- Sanitary sewer loading calculations have been completed and applied to the proposed sanitary system in accordance with *COA Standards and Specifications*. In calculating demands, the total number of units was counted within The Aurora Highlands Subdivision Filing Number 7 and Future Filings Adjacent to the East - Planning Areas 64, 65 & 80 development and classified as single-family lots (2.77 people/unit).
 - Average flow generation of 68 gallons per capita per day (gpcpd).
 - Peak factors were based on the *Master Utility Design Criteria for Water and Sanitary Sewer*, dated January 2020. Sanitary sewer flow calculations are provided in Appendix C.
- Sanitary basin boundaries for The Aurora Highlands Subdivision Filing Number 7 and Future Filings Adjacent to the East - Planning Areas 64, 65 & 80 were determined based on the proposed grade and flow direction of the site. Fifteen major on-site sanitary basins were identified. All calculations and a map delineating the sanitary basins can be referenced in Appendix C.

4. Sanitary System Sewer Sizing

- Preliminary sanitary sewer system sizing was determined in accordance with the COA Standards and Specifications for maximum depth of flow of 75% capacity for all pipe sizes 12 inches and smaller and 80% for pipe sizes larger than 12 inches.
- The Hydraflow Express extension for Autodesk AutoCAD Civil 3D software will be used to calculate pipe capacities and velocities.
- Design points were established based on proposed roadway grades and flow direction. Design point and flow routing calculations are provided in Appendix C.
- Flows generated by The Aurora Highlands Subdivision Filing Number 7 and Future

Filings Adjacent to the East - Planning Areas 64, 65 & 80 enter the sanitary sewer main within West Village Avenue at Design Points 9.1, 9.2 and 9.3 of the Master Utility Study.

- Refer to Appendix C for basin designations and calculations.

D. CONCLUSIONS

1. Domestic Water

- This Preliminary Utility Report for The Aurora Highlands Subdivision Filing Number 7 and Future Filings Adjacent to the East - Planning Areas 64B & 65 is in compliance with the City of Aurora domestic water design criteria. Planning Area 80 will be included in a separate report associated with the future construction of the collector road North of that planning area. Pressures at connections to water mains were taken from *The Aurora Highlands Master Utility Report*, HR Green, January 2020 and demonstrate compliance.
- Per *The Aurora Highlands Master Utility Report*, HR Green, January 2020, Planning Areas 64B & 65 were evaluated for 807 dwelling units. For the proposed development analyzed in this report, only 649 dwelling units lie within Planning Areas 64B & 65. This reduction in dwelling units will result in significantly less demand on the system.
- The domestic water system is comprised of mostly 8-inch lines and a single 12-inch line and is proposed to tie into the existing network and will satisfy the requirements for the Maximum Day Demand + Fire Flow scenario.
- No water system variances are requested at this time.

2. Sanitary Sewer

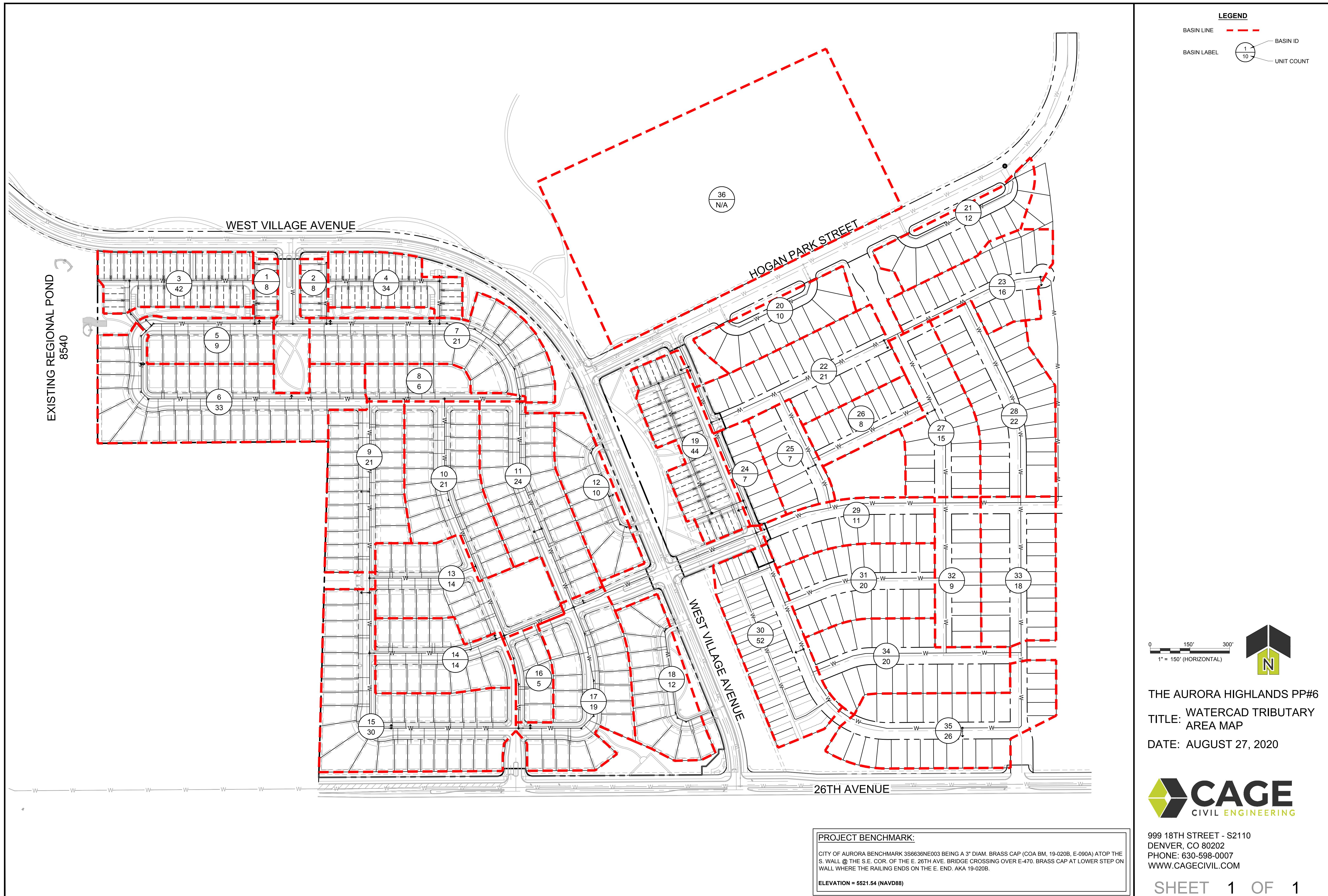
- This Preliminary Utility Report for The Aurora Highlands Subdivision Filing Number 7 and Future Filings Adjacent to the East - Planning Areas 64, 65 & 80 is in compliance with the City of Aurora sanitary sewer design criteria.
- Per *The Aurora Highlands Master Utility Report*, HR Green, January 2020, Planning Areas 64B, 65, & 80 were evaluated for 1,319 dwelling units. For the proposed development analyzed in this report, only 902 dwelling units lie within Planning Areas 64B & 65.
- The following conclusions are drawn based on this study:
 - Proposed 8" local sanitary sewer lines will tie into a larger 10" and 12" proposed sanitary trunk lines.
 - The sanitary alignment can maintain minimum slopes and acceptable design depths for the proposed development within the majority of the project area. All City of Aurora design standards in regard to pipe capacity and layout will be adhered to.
 - The Aurora Highlands Subdivision Filing Number 7 and Future Filings Adjacent to the East - Planning Areas 64, 65 & 80 can be referenced in *The Aurora Highlands Master*

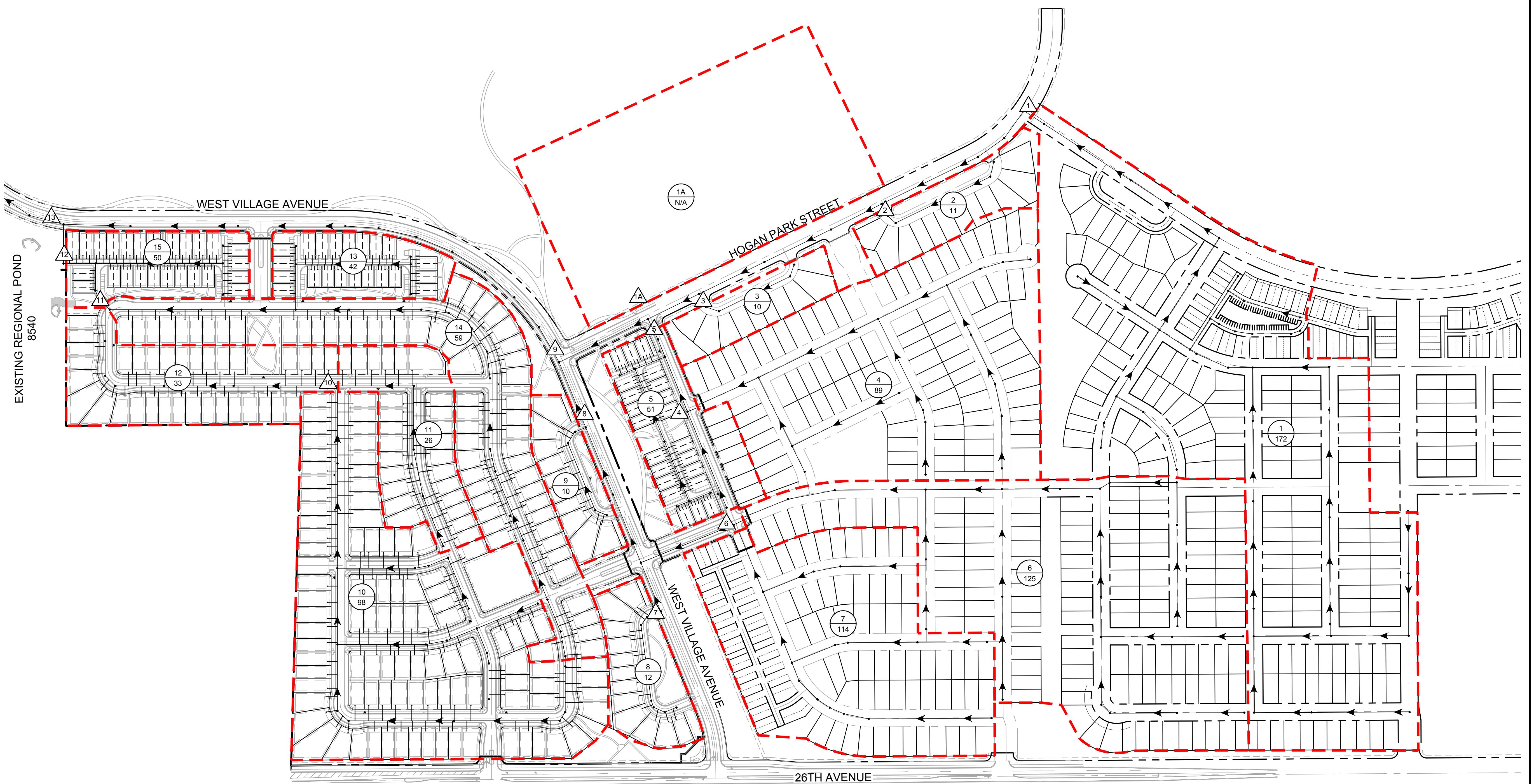
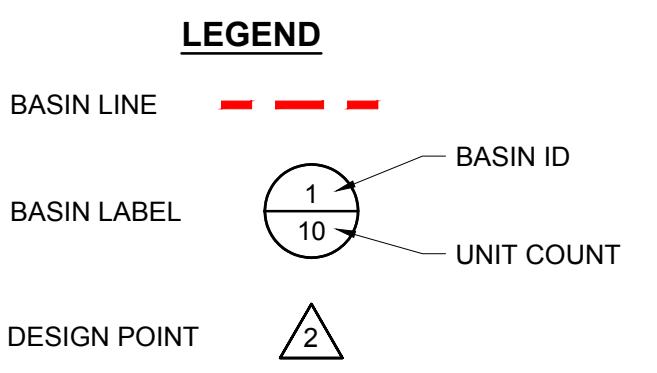
Utility Report, HR Green, January 2020. Design Points 8, 9 and 13 of this report correspond to Design Points 9.1, 9.2 and 9.3 of the HR Green Report. The loadings determined at these design points are lower than the respective loadings generated in *The Aurora Highlands Master Utility Study*. Therefore, no revisions or amendments are required and this study can be considered in compliance with the *Master Utility Report*.

E. LIST OF REFERENCES

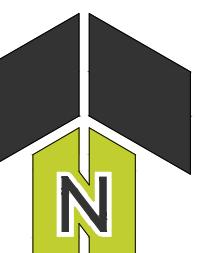
1. *Water, Sanitary Sewer and Storm Drainage Infrastructure Standards and Specifications*, January 2020, City of Aurora, Colorado
2. *The Aurora Highlands Master Utility Report*, HR Green, November 2018.
3. *The Aurora Highlands Master Utility Report – Amendment 1*, HR Green, January 2020

APPENDIX A - MAPS & EXHIBITS





0 200' 400'
1" = 200' (HORIZONTAL)



THE AURORA HIGHLANDS PP#6
TITLE: SANITARY SEWER
DATE: AUGUST 27, 2020

PROJECT BENCHMARK:

CITY OF AURORA BENCHMARK 3S6636NE003 BEING A 3" DIAM. BRASS CAP (COA BM, 19-020B, E-090A) ATOP THE S. WALL @ THE S.E. COR. OF THE E. 26TH AVE. BRIDGE CROSSING OVER E-470. BRASS CAP AT LOWER STEP ON WALL WHERE THE RAILING ENDS ON THE E. END. AKA 19-020B.

ELEVATION = 5521.54 (NAVD88)

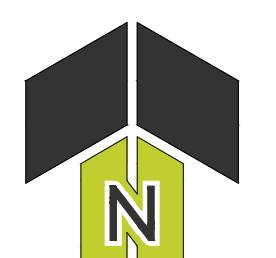
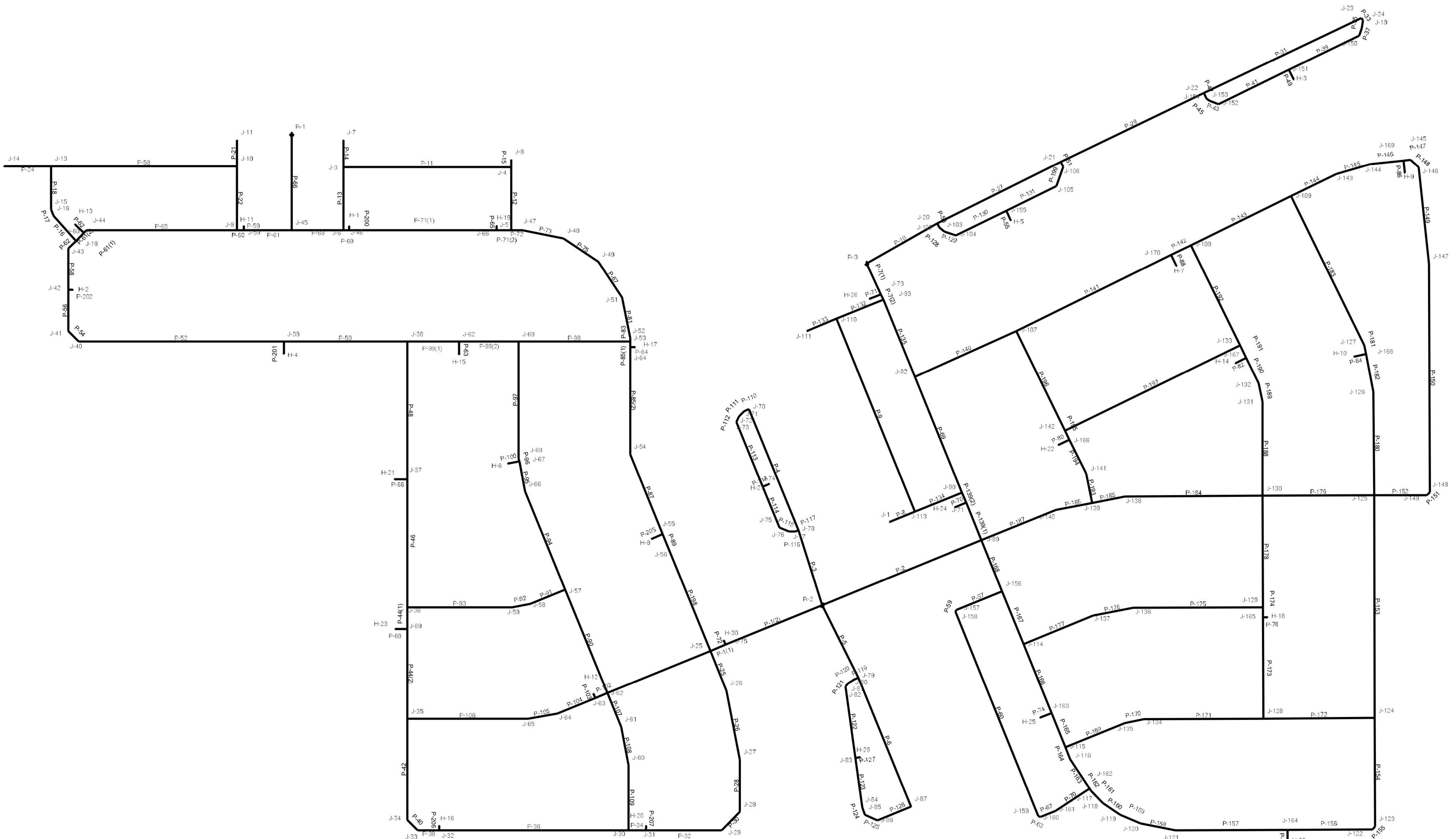


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APPENDIX B - WATER SYSTEM CALCULATIONS

RESIDENTIAL WATER USE	101	GPCPD	SINGLE-FAMILY POPULATION DENSITY	2.77	PERSONS/UNIT
COMMERCIAL/MIXED USE/CIVIC	1500	GPD/ACRE	MULTI-FAMILY POPULATION DENSITY	2.77	PERSONS/UNIT
SCHOOL (INDUSTRIAL) WATER USE	1200	GPD/ACRE			
PARKS & GREEN BELTS	1800	GPD/ACRE	RESIDENTIAL FIRE FLOW	1500	GPM FOR 2 HOURS
			COMMERCIAL / MULTI-FAMILY	2500	GPM FOR 2 HOURS
MAX. DAY / AVG. DAY	2.8		SCHOOL (INDUSTRIAL) FIRE FLOW	3500	GPM FOR 3 HOURS
MAX. HOUR / FLOW RATIO	4.5				

LAND USE	DEMAND POINT	JUNCTION	NO. OF SF UNITS	ACRES	AVG. DAY DEMAND (GPD)	AVG. DAY DEMAND (GPM)	MAX. DAY DEMAND (GPM)	MAX. HOUR DEMAND (GPM)	MAX. DAY + FIRE FLOW (GPM)
RESIDENTIAL	1	J-9	8	N/A	2,238	1.55	4.35	6.99	1,504
RESIDENTIAL	2	J-7	8	N/A	2,238	1.55	4.35	6.99	1,504
RESIDENTIAL	3	J-15	42	N/A	11,750	8.16	22.85	36.72	1,523
RESIDENTIAL	4	J-5	34	N/A	9,512	6.61	18.50	29.73	1,518
RESIDENTIAL	5	J-44	9	N/A	2,518	1.75	4.90	7.87	1,505
RESIDENTIAL	6	J-43	33	N/A	9,232	6.41	17.95	28.85	1,518
RESIDENTIAL	7	J-6	21	N/A	5,875	4.08	11.42	18.36	1,511
RESIDENTIAL	8	J-38	6	N/A	1,679	1.17	3.26	5.25	1,503
RESIDENTIAL	9	J-37	21	N/A	5,875	4.08	11.42	18.36	1,511
RESIDENTIAL	10	J-67	21	N/A	5,875	4.08	11.42	18.36	1,511
RESIDENTIAL	11	J-54	24	N/A	6,714	4.66	13.06	20.98	1,513
RESIDENTIAL	12	J-74	10	N/A	2,798	1.94	5.44	8.74	1,505
RESIDENTIAL	13	J-57	14	N/A	3,917	2.72	7.62	12.24	1,508
RESIDENTIAL	14	J-65	14	N/A	3,917	2.72	7.62	12.24	1,508
RESIDENTIAL	15	J-33	30	N/A	8,393	5.83	16.32	26.23	1,516
RESIDENTIAL	16	J-60	5	N/A	1,399	0.97	2.72	4.37	1,503
RESIDENTIAL	17	J-28	19	N/A	5,316	3.69	10.34	16.61	1,510
RESIDENTIAL	18	J-83	12	N/A	3,357	2.33	6.53	10.49	1,507
RESIDENTIAL	19	J-110	44	N/A	12,310	8.55	23.94	38.47	1,524
RESIDENTIAL	20	J-155	10	N/A	2,798	1.94	5.44	8.74	1,505
RESIDENTIAL	21	J-151	12	N/A	3,357	2.33	6.53	10.49	1,507
RESIDENTIAL	22	J-170	21	N/A	5,875	4.08	11.42	18.36	1,511
RESIDENTIAL	23	J-143	16	N/A	4,476	3.11	8.70	13.99	1,509
RESIDENTIAL	24	J-90	7	N/A	1,958	1.36	3.81	6.12	1,504
RESIDENTIAL	25	J-166	7	N/A	1,958	1.36	3.81	6.12	1,504
RESIDENTIAL	26	J-142	8	N/A	2,238	1.55	4.35	6.99	1,504
RESIDENTIAL	27	J-131	15	N/A	4,197	2.91	8.16	13.11	1,508
RESIDENTIAL	28	J-127	22	N/A	6,155	4.27	11.97	19.23	1,512
RESIDENTIAL	29	J-138	11	N/A	3,077	2.14	5.98	9.62	1,506
RESIDENTIAL	30	J-159	52	N/A	14,548	10.10	28.29	45.46	1,528
RESIDENTIAL	31	J-136	20	N/A	5,595	3.89	10.88	17.49	1,511
RESIDENTIAL	32	J-129	9	N/A	2,518	1.75	4.90	7.87	1,505
RESIDENTIAL	33	J-125	18	N/A	5,036	3.50	9.79	15.74	1,510
RESIDENTIAL	34	J-134	20	N/A	5,595	3.89	10.88	17.49	1,511
RESIDENTIAL	35	J-164	26	N/A	7,274	5.05	14.14	22.73	1,514
SCHOOL	36	J-20	N/A	18.9	22,680	15.75	44.10	70.88	3,544
TOTALS	N/A	N/A	649	18.9	204,251	142	397	638	56,397



THE AURORA HIGHLANDS PP#6

TITLE: WATERCAD LAYOUT MAP

DATE: AUGUST 27, 2020



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SHEET 1 OF 1

Active Scenario: Average Day

FlexTable: Pipe Table

Label	Length (Scaled) (ft)	Diameter (in)	Material	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)
P-1(1)	42	8.0	PVC	150.0	-48	0.30
P-1(2)	266	8.0	PVC	150.0	-48	0.30
P-2	439	8.0	PVC	150.0	69	0.44
P-3	201	8.0	PVC	150.0	2	0.01
P-4	334	8.0	PVC	150.0	1	0.00
P-5	206	8.0	PVC	150.0	2	0.01
P-6	356	8.0	PVC	150.0	1	0.01
P-7(1)	86	8.0	PVC	150.0	-21	0.13
P-7(2)	15	8.0	PVC	150.0	-21	0.13
P-8	70	8.0	PVC	150.0	0	0.00
P-9	532	8.0	PVC	150.0	13	0.08
P-10	207	12.0	PVC	150.0	146	0.41
P-11	428	8.0	PVC	150.0	-2	0.01
P-12	161	8.0	PVC	150.0	-2	0.01
P-13	161	8.0	PVC	150.0	0	0.00
P-14	69	8.0	PVC	150.0	2	0.01
P-15	19	8.0	PVC	150.0	0	0.00
P-16	86	8.0	PVC	150.0	4	0.03
P-17	17	8.0	PVC	150.0	4	0.03
P-18	110	8.0	PVC	150.0	-4	0.02
P-21	67	8.0	PVC	150.0	0	0.00
P-22	163	8.0	PVC	150.0	-4	0.02
P-24	120	8.0	PVC	150.0	0	0.00
P-25	109	8.0	PVC	150.0	-13	0.08
P-26	180	8.0	PVC	150.0	-13	0.08
P-27	352	8.0	PVC	150.0	2	0.01
P-28	133	8.0	PVC	150.0	-13	0.08
P-29	405	8.0	PVC	150.0	2	0.01
P-30	66	8.0	PVC	150.0	-9	0.06
P-31	445	8.0	PVC	150.0	1	0.01
P-32	193	8.0	PVC	150.0	-9	0.06
P-33	7	8.0	PVC	150.0	1	0.01
P-34	44	8.0	PVC	150.0	-9	0.06
P-35	21	8.0	PVC	150.0	1	0.01
P-36	483	8.0	PVC	150.0	-7	0.04
P-37	19	8.0	PVC	150.0	1	0.01
P-38	55	8.0	PVC	150.0	-7	0.04
P-39	200	8.0	PVC	150.0	1	0.01
P-40	37	8.0	PVC	150.0	-1	0.01
P-41	199	8.0	PVC	150.0	-1	0.01
P-42	258	8.0	PVC	150.0	-1	0.01
P-43	25	8.0	PVC	150.0	-1	0.01
P-44(1)	55	8.0	PVC	150.0	-6	0.04
P-44(2)	229	8.0	PVC	150.0	-6	0.04
P-45	9	8.0	PVC	150.0	-1	0.01
P-46	327	8.0	PVC	150.0	-8	0.05
P-47	16	8.0	PVC	150.0	-1	0.01
P-48	352	8.0	PVC	150.0	-4	0.03
P-49	26	8.0	PVC	150.0	0	0.00
P-50	315	8.0	PVC	150.0	-8	0.05
P-51	13	8.0	PVC	150.0	0	0.00

Active Scenario: Average Day

FlexTable: Pipe Table

Label	Length (Scaled) (ft)	Diameter (in)	Material	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)
P-52	523	8.0	PVC	150.0	-8	0.05
P-53	10	8.0	PVC	150.0	2	0.02
P-54	37	8.0	PVC	150.0	-8	0.05
P-55	26	8.0	PVC	150.0	0	0.00
P-56	106	8.0	PVC	150.0	-8	0.05
P-57	126	8.0	PVC	150.0	9	0.06
P-58	106	8.0	PVC	150.0	-8	0.05
P-58	474	8.0	PVC	150.0	-4	0.02
P-59	6	8.0	PVC	150.0	9	0.06
P-59	11	8.0	PVC	150.0	0	0.00
P-60	562	8.0	PVC	150.0	9	0.06
P-60	17	8.0	PVC	150.0	-10	0.07
P-61	122	8.0	PVC	150.0	-10	0.07
P-61(1)	10	8.0	PVC	150.0	3	0.02
P-61(2)	28	8.0	PVC	150.0	3	0.02
P-62	27	8.0	PVC	150.0	-1	0.01
P-62	31	8.0	PVC	150.0	0	0.00
P-63	6	8.0	PVC	150.0	-1	0.01
P-63	32	8.0	PVC	150.0	0	0.00
P-64	12	8.0	PVC	150.0	0	0.00
P-65	384	8.0	PVC	150.0	5	0.03
P-65	11	8.0	PVC	150.0	0	0.00
P-66	245	8.0	PVC	150.0	12	0.08
P-66	32	8.0	PVC	150.0	0	0.00
P-67	42	8.0	PVC	150.0	-1	0.01
P-67	109	8.0	PVC	150.0	-10	0.06
P-68	131	8.0	PVC	150.0	2	0.01
P-68	30	8.0	PVC	150.0	0	0.00
P-69	14	8.0	PVC	150.0	-2	0.01
P-69	320	8.0	PVC	150.0	-13	0.08
P-70	104	8.0	PVC	150.0	-1	0.01
P-70	30	8.0	PVC	150.0	0	0.00
P-71	31	8.0	PVC	150.0	0	0.00
P-71(1)	377	8.0	PVC	150.0	-2	0.01
P-71(2)	37	8.0	PVC	150.0	-2	0.01
P-72	28	8.0	PVC	150.0	-10	0.06
P-72	12	8.0	PVC	150.0	0	0.00
P-73	107	8.0	PVC	150.0	-10	0.06
P-74	30	8.0	PVC	150.0	0	0.00
P-75	107	8.0	PVC	150.0	-10	0.06
P-76	30	8.0	PVC	150.0	0	0.00
P-78	10	8.0	PVC	150.0	0	0.00
P-80	30	8.0	PVC	150.0	0	0.00
P-81	105	8.0	PVC	150.0	-10	0.06
P-82	30	8.0	PVC	150.0	0	0.00
P-83	9	8.0	PVC	150.0	-10	0.06
P-84	31	8.0	PVC	150.0	0	0.00
P-85(1)	14	8.0	PVC	150.0	-11	0.07
P-85(2)	273	8.0	PVC	150.0	-11	0.07
P-86	31	8.0	PVC	150.0	0	0.00
P-87	221	8.0	PVC	150.0	-15	0.10

Active Scenario: Average Day

FlexTable: Pipe Table

Label	Length (Scaled) (ft)	Diameter (in)	Material	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)
P-88	30	8.0	PVC	150.0	0	0.00
P-89	37	8.0	PVC	150.0	-15	0.10
P-90	284	8.0	PVC	150.0	-12	0.07
P-91	97	8.0	PVC	150.0	-2	0.01
P-92	46	8.0	PVC	150.0	-2	0.01
P-93	267	8.0	PVC	150.0	-2	0.01
P-94	271	8.0	PVC	150.0	7	0.05
P-95	79	8.0	PVC	150.0	7	0.05
P-96	7	8.0	PVC	150.0	4	0.02
P-97	299	8.0	PVC	150.0	4	0.02
P-98	284	8.0	PVC	150.0	-1	0.01
P-99(1)	132	8.0	PVC	150.0	-5	0.03
P-99(2)	152	8.0	PVC	150.0	-5	0.03
P-100	29	8.0	PVC	150.0	0	0.00
P-101	284	8.0	PVC	150.0	-19	0.12
P-102	33	8.0	PVC	150.0	-9	0.06
P-103	10	8.0	PVC	150.0	0	0.00
P-104	104	8.0	PVC	150.0	-9	0.06
P-105	76	8.0	PVC	150.0	-9	0.06
P-106	308	8.0	PVC	150.0	-5	0.03
P-107	93	8.0	PVC	150.0	1	0.01
P-108	100	8.0	PVC	150.0	1	0.01
P-109	166	8.0	PVC	150.0	2	0.01
P-110	13	8.0	PVC	150.0	1	0.00
P-111	19	8.0	PVC	150.0	1	0.00
P-112	16	8.0	PVC	150.0	1	0.00
P-113	178	8.0	PVC	150.0	1	0.00
P-114	113	8.0	PVC	150.0	-1	0.01
P-115	26	8.0	PVC	150.0	-1	0.01
P-116	16	8.0	PVC	150.0	-1	0.01
P-117	9	8.0	PVC	150.0	-1	0.01
P-118	17	8.0	PVC	150.0	0	0.00
P-119	12	8.0	PVC	150.0	1	0.01
P-120	19	8.0	PVC	150.0	1	0.01
P-121	10	8.0	PVC	150.0	1	0.01
P-122	184	8.0	PVC	150.0	1	0.01
P-123	128	8.0	PVC	150.0	-1	0.01
P-124	20	8.0	PVC	150.0	-1	0.01
P-125	35	8.0	PVC	150.0	-1	0.01
P-126	93	8.0	PVC	150.0	-1	0.01
P-127	12	8.0	PVC	150.0	0	0.00
P-128	17	8.0	PVC	150.0	2	0.02
P-129	32	8.0	PVC	150.0	2	0.02
P-130	143	8.0	PVC	150.0	2	0.02
P-131	143	8.0	PVC	150.0	0	0.00
P-132	129	8.0	PVC	150.0	-4	0.03
P-133	82	8.0	PVC	150.0	0	0.00
P-134	130	8.0	PVC	150.0	-13	0.08
P-135	212	8.0	PVC	150.0	17	0.11
P-139(1)	104	8.0	PVC	150.0	27	0.17
P-139(2)	28	8.0	PVC	150.0	27	0.17

Active Scenario: Average Day

FlexTable: Pipe Table

Label	Length (Scaled) (ft)	Diameter (in)	Material	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)
P-140	284	8.0	PVC	150.0	-4	0.02
P-141	440	8.0	PVC	150.0	2	0.01
P-142	56	8.0	PVC	150.0	-2	0.02
P-143	284	8.0	PVC	150.0	2	0.01
P-144	128	8.0	PVC	150.0	1	0.01
P-145	91	8.0	PVC	150.0	-2	0.01
P-146	84	8.0	PVC	150.0	-2	0.01
P-147	18	8.0	PVC	150.0	-2	0.01
P-148	28	8.0	PVC	150.0	-2	0.01
P-149	248	8.0	PVC	150.0	-2	0.01
P-150	584	8.0	PVC	150.0	-2	0.01
P-151	10	8.0	PVC	150.0	-2	0.01
P-152	135	8.0	PVC	150.0	-2	0.01
P-153	568	8.0	PVC	150.0	-1	0.01
P-154	277	8.0	PVC	150.0	2	0.01
P-155	10	8.0	PVC	150.0	2	0.01
P-156	216	8.0	PVC	150.0	2	0.01
P-157	286	8.0	PVC	150.0	-3	0.02
P-158	91	8.0	PVC	150.0	-3	0.02
P-159	55	8.0	PVC	150.0	-3	0.02
P-160	53	8.0	PVC	150.0	-3	0.02
P-161	44	8.0	PVC	150.0	-3	0.02
P-162	6	8.0	PVC	150.0	-3	0.02
P-163	89	8.0	PVC	150.0	-5	0.03
P-164	34	8.0	PVC	150.0	-5	0.03
P-165	94	8.0	PVC	150.0	-9	0.06
P-166	190	8.0	PVC	150.0	-9	0.06
P-167	145	8.0	PVC	150.0	-14	0.09
P-168	140	8.0	PVC	150.0	-23	0.15
P-169	164	8.0	PVC	150.0	-4	0.03
P-170	49	8.0	PVC	150.0	-4	0.03
P-171	305	8.0	PVC	150.0	0	0.00
P-172	284	8.0	PVC	150.0	-3	0.02
P-173	258	8.0	PVC	150.0	-3	0.02
P-174	26	8.0	PVC	150.0	-3	0.02
P-175	331	8.0	PVC	150.0	-6	0.04
P-176	104	8.0	PVC	150.0	-6	0.04
P-177	191	8.0	PVC	150.0	-6	0.04
P-178	284	8.0	PVC	150.0	3	0.02
P-179	284	8.0	PVC	150.0	-4	0.03
P-180	264	8.0	PVC	150.0	-4	0.02
P-181	23	8.0	PVC	150.0	-4	0.02
P-182	98	8.0	PVC	150.0	-4	0.02
P-183	424	8.0	PVC	150.0	1	0.00
P-184	351	8.0	PVC	150.0	-6	0.04
P-185	86	8.0	PVC	150.0	-8	0.05
P-186	94	8.0	PVC	150.0	-19	0.12
P-187	204	8.0	PVC	150.0	-19	0.12
P-188	241	8.0	PVC	150.0	4	0.03
P-189	48	8.0	PVC	150.0	1	0.01
P-190	72	8.0	PVC	150.0	1	0.01

Active Scenario: Average Day**FlexTable: Pipe Table**

Label	Length (Scaled) (ft)	Diameter (in)	Material	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)
P-191	36	8.0	PVC	150.0	1	0.01
P-192	284	8.0	PVC	150.0	4	0.03
P-193	77	8.0	PVC	150.0	11	0.07
P-194	96	8.0	PVC	150.0	11	0.07
P-195	25	8.0	PVC	150.0	9	0.06
P-196	284	8.0	PVC	150.0	5	0.03
P-197	497	8.0	PVC	150.0	-3	0.02
P-198	284	8.0	PVC	150.0	-15	0.10
P-199	53	8.0	PVC	150.0	0	0.00
P-200	10	8.0	PVC	150.0	0	0.00
P-201	30	8.0	PVC	150.0	0	0.00
P-202	11	8.0	PVC	150.0	0	0.00
P-205	30	8.0	PVC	150.0	0	0.00
P-206	10	8.0	PVC	150.0	0	0.00
P-207	11	8.0	PVC	150.0	0	0.00

Active Scenario: Average Day

FlexTable: Junction Table

Label	Elevation (ft)	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
J-1	5,529.35	0	5,719.85	82
J-3	5,503.62	0	5,719.88	94
J-4	5,512.24	0	5,719.88	90
J-5	5,510.61	7	5,719.88	91
J-6	5,502.05	4	5,719.88	94
J-7	5,505.07	2	5,719.88	93
J-8	5,512.56	0	5,719.88	90
J-9	5,497.23	2	5,719.88	96
J-10	5,499.31	0	5,719.88	95
J-11	5,500.15	0	5,719.88	95
J-13	5,491.40	0	5,719.88	99
J-14	5,490.37	0	5,719.88	99
J-15	5,491.53	8	5,719.88	99
J-16	5,491.17	0	5,719.88	99
J-18	5,490.13	0	5,719.88	99
J-19	5,553.42	0	5,719.84	72
J-20	5,535.55	142	5,719.84	80
J-21	5,542.18	0	5,719.84	77
J-22	5,547.28	0	5,719.84	75
J-23	5,553.51	0	5,719.84	72
J-24	5,553.42	0	5,719.84	72
J-25	5,519.33	0	5,719.88	87
J-26	5,520.02	0	5,719.88	86
J-27	5,521.29	0	5,719.88	86
J-28	5,520.07	4	5,719.88	86
J-29	5,519.38	0	5,719.88	87
J-30	5,519.06	0	5,719.88	87
J-31	5,517.14	0	5,719.88	88
J-32	5,510.57	0	5,719.88	91
J-33	5,510.07	6	5,719.88	91
J-34	5,509.65	0	5,719.88	91
J-35	5,507.21	0	5,719.88	92
J-36	5,504.80	0	5,719.88	93
J-37	5,504.52	4	5,719.88	93
J-38	5,499.70	1	5,719.88	95
J-39	5,497.02	0	5,719.88	96
J-40	5,492.49	0	5,719.88	98
J-41	5,492.06	0	5,719.88	99
J-42	5,490.90	0	5,719.88	99
J-43	5,490.08	6	5,719.88	99
J-44	5,490.68	2	5,719.88	99
J-45	5,499.67	0	5,719.88	95
J-46	5,505.79	0	5,719.88	93
J-47	5,511.17	0	5,719.88	90
J-48	5,512.98	0	5,719.88	90
J-49	5,514.35	0	5,719.88	89
J-51	5,515.73	0	5,719.88	88
J-52	5,517.07	0	5,719.88	88
J-53	5,517.19	0	5,719.88	88
J-54	5,521.07	4	5,719.88	86
J-55	5,521.26	0	5,719.88	86

Active Scenario: Average Day

FlexTable: Junction Table

Label	Elevation (ft)	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
J-56	5,520.94	0	5,719.88	86
J-57	5,514.29	3	5,719.88	89
J-58	5,511.95	0	5,719.88	90
J-59	5,510.78	0	5,719.88	90
J-59	5,497.53	0	5,719.88	96
J-60	5,514.08	1	5,719.88	89
J-60	5,490.54	0	5,719.88	99
J-61	5,512.30	0	5,719.88	90
J-62	5,511.69	0	5,719.88	90
J-62	5,503.21	0	5,719.88	94
J-63	5,511.13	0	5,719.88	90
J-64	5,510.21	0	5,719.88	91
J-64	5,517.38	0	5,719.88	88
J-65	5,509.54	4	5,719.88	91
J-66	5,512.80	0	5,719.88	90
J-66	5,510.18	0	5,719.88	91
J-67	5,511.38	4	5,719.88	90
J-68	5,511.27	0	5,719.88	90
J-69	5,507.26	0	5,719.88	92
J-69	5,505.27	0	5,719.88	93
J-70	5,527.50	0	5,719.90	83
J-71	5,527.55	0	5,719.90	83
J-71	5,533.04	0	5,719.85	81
J-72	5,527.70	0	5,719.90	83
J-73	5,527.84	0	5,719.90	83
J-73	5,561.50	0	5,719.85	69
J-74	5,528.07	2	5,719.90	83
J-75	5,527.17	0	5,719.90	83
J-75	5,546.61	0	5,719.89	75
J-76	5,526.89	0	5,719.90	84
J-77	5,526.84	0	5,719.90	84
J-78	5,526.64	0	5,719.90	84
J-79	5,526.50	0	5,719.90	84
J-80	5,526.57	0	5,719.90	84
J-81	5,526.69	0	5,719.90	84
J-82	5,526.77	0	5,719.90	84
J-83	5,528.55	2	5,719.90	83
J-84	5,529.74	0	5,719.90	82
J-85	5,530.00	0	5,719.90	82
J-86	5,530.25	0	5,719.90	82
J-87	5,529.56	0	5,719.90	82
J-89	5,532.08	0	5,719.86	81
J-90	5,533.29	1	5,719.85	81
J-92	5,535.91	0	5,719.85	80
J-93	5,534.46	0	5,719.85	80
J-102	5,535.94	0	5,719.84	80
J-103	5,536.33	0	5,719.84	79
J-104	5,537.10	0	5,719.84	79
J-105	5,541.70	0	5,719.84	77
J-106	5,541.99	0	5,719.84	77
J-107	5,540.49	0	5,719.85	78

Active Scenario: Average Day

FlexTable: Junction Table

Label	Elevation (ft)	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
J-108	5,547.94	0	5,719.85	74
J-109	5,552.20	0	5,719.85	73
J-110	5,530.81	9	5,719.85	82
J-111	5,529.04	0	5,719.85	83
J-113	5,530.75	0	5,719.85	82
J-114	5,534.09	0	5,719.85	80
J-115	5,536.38	0	5,719.85	79
J-116	5,536.65	0	5,719.85	79
J-117	5,537.38	0	5,719.85	79
J-118	5,537.77	0	5,719.85	79
J-119	5,538.19	0	5,719.85	79
J-120	5,538.62	0	5,719.85	78
J-121	5,539.46	0	5,719.85	78
J-122	5,547.76	0	5,719.85	74
J-123	5,547.52	0	5,719.85	75
J-124	5,544.16	0	5,719.85	76
J-125	5,549.89	0	5,719.85	74
J-126	5,551.94	0	5,719.85	73
J-127	5,553.11	4	5,719.85	72
J-128	5,541.25	0	5,719.85	77
J-129	5,544.09	0	5,719.85	76
J-130	5,545.49	0	5,719.85	75
J-131	5,548.30	3	5,719.85	74
J-132	5,549.93	0	5,719.85	74
J-133	5,550.05	0	5,719.85	73
J-134	5,538.17	4	5,719.85	79
J-135	5,537.69	0	5,719.85	79
J-136	5,536.68	0	5,719.85	79
J-137	5,535.66	0	5,719.85	80
J-138	5,539.45	2	5,719.85	78
J-139	5,537.86	0	5,719.85	79
J-140	5,535.89	0	5,719.85	80
J-141	5,538.20	0	5,719.85	79
J-142	5,539.78	2	5,719.85	78
J-143	5,554.12	3	5,719.85	72
J-144	5,556.27	0	5,719.85	71
J-145	5,560.08	0	5,719.85	69
J-146	5,560.87	0	5,719.85	69
J-147	5,561.26	0	5,719.85	69
J-148	5,551.83	0	5,719.85	73
J-149	5,551.99	0	5,719.85	73
J-150	5,553.74	0	5,719.84	72
J-151	5,551.10	2	5,719.84	73
J-152	5,548.21	0	5,719.84	74
J-153	5,547.76	0	5,719.84	74
J-154	5,547.61	0	5,719.84	75
J-155	5,539.47	2	5,719.84	78
J-156	5,532.93	0	5,719.85	81
J-157	5,531.75	0	5,719.85	81
J-158	5,531.59	0	5,719.85	81
J-159	5,534.92	10	5,719.85	80

Active Scenario: Average Day**FlexTable: Junction Table**

Label	Elevation (ft)	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
J-160	5,535.03	0	5,719.85	80
J-161	5,536.14	0	5,719.85	79
J-162	5,537.31	0	5,719.85	79
J-163	5,535.63	0	5,719.85	80
J-164	5,542.79	5	5,719.85	77
J-165	5,543.79	0	5,719.85	76
J-166	5,539.46	1	5,719.85	78
J-167	5,549.96	0	5,719.85	74
J-168	5,552.94	0	5,719.85	72
J-169	5,559.30	0	5,719.85	69
J-170	5,547.10	4	5,719.85	75

Active Scenario: Max Hour

FlexTable: Pipe Table

Label	Length (Scaled) (ft)	Diameter (in)	Material	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)
P-1(1)	42	8.0	PVC	150.0	-134	0.85
P-1(2)	266	8.0	PVC	150.0	-134	0.85
P-2	439	8.0	PVC	150.0	117	0.75
P-3	201	8.0	PVC	150.0	9	0.06
P-4	334	8.0	PVC	150.0	3	0.02
P-5	206	8.0	PVC	150.0	10	0.07
P-6	356	8.0	PVC	150.0	4	0.02
P-7(1)	86	8.0	PVC	150.0	142	0.90
P-7(2)	15	8.0	PVC	150.0	142	0.90
P-8	70	8.0	PVC	150.0	0	0.00
P-9	532	8.0	PVC	150.0	-29	0.18
P-10	207	12.0	PVC	150.0	656	1.86
P-11	428	8.0	PVC	150.0	15	0.10
P-12	161	8.0	PVC	150.0	15	0.10
P-13	161	8.0	PVC	150.0	-22	0.14
P-14	69	8.0	PVC	150.0	7	0.04
P-15	19	8.0	PVC	150.0	0	0.00
P-16	86	8.0	PVC	150.0	10	0.06
P-17	17	8.0	PVC	150.0	10	0.06
P-18	110	8.0	PVC	150.0	-27	0.17
P-21	67	8.0	PVC	150.0	0	0.00
P-22	163	8.0	PVC	150.0	-27	0.17
P-24	120	8.0	PVC	150.0	0	0.00
P-25	109	8.0	PVC	150.0	-40	0.26
P-26	180	8.0	PVC	150.0	-40	0.26
P-27	352	8.0	PVC	150.0	8	0.05
P-28	133	8.0	PVC	150.0	-40	0.26
P-29	405	8.0	PVC	150.0	10	0.07
P-30	66	8.0	PVC	150.0	-23	0.15
P-31	445	8.0	PVC	150.0	4	0.02
P-32	193	8.0	PVC	150.0	-23	0.15
P-33	7	8.0	PVC	150.0	4	0.02
P-34	44	8.0	PVC	150.0	-23	0.15
P-35	21	8.0	PVC	150.0	4	0.02
P-36	483	8.0	PVC	150.0	-20	0.13
P-37	19	8.0	PVC	150.0	4	0.02
P-38	55	8.0	PVC	150.0	-20	0.13
P-39	200	8.0	PVC	150.0	4	0.02
P-40	37	8.0	PVC	150.0	6	0.04
P-41	199	8.0	PVC	150.0	-7	0.04
P-42	258	8.0	PVC	150.0	6	0.04
P-43	25	8.0	PVC	150.0	-7	0.04
P-44(1)	55	8.0	PVC	150.0	-7	0.04
P-44(2)	229	8.0	PVC	150.0	-7	0.04
P-45	9	8.0	PVC	150.0	-7	0.04
P-46	327	8.0	PVC	150.0	-14	0.09
P-47	16	8.0	PVC	150.0	-7	0.04
P-48	352	8.0	PVC	150.0	4	0.02
P-49	26	8.0	PVC	150.0	0	0.00
P-50	315	8.0	PVC	150.0	-9	0.06
P-51	13	8.0	PVC	150.0	-2	0.01

Active Scenario: Max Hour

FlexTable: Pipe Table

Label	Length (Scaled) (ft)	Diameter (in)	Material	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)
P-52	523	8.0	PVC	150.0	-9	0.06
P-53	10	8.0	PVC	150.0	11	0.07
P-54	37	8.0	PVC	150.0	-9	0.06
P-55	26	8.0	PVC	150.0	0	0.00
P-56	106	8.0	PVC	150.0	-9	0.06
P-57	126	8.0	PVC	150.0	34	0.22
P-58	106	8.0	PVC	150.0	-9	0.06
P-58	474	8.0	PVC	150.0	-27	0.17
P-59	6	8.0	PVC	150.0	34	0.22
P-59	11	8.0	PVC	150.0	0	0.00
P-60	562	8.0	PVC	150.0	34	0.22
P-60	17	8.0	PVC	150.0	-71	0.46
P-61	122	8.0	PVC	150.0	-71	0.46
P-61(1)	10	8.0	PVC	150.0	29	0.19
P-61(2)	28	8.0	PVC	150.0	29	0.19
P-62	27	8.0	PVC	150.0	20	0.13
P-62	31	8.0	PVC	150.0	0	0.00
P-63	6	8.0	PVC	150.0	-11	0.07
P-63	32	8.0	PVC	150.0	0	0.00
P-64	12	8.0	PVC	150.0	0	0.00
P-65	384	8.0	PVC	150.0	37	0.24
P-65	11	8.0	PVC	150.0	0	0.00
P-66	245	8.0	PVC	150.0	135	0.86
P-66	32	8.0	PVC	150.0	0	0.00
P-67	42	8.0	PVC	150.0	-11	0.07
P-67	109	8.0	PVC	150.0	9	0.06
P-68	131	8.0	PVC	150.0	64	0.41
P-68	30	8.0	PVC	150.0	0	0.00
P-69	14	8.0	PVC	150.0	23	0.15
P-69	320	8.0	PVC	150.0	11	0.07
P-70	104	8.0	PVC	150.0	-11	0.07
P-70	30	8.0	PVC	150.0	0	0.00
P-71	31	8.0	PVC	150.0	0	0.00
P-71(1)	377	8.0	PVC	150.0	23	0.15
P-71(2)	37	8.0	PVC	150.0	23	0.15
P-72	28	8.0	PVC	150.0	9	0.06
P-72	12	8.0	PVC	150.0	0	0.00
P-73	107	8.0	PVC	150.0	9	0.06
P-74	30	8.0	PVC	150.0	0	0.00
P-75	107	8.0	PVC	150.0	9	0.06
P-76	30	8.0	PVC	150.0	0	0.00
P-78	10	8.0	PVC	150.0	0	0.00
P-80	30	8.0	PVC	150.0	0	0.00
P-81	105	8.0	PVC	150.0	9	0.06
P-82	30	8.0	PVC	150.0	0	0.00
P-83	9	8.0	PVC	150.0	9	0.06
P-84	31	8.0	PVC	150.0	0	0.00
P-85(1)	14	8.0	PVC	150.0	-18	0.11
P-85(2)	273	8.0	PVC	150.0	-18	0.11
P-86	31	8.0	PVC	150.0	0	0.00
P-87	221	8.0	PVC	150.0	-37	0.24

Active Scenario: Max Hour

FlexTable: Pipe Table

Label	Length (Scaled) (ft)	Diameter (in)	Material	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)
P-88	30	8.0	PVC	150.0	0	0.00
P-89	37	8.0	PVC	150.0	-37	0.24
P-90	284	8.0	PVC	150.0	-27	0.17
P-91	97	8.0	PVC	150.0	-7	0.05
P-92	46	8.0	PVC	150.0	-7	0.05
P-93	267	8.0	PVC	150.0	-7	0.05
P-94	271	8.0	PVC	150.0	7	0.05
P-95	79	8.0	PVC	150.0	7	0.05
P-96	7	8.0	PVC	150.0	-9	0.06
P-97	299	8.0	PVC	150.0	-9	0.06
P-98	284	8.0	PVC	150.0	-27	0.17
P-99(1)	132	8.0	PVC	150.0	-18	0.11
P-99(2)	152	8.0	PVC	150.0	-18	0.11
P-100	29	8.0	PVC	150.0	0	0.00
P-101	284	8.0	PVC	150.0	-56	0.36
P-102	33	8.0	PVC	150.0	-28	0.18
P-103	10	8.0	PVC	150.0	0	0.00
P-104	104	8.0	PVC	150.0	-28	0.18
P-105	76	8.0	PVC	150.0	-28	0.18
P-106	308	8.0	PVC	150.0	-12	0.08
P-107	93	8.0	PVC	150.0	-1	0.01
P-108	100	8.0	PVC	150.0	-1	0.01
P-109	166	8.0	PVC	150.0	3	0.02
P-110	13	8.0	PVC	150.0	3	0.02
P-111	19	8.0	PVC	150.0	3	0.02
P-112	16	8.0	PVC	150.0	3	0.02
P-113	178	8.0	PVC	150.0	3	0.02
P-114	113	8.0	PVC	150.0	-6	0.04
P-115	26	8.0	PVC	150.0	-6	0.04
P-116	16	8.0	PVC	150.0	-6	0.04
P-117	9	8.0	PVC	150.0	-6	0.04
P-118	17	8.0	PVC	150.0	0	0.00
P-119	12	8.0	PVC	150.0	7	0.04
P-120	19	8.0	PVC	150.0	7	0.04
P-121	10	8.0	PVC	150.0	7	0.04
P-122	184	8.0	PVC	150.0	7	0.04
P-123	128	8.0	PVC	150.0	-4	0.02
P-124	20	8.0	PVC	150.0	-4	0.02
P-125	35	8.0	PVC	150.0	-4	0.02
P-126	93	8.0	PVC	150.0	-4	0.02
P-127	12	8.0	PVC	150.0	0	0.00
P-128	17	8.0	PVC	150.0	11	0.07
P-129	32	8.0	PVC	150.0	11	0.07
P-130	143	8.0	PVC	150.0	11	0.07
P-131	143	8.0	PVC	150.0	2	0.01
P-132	129	8.0	PVC	150.0	67	0.43
P-133	82	8.0	PVC	150.0	0	0.00
P-134	130	8.0	PVC	150.0	29	0.18
P-135	212	8.0	PVC	150.0	-74	0.47
P-139(1)	104	8.0	PVC	150.0	-33	0.21
P-139(2)	28	8.0	PVC	150.0	-33	0.21

Active Scenario: Max Hour

FlexTable: Pipe Table

Label	Length (Scaled) (ft)	Diameter (in)	Material	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)
P-140	284	8.0	PVC	150.0	63	0.40
P-141	440	8.0	PVC	150.0	38	0.24
P-142	56	8.0	PVC	150.0	19	0.12
P-143	284	8.0	PVC	150.0	27	0.17
P-144	128	8.0	PVC	150.0	16	0.10
P-145	91	8.0	PVC	150.0	2	0.01
P-146	84	8.0	PVC	150.0	2	0.01
P-147	18	8.0	PVC	150.0	2	0.01
P-148	28	8.0	PVC	150.0	2	0.01
P-149	248	8.0	PVC	150.0	2	0.01
P-150	584	8.0	PVC	150.0	2	0.01
P-151	10	8.0	PVC	150.0	2	0.01
P-152	135	8.0	PVC	150.0	2	0.01
P-153	568	8.0	PVC	150.0	4	0.02
P-154	277	8.0	PVC	150.0	13	0.08
P-155	10	8.0	PVC	150.0	13	0.08
P-156	216	8.0	PVC	150.0	13	0.08
P-157	286	8.0	PVC	150.0	-10	0.06
P-158	91	8.0	PVC	150.0	-10	0.06
P-159	55	8.0	PVC	150.0	-10	0.06
P-160	53	8.0	PVC	150.0	-10	0.06
P-161	44	8.0	PVC	150.0	-10	0.06
P-162	6	8.0	PVC	150.0	-10	0.06
P-163	89	8.0	PVC	150.0	-22	0.14
P-164	34	8.0	PVC	150.0	-22	0.14
P-165	94	8.0	PVC	150.0	-32	0.20
P-166	190	8.0	PVC	150.0	-32	0.20
P-167	145	8.0	PVC	150.0	-57	0.36
P-168	140	8.0	PVC	150.0	-91	0.58
P-169	164	8.0	PVC	150.0	-10	0.07
P-170	49	8.0	PVC	150.0	-10	0.07
P-171	305	8.0	PVC	150.0	7	0.05
P-172	284	8.0	PVC	150.0	-9	0.06
P-173	258	8.0	PVC	150.0	-16	0.10
P-174	26	8.0	PVC	150.0	-16	0.10
P-175	331	8.0	PVC	150.0	-7	0.05
P-176	104	8.0	PVC	150.0	-25	0.16
P-177	191	8.0	PVC	150.0	-25	0.16
P-178	284	8.0	PVC	150.0	-17	0.11
P-179	284	8.0	PVC	150.0	-25	0.16
P-180	264	8.0	PVC	150.0	-8	0.05
P-181	23	8.0	PVC	150.0	-8	0.05
P-182	98	8.0	PVC	150.0	-8	0.05
P-183	424	8.0	PVC	150.0	12	0.07
P-184	351	8.0	PVC	150.0	-34	0.22
P-185	86	8.0	PVC	150.0	-44	0.28
P-186	94	8.0	PVC	150.0	-60	0.38
P-187	204	8.0	PVC	150.0	-60	0.38
P-188	241	8.0	PVC	150.0	-8	0.05
P-189	48	8.0	PVC	150.0	-21	0.13
P-190	72	8.0	PVC	150.0	-21	0.13

Active Scenario: Max Hour**FlexTable: Pipe Table**

Label	Length (Scaled) (ft)	Diameter (in)	Material	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)
P-191	36	8.0	PVC	150.0	-21	0.13
P-192	284	8.0	PVC	150.0	8	0.05
P-193	77	8.0	PVC	150.0	16	0.10
P-194	96	8.0	PVC	150.0	16	0.10
P-195	25	8.0	PVC	150.0	10	0.06
P-196	284	8.0	PVC	150.0	-26	0.16
P-197	497	8.0	PVC	150.0	-29	0.18
P-198	284	8.0	PVC	150.0	-37	0.24
P-199	53	8.0	PVC	150.0	2	0.01
P-200	10	8.0	PVC	150.0	0	0.00
P-201	30	8.0	PVC	150.0	0	0.00
P-202	11	8.0	PVC	150.0	0	0.00
P-205	30	8.0	PVC	150.0	0	0.00
P-206	10	8.0	PVC	150.0	0	0.00
P-207	11	8.0	PVC	150.0	0	0.00

Active Scenario: Max Hour

FlexTable: Junction Table

Label	Elevation (ft)	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
J-1	5,529.35	0	5,719.79	82
J-3	5,503.62	0	5,719.78	94
J-4	5,512.24	0	5,719.78	90
J-5	5,510.61	29	5,719.78	90
J-6	5,502.05	18	5,719.78	94
J-7	5,505.07	7	5,719.78	93
J-8	5,512.56	0	5,719.78	90
J-9	5,497.23	7	5,719.78	96
J-10	5,499.31	0	5,719.78	95
J-11	5,500.15	0	5,719.78	95
J-13	5,491.40	0	5,719.77	99
J-14	5,490.37	0	5,719.77	99
J-15	5,491.53	37	5,719.77	99
J-16	5,491.17	0	5,719.77	99
J-18	5,490.13	0	5,719.77	99
J-19	5,553.42	0	5,719.66	72
J-20	5,535.55	637	5,719.67	80
J-21	5,542.18	0	5,719.66	77
J-22	5,547.28	0	5,719.66	75
J-23	5,553.51	0	5,719.66	72
J-24	5,553.42	0	5,719.66	72
J-25	5,519.33	0	5,719.80	87
J-26	5,520.02	0	5,719.79	86
J-27	5,521.29	0	5,719.79	86
J-28	5,520.07	17	5,719.78	86
J-29	5,519.38	0	5,719.78	87
J-30	5,519.06	0	5,719.78	87
J-31	5,517.14	0	5,719.78	88
J-32	5,510.57	0	5,719.77	91
J-33	5,510.07	26	5,719.77	91
J-34	5,509.65	0	5,719.77	91
J-35	5,507.21	0	5,719.77	92
J-36	5,504.80	0	5,719.77	93
J-37	5,504.52	17	5,719.77	93
J-38	5,499.70	5	5,719.77	95
J-39	5,497.02	0	5,719.77	96
J-40	5,492.49	0	5,719.77	98
J-41	5,492.06	0	5,719.77	99
J-42	5,490.90	0	5,719.77	99
J-43	5,490.08	29	5,719.77	99
J-44	5,490.68	8	5,719.77	99
J-45	5,499.67	0	5,719.80	95
J-46	5,505.79	0	5,719.78	93
J-47	5,511.17	0	5,719.78	90
J-48	5,512.98	0	5,719.78	89
J-49	5,514.35	0	5,719.78	89
J-51	5,515.73	0	5,719.78	88
J-52	5,517.07	0	5,719.78	88
J-53	5,517.19	0	5,719.78	88
J-54	5,521.07	19	5,719.78	86
J-55	5,521.26	0	5,719.79	86

Active Scenario: Max Hour

FlexTable: Junction Table

Label	Elevation (ft)	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
J-56	5,520.94	0	5,719.79	86
J-57	5,514.29	12	5,719.77	89
J-58	5,511.95	0	5,719.77	90
J-59	5,510.78	0	5,719.77	90
J-59	5,497.53	0	5,719.78	96
J-60	5,514.08	4	5,719.78	89
J-60	5,490.54	0	5,719.77	99
J-61	5,512.30	0	5,719.78	90
J-62	5,511.69	0	5,719.78	90
J-62	5,503.21	0	5,719.77	94
J-63	5,511.13	0	5,719.78	90
J-64	5,510.21	0	5,719.77	91
J-64	5,517.38	0	5,719.78	88
J-65	5,509.54	16	5,719.77	91
J-66	5,512.80	0	5,719.77	90
J-66	5,510.18	0	5,719.78	91
J-67	5,511.38	17	5,719.77	90
J-68	5,511.27	0	5,719.77	90
J-69	5,507.26	0	5,719.77	92
J-69	5,505.27	0	5,719.77	93
J-70	5,527.50	0	5,719.90	83
J-71	5,527.55	0	5,719.90	83
J-71	5,533.04	0	5,719.79	81
J-72	5,527.70	0	5,719.90	83
J-73	5,527.84	0	5,719.90	83
J-73	5,561.50	0	5,719.82	68
J-74	5,528.07	9	5,719.90	83
J-75	5,527.17	0	5,719.90	83
J-75	5,546.61	0	5,719.81	75
J-76	5,526.89	0	5,719.90	84
J-77	5,526.84	0	5,719.90	84
J-78	5,526.64	0	5,719.90	84
J-79	5,526.50	0	5,719.90	84
J-80	5,526.57	0	5,719.90	84
J-81	5,526.69	0	5,719.90	84
J-82	5,526.77	0	5,719.90	84
J-83	5,528.55	10	5,719.90	83
J-84	5,529.74	0	5,719.90	82
J-85	5,530.00	0	5,719.90	82
J-86	5,530.25	0	5,719.90	82
J-87	5,529.56	0	5,719.90	82
J-89	5,532.08	0	5,719.78	81
J-90	5,533.29	6	5,719.79	81
J-92	5,535.91	0	5,719.79	80
J-93	5,534.46	0	5,719.81	80
J-102	5,535.94	0	5,719.67	79
J-103	5,536.33	0	5,719.67	79
J-104	5,537.10	0	5,719.67	79
J-105	5,541.70	0	5,719.66	77
J-106	5,541.99	0	5,719.66	77
J-107	5,540.49	0	5,719.76	78

Active Scenario: Max Hour

FlexTable: Junction Table

Label	Elevation (ft)	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
J-108	5,547.94	0	5,719.75	74
J-109	5,552.20	0	5,719.74	72
J-110	5,530.81	38	5,719.80	82
J-111	5,529.04	0	5,719.80	83
J-113	5,530.75	0	5,719.79	82
J-114	5,534.09	0	5,719.75	80
J-115	5,536.38	0	5,719.74	79
J-116	5,536.65	0	5,719.74	79
J-117	5,537.38	0	5,719.74	79
J-118	5,537.77	0	5,719.74	79
J-119	5,538.19	0	5,719.74	79
J-120	5,538.62	0	5,719.74	78
J-121	5,539.46	0	5,719.74	78
J-122	5,547.76	0	5,719.74	74
J-123	5,547.52	0	5,719.74	75
J-124	5,544.16	0	5,719.74	76
J-125	5,549.89	16	5,719.74	73
J-126	5,551.94	0	5,719.74	73
J-127	5,553.11	19	5,719.74	72
J-128	5,541.25	0	5,719.74	77
J-129	5,544.09	8	5,719.75	76
J-130	5,545.49	0	5,719.75	75
J-131	5,548.30	13	5,719.75	74
J-132	5,549.93	0	5,719.75	73
J-133	5,550.05	0	5,719.75	73
J-134	5,538.17	17	5,719.74	79
J-135	5,537.69	0	5,719.74	79
J-136	5,536.68	17	5,719.75	79
J-137	5,535.66	0	5,719.75	80
J-138	5,539.45	10	5,719.76	78
J-139	5,537.86	0	5,719.76	79
J-140	5,535.89	0	5,719.77	80
J-141	5,538.20	0	5,719.76	79
J-142	5,539.78	7	5,719.76	78
J-143	5,554.12	14	5,719.74	72
J-144	5,556.27	0	5,719.74	71
J-145	5,560.08	0	5,719.74	69
J-146	5,560.87	0	5,719.74	69
J-147	5,561.26	0	5,719.74	69
J-148	5,551.83	0	5,719.74	73
J-149	5,551.99	0	5,719.74	73
J-150	5,553.74	0	5,719.66	72
J-151	5,551.10	10	5,719.66	73
J-152	5,548.21	0	5,719.66	74
J-153	5,547.76	0	5,719.66	74
J-154	5,547.61	0	5,719.66	74
J-155	5,539.47	9	5,719.66	78
J-156	5,532.93	0	5,719.76	81
J-157	5,531.75	0	5,719.76	81
J-158	5,531.59	0	5,719.76	81
J-159	5,534.92	45	5,719.74	80

Active Scenario: Max Hour**FlexTable: Junction Table**

Label	Elevation (ft)	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
J-160	5,535.03	0	5,719.74	80
J-161	5,536.14	0	5,719.74	79
J-162	5,537.31	0	5,719.74	79
J-163	5,535.63	0	5,719.75	80
J-164	5,542.79	23	5,719.74	77
J-165	5,543.79	0	5,719.75	76
J-166	5,539.46	6	5,719.76	78
J-167	5,549.96	0	5,719.75	73
J-168	5,552.94	0	5,719.74	72
J-169	5,559.30	0	5,719.74	69
J-170	5,547.10	18	5,719.75	75

Active Scenario: Max Day

FlexTable: Pipe Table

Label	Length (Scaled) (ft)	Diameter (in)	Material	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)
P-1(1)	42	8.0	PVC	150.0	-88	0.56
P-1(2)	266	8.0	PVC	150.0	-88	0.56
P-2	439	8.0	PVC	150.0	246	1.57
P-3	201	8.0	PVC	150.0	5	0.03
P-4	334	8.0	PVC	150.0	2	0.01
P-5	206	8.0	PVC	150.0	7	0.04
P-6	356	8.0	PVC	150.0	2	0.02
P-7(1)	86	8.0	PVC	150.0	345	2.20
P-7(2)	15	8.0	PVC	150.0	345	2.20
P-8	70	8.0	PVC	150.0	0	0.00
P-9	532	8.0	PVC	150.0	-104	0.66
P-10	207	12.0	PVC	150.0	409	1.16
P-11	428	8.0	PVC	150.0	8	0.05
P-12	161	8.0	PVC	150.0	8	0.05
P-13	161	8.0	PVC	150.0	-13	0.08
P-14	69	8.0	PVC	150.0	4	0.03
P-15	19	8.0	PVC	150.0	0	0.00
P-16	86	8.0	PVC	150.0	7	0.04
P-17	17	8.0	PVC	150.0	7	0.04
P-18	110	8.0	PVC	150.0	-16	0.10
P-21	67	8.0	PVC	150.0	0	0.00
P-22	163	8.0	PVC	150.0	-16	0.10
P-24	120	8.0	PVC	150.0	0	0.00
P-25	109	8.0	PVC	150.0	-26	0.17
P-26	180	8.0	PVC	150.0	-26	0.17
P-27	352	8.0	PVC	150.0	5	0.03
P-28	133	8.0	PVC	150.0	-26	0.17
P-29	405	8.0	PVC	150.0	7	0.04
P-30	66	8.0	PVC	150.0	-16	0.10
P-31	445	8.0	PVC	150.0	2	0.02
P-32	193	8.0	PVC	150.0	-16	0.10
P-33	7	8.0	PVC	150.0	2	0.02
P-34	44	8.0	PVC	150.0	-16	0.10
P-35	21	8.0	PVC	150.0	2	0.02
P-36	483	8.0	PVC	150.0	-13	0.09
P-37	19	8.0	PVC	150.0	2	0.02
P-38	55	8.0	PVC	150.0	-13	0.09
P-39	200	8.0	PVC	150.0	2	0.02
P-40	37	8.0	PVC	150.0	3	0.02
P-41	199	8.0	PVC	150.0	-4	0.03
P-42	258	8.0	PVC	150.0	3	0.02
P-43	25	8.0	PVC	150.0	-4	0.03
P-44(1)	55	8.0	PVC	150.0	-5	0.04
P-44(2)	229	8.0	PVC	150.0	-5	0.04
P-45	9	8.0	PVC	150.0	-4	0.03
P-46	327	8.0	PVC	150.0	-10	0.06
P-47	16	8.0	PVC	150.0	-4	0.03
P-48	352	8.0	PVC	150.0	1	0.00
P-49	26	8.0	PVC	150.0	0	0.00
P-50	315	8.0	PVC	150.0	-7	0.05
P-51	13	8.0	PVC	150.0	-1	0.01

Active Scenario: Max Day

FlexTable: Pipe Table

Label	Length (Scaled) (ft)	Diameter (in)	Material	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)
P-52	523	8.0	PVC	150.0	-7	0.05
P-53	10	8.0	PVC	150.0	7	0.04
P-54	37	8.0	PVC	150.0	-7	0.05
P-55	26	8.0	PVC	150.0	0	0.00
P-56	106	8.0	PVC	150.0	-7	0.05
P-57	126	8.0	PVC	150.0	60	0.38
P-58	106	8.0	PVC	150.0	-7	0.05
P-58	474	8.0	PVC	150.0	-16	0.10
P-59	6	8.0	PVC	150.0	60	0.38
P-59	11	8.0	PVC	150.0	0	0.00
P-60	562	8.0	PVC	150.0	60	0.38
P-60	17	8.0	PVC	150.0	-43	0.27
P-61	122	8.0	PVC	150.0	-43	0.27
P-61(1)	10	8.0	PVC	150.0	17	0.11
P-61(2)	28	8.0	PVC	150.0	17	0.11
P-62	27	8.0	PVC	150.0	10	0.07
P-62	31	8.0	PVC	150.0	0	0.00
P-63	6	8.0	PVC	150.0	32	0.20
P-63	32	8.0	PVC	150.0	0	0.00
P-64	12	8.0	PVC	150.0	0	0.00
P-65	384	8.0	PVC	150.0	22	0.14
P-65	11	8.0	PVC	150.0	0	0.00
P-66	245	8.0	PVC	150.0	79	0.51
P-66	32	8.0	PVC	150.0	0	0.00
P-67	42	8.0	PVC	150.0	32	0.20
P-67	109	8.0	PVC	150.0	3	0.02
P-68	131	8.0	PVC	150.0	37	0.24
P-68	30	8.0	PVC	150.0	0	0.00
P-69	14	8.0	PVC	150.0	13	0.08
P-69	320	8.0	PVC	150.0	15	0.10
P-70	104	8.0	PVC	150.0	32	0.20
P-70	30	8.0	PVC	150.0	0	0.00
P-71	31	8.0	PVC	150.0	0	0.00
P-71(1)	377	8.0	PVC	150.0	13	0.08
P-71(2)	37	8.0	PVC	150.0	13	0.08
P-72	28	8.0	PVC	150.0	3	0.02
P-72	12	8.0	PVC	150.0	0	0.00
P-73	107	8.0	PVC	150.0	3	0.02
P-74	30	8.0	PVC	150.0	0	0.00
P-75	107	8.0	PVC	150.0	3	0.02
P-76	30	8.0	PVC	150.0	0	0.00
P-78	10	8.0	PVC	150.0	0	0.00
P-80	30	8.0	PVC	150.0	0	0.00
P-81	105	8.0	PVC	150.0	3	0.02
P-82	30	8.0	PVC	150.0	0	0.00
P-83	9	8.0	PVC	150.0	3	0.02
P-84	31	8.0	PVC	150.0	0	0.00
P-85(1)	14	8.0	PVC	150.0	-13	0.08
P-85(2)	273	8.0	PVC	150.0	-13	0.08
P-86	31	8.0	PVC	150.0	0	0.00
P-87	221	8.0	PVC	150.0	-25	0.16

Active Scenario: Max Day

FlexTable: Pipe Table

Label	Length (Scaled) (ft)	Diameter (in)	Material	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)
P-88	30	8.0	PVC	150.0	0	0.00
P-89	37	8.0	PVC	150.0	-25	0.16
P-90	284	8.0	PVC	150.0	-18	0.12
P-91	97	8.0	PVC	150.0	-5	0.03
P-92	46	8.0	PVC	150.0	-5	0.03
P-93	267	8.0	PVC	150.0	-5	0.03
P-94	271	8.0	PVC	150.0	6	0.04
P-95	79	8.0	PVC	150.0	6	0.04
P-96	7	8.0	PVC	150.0	-4	0.03
P-97	299	8.0	PVC	150.0	-4	0.03
P-98	284	8.0	PVC	150.0	-16	0.10
P-99(1)	132	8.0	PVC	150.0	-11	0.07
P-99(2)	152	8.0	PVC	150.0	-11	0.07
P-100	29	8.0	PVC	150.0	0	0.00
P-101	284	8.0	PVC	150.0	-37	0.24
P-102	33	8.0	PVC	150.0	-18	0.12
P-103	10	8.0	PVC	150.0	0	0.00
P-104	104	8.0	PVC	150.0	-18	0.12
P-105	76	8.0	PVC	150.0	-18	0.12
P-106	308	8.0	PVC	150.0	-8	0.05
P-107	93	8.0	PVC	150.0	0	0.00
P-108	100	8.0	PVC	150.0	0	0.00
P-109	166	8.0	PVC	150.0	2	0.01
P-110	13	8.0	PVC	150.0	2	0.01
P-111	19	8.0	PVC	150.0	2	0.01
P-112	16	8.0	PVC	150.0	2	0.01
P-113	178	8.0	PVC	150.0	2	0.01
P-114	113	8.0	PVC	150.0	-4	0.02
P-115	26	8.0	PVC	150.0	-4	0.02
P-116	16	8.0	PVC	150.0	-4	0.02
P-117	9	8.0	PVC	150.0	-4	0.02
P-118	17	8.0	PVC	150.0	0	0.00
P-119	12	8.0	PVC	150.0	4	0.03
P-120	19	8.0	PVC	150.0	4	0.03
P-121	10	8.0	PVC	150.0	4	0.03
P-122	184	8.0	PVC	150.0	4	0.03
P-123	128	8.0	PVC	150.0	-2	0.02
P-124	20	8.0	PVC	150.0	-2	0.02
P-125	35	8.0	PVC	150.0	-2	0.02
P-126	93	8.0	PVC	150.0	-2	0.02
P-127	12	8.0	PVC	150.0	0	0.00
P-128	17	8.0	PVC	150.0	7	0.04
P-129	32	8.0	PVC	150.0	7	0.04
P-130	143	8.0	PVC	150.0	7	0.04
P-131	143	8.0	PVC	150.0	1	0.01
P-132	129	8.0	PVC	150.0	127	0.81
P-133	82	8.0	PVC	150.0	0	0.00
P-134	130	8.0	PVC	150.0	104	0.66
P-135	212	8.0	PVC	150.0	-218	1.39
P-139(1)	104	8.0	PVC	150.0	-115	0.73
P-139(2)	28	8.0	PVC	150.0	-115	0.73

Active Scenario: Max Day

FlexTable: Pipe Table

Label	Length (Scaled) (ft)	Diameter (in)	Material	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)
P-140	284	8.0	PVC	150.0	203	1.29
P-141	440	8.0	PVC	150.0	44	0.28
P-142	56	8.0	PVC	150.0	33	0.21
P-143	284	8.0	PVC	150.0	-17	0.11
P-144	128	8.0	PVC	150.0	-6	0.04
P-145	91	8.0	PVC	150.0	-14	0.09
P-146	84	8.0	PVC	150.0	-14	0.09
P-147	18	8.0	PVC	150.0	-14	0.09
P-148	28	8.0	PVC	150.0	-14	0.09
P-149	248	8.0	PVC	150.0	-14	0.09
P-150	584	8.0	PVC	150.0	-14	0.09
P-151	10	8.0	PVC	150.0	-14	0.09
P-152	135	8.0	PVC	150.0	-14	0.09
P-153	568	8.0	PVC	150.0	-44	0.28
P-154	277	8.0	PVC	150.0	-23	0.15
P-155	10	8.0	PVC	150.0	-23	0.15
P-156	216	8.0	PVC	150.0	-23	0.15
P-157	286	8.0	PVC	150.0	-38	0.24
P-158	91	8.0	PVC	150.0	-38	0.24
P-159	55	8.0	PVC	150.0	-38	0.24
P-160	53	8.0	PVC	150.0	-38	0.24
P-161	44	8.0	PVC	150.0	-38	0.24
P-162	6	8.0	PVC	150.0	-38	0.24
P-163	89	8.0	PVC	150.0	-6	0.04
P-164	34	8.0	PVC	150.0	-6	0.04
P-165	94	8.0	PVC	150.0	-55	0.35
P-166	190	8.0	PVC	150.0	-55	0.35
P-167	145	8.0	PVC	150.0	-117	0.74
P-168	140	8.0	PVC	150.0	-176	1.13
P-169	164	8.0	PVC	150.0	-49	0.31
P-170	49	8.0	PVC	150.0	-49	0.31
P-171	305	8.0	PVC	150.0	-38	0.24
P-172	284	8.0	PVC	150.0	-20	0.13
P-173	258	8.0	PVC	150.0	18	0.12
P-174	26	8.0	PVC	150.0	18	0.12
P-175	331	8.0	PVC	150.0	-51	0.32
P-176	104	8.0	PVC	150.0	-61	0.39
P-177	191	8.0	PVC	150.0	-61	0.39
P-178	284	8.0	PVC	150.0	64	0.41
P-179	284	8.0	PVC	150.0	-4	0.02
P-180	264	8.0	PVC	150.0	-23	0.15
P-181	23	8.0	PVC	150.0	-23	0.15
P-182	98	8.0	PVC	150.0	-23	0.15
P-183	424	8.0	PVC	150.0	-11	0.07
P-184	351	8.0	PVC	150.0	4	0.02
P-185	86	8.0	PVC	150.0	-2	0.01
P-186	94	8.0	PVC	150.0	-185	1.18
P-187	204	8.0	PVC	150.0	-185	1.18
P-188	241	8.0	PVC	150.0	56	0.36
P-189	48	8.0	PVC	150.0	48	0.31
P-190	72	8.0	PVC	150.0	48	0.31

Active Scenario: Max Day**FlexTable: Pipe Table**

Label	Length (Scaled) (ft)	Diameter (in)	Material	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)
P-191	36	8.0	PVC	150.0	48	0.31
P-192	284	8.0	PVC	150.0	-50	0.32
P-193	77	8.0	PVC	150.0	183	1.17
P-194	96	8.0	PVC	150.0	183	1.17
P-195	25	8.0	PVC	150.0	179	1.14
P-196	284	8.0	PVC	150.0	-158	1.01
P-197	497	8.0	PVC	150.0	98	0.63
P-198	284	8.0	PVC	150.0	-25	0.16
P-199	53	8.0	PVC	150.0	1	0.01
P-200	10	8.0	PVC	150.0	0	0.00
P-201	30	8.0	PVC	150.0	0	0.00
P-202	11	8.0	PVC	150.0	0	0.00
P-205	30	8.0	PVC	150.0	0	0.00
P-206	10	8.0	PVC	150.0	0	0.00
P-207	11	8.0	PVC	150.0	0	0.00

Active Scenario: Max Day

FlexTable: Junction Table

Label	Elevation (ft)	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
J-1	5,529.35	0	5,719.50	82
J-3	5,503.62	0	5,719.84	94
J-4	5,512.24	0	5,719.84	90
J-5	5,510.61	19	5,719.84	91
J-6	5,502.05	11	5,719.84	94
J-7	5,505.07	4	5,719.84	93
J-8	5,512.56	0	5,719.84	90
J-9	5,497.23	4	5,719.84	96
J-10	5,499.31	0	5,719.84	95
J-11	5,500.15	0	5,719.84	95
J-13	5,491.40	0	5,719.84	99
J-14	5,490.37	0	5,719.84	99
J-15	5,491.53	23	5,719.84	99
J-16	5,491.17	0	5,719.84	99
J-18	5,490.13	0	5,719.84	99
J-19	5,553.42	0	5,719.77	72
J-20	5,535.55	397	5,719.77	80
J-21	5,542.18	0	5,719.77	77
J-22	5,547.28	0	5,719.77	75
J-23	5,553.51	0	5,719.77	72
J-24	5,553.42	0	5,719.77	72
J-25	5,519.33	0	5,719.85	87
J-26	5,520.02	0	5,719.85	86
J-27	5,521.29	0	5,719.85	86
J-28	5,520.07	10	5,719.85	86
J-29	5,519.38	0	5,719.84	87
J-30	5,519.06	0	5,719.84	87
J-31	5,517.14	0	5,719.84	88
J-32	5,510.57	0	5,719.84	91
J-33	5,510.07	16	5,719.84	91
J-34	5,509.65	0	5,719.84	91
J-35	5,507.21	0	5,719.84	92
J-36	5,504.80	0	5,719.84	93
J-37	5,504.52	11	5,719.84	93
J-38	5,499.70	3	5,719.84	95
J-39	5,497.02	0	5,719.84	96
J-40	5,492.49	0	5,719.84	98
J-41	5,492.06	0	5,719.84	99
J-42	5,490.90	0	5,719.84	99
J-43	5,490.08	18	5,719.84	99
J-44	5,490.68	5	5,719.84	99
J-45	5,499.67	0	5,719.85	95
J-46	5,505.79	0	5,719.84	93
J-47	5,511.17	0	5,719.84	90
J-48	5,512.98	0	5,719.84	89
J-49	5,514.35	0	5,719.84	89
J-51	5,515.73	0	5,719.84	88
J-52	5,517.07	0	5,719.84	88
J-53	5,517.19	0	5,719.84	88
J-54	5,521.07	12	5,719.84	86
J-55	5,521.26	0	5,719.85	86

Active Scenario: Max Day

FlexTable: Junction Table

Label	Elevation (ft)	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
J-56	5,520.94	0	5,719.85	86
J-57	5,514.29	8	5,719.84	89
J-58	5,511.95	0	5,719.84	90
J-59	5,510.78	0	5,719.84	90
J-59	5,497.53	0	5,719.84	96
J-60	5,514.08	3	5,719.84	89
J-60	5,490.54	0	5,719.84	99
J-61	5,512.30	0	5,719.84	90
J-62	5,511.69	0	5,719.84	90
J-62	5,503.21	0	5,719.84	94
J-63	5,511.13	0	5,719.84	90
J-64	5,510.21	0	5,719.84	91
J-64	5,517.38	0	5,719.84	88
J-65	5,509.54	10	5,719.84	91
J-66	5,512.80	0	5,719.84	90
J-66	5,510.18	0	5,719.84	91
J-67	5,511.38	10	5,719.84	90
J-68	5,511.27	0	5,719.84	90
J-69	5,507.26	0	5,719.84	92
J-69	5,505.27	0	5,719.84	93
J-70	5,527.50	0	5,719.90	83
J-71	5,527.55	0	5,719.90	83
J-71	5,533.04	0	5,719.47	81
J-72	5,527.70	0	5,719.90	83
J-73	5,527.84	0	5,719.90	83
J-73	5,561.50	0	5,719.68	68
J-74	5,528.07	5	5,719.90	83
J-75	5,527.17	0	5,719.90	83
J-75	5,546.61	0	5,719.86	75
J-76	5,526.89	0	5,719.90	84
J-77	5,526.84	0	5,719.90	84
J-78	5,526.64	0	5,719.90	84
J-79	5,526.50	0	5,719.90	84
J-80	5,526.57	0	5,719.90	84
J-81	5,526.69	0	5,719.90	84
J-82	5,526.77	0	5,719.90	84
J-83	5,528.55	7	5,719.90	83
J-84	5,529.74	0	5,719.90	82
J-85	5,530.00	0	5,719.90	82
J-86	5,530.25	0	5,719.90	82
J-87	5,529.56	0	5,719.90	82
J-89	5,532.08	0	5,719.44	81
J-90	5,533.29	4	5,719.47	81
J-92	5,535.91	0	5,719.48	79
J-93	5,534.46	0	5,719.65	80
J-102	5,535.94	0	5,719.77	80
J-103	5,536.33	0	5,719.77	79
J-104	5,537.10	0	5,719.77	79
J-105	5,541.70	0	5,719.77	77
J-106	5,541.99	0	5,719.77	77
J-107	5,540.49	0	5,719.27	77

Active Scenario: Max Day

FlexTable: Junction Table

Label	Elevation (ft)	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
J-108	5,547.94	0	5,719.25	74
J-109	5,552.20	0	5,719.25	72
J-110	5,530.81	24	5,719.61	82
J-111	5,529.04	0	5,719.61	82
J-113	5,530.75	0	5,719.50	82
J-114	5,534.09	0	5,719.32	80
J-115	5,536.38	0	5,719.30	79
J-116	5,536.65	0	5,719.30	79
J-117	5,537.38	0	5,719.30	79
J-118	5,537.77	0	5,719.30	79
J-119	5,538.19	0	5,719.30	78
J-120	5,538.62	0	5,719.30	78
J-121	5,539.46	0	5,719.30	78
J-122	5,547.76	0	5,719.28	74
J-123	5,547.52	0	5,719.28	74
J-124	5,544.16	0	5,719.28	76
J-125	5,549.89	10	5,719.26	73
J-126	5,551.94	0	5,719.25	72
J-127	5,553.11	12	5,719.25	72
J-128	5,541.25	0	5,719.28	77
J-129	5,544.09	5	5,719.28	76
J-130	5,545.49	0	5,719.26	75
J-131	5,548.30	8	5,719.24	74
J-132	5,549.93	0	5,719.24	73
J-133	5,550.05	0	5,719.23	73
J-134	5,538.17	11	5,719.29	78
J-135	5,537.69	0	5,719.30	79
J-136	5,536.68	11	5,719.30	79
J-137	5,535.66	0	5,719.31	79
J-138	5,539.45	6	5,719.26	78
J-139	5,537.86	0	5,719.26	78
J-140	5,535.89	0	5,719.31	79
J-141	5,538.20	0	5,719.21	78
J-142	5,539.78	435	5,719.14	78
J-143	5,554.12	9	5,719.25	71
J-144	5,556.27	0	5,719.25	71
J-145	5,560.08	0	5,719.25	69
J-146	5,560.87	0	5,719.25	69
J-147	5,561.26	0	5,719.25	68
J-148	5,551.83	0	5,719.26	72
J-149	5,551.99	0	5,719.26	72
J-150	5,553.74	0	5,719.77	72
J-151	5,551.10	7	5,719.77	73
J-152	5,548.21	0	5,719.77	74
J-153	5,547.76	0	5,719.77	74
J-154	5,547.61	0	5,719.77	74
J-155	5,539.47	5	5,719.77	78
J-156	5,532.93	0	5,719.36	81
J-157	5,531.75	0	5,719.35	81
J-158	5,531.59	0	5,719.35	81
J-159	5,534.92	28	5,719.31	80

Active Scenario: Max Day**FlexTable: Junction Table**

Label	Elevation (ft)	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
J-160	5,535.03	0	5,719.31	80
J-161	5,536.14	0	5,719.31	79
J-162	5,537.31	0	5,719.30	79
J-163	5,535.63	0	5,719.31	79
J-164	5,542.79	14	5,719.29	76
J-165	5,543.79	0	5,719.28	76
J-166	5,539.46	4	5,719.15	78
J-167	5,549.96	0	5,719.23	73
J-168	5,552.94	0	5,719.25	72
J-169	5,559.30	0	5,719.25	69
J-170	5,547.10	11	5,719.25	74

Active Scenario: Max Day + Fire Flow
Fire Flow Node FlexTable: Fire Flow Report

Label	Satisfies Fire Flow Constraints?	Fire Flow (Needed) (gpm)	Flow (Total Available) (gpm)	Pressure (Calculated Residual) (psi)	Junction w/ Minimum Pressure (System)	Pipe w/ Maximum Velocity	Velocity of Maximum Pipe (ft/s)
H-1	True	1,500	1,500	91	J-147	P-200	9.57
H-2	True	1,500	1,500	95	J-147	P-202	9.57
H-3	True	1,500	1,500	64	J-150	P-29	9.62
H-4	True	1,500	1,500	92	J-147	P-201	9.57
H-5	True	1,500	1,500	76	J-147	P-55	9.57
H-6	True	1,500	1,500	87	J-147	P-100	9.57
H-7	True	1,500	1,500	70	J-147	P-88	9.57
H-8	True	1,500	1,500	82	J-147	P-205	9.57
H-9	True	1,500	1,500	63	J-146	P-86	9.57
H-10	True	1,500	1,500	67	J-147	P-84	9.57
H-11	True	1,500	1,500	94	J-147	P-59	9.57
H-12	True	1,500	1,500	85	J-147	P-103	9.57
H-13	True	1,500	1,500	95	J-147	P-62	9.57
H-14	True	1,500	1,500	69	J-147	P-82	9.57
H-15	True	1,500	1,500	91	J-147	P-63	9.57
H-16	True	1,500	1,500	86	J-147	P-206	9.57
H-17	True	1,500	1,500	85	J-147	P-64	9.57
H-18	True	1,500	1,500	72	J-147	P-78	9.57
H-19	True	1,500	1,500	88	J-147	P-65	9.57
H-20	True	1,500	1,500	83	J-147	P-207	9.57
H-21	True	1,500	1,500	90	J-147	P-66	9.57
H-22	True	1,500	1,500	74	J-147	P-80	9.57
H-23	True	1,500	1,500	89	J-147	P-68	9.57
H-24	True	1,500	1,500	79	J-147	P-70	9.57
H-25	True	1,500	1,500	75	J-147	P-74	9.57
H-26	True	1,500	1,500	80	J-73	P-71	9.57
H-27	True	1,500	1,500	79	J-147	P-3	9.61
H-28	True	1,500	1,500	71	J-147	P-76	9.57
H-29	True	1,500	1,500	78	J-147	P-5	9.62
H-30	True	1,500	1,500	84	J-147	P-72	9.57

APPENDIX C - SANITARY SEWER SYSTEM CALCULATIONS



SANITARY SEWER DEMAND CALCULATIONS

PROJECT **TAH Filing No. 7**
 DATE **5/13/2020**
 BY **Eric Pearson**

POPULATION DENSITY			COMMERCIAL / SCHOOLS / INDUSTRIAL		
Multi-Family	2.77	People per Unit		Commercial	Schools / Industrial
Single-Family	2.77	People per Unit	Average Flow Generation	1500	1200 gpd/acre
Age Restricted	2.77	People per Unit		0.0023213	0.00185704 gpd/acre
Average Flow Generation	68	gpcpd	Equivalent Population	22	18 capita/acre

PEAKING FACTOR			
PF = 5/(p^0.167) Where p = Population in thousands			
Min. PF =	1.7	Max PF =	4

Basin	Design Point	Notes	RESIDENTIAL SINGLE FAMILY						COMMERCIAL / SCHOOLS / INDUSTRIAL						CUMMULATIVE TOTALS									
			No. of Units	No. of Acres	Population Density (people/unit)	Equivalent Population	Average Flow Generation (gpcpd)	Average Day Flow (mgd)	Infil. @ 10% (mgd)	Land Use	Total Acres	Population Density	Equivalent Population	Average Flow Generation (gpcpd)	Average Day Flow (mgd)	Infil. @ 10% (mgd)	Cumulative Population	Peak Factor	Peak Flow (mgd)	Peak Flow + Infil. (mgd)	Estimated Pipe Slope (%)	Estimated Size at Given Slope	Pipe Velocity (ft/sec)	Percent Full at given Slope
TAH Subdivision Filing No. 7																								
1	1		172	N/A	2.77	476	68	0.032	0.003								476	4.0	0.13	0.13	0.5	8	2.24	25.2%
1A	1A	PA-59 Future School from Master Utility Study								School	18.9	18	340	1200	0.022	0.002	340	4.0	0.09	0.09	0.7	8	2.18	17.0%
2	2		11	N/A	2.77	30	68	0.002	0.000								30	4.0	0.01	0.01	1.0	8	1.16	2.5%
3	3		10	N/A	2.77	28	68	0.002	0.000								28	4.0	0.01	0.01	1.0	8	0.97	3.4%
4	4		89	N/A	2.77	247	68	0.017	0.002								247	4.0	0.07	0.07	0.9	8	2.06	13.6%
5	51	N/A	2.77	141	68	0.010	0.001										141	4.0	0.04	0.04				
6	5	Sum of Basins 4 & 5	140	N/A	2.77	388	68	0.026	0.003								388	4.0	0.11	0.11	0.6	8	2.25	20.1%
7	125	N/A	2.77	346	68	0.024	0.002										346	4.0	0.09	0.10				
8	114	N/A	2.77	316	68	0.021	0.002										316	4.0	0.09	0.09				
9	6	Sum of Basins 6 & 7	239	N/A	2.77	662	68	0.045	0.005								662	4.0	0.18	0.18	0.4	8	2.2	36.3%
10	7		12	N/A	2.77	33	68	0.002	0.000								33	4.0	0.01	0.01	1.0	8	1.16	2.5%
11	10	N/A	2.77	28	68	0.002	0.000										28	4.0	0.01	0.01				
12	8	Sum of Basins 6, 7, 8 & 9	261	N/A	2.77	723	68	0.049	0.005								723	4.0	0.20	0.20	0.4	8	2.27	38.0%
13	9	Sum of Basins 1, 1A, 2, 3, 4, 5, 6, 7, 8, 9	594	N/A	2.77	1645	68	0.112	0.011	18.9	18	340	1200	0.022	0.002	1986	4.0	0.53	0.55	0.4	10	2.92	52.1%	
14	98	N/A	2.77	271	68	0.018	0.002										271	4.0	0.07	0.08				
15	26	N/A	2.77	72	68	0.005	0.000										72	4.0	0.02	0.02				
16	10	Sum of Basins 10 & 11	124	N/A	2.77	343	68	0.023	0.002								343	4.0	0.09	0.10	0.6	8	2.15	18.4%
17	33	N/A	2.77	91	68	0.006	0.001										91	4.0	0.02	0.03				
18	42	N/A	2.77	116	68	0.008	0.001										116	4.0	0.03	0.03				
19	59	N/A	2.77	163	68	0.011	0.001										163	4.0	0.04	0.05				
20	11	Sum of Basins 10, 11, 12, 13 & 14	258	N/A	2.77	715	68	0.049	0.005								715	4.0	0.19	0.20	0.4	8	2.25	38.0%
21	50	N/A	2.77	139	68	0.009	0.001										139	4.0	0.04	0.04				
22	12	Sum of Basins 10, 11, 12, 13, 14 & 15	308	N/A	2.77	853	68	0.058	0.006								853	4.0	0.23	0.24	0.4	8	2.34	43.6%
23	13	Sum of Basins 1, 1A, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14 & 15	902	N/A	2.77	2499	68	0.170	0.017	18.9	18	340	1200	0.022	0.002	2839	4.0	0.77	0.79	0.4	12	3.25	46.5%	
Design Point Total			902	N/A	2.77	2499	68	0.170	0.017	18.9	18	340	1200	0.022	0.002	2839	4.0	0.77	0.79	0.4	12	3.25	46.5%	

Channel Report

Design Point 1

Circular

Diameter (ft) = 0.67
Invert Elev (ft) = 100.00
Slope (%) = 0.50
N-Value = 0.011

Calculations

Compute by: Known Q
Known Q (cfs) = 0.20

Highlighted

Depth (ft) = 0.20
Q (cfs) = 0.200
Area (sqft) = 0.09
Velocity (ft/s) = 2.24
Wetted Perim (ft) = 0.78
Crit Depth, Yc (ft) = 0.21
Top Width (ft) = 0.61
EGL (ft) = 0.28

Elev (ft)

Section

101.00

100.75

100.50

100.25

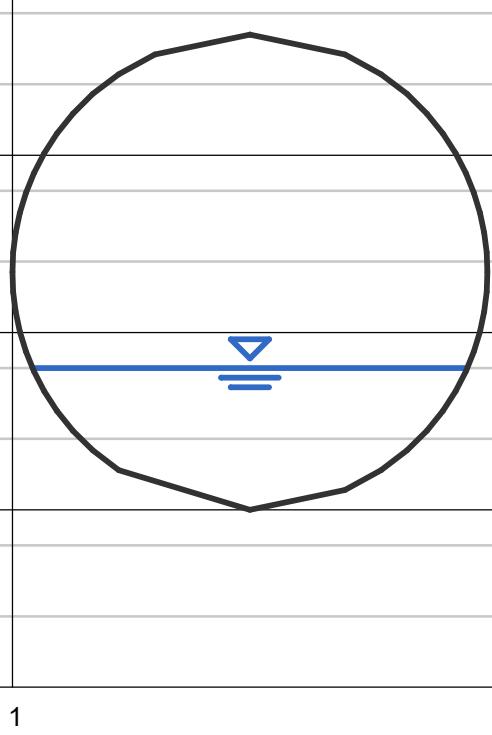
100.00

99.75

0

1

Reach (ft)



Channel Report

Design Point 1A

Circular

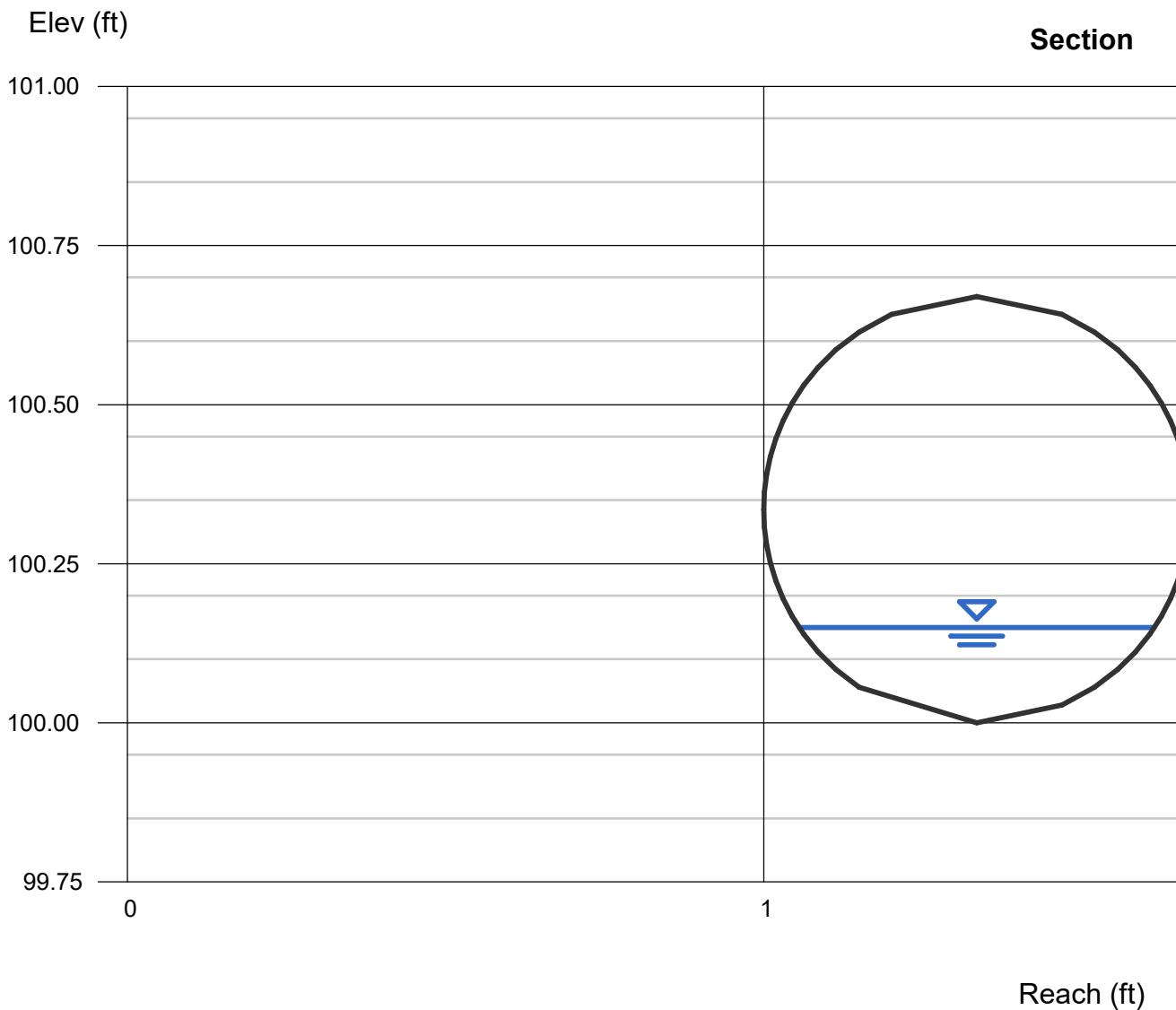
Diameter (ft) = 0.67
Invert Elev (ft) = 100.00
Slope (%) = 0.70
N-Value = 0.011

Calculations

Compute by: Known Q
Known Q (cfs) = 0.13

Highlighted

Depth (ft) = 0.15
Q (cfs) = 0.130
Area (sqft) = 0.06
Velocity (ft/s) = 2.18
Wetted Perim (ft) = 0.66
Crit Depth, Yc (ft) = 0.17
Top Width (ft) = 0.56
EGL (ft) = 0.22



Channel Report

Design Point 2

Circular

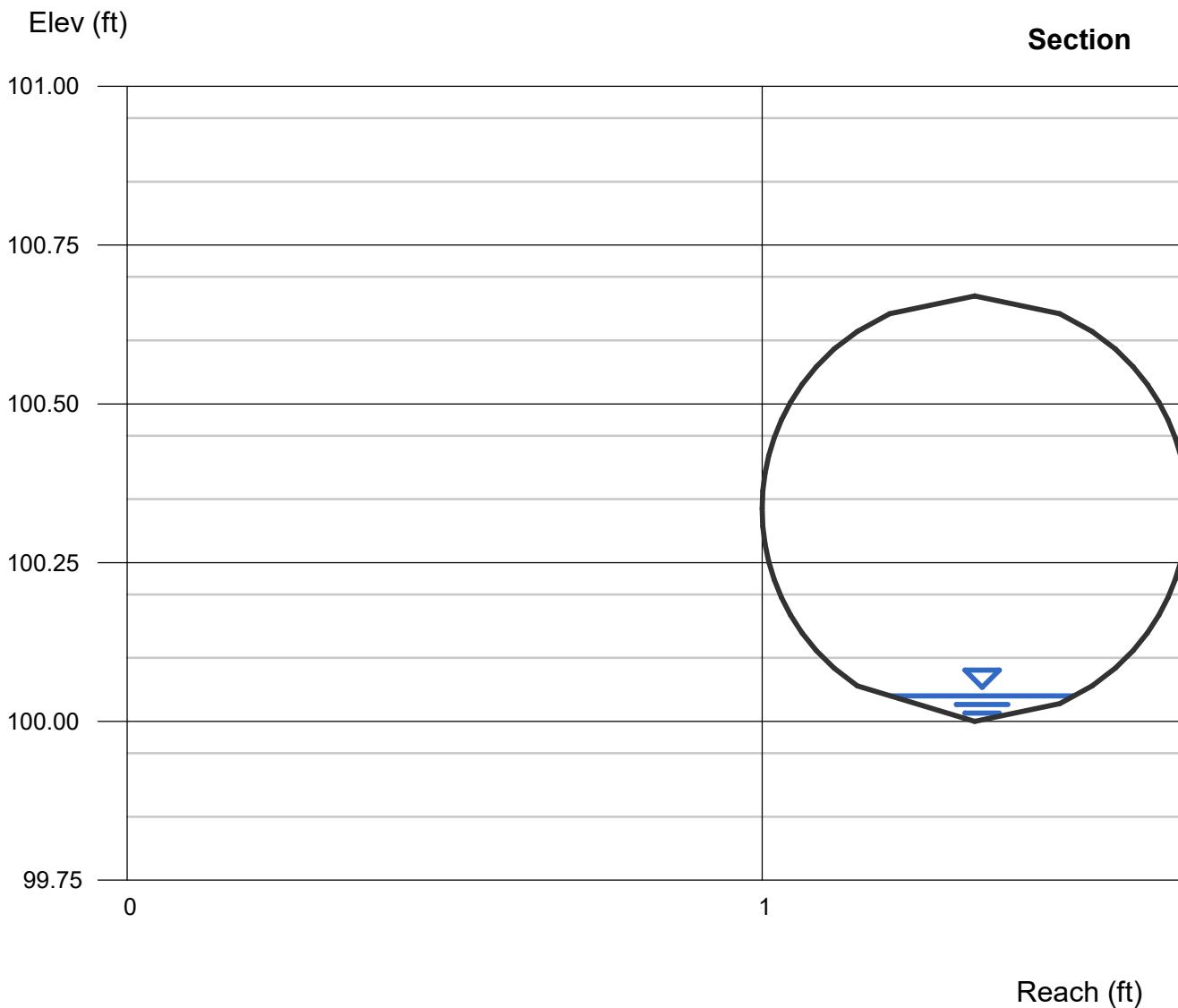
Diameter (ft) = 0.67
Invert Elev (ft) = 100.00
Slope (%) = 1.00
N-Value = 0.011

Calculations

Compute by: Known Q
Known Q (cfs) = 0.01

Highlighted

Depth (ft) = 0.04
Q (cfs) = 0.010
Area (sqft) = 0.01
Velocity (ft/s) = 1.16
Wetted Perim (ft) = 0.33
Crit Depth, Yc (ft) = 0.05
Top Width (ft) = 0.32
EGL (ft) = 0.06



Channel Report

Design Point 3

Circular

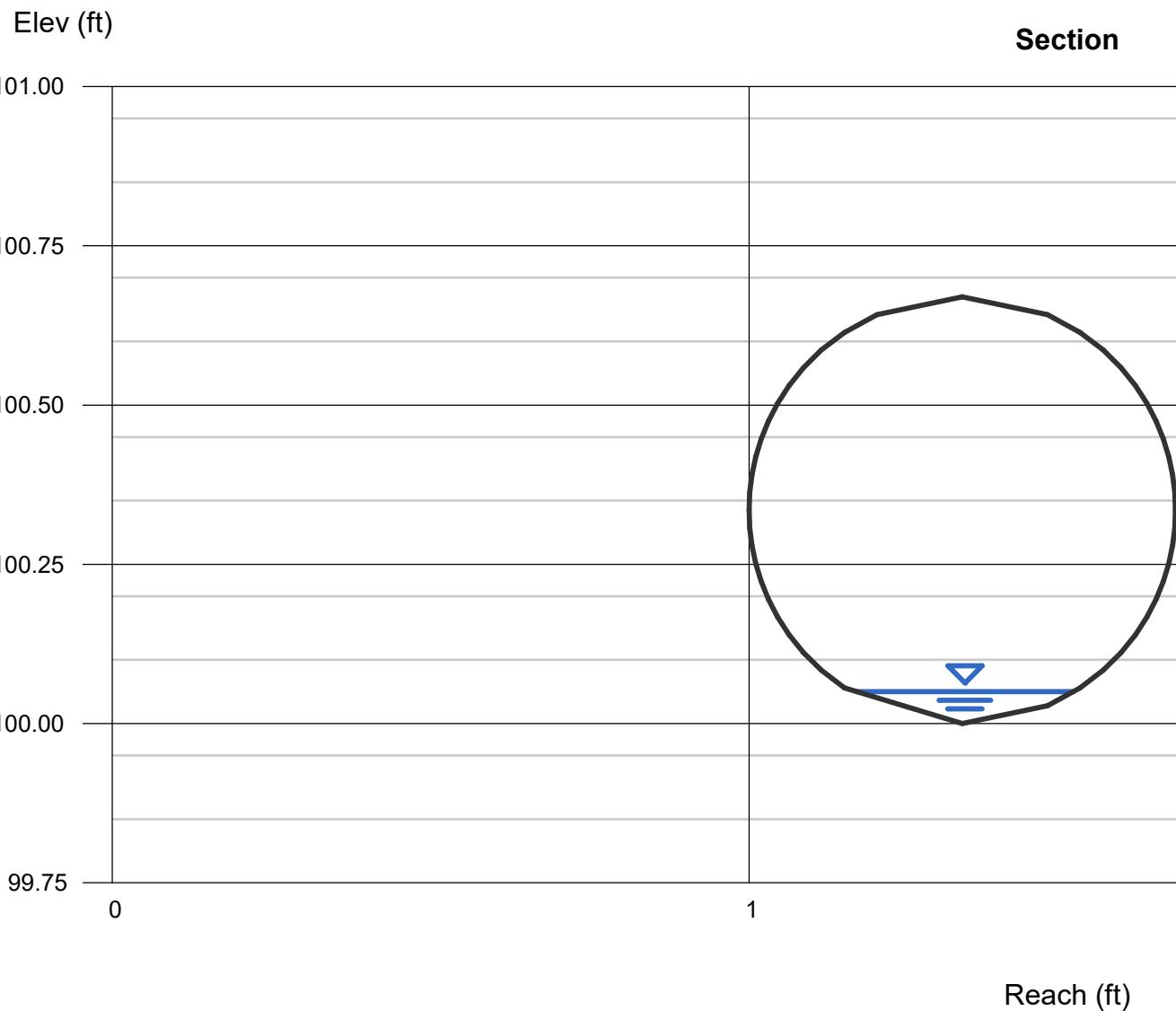
Diameter (ft) = 0.67
Invert Elev (ft) = 100.00
Slope (%) = 1.00
N-Value = 0.011

Calculations

Compute by: Known Q
Known Q (cfs) = 0.01

Highlighted

Depth (ft) = 0.05
Q (cfs) = 0.012
Area (sqft) = 0.01
Velocity (ft/s) = 0.97
Wetted Perim (ft) = 0.37
Crit Depth, Yc (ft) = 0.05
Top Width (ft) = 0.35
EGL (ft) = 0.06



Channel Report

Design Point 4

Circular

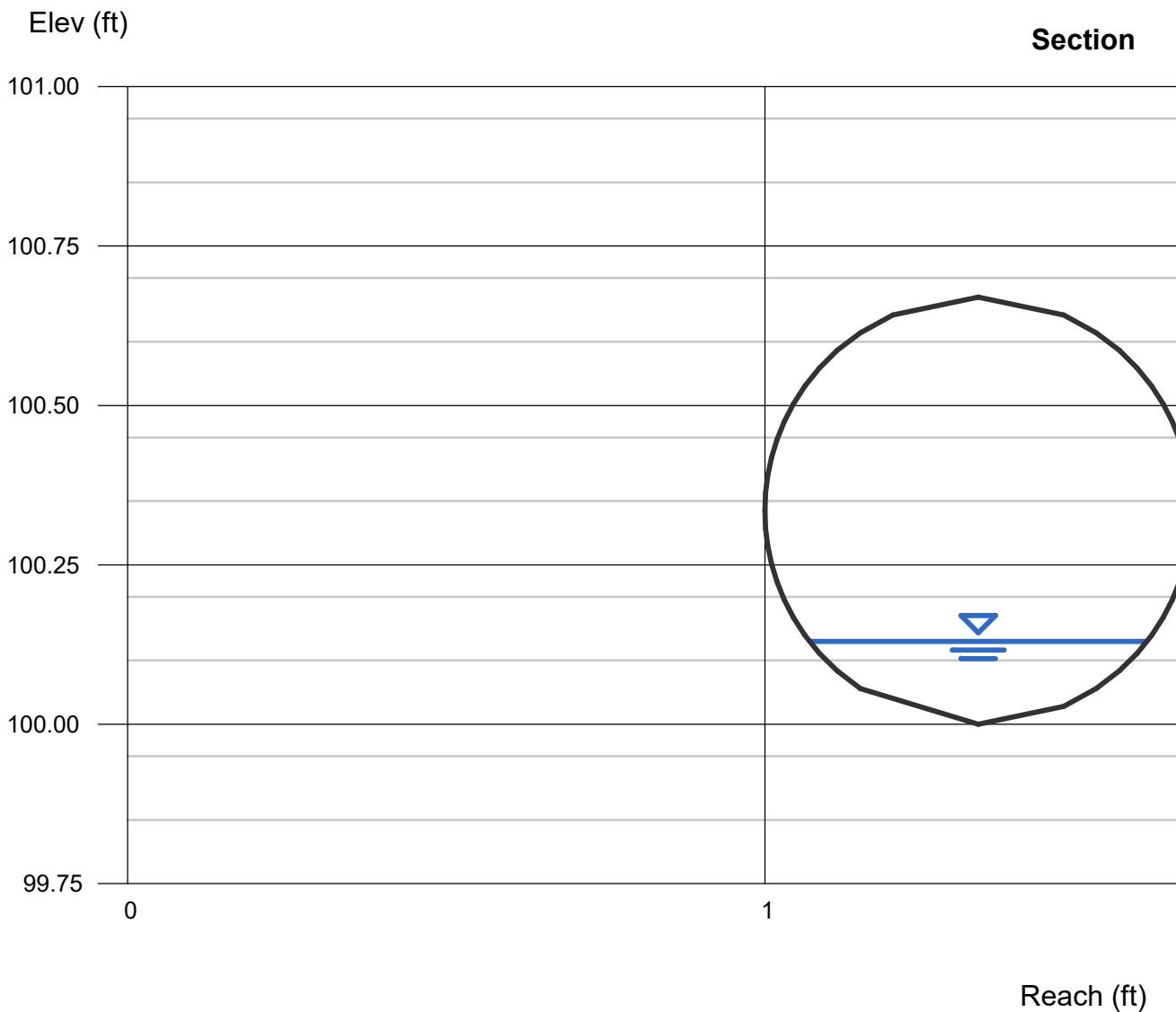
Diameter (ft) = 0.67
Invert Elev (ft) = 100.00
Slope (%) = 0.90
N-Value = 0.011

Calculations

Compute by: Known Q
Known Q (cfs) = 0.10

Highlighted

Depth (ft) = 0.13
Q (cfs) = 0.100
Area (sqft) = 0.05
Velocity (ft/s) = 2.06
Wetted Perim (ft) = 0.61
Crit Depth, Yc (ft) = 0.15
Top Width (ft) = 0.53
EGL (ft) = 0.20



Channel Report

Design Point 5

Circular

Diameter (ft) = 0.67
Invert Elev (ft) = 100.00
Slope (%) = 0.60
N-Value = 0.011

Calculations

Compute by: Known Q
Known Q (cfs) = 0.16

Highlighted

Depth (ft) = 0.17
Q (cfs) = 0.160
Area (sqft) = 0.07
Velocity (ft/s) = 2.25
Wetted Perim (ft) = 0.71
Crit Depth, Yc (ft) = 0.19
Top Width (ft) = 0.58
EGL (ft) = 0.25

Elev (ft)

Section

101.00

100.75

100.50

100.25

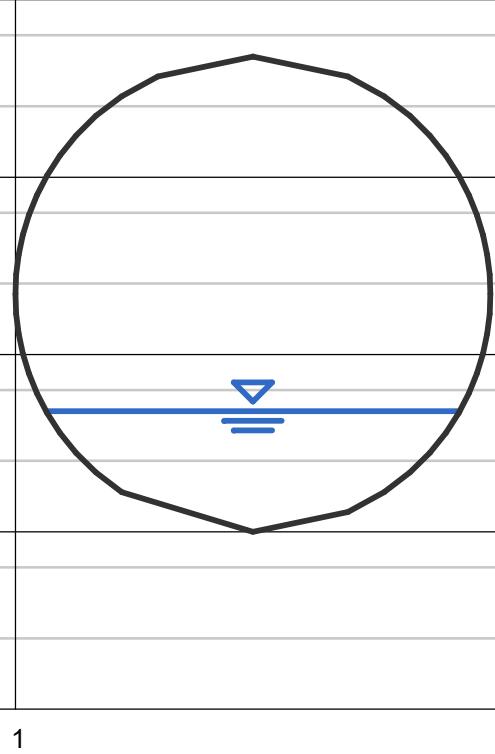
100.00

99.75

0

1

Reach (ft)



Channel Report

Design Point 6

Circular

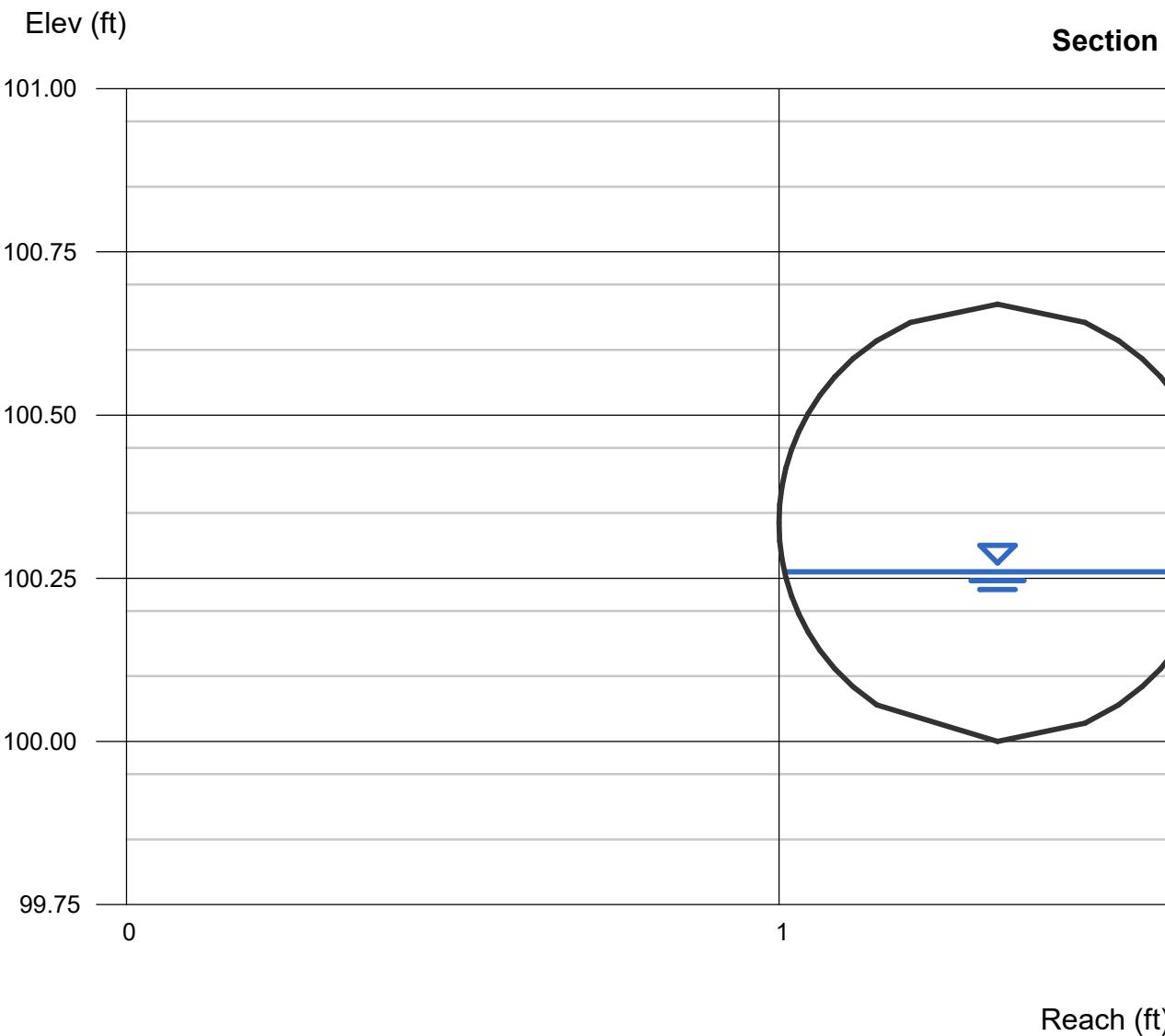
Diameter (ft) = 0.67
Invert Elev (ft) = 100.00
Slope (%) = 0.40
N-Value = 0.011

Calculations

Compute by: Known Q
Known Q (cfs) = 0.28

Highlighted

Depth (ft) = 0.26
Q (cfs) = 0.280
Area (sqft) = 0.13
Velocity (ft/s) = 2.20
Wetted Perim (ft) = 0.90
Crit Depth, Yc (ft) = 0.25
Top Width (ft) = 0.65
EGL (ft) = 0.33



Channel Report

Design Point 7

Circular

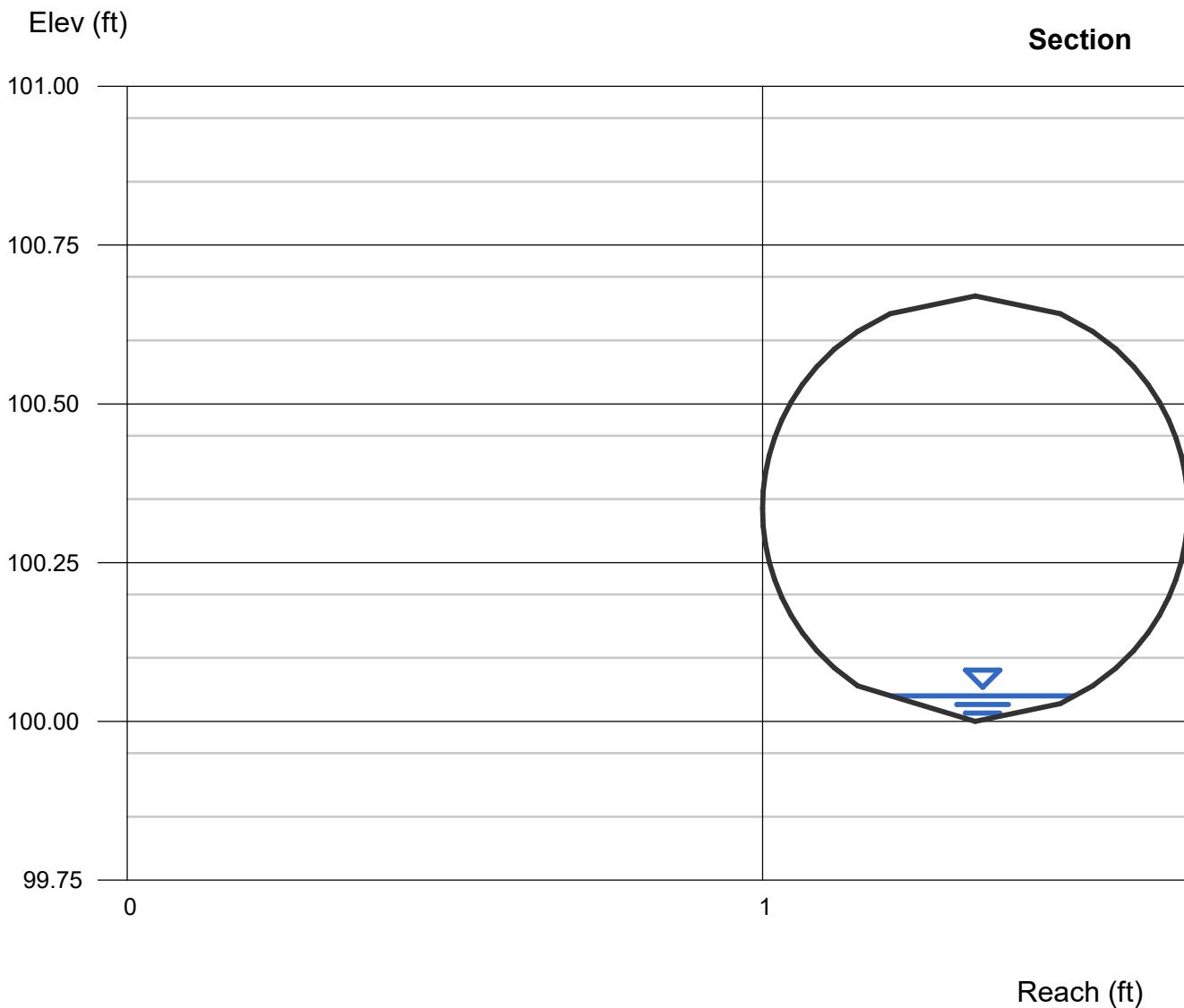
Diameter (ft) = 0.67
Invert Elev (ft) = 100.00
Slope (%) = 1.00
N-Value = 0.011

Calculations

Compute by: Known Q
Known Q (cfs) = 0.01

Highlighted

Depth (ft) = 0.04
Q (cfs) = 0.010
Area (sqft) = 0.01
Velocity (ft/s) = 1.16
Wetted Perim (ft) = 0.33
Crit Depth, Yc (ft) = 0.05
Top Width (ft) = 0.32
EGL (ft) = 0.06



Channel Report

Design Point 8

Circular

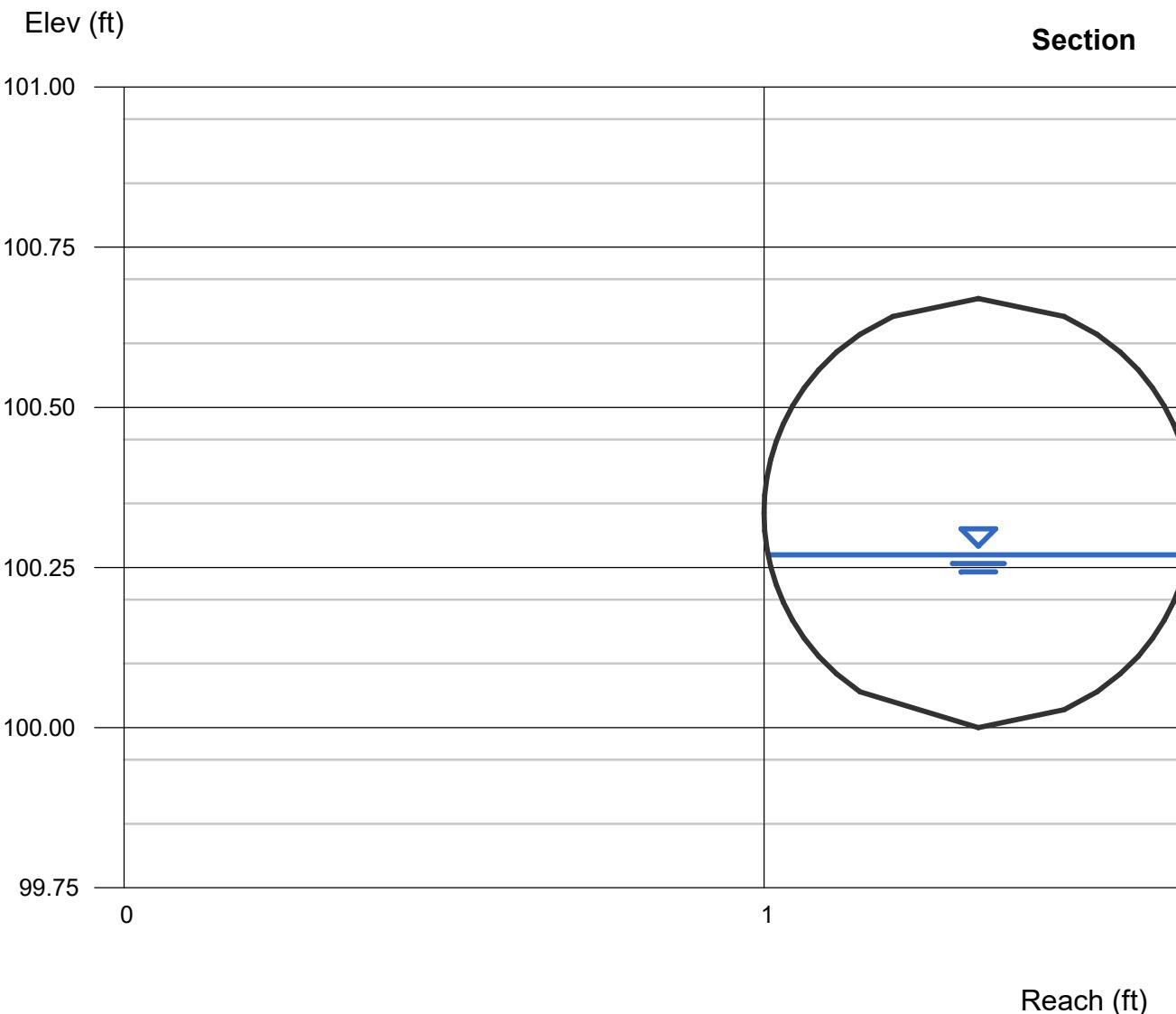
Diameter (ft) = 0.67
Invert Elev (ft) = 100.00
Slope (%) = 0.40
N-Value = 0.011

Calculations

Compute by: Known Q
Known Q (cfs) = 0.30

Highlighted

Depth (ft) = 0.27
Q (cfs) = 0.304
Area (sqft) = 0.13
Velocity (ft/s) = 2.27
Wetted Perim (ft) = 0.92
Crit Depth, Yc (ft) = 0.26
Top Width (ft) = 0.66
EGL (ft) = 0.35



Channel Report

Design Point 9

Circular

Diameter (ft) = 0.83
Invert Elev (ft) = 100.00
Slope (%) = 0.40
N-Value = 0.011

Calculations

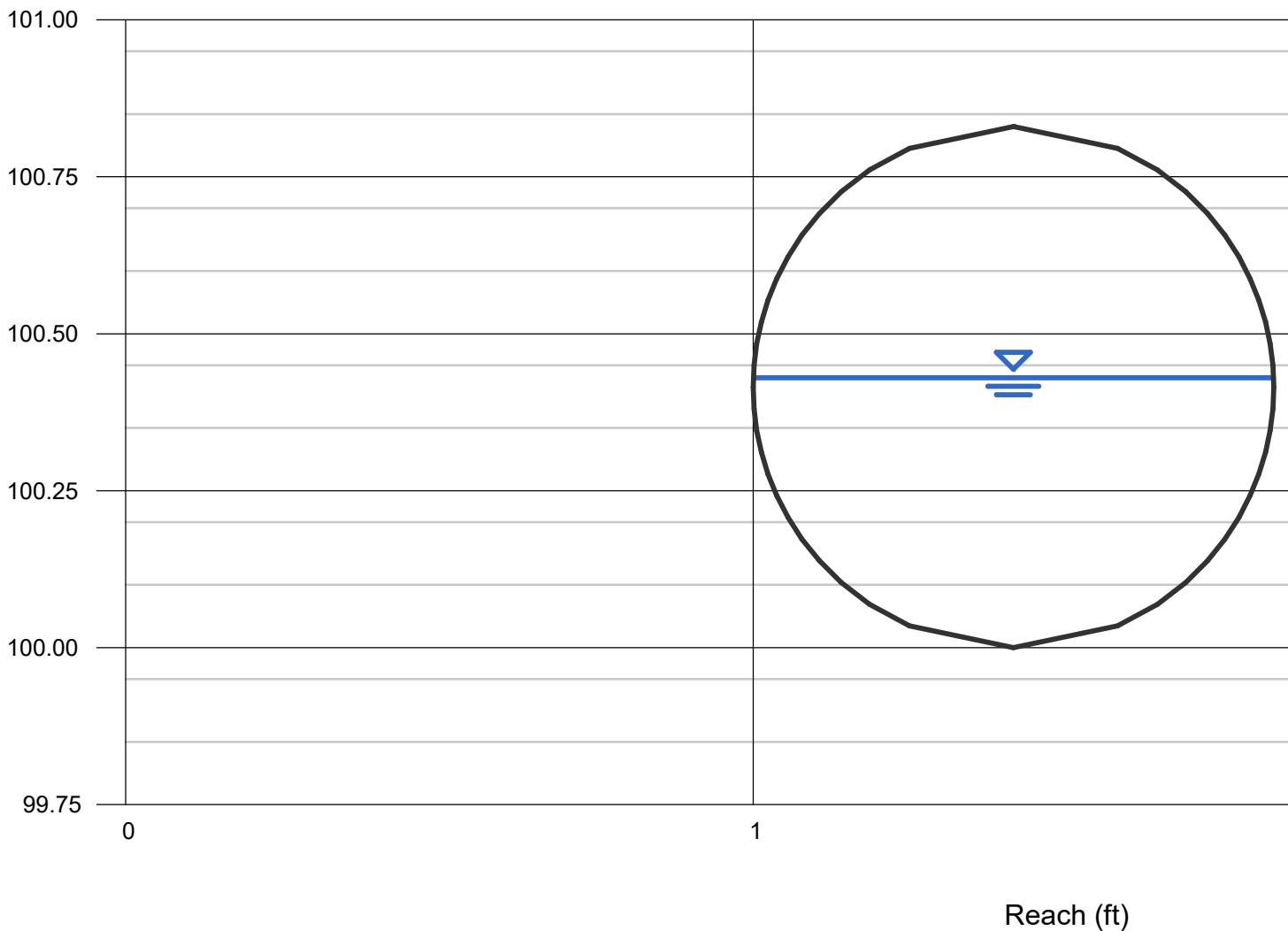
Compute by: Known Q
Known Q (cfs) = 0.83

Highlighted

Depth (ft) = 0.43
Q (cfs) = 0.830
Area (sqft) = 0.28
Velocity (ft/s) = 2.92
Wetted Perim (ft) = 1.34
Crit Depth, Yc (ft) = 0.41
Top Width (ft) = 0.83
EGL (ft) = 0.56

Elev (ft)

Section



Channel Report

Design Point 10

Circular

Diameter (ft) = 0.67
Invert Elev (ft) = 100.00
Slope (%) = 0.60
N-Value = 0.011

Calculations

Compute by: Known Q
Known Q (cfs) = 0.14

Highlighted

Depth (ft) = 0.16
Q (cfs) = 0.140
Area (sqft) = 0.07
Velocity (ft/s) = 2.15
Wetted Perim (ft) = 0.69
Crit Depth, Yc (ft) = 0.17
Top Width (ft) = 0.57
EGL (ft) = 0.23

Elev (ft)

Section

101.00

100.75

100.50

100.25

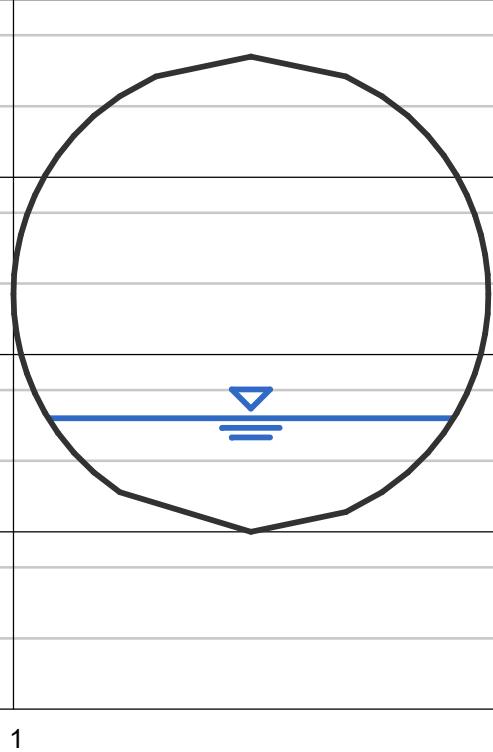
100.00

99.75

0

1

Reach (ft)



Channel Report

Design Point 11

Circular

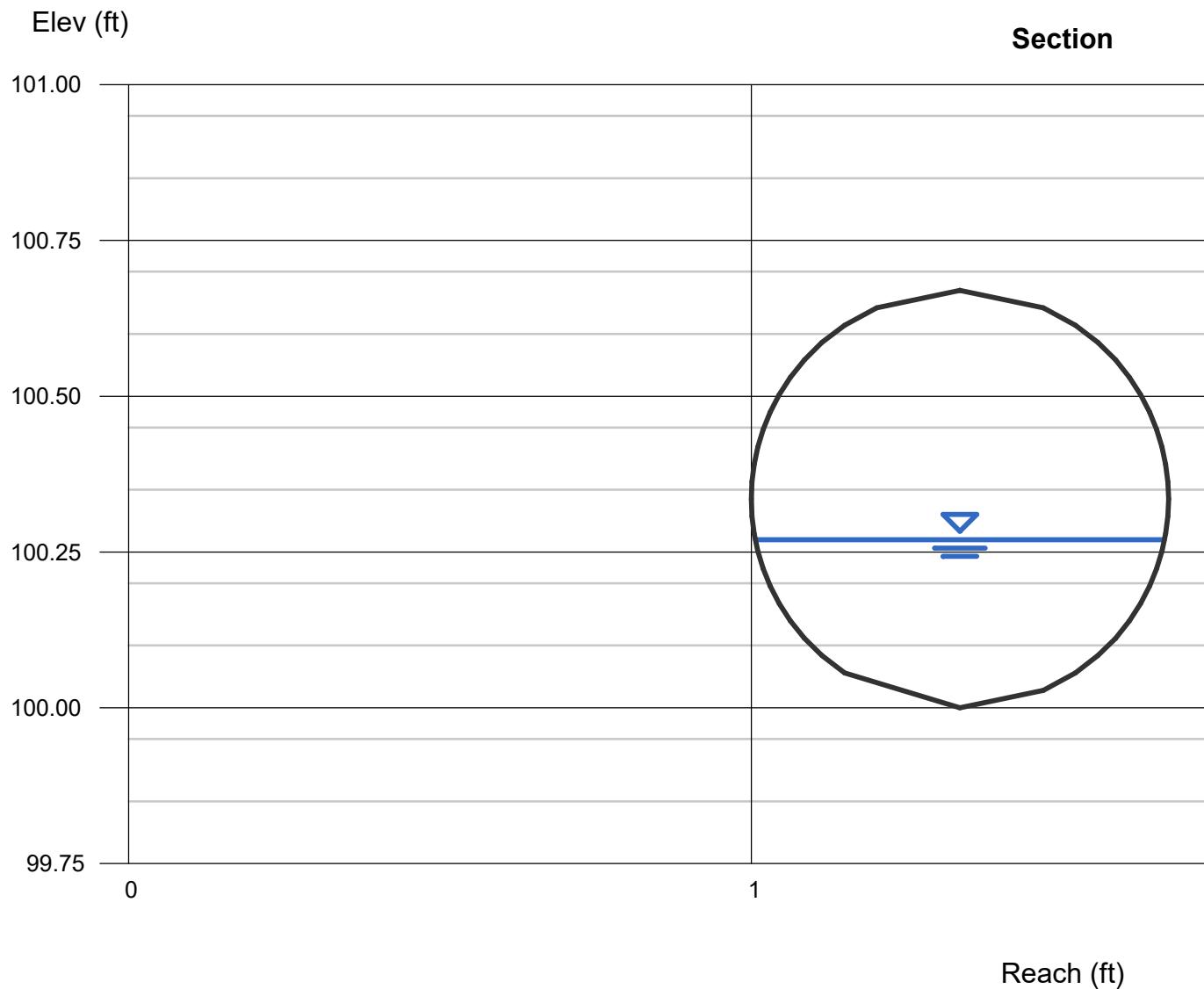
Diameter (ft) = 0.67
Invert Elev (ft) = 100.00
Slope (%) = 0.40
N-Value = 0.011

Calculations

Compute by: Known Q
Known Q (cfs) = 0.30

Highlighted

Depth (ft) = 0.27
Q (cfs) = 0.301
Area (sqft) = 0.13
Velocity (ft/s) = 2.25
Wetted Perim (ft) = 0.92
Crit Depth, Yc (ft) = 0.26
Top Width (ft) = 0.66
EGL (ft) = 0.35



Channel Report

Design Point 12

Circular

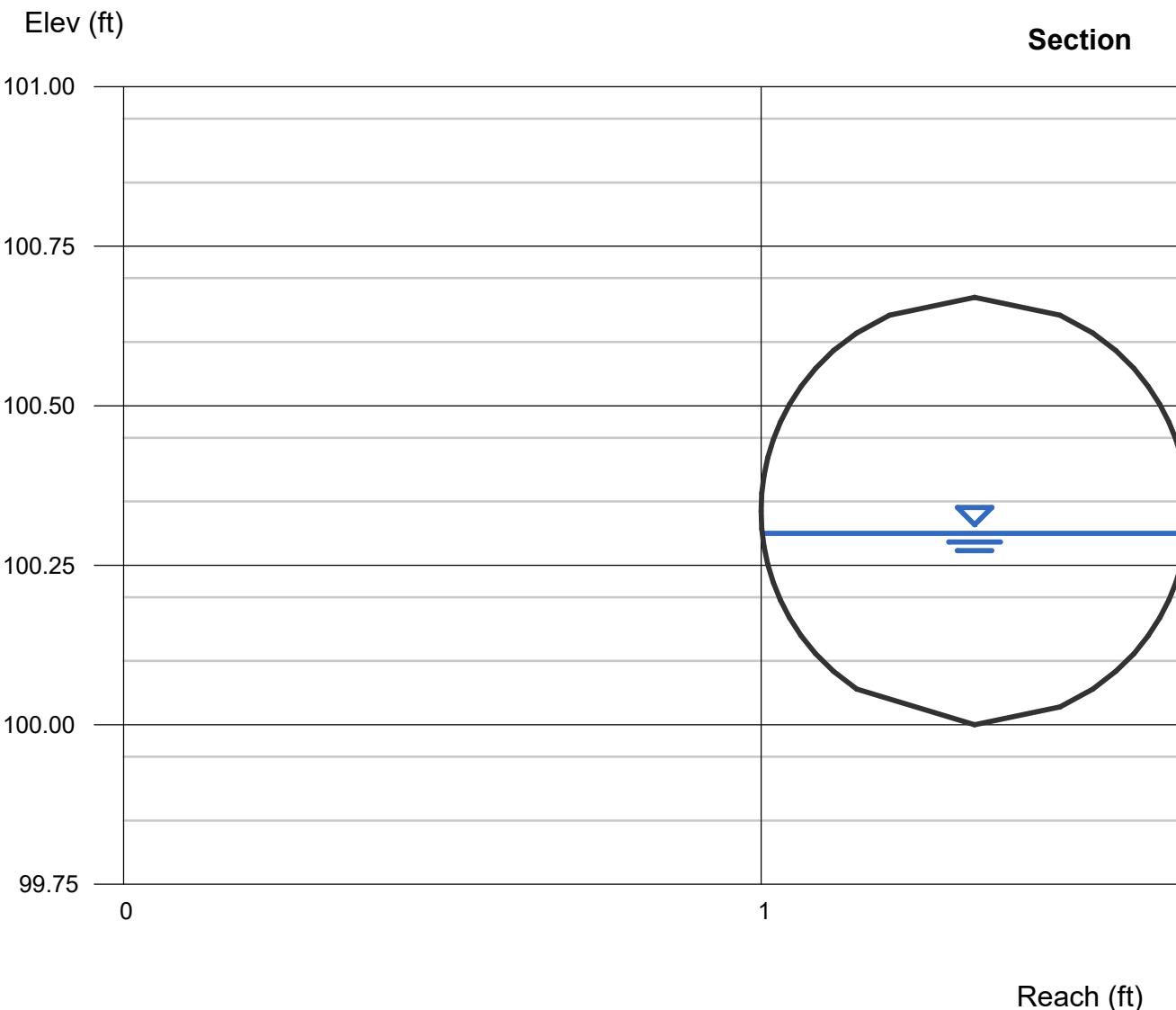
Diameter (ft) = 0.67
Invert Elev (ft) = 100.00
Slope (%) = 0.40
N-Value = 0.011

Calculations

Compute by: Known Q
Known Q (cfs) = 0.36

Highlighted

Depth (ft) = 0.30
Q (cfs) = 0.359
Area (sqft) = 0.15
Velocity (ft/s) = 2.34
Wetted Perim (ft) = 0.98
Crit Depth, Yc (ft) = 0.28
Top Width (ft) = 0.67
EGL (ft) = 0.38



Channel Report

Design Point 13

Circular

Diameter (ft) = 1.00
Invert Elev (ft) = 100.00
Slope (%) = 0.40
N-Value = 0.011

Calculations

Compute by: Known Q
Known Q (cfs) = 1.19

Highlighted

Depth (ft) = 0.47
Q (cfs) = 1.185
Area (sqft) = 0.36
Velocity (ft/s) = 3.25
Wetted Perim (ft) = 1.51
Crit Depth, Yc (ft) = 0.46
Top Width (ft) = 1.00
EGL (ft) = 0.63

