COMPREHENSIVE WATER SYSTEM PLAN

Prepared for:

City of Andover
1685 Crosstown Blvd. NW
Andover, MN 55304-2612

September, 2018

Prepared by:

WSB

COMPREHENSIVE WATER SYSTEM PLAN

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ANDOVER | MINNESOTA
City Project No. 16-39C

September, 2018

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WSB PROJECT NO. 011976-000

178 East 9th Street, Suite 200 | St. Paul, MN 55101 | (651) 286-8450

September, 2018

RE: Comprehensive Water System Plan Update City of Andover, Minnesota
WSB Project No. 011976-000
City Project No. 16-39C

Mr. Dave Berkowitz, PE
City Engineer
City of Andover
1685 Crosstown Blvd. NW
Andover, Minnesota 55304-2612

Dear Mr. Berkowitz:

Enclosed please find the updated Comprehensive Water System Plan report for Andover, Minnesota. The primary emphasis of this study was to evaluate the existing distribution system and to recommend improvements in supply, storage, and distribution facilities to address planned growth and expansion. The existing computer model of the system was updated and used for the analysis. The system was evaluated with respect to pressure, flow, pipe friction, and fire flow availability. An extended period simulation was also used to analyze system operations. WaterCAD Version V8i was used for the distribution system modeling portion of this study.

We appreciate the assistance provided by you and Brian Kraabel. The City's experience and knowledge of the system was very helpful in updating the Comprehensive Water System Plan.

We will be available to review this report with you at your convenience.

Sincerely,

Greg F. Johnson, PE
Water/Wastewater Group Manager

cc: Brian Kraabel – City of Andover

CERTIFICATION

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly licensed professional engineer under the laws of the State of Minnesota.

Greg Johnson, P.E.

Date: September, 2018 Lic. No. 26430

TABLE OF CONTENTS

TITLE SHEET
CERTIFICATION SHEET
TABLE OF CONTENTS

1.0 EXECUTIVE SUMMARY 1

2.0 PURPOSE AND SCOPE 2

3.0 EXISTING FACILITIES 3

3.1 Supply 5
3.2 Treatment 5
3.3 Storage 6
3.4 Distribution System 6

4.0 EXISTING WATER DEMANDS 8

4.1 Peaking Demand Factors 8
4.2 Demand Distribution 9

5.0 HYDRAULIC ANALYSIS OF THE EXISTING DISTRIBUTION SYSTEM 11

5.1 Computer Model Setup and Calibration 11
5.2 Expected Pressure 11
5.3 Pipe Velocities and Friction Loss 11
5.4 Extended Period Simulation 14
5.5 Current Available Fire Flow 14

6.0 EXPANSION AREAS AND PROJECTED DEMANDS 17

6.1 Project Land Uses 17
6.2 Projected Demands 18

7.0 PROPOSED IMPROVEMENTS 22

7.1 Supply 22
7.2 Treatment 23
7.3 Storage 25
7.4 Distribution System 28
7.4.1 Combined Single Pressure Zone Analysis 28
7.5 Probable Construction Costs 29

8.0 ANALYSIS OF ULTIMATE SERVICE AREA WITH PROPOSED IMPROVEMENTS 30

8.1 System Pressures after Improvements 30
8.2 Available Fire Flows after Improvements 30
8.3 Economic Analysis 33

9.0 CONCLUSIONS AND RECOMMENDATIONS 34

9.1 Supply 34
9.2 Treatment 34
9.3 Storage 34
9.4 Distribution System 35

TABLE OF CONTENTS (continued)

Tables

Table 1	Existing Supply Facilities
Table 2	Existing Storage Facilities
Table 3	Recent Water Demands and Maximum Day Peaking Factors
Table 4	Recommended Residential Fire Flows
Table 5	Projected Land Use
Table 6	Projected Water Demands
Table 7	Storage Volume Requirements
Table 8	Proposed Water System Improvements

Figures

Figure 1	Existing Service Area
Figure 2	Existing Distribution System
Figure 3	Historical Average Day Demand
Figure 4	24 Hour Demand Distribution Curve
Figure 5	Existing Average Day Pressure – Two Pressure Zones
Figure 6	Existing Peak Hour Pressure – Two Pressure Zones
Figure 7	Existing Maximum Day Fire Flow – Two Pressure Zones
Figure 8	Proposed Service Area
Figure 9	Proposed Water Distribution System
Figure 10	Firm Pumping Capacity vs. Maximum Day Demand
Figure 11	Projected Treatment Capacity Needs
Figure 12	Projected Storage Requirements
Figure 13	Supply and Treatment Improvement Trigger Chart
Figure 14	Future Average Day Pressure – Single Pressure Zone
Figure 15	Future Maximum Day Fire Flow – Single Pressure Zone

Appendix

Appendix A	Water Treatment Plant Site Plan
Appendix B	WaterCAD Model Map
Appendix C	WaterCAD Model Data

1.0 EXECUTIVE SUMMARY

With continued growth in the City of Andover, the City will require additional infrastructure to meet future needs. This report identifies the water system capital improvements that will be needed to meet the level of growth and expansion currently projected for Andover.

The existing facilities include:

- Six water supply wells that are actively used for water supply and two wells that are used only during peak demands;
- One water treatment facility that removes iron, manganese, and arsenic from the raw water;
- Two elevated water storage tanks and one underground storage clearwell; and
- A distribution network to provide potable water and fire protection services to the existing water service area.

Based on the City's future land use plan and estimated densities for future developments, water demand projections were created to estimate future capacity requirements. In addition, a computer model of the City's distribution system was utilized to determine the hydraulic capacity, fire flow availability, and system pressures throughout the water service area. Recommendations were made to maintain and improve the City's current high level of quality and reliability in water service.

The water demand projections considered in this report cover the time period from 2018 to 2040, based on planning data from the City. Maximum day water demands in this period are projected to increase from a current value of approximately 7.1 million gallons per day (MGD) to 8.7 MGD in 2040. Recommended improvements include supply, water treatment, storage, and distribution system components. These include:

- One or two water supply wells (depending on the realized capacity of each well);
- One water treatment plant;
- Expansion of the ground storage at the existing water treatment plant by 1.5 MG;
- Removal of the elevated tank and associated altitude valve in the low-pressure zone; and
- Approximately 50,000 feet of trunk water mains.

An analysis of the estimated costs for recommended water system facilities is also provided in this report, along with potential options for funding these improvements through water area charges and connection fees.

2.0 PURPOSE AND SCOPE

Current growth and development combined with future growth projections for the City of Andover have created a need for improvements to the water system in order to meet increasing demands. The need for water system improvements can be anticipated by analyzing system demands, available supply and storage capacity, and available flow rates and pressures throughout the distribution system.

For this purpose, WSB & Associates has updated the existing computer model of Andover's water distribution system. In addition, regions of future development expected to create additional system demands were identified in conjunction with City staff, along with potential water system improvements that will allow the system to meet these expected demands. The proposed Rural Reserve development, along with several other proposed water expansion areas, will require significant planning and expansion of the City's water system. The improvements considered include increases in supply and treatment capacity, expansion of water storage facilities, and extending the distribution system through construction of new water mains.

The existing computer model was updated using WaterCAD V8i. The resultant product is a tool that can be used for hydraulic analysis of the water system and scenario planning. The model can also be built-upon in the future if so desired to analyze water quality throughout the distribution system. Some of the potential uses of this analysis include the following:

- Identify future locations of critical supply, treatment, and storage facilities so land can be purchased and/or set aside before development begins in the designated area;
- Provide a long-term plan for water system upgrades/expansion so that proposed construction projects include properly sized water mains to allow for future development needs;
- Identify deficiencies in the water system and corresponding improvements to reduce or eliminate these deficiencies; and
- Provide a document to support loan/grant applications for future needs of the water system.

3.0 EXISTING FACILITIES

The City of Andover's existing service area is illustrated in ***Figure 1***. The Andover water system is composed of supply, treatment, storage, and distribution components. Supply and storage facilities include wells and storage tanks (both above and below ground). These facilities and their capacities are listed in **Tables 1** and **2**.

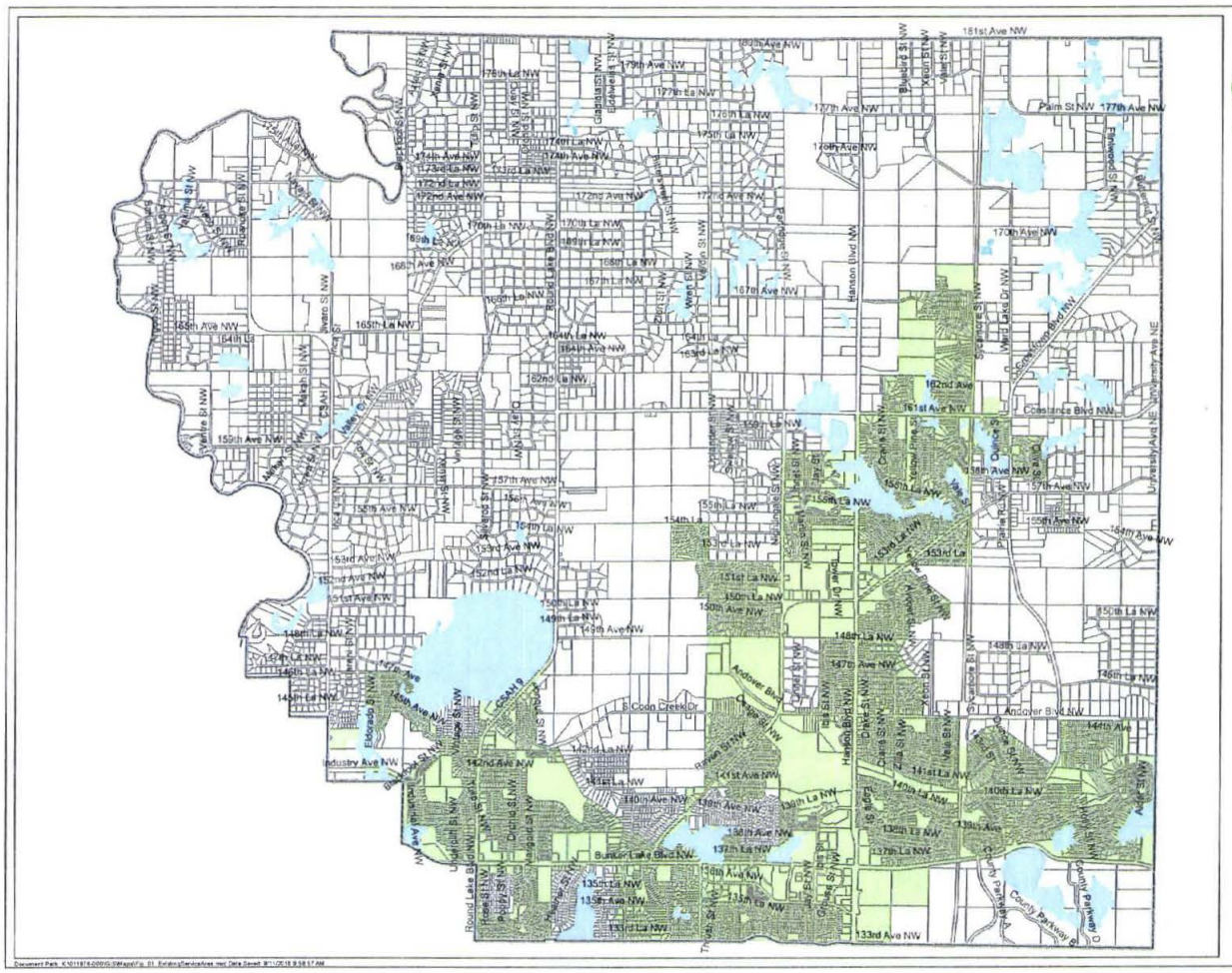
Table 1
Existing Supply Facilities

City Well No. (1)	MN Unique Well Number	Aquifer Formation	Supply Capacity		Year Installed
			GPM	MGD	
2 (2)	415932	Mt. Simon – Hinckley	1,000	1.44	1985
3 (2)	431683	Mt. Simon – Hinckley	1,000	1.44	1987
4	516065	Tunnel City – Wonewoc	1,000	1.44	1993
5	559342	Tunnel City – Wonewoc	1,350	1.94	1995
6	578903	Tunnel City – Wonewoc	1,200	1.73	1997
7	578996	Tunnel City – Wonewoc	1,500	2.16	1999
8	676420	Tunnel City – Wonewoc	1,100	1.58	2003
9	721809	Glacial Drift	2,400	3.46	2005
		Total Capacity	**10,550**	**15.19**	
		Firm Pumping Capacity (3)	**8,150**	**11.74**	

GPM – Gallons per Minute
MGD – Million Gallons per Day
(1) The City's Well No. 1 has been abandoned.
(2) Wells No. 2 and 3 are currently used to meet peak demands only on a seasonal basis.
(3) Firm capacity is defined as the pumping capacity that can be provided with the largest well (Well No. 9) out of service.

Table 2
Existing Storage Facilities

Facility Name	Facility Type	Year Constructed	Overflow Elevation (ft)	Storage Capacity (MG)
Tower No. 1	Hydropillar – Elevated Tank	1986	1,010	0.5
Tower No. 2	Hydropillar – Elevated Tank	1989	1,055	1.0
Ground No. 1	Clearwell at Water Treatment Plant	2003	N/A	1.50
			Total Storage Capacity	**3.00**



CITY OF ANDOVER

Figure 1 - Existing Service Area
Comprehensive Water System Plan
City of Andover

Legend

- City Boundary
- Open Water
- Existing Service Area

N

0 3,200 Feet
1 inch = 3,200 feet

WSB

3.1 Supply

Raw water from eight wells currently supplies the Andover water system. Wells 2, and 3 draw water from the Mt. Simon – Hinckley aquifer. Wells 4, 5, 6, 7, and 8 draw water from the Tunnel City – Wonewoc aquifer. Well 9 draws water from a sand and gravel glacial drift aquifer. The total supply capacity of the Andover system is approximately 10,550 gpm or 15.2 MGD. The firm capacity is 8,150 gpm (11.7 MGD). Firm capacity is the maximum pumping rate which can be supplied reliably, even during maintenance activity or an emergency, such as having the largest well pump (Well No. 9) out of service.

Wells No. 2 and 3 are used to meet seasonal peak demands only (warmer months), and are limited to an annual withdrawal of 55 million gallons per year (MGY) per well by the Minnesota Department of Health (MDH) due to radium in these wells. Historical utility records indicate that water pumped from these wells has been maintained well below the limit set by the MDH. Well No. 2 averaged 0.12 MGY and Well No. 3 averaged 0.19 MGY of withdrawal over the past five years. Well No. 2 has a casing depth of 387 feet and a pump setting depth of approximately 155.5 feet. Therefore, the City could deepen the pump setting of this well if other high capacity wells within the area cause significant interference with Well No. 2.

3.2 Treatment

A water treatment plant constructed in 2003 treats iron, manganese, and arsenic from Wells 4, 5, 6, 7, 8, and 9. The capacity of the plant is 9 MGD. The treatment process consists of aeration, detention, filtration, chlorination, permanganate and orthophosphate addition, and fluoridation. Well water is pumped to two forced draft aerators to oxidize the iron minerals. A concrete detention tank receives the aerated water and completes the oxidation of the iron. Sodium permanganate is added after the detention tank to oxidize the manganese minerals.

Water flowing from the detention tank is split equally to eight concrete gravity filter cells. Sand and anthracite filter media remove the oxidized iron and manganese minerals. The filters are backwashed with a simultaneous air/water backwash method. Backwash wastewater is collected in an underground holding tank where it is settled, reclaimed, and partially discharged to the sanitary sewer.

Filtered water flows into a 1.5 MG concrete clearwell located underground. The treated water is pumped from the clearwell to the distribution system by four vertical turbine high service pumps. Sodium hypochlorite and fluoride are added at the plant effluent for disinfection and fluoridation. Orthophosphate is also added to the effluent for corrosion control. The existing plant has an emergency generator for back-up power supply.

The City expanded the backwash reclaim capacity at the existing water treatment plant in 2009. This allows the City to backwash the existing filters more frequently to produce more water during the high demand season. A plate settler unit was installed to achieve the same end result as an adequately sized backwash reclaim tank. The stream of backwash water with suspended particulates is sent through the plate settler unit. The plate

settler consists of a steel box-like structure with parallel plates that effectively allow the sedimentation of solids to occur at a much more rapid rate. Polymer is added to the backwash stream to assist the process. The backwash water can be reclaimed immediately, unlike the backwash reclaim tank which requires a settling period for the solids before recycling can begin.

3.3 Storage

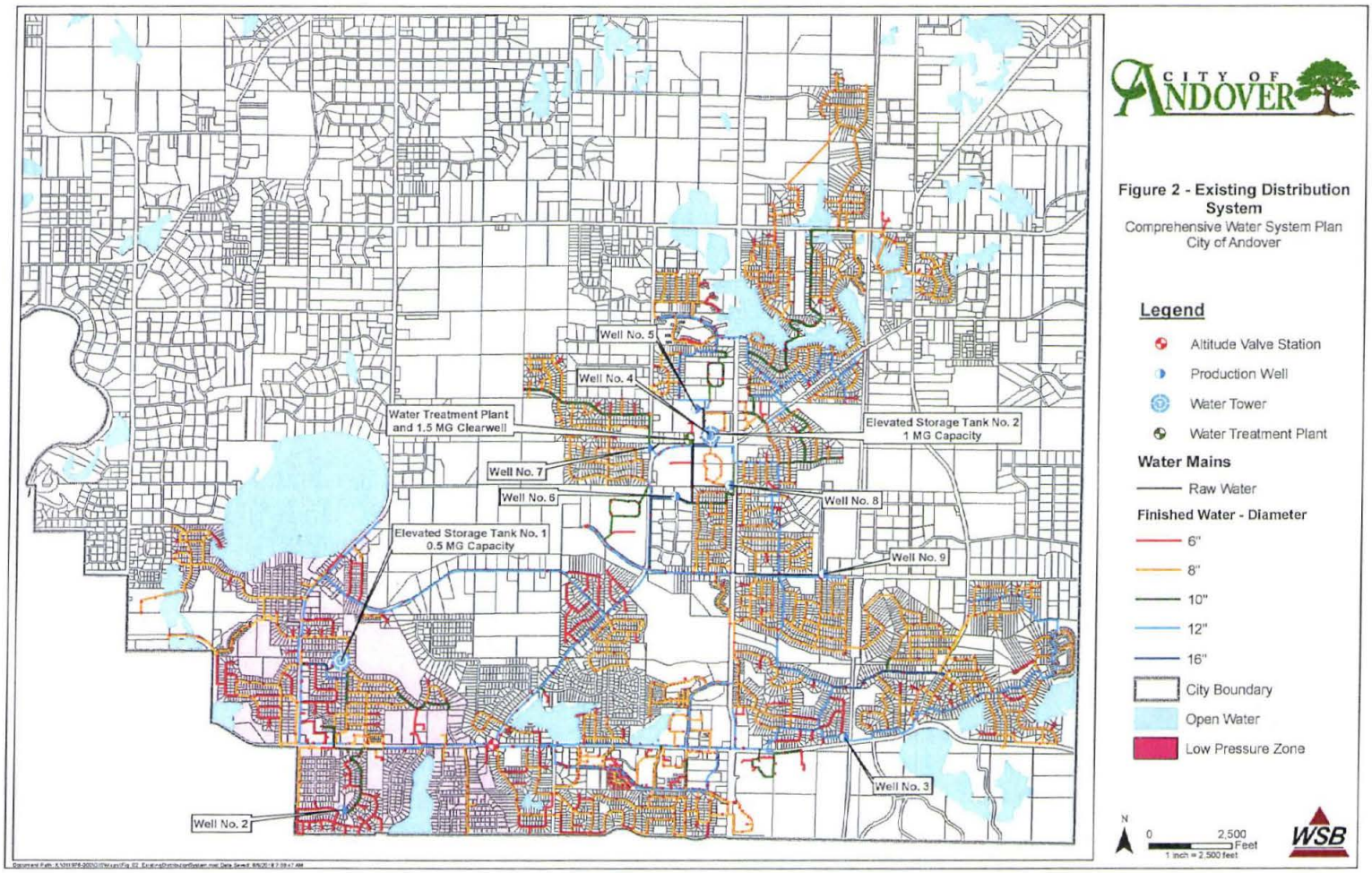
Storage facilities on a water system allow a more constant supply of water during variable demand conditions. During high demands, when water customers are using a greater volume of water, part of that demand can be met by storage reserves in addition to direct pumping from wells. During low demand conditions, the well pumps can continue to operate, with excess supply going to fill storage for later withdrawal.

In addition to this operational function, storage tanks can serve as an emergency water source in the case of a supply failure (i.e. power outage, well maintenance, etc.). They also have the ability to increase the amount of water available during a fire. An emergency generator at the water treatment plant provides back-up power for the high service pumps which pump water from the clearwell.

The distribution system has two pressure zones. The 1,000,000-gallon (1 MG) elevated water storage tank serves the high-pressure zone. The 500,000-gallon (0.5 MG) elevated water storage tank serves the low-pressure zone. The levels of these tanks control the hydraulic grade line (pressures) of the system. The hydraulic grade line of the overflow weirs in the 1 MG elevated water storage tank is 1,055 feet above sea level. The hydraulic grade of the overflow weir in the 0.5 MG elevated water storage tank is 1,010 feet above sea level. Ground storage is provided by the water treatment plant clearwell which has a capacity of 1,500,000 gallons (1.5 MG). High service pumps at the plant deliver the water stored in the clearwell to the distribution system and elevated water storage tanks.

3.4 Distribution System

The Andover water system is comprised of water mains ranging in size from 6 inches to 16 inches in diameter. The system serves an elevation range of approximately 865 to 912 feet above mean sea level (MSL). The existing distribution system is shown on ***Figure 2***.


Well No. 5
Well No. 4
Water Treatment Plant
and 1.5 MG Clearwell
Elevated Storage Tank No. 2
1 MG Capacity
Well No. 7
Well No. 6
Well No. 8
Elevated Storage Tank No. 1
0.5 MG Capacity
Well No. 9
Well No. 3
Well No. 2
CITY OF ANDOVER
Figure 2 - Existing Distribution System
Comprehensive Water System Plan
City of Andover
Legend
Altitude Valve Station
Production Well
Water Tower
Water Treatment Plant
Water Mains
Raw Water
Finished Water - Diameter
6"
8"
10"
12"
16"
City Boundary
Open Water
Low Pressure Zone
N
0
2,500
Feet
1 inch = 2,500 feet
WSB

4.0 EXISTING WATER DEMANDS

The Andover water utility records indicate that in 2017, the average day (AD) water demand for the complete system was 2,393,033 gallons (1,662 gpm). The maximum day (MD) demand for 2017 was 7,625,000 gallons (5,295 gpm) on June 9th. ***Figure 3*** displays the AD demands over the previous five years.

4.1 Peaking Demand Factors

Peaking factors are ratios applied to the AD demand which are used in analysis of water systems. They are representative of variation in water demands over time.

A MD peaking factor for a water system is the ratio of the MD demand rate to the AD demand rate. It normally indicates the magnitude of seasonal differences in water demands. For example, if demands on a system increase substantially during the summer due to lawn irrigation, the MD peaking factors will be large. Typical MD peaking factors range from 2.0 to 3.0. Larger systems generally have lower MD peaking factors. However, predominantly residential municipalities, especially in metropolitan areas, generally have higher peaking factors due to sprinkling demands. Historical MD peaking factors for Andover are shown in **Table 3**. A 5-year average (2013 through 2017) MD peaking factor was used to calculate future MD demand projections, which resulted in a MD peaking factor of 2.95.

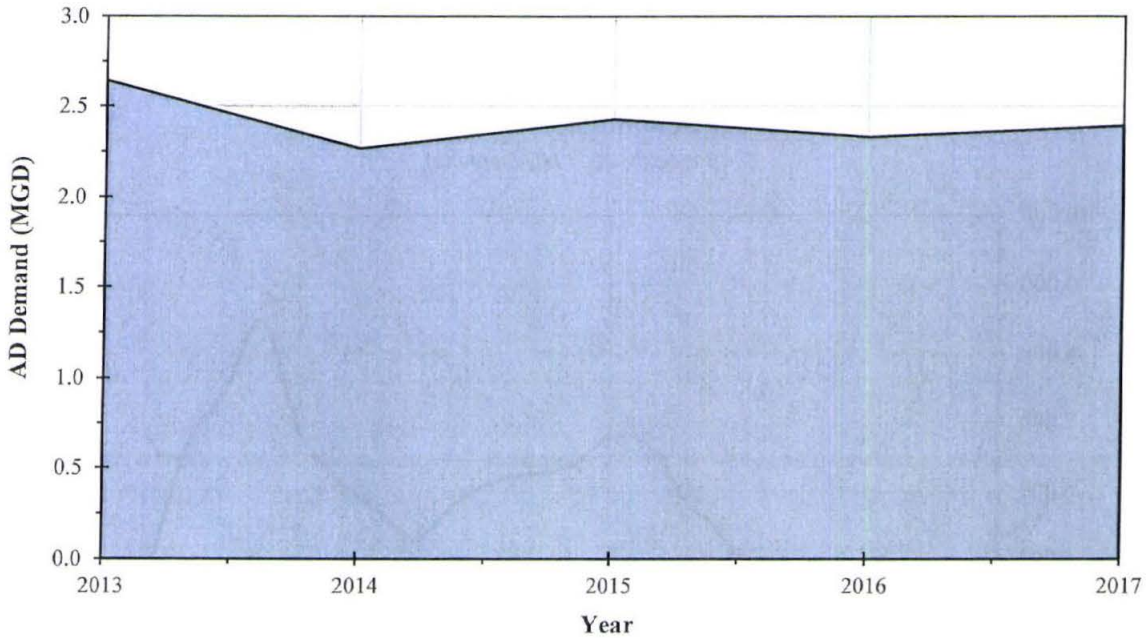
The peak hour (PH) demand is also commonly used in water system analysis. PH demands occur during the hour of a given year in which the highest demands are experienced by the system. Typical PH peaking factors range from 3.2 to 5.0. The PH peaking factor for Andover was estimated to be 60 percent greater than the existing MD peaking factor. This is a typical estimate, following AWWA recommendations, and resulted in an existing PH peaking factor of 5.1.

Table 3
Recent Water Demands and Maximum Day Peaking Factors

Year	Population Served	Total Connections	Annual Water Usage (gal)	AD Demand		MD Demand		MD Peaking Factor
				GPD	GPM	GPD	GPM	
2013	19,310	6,353	947,201,000	2,640,367	1,834	7,908,000	5,492	3.00
2014	19,425	6,416	813,404,455	2,267,326	1,575	7,161,000	4,973	3.16
2015	19,635	6,488	882,644,000	2,427,085	1,686	6,200,000	4,306	2.55
2016	19,918	6,579	833,696,000	2,329,608	1,618	6,684,000	4,642	2.87
2017	20,138	6,663	855,072,000	2,393,033	1,662	7,625,000	5,295	3.19
Average 2013 – 2017			**866,403,491**	**2,411,484**	**1,675**	**7,115,660**	**4,941**	**2.95**

GPD – Gallons per Day, **GPM** – Gallons per Minute

Figure 3
Historical Average Day Demand



4.2 Demand Distribution

Water demands are variable throughout the day and the year. On an annual basis, the heaviest demand conditions (MD demands) typically occur during the summer, when residential irrigation increases.

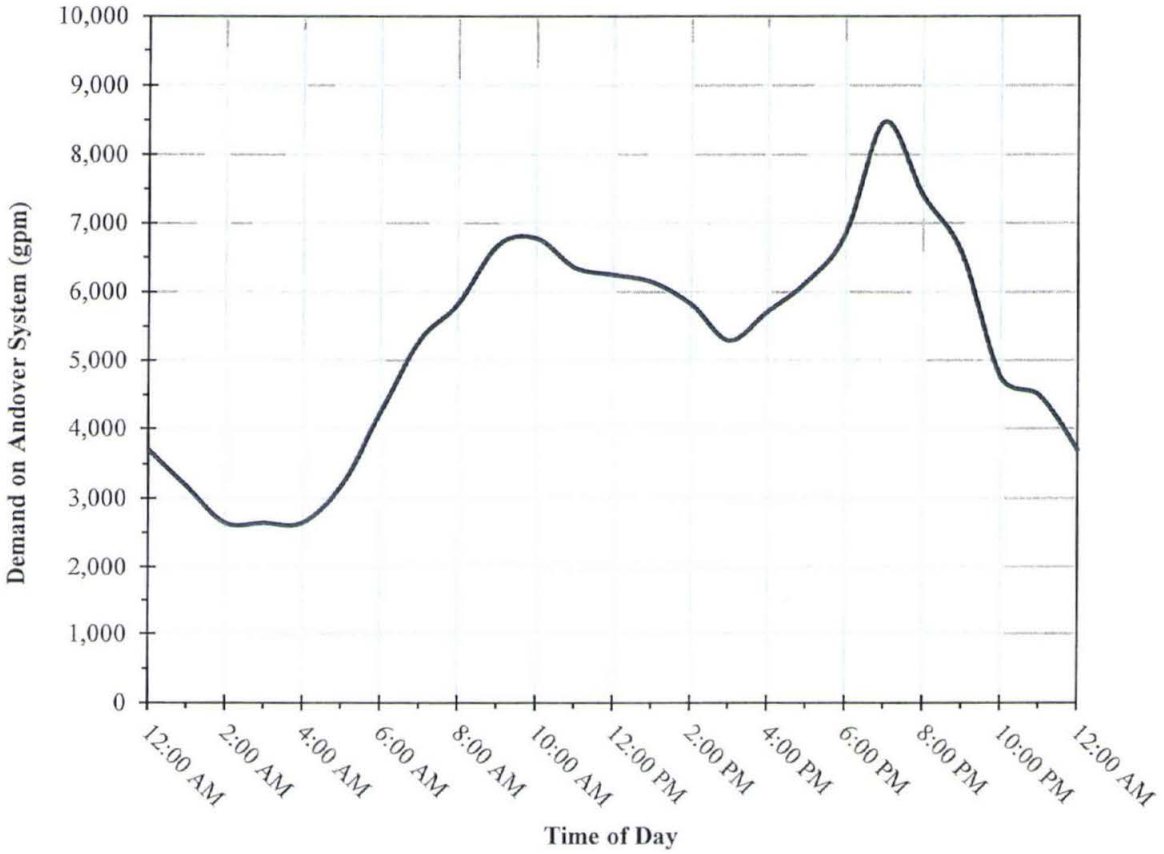
Water demands also vary over the course of a given day. ***Figure 4*** depicts a typical demand distribution graph for residential water use, as applied to Andover's demands during the 2017 MD. Commercial and industrial water uses are typically more constrained and predictable.

The residential demand graph depicts low water demand during the early morning periods. It shows increasing demand during the day with a slight decrease in the late morning periods. By late afternoon, when lawns are being sprinkled the demand peaks at what is considered the PH demand. The demand lessens considerably into the late evening hours.

The firm supply capacity of a system should be at least equal to the MD demand rate. This is the recommendation of the Great Lakes - Upper Mississippi River Board of State and Provincial Public Health and Environmental Managers in their "Recommended Standards for Water Works" (commonly referred to as the "Ten States Standards"). As discussed in Section 3.1, storage reservoirs are used to supplement the supply of treated water during the peak usage hours within each day. During the early morning periods when demand is low, the system is able to produce water in excess of the demand. This excess is available to fill the storage reservoirs.

When the demand rate exceeds the production rate, stored water in the reservoirs is used to make up for the deficit. The storage reservoirs will start to fill when the demand decreases below the total supply capacity.

Figure 4
24 Hour Demand Distribution Curve
(Based on 2017 MD Demand)



5.0 HYDRAULIC ANALYSIS OF THE EXISTING DISTRIBUTION SYSTEM

5.1 Computer Model Setup and Calibration

All utility-owned pipes 6 inches in diameter and larger were included in the model. Water pumping records from 2017 were used to represent current demands on the system. Storage and supply facilities were modeled based on data supplied by City staff. Elevations were assigned to the model using USGS 10-foot contour data.

A low-pressure zone was modeled by closing a pipe between the two zones during normal operating conditions. Therefore, pressures and fire flows in the low-pressure zone in the western part of the system are controlled by the elevated tank in that zone.

5.2 Expected Pressure

Model results for average day (AD) static pressures on the distribution system are depicted with pressure contours in ***Figure 5***. The existing system pressures for an AD demand scenario range from 51 psi at high elevations to approximately 77 psi in low-lying areas. The static pressures under peak hour (PH) demands are represented in ***Figure 6***, and range from 41 psi to 70 psi. Ten States Standards recommend that the normal working pressure in the distribution system be approximately 60 to 80 psi, and not less than 35 psi in any location. During emergency conditions, such as high fire demands, pressures should remain above 20 psi.

The current system pressures stay within the margins of industry standard at most locations. There is a plan to eliminate the low-pressure zone and serve the entire system from the high zone in the future. This will effectively increase pressures in the southwestern portion of the distribution system, where pressures are the lowest at the current time. This is discussed and analyzed later in this report.

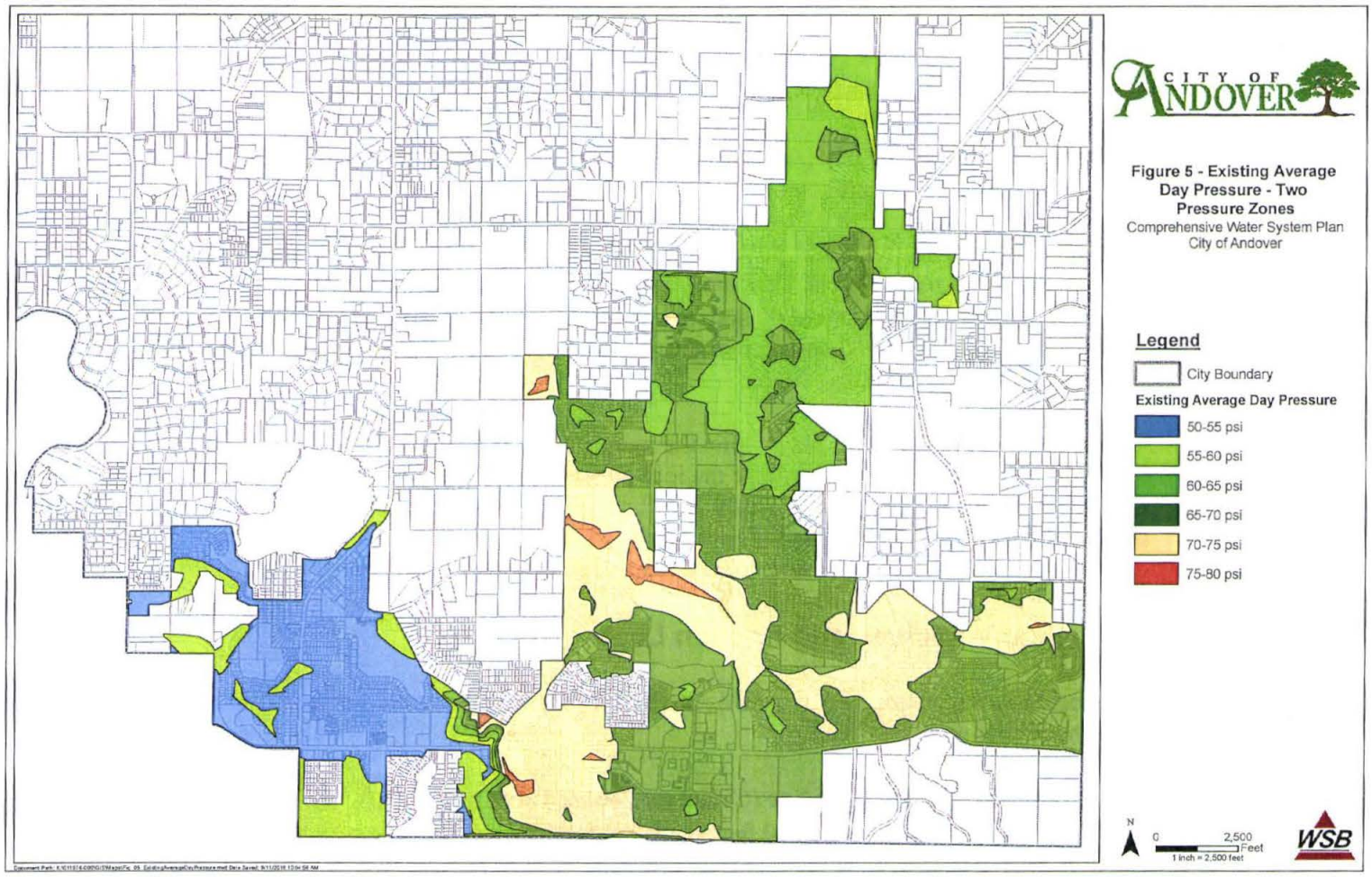
5.3 Pipe Velocities and Friction Loss

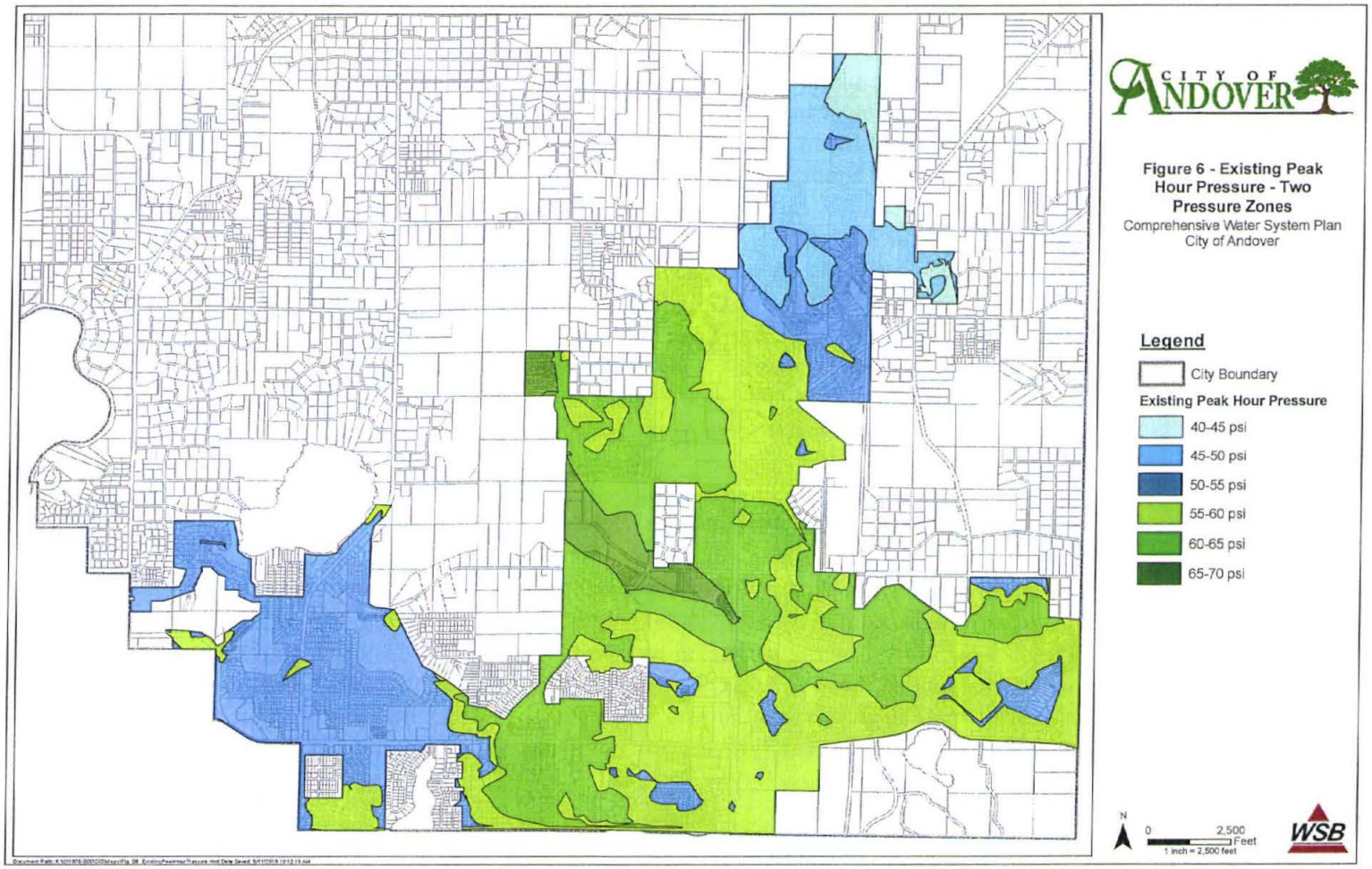
Pipe segments are considered by AWWA to be potentially deficient or limiting if they have the following conditions:

- Velocities greater than five (5) feet per second (ft/s); and
- Head losses greater than 10 feet per 1,000 feet.

Velocities in pipe segments are acceptable up to about 10 ft/s during emergency or extreme demand conditions of short duration. As velocities increase, pipe friction increases resulting in pressure loss in the system, and problems with water hammer can occur. This is especially true in systems with higher pressures.

The computer model does not detect any areas with excessive velocity and head loss in the Andover distribution system under normal operating conditions.


CITY OF ANDOVER
Figure 5 - Existing Average Day Pressure - Two Pressure Zones
Comprehensive Water System Plan
City of Andover
Legend
City Boundary
Existing Average Day Pressure
50-55 psi
55-60 psi
60-65 psi
65-70 psi
70-75 psi
75-80 psi
N
0
2,500
Feet
1 inch = 2,500 feet
WSB


CITY OF ANDOVER
Figure 6 - Existing Peak Hour Pressure - Two Pressure Zones
Comprehensive Water System Plan
City of Andover
Legend
City Boundary
Existing Peak Hour Pressure
40-45 psi
45-50 psi
50-55 psi
55-60 psi
60-65 psi
65-70 psi
N
0
2,500
Feet
1 inch = 2,500 feet
WSB

5.4 Extended Period Simulation

An extended period simulation (EPS) was conducted using the model to analyze system operations during several days of MD demands. The primary purpose of this simulation was to check for cumulative system imbalances that are not evident in standard simulations and to verify if system operations can be maintained under high demand conditions.

Tower and well placement, and the sizes of distribution system pipes, contribute to imbalances. Considerable distances between supply and storage locations and inadequately-sized water mains can contribute to a reduced storage-replenishment rate and the ability to refill the towers at night during low demand periods.

A 72-hour period was simulated with three consecutive MD demand conditions. This time period was chosen since most supply and distribution system deficiencies will be exposed in three days of operations with MD demands. For example, if tanks are unable to refill daily under high demand conditions, a trend will emerge in tank level data produced by the EPS.

Because there is currently only one storage tank in each pressure zone, there are no imbalances between the two tanks. Supply facilities appear to have no limitation in filling the elevated tanks under MD operating conditions. With the future removal of the elevated tank in the low-pressure zone, system balance will remain insignificant as a design consideration. The computer model could be used in the future to optimize pump controls with extended period simulations by testing pump operating points under varying scenarios to minimize pump cycling.

5.5 Current Available Fire Flow

According to the American Water Works Association (AWWA), the minimum fire flow available at any given point in a system should not be less than 500 gpm at a residual pressure of 20 psi. This minimum criterion represents the amount of water required to provide for two standard hose streams on a fire in a typical residential area for residential dwellings with spacing greater than 30 feet. The distance between buildings and the corresponding recommended fire flow for residential areas is summarized in **Table 4**.

Table 4
Recommended Residential Fire Flows

Distance Between Buildings (ft)	Needed Fire Flow (gpm)
More than 30	500
21-30	750
11-20	1,000
Less than 10	1,500

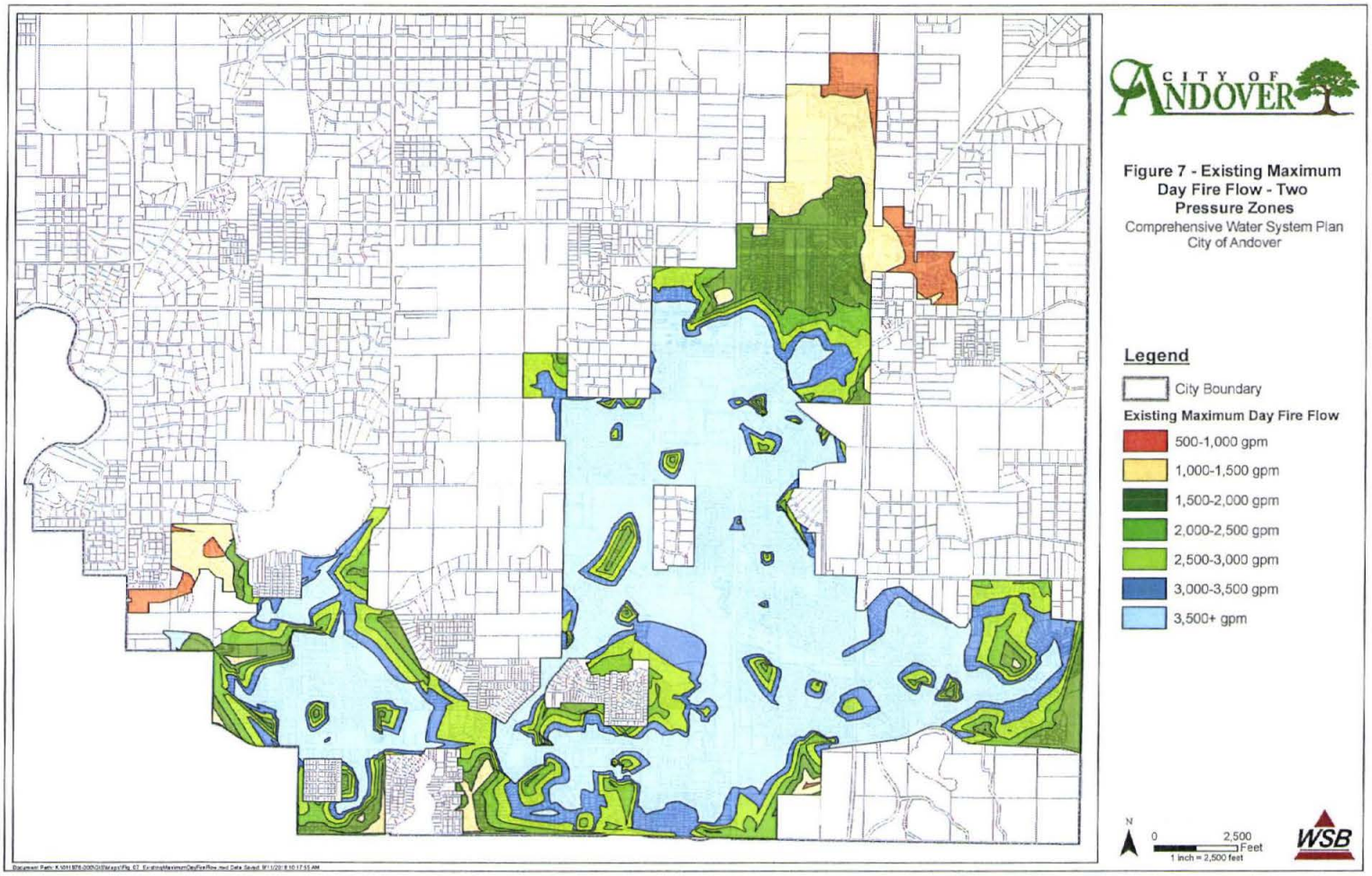
For commercial and industrial buildings, the needed fire flow rate varies considerably, and is based on several characteristics of individual buildings such as:

- Type of construction;
- Type of business that is using the property (occupancy);
- Proximity and characteristics of nearby properties; and
- Presence or absence of a fire sprinkling system.

The computed available fire flows for the current distribution system are represented in ***Figure 7***. They are shown as fire flow districts in gallons per minute, and represent the available fire flow at a residual pressure of 20 psi during MD demands.

Available fire flow appears to meet the City's needs in most areas. The greatest availability of flow follows the larger trunk main network throughout the system. Where fire flow may be a concern, or the system may be unable to meet the needed fire flow, are areas near the edge of the system, on dead ends in the pipe network, or those being served by smaller diameter mains.

The industry standard is to use no smaller than 6-inch diameter mains for fire protection if they are looped. Dead ends on the system should be constructed using mains of at least 8 inches in diameter. Upgrades in main size and additional looping wherever possible will improve the areas where fire flows are limited.


CITY OF ANDOVER
Figure 7 - Existing Maximum Day Fire Flow - Two Pressure Zones
Comprehensive Water System Plan
City of Andover
Legend
City Boundary
Existing Maximum Day Fire Flow
500-1,000 gpm
1,000-1,500 gpm
1,500-2,000 gpm
2,000-2,500 gpm
2,500-3,000 gpm
3,000-3,500 gpm
3,500+ gpm
N
0
2,500
Feet
1 inch = 2,500 feet
WSB

6.0 EXPANSION AREAS AND PROJECTED DEMANDS

6.1 Project Land Uses

The City of Andover's future service area is illustrated in ***Figure 8***. WSB & Associates coordinated with City staff to determine updated and realistic land uses for the City. City staff provided WSB & Associates information for the growth areas to be examined for this study. A total of 66 water system expansion areas were identified for the ultimate water distribution system. These expansion areas include approximately 5,262 residential dwellings and 177.2 acres of commercial development..

The City also provided densities associated with the land uses in the growth areas. ***Figure 9*** shows the location of the 66 water system expansion areas evaluated for this study along with future distribution system facilities to serve the areas shown. **Table 5** gives detailed information about the projected number of units, type of unit, gallons per unit or acre per day, and the projected AD demands from these areas. An estimate of 3.1 persons per residential household and an average residential per capita demand of 106 gallons per day were used to calculate the residential AD demands.

The estimated number of persons per residential household and the average residential per capital demand were calculated using historical utility data recorded by the City of Andover over the last 5 years (data displayed in **Table 3**). The number of persons per residential household was calculated as the historical population served divided by the number of residential connections. The average residential per capita demand was calculated as the historical residential water usage divided by the population served. An AD water usage of 1,000 gallons per acre was used to calculate the commercial average AD.

The residential rate of growth for the City of Andover has been estimated by the Metropolitan Council to be an average of 186 new residential connections per year through the year 2040 as shown in the City's 2015 System Statement. The Metropolitan Council's estimate falls in line with the City of Andover's previous Comprehensive Plan residential growth estimate, which was completed in 2008. The City's previous Comprehensive Plan estimated that 160 residential connections would be added to the water system on a yearly basis until reaching ultimate buildout. Recent growth trends experienced by the City of Andover do not align with the growth projections established by the Metropolitan Council in the City's 2015 System Statement or by the City's previous Comprehensive Water Plan. Instead, historical utility records indicate that over the past 5 years, only 71 new residential water connections have been added to the City's system on average per year. Based on discussions with City staff, it was decided that a rate of growth of 60 new residential connections per year was appropriate for this planning effort. In addition to the residential growth rates, the commercial rate of growth has been assumed to be an average of 5 acres per year through the year 2040.

Ultimate buildout is defined as full development of the system and could take 50 years or longer to reach depending on growth trends. Based on future land use information facilitated by the City, historical utility records, and the growth rates established in this report, it is expected that the City of Andover will have approximately 16,926 *new*

residents served by the City's water system upon ultimate buildout. Combined with the estimated 20,138 residents served with City water in 2017, the ultimate water service population of Andover was estimated to be approximately 37,064 residents.

6.2 Projected Demands

The projected AD demand from the water system expansion areas is summarized in **Table 5**. The total projected AD demand from the water expansion areas is approximately 2.01 MGD.

For planning of water system capital improvements, the MD and AD demands are typically used in sizing future facilities. The MD demands were estimated from the AD demands using an assumed MD peaking factor. As discussed in Section 4.1, the MD peaking factor used for projection purposes was 2.95. By applying this peaking factor to the AD demand estimated for the expansion areas, the MD demand for the expansion areas is approximately 5.84 MGD.

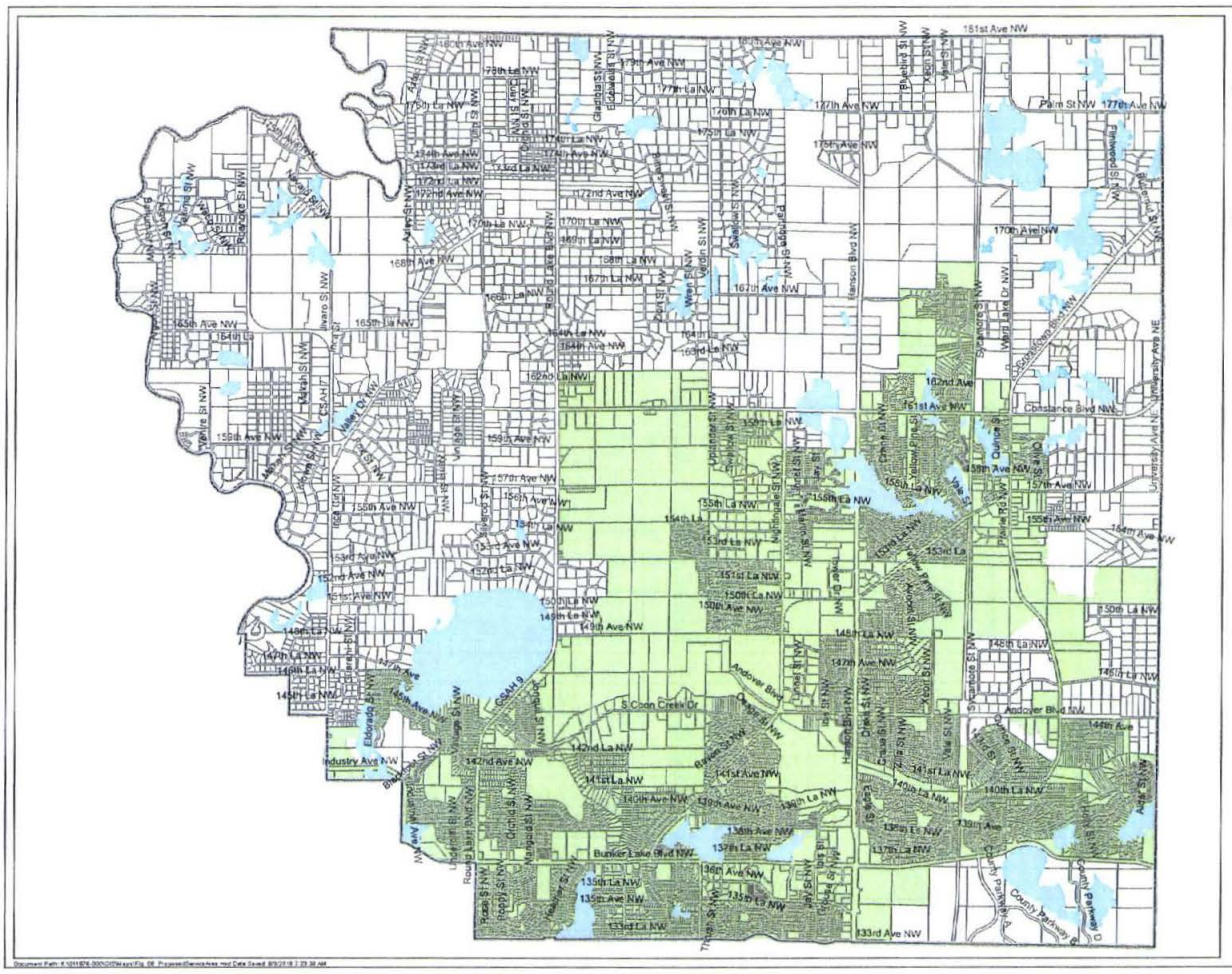
Adding the existing AD demand (2.39 MGD) to the projected AD demand for the expansion areas equals a full buildout AD demand of approximately 4.373 MGD (3,037 GPM). The projected full buildout MD demand is approximately 12.903 MGD (8,961 GPM). Given the growth rates used in this plan, full buildout for the City of Andover is expected to occur around the year 2108.

Table 5
Projected Land Use

Planning Area	Land Use	No. of Units	Unit Type	Gallons per Unit or Acre per Day	Future AD Demand (GPD)	Future MD Demand (GPD) (1)
1	Commercial	7	Acre	1,000.00	7,000	20,650
2	Residential	322	Dwelling Unit	329.64	106,144	313,125
3	Residential	111	Dwelling Unit	329.64	36,590	107,941
4	Residential	8	Dwelling Unit	329.64	2,637	7,780
5	Residential	12	Dwelling Unit	329.64	3,956	11,669
6	Residential	33	Dwelling Unit	329.64	10,878	32,090
7	Residential	76	Dwelling Unit	329.64	25,053	73,905
8	Residential	17	Dwelling Unit	329.64	5,604	16,531
9	Residential	91	Dwelling Unit	329.64	29,997	88,492
10	Residential	40	Dwelling Unit	329.64	13,186	38,898
11	Residential	135	Dwelling Unit	329.64	44,501	131,279
12	Residential	18	Dwelling Unit	329.64	5,934	17,504
13	Residential	10	Dwelling Unit	329.64	3,296	9,724
14	Residential	87	Dwelling Unit	329.64	28,679	84,602
15a	Residential	102.9	Dwelling Unit	329.64	33,920	100,064
15b	Residential	42	Dwelling Unit	329.64	13,845	40,842
16	Residential	26	Dwelling Unit	329.64	8,571	25,283
17	Residential	267	Dwelling Unit	329.64	88,014	259,641
18a	Residential	1380	Dwelling Unit	329.64	454,904	1,341,966
18b	School	500	Student	15.20	7,600	22,420
18c	Commercial	19	Acre	1,000.00	19,000	56,050
18d	Residential	171.6	Dwelling Unit	329.64	56,566	166,871

Planning Area	Land Use	No. of Units	Unit Type	Gallons per Unit or Acre per Day	Future AD Demand (GPD)	Future MD Demand (GPD) (1)
19	Residential	20	Dwelling Unit	329.64	6,593	19,449
20	Commercial - Light Industrial	40	Acre	1,000.00	40,000	118,000
21	Commercial - Light Industrial	36	Acre	1,000.00	36,000	106,200
22	Residential	172	Dwelling Unit	329.64	56,698	167,260
23	Residential	3	Dwelling Unit	329.64	989	2,917
24	Residential	5	Dwelling Unit	329.64	1,648	4,862
26	Residential	50	Dwelling Unit	329.64	16,482	48,622
27a	Residential	22	Dwelling Unit	329.64	7,252	21,394
27b	Church	500	Seat	5.00	2,500	7,375
28	Residential	20	Dwelling Unit	329.64	6,593	19,449
29	Residential	199	Dwelling Unit	329.64	65,598	193,515
31	Residential	7	Dwelling Unit	329.64	2,307	6,807
33	Commercial	18.8	Acre	1,000.00	18,800	55,460
35	Commercial	33.934	Acre	1,000.00	33,934	100,105
36	Residential	6	Dwelling Unit	329.64	1,978	5,835
37	Residential	186	Dwelling Unit	329.64	61,313	180,874
38	Residential	15	Dwelling Unit	329.64	4,945	14,587
39	Residential	14	Dwelling Unit	329.64	4,615	13,614
40	Residential	43	Dwelling Unit	329.64	14,175	41,815
41	Residential	3	Dwelling Unit	329.64	989	2,917
42	Residential	10	Dwelling Unit	329.64	3,296	9,724
43	Residential	13	Dwelling Unit	329.64	4,285	12,642
44	Commercial	13.5	Acre	1,000.00	13,500	39,825
45	Residential	26	Dwelling Unit	329.64	8,571	25,283
46	Residential	264	Dwelling Unit	329.64	87,025	256,724
47	Residential	49	Dwelling Unit	329.64	16,152	47,650
48	Residential	4	Dwelling Unit	329.64	1,319	3,890
49	Residential	200	Dwelling Unit	329.64	65,928	194,488
50	Residential	269.5	Dwelling Unit	329.64	88,838	262,072
51	Residential	220.5	Dwelling Unit	329.64	72,686	214,423
52	Residential	14	Dwelling Unit	329.64	4,615	13,614
53	Residential	58	Dwelling Unit	329.64	19,119	56,401
54	Residential	81	Dwelling Unit	329.64	26,701	78,768
55a	Commercial	9	Acre	1,000.00	9,000	26,550
55b	Church	500	Seat	5.00	2,500	7,375
56	Residential	43	Dwelling Unit	329.64	14,175	41,815
59	Residential	20	Dwelling Unit	329.64	6,593	19,449
60	Residential	52	Dwelling Unit	329.64	17,141	50,567
61	Residential	32	Dwelling Unit	329.64	10,548	31,118
62	Residential	101	Dwelling Unit	329.64	33,294	98,216
64	Residential	220	Dwelling Unit	329.64	72,521	213,937
65	Residential	42	Dwelling Unit	329.64	13,845	40,842
Total Additional Demand from Projected Growth Areas					**1,980,935**	**5,843,759**

(1) A 2.95 peaking factor was used to estimate future MD demands.



CITY OF ANDOVER

Figure 8 - Proposed Service Area
Comprehensive Water System Plan
City of Andover

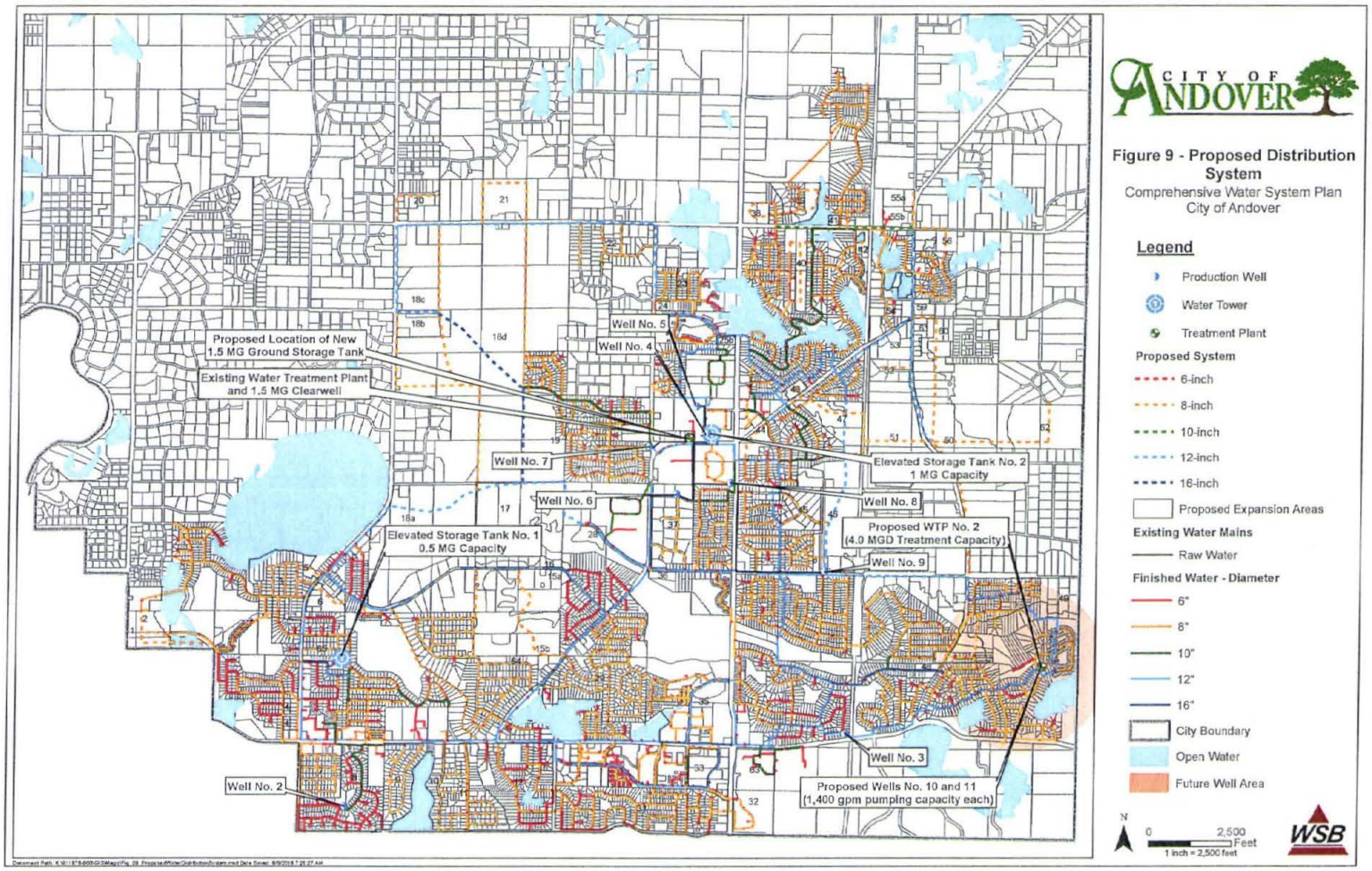
Legend

- City Boundary
- Open Water
- Future Service Area

N

0 3,200 Feet
1 inch = 3,200 feet

WSB


CITY OF ANDOVER
Figure 9 - Proposed Distribution System
Comprehensive Water System Plan
City of Andover
Legend
Production Well
Water Tower
Treatment Plant
Proposed System
6-inch
8-inch
10-inch
12-inch
16-inch
Proposed Expansion Areas
Existing Water Mains
Raw Water
Finished Water - Diameter
6"
8"
10"
12"
16"
City Boundary
Open Water
Future Well Area
N
0
2,500
Feet
1 inch = 2,500 feet
WSB
Proposed Location of New 1.5 MG Ground Storage Tank
Existing Water Treatment Plant and 1.5 MG Clearwell
Well No. 5
Well No. 4
Well No. 7
Well No. 6
Well No. 8
Well No. 9
Well No. 3
Well No. 2
Elevated Storage Tank No. 2 1 MG Capacity
Elevated Storage Tank No. 1 0.5 MG Capacity
Proposed WTP No. 2 (4.0 MGD Treatment Capacity)
Proposed Wells No. 10 and 11 (1,400 gpm pumping capacity each)

7.0 PROPOSED IMPROVEMENTS

Capacity improvements throughout the water distribution system were identified based on the water supply demands projected for the City of Andover through the planning period and beyond. Capacity improvements recommended include the construction of a new water treatment plant, two new wells to supply water to the new water treatment plant, and an expansion of the existing below-ground clearwell storage at the existing Water Treatment Plant No. 1. The sections below provide more detail on the timing of the recommended improvements.

7.1 Supply

As discussed in Section 4.2, firm supply capacity, which is the amount of water that can be reliably supplied with the largest well out of service, should be greater than or equal to the MD demand. When projected MD demands reach firm capacity, it is an indication that additional water supply capacity is needed. The projected MD demand is not expected to exceed the existing firm pumping capacity of the system before the end of the planning period (2040). In fact, given the assumptions used in this study, the MD demand is not projected to exceed the existing firm pumping capacity until the year 2085.

Although the MD demand is not projected to exceed the existing firm pumping capacity until 2085, this plan is proposing to build two new wells (Well No. 10 and No. 11) prior to 2085. Construction of Well No. 10 should be coordinated with the construction of WTP No. 2 and Well No. 11 could be built when the required treatment capacity to meet MD demands reaches 11 MGD. Thus, construction of Well No. 11 is not expected until 2070-2075.

Each well should have a firm pumping capacity of 1,400 gpm in order to supply enough untreated water to WTP No. 2 to meet ultimate buildout demand conditions. With the addition of these two wells, the City would have a future firm pumping capacity of 10,950 gpm, which is greater than the MD demand projected for ultimate buildout conditions (9,022 gpm). Well design capacity, and year of construction should be re-evaluated in future comprehensive planning efforts using updated assumptions. **Table 6** lists the projected MD demand calculated for the City of Andover through the year 2040.

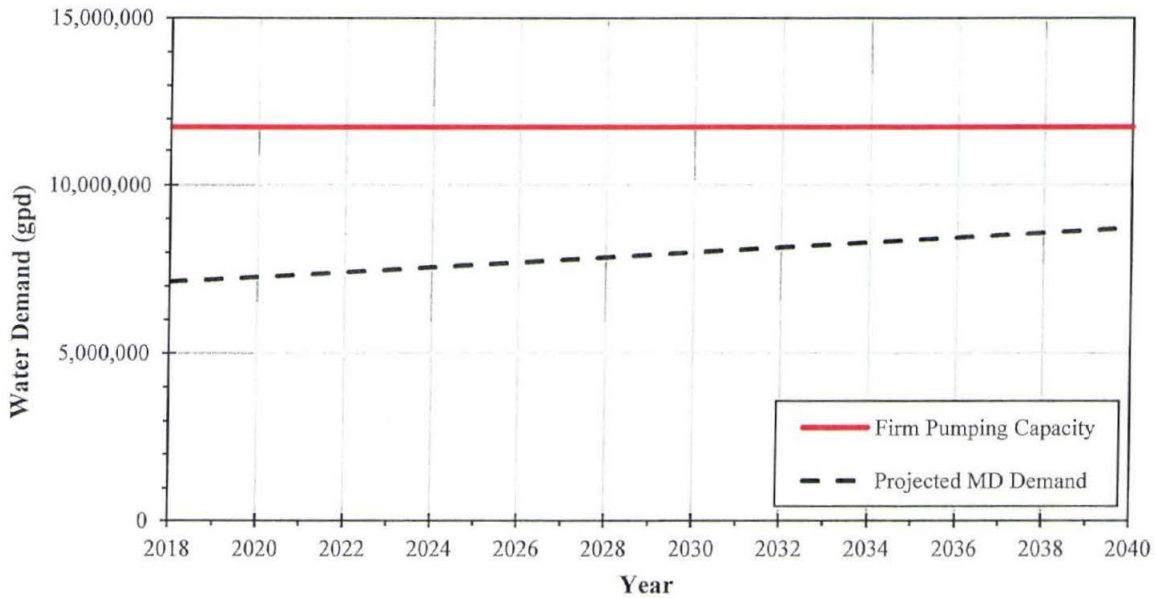
Table 6
Projected Water Demands

Year	Total Connections	Population Served	AD Demand (GPD)	MD Demand (GPD)	Firm Pumping Capacity (GPD)
2017	6,663	20,138	2,393,033	7,625,000	11,736,000
2018	6,733	20,324	2,417,811	7,132,543	11,736,000
2019	6,803	20,510	2,442,590	7,205,640	11,736,000
2020	6,873	20,696	2,467,368	7,278,736	11,736,000
2021	6,943	20,882	2,492,147	7,351,832	11,736,000
2022	7,013	21,068	2,516,925	7,424,929	11,736,000
2023	7,083	21,254	2,541,703	7,498,025	11,736,000
2024	7,153	21,440	2,566,482	7,571,121	11,736,000
2025	7,223	21,626	2,591,260	7,644,218	11,736,000
2026	7,293	21,812	2,616,039	7,717,314	11,736,000
2027	7,363	21,998	2,640,817	7,790,410	11,736,000

Year	Total Connections	Population Served	AD Demand (GPD)	MD Demand (GPD)	Firm Pumping Capacity (GPD)
2028	7,433	22,184	2,665,596	7,863,507	11,736,000
2029	7,503	22,370	2,690,374	7,936,603	11,736,000
2030	7,573	22,556	2,715,152	8,009,700	11,736,000
2040	8,273	24,416	2,962,937	8,740,663	11,736,000

Projected MD demand was calculated assuming that 60 residential connections and 5 acres of commercial development (assumed to be equivalent to 10 commercial connections per year) will be added to the City's system until reaching system buildout. Other assumptions included a 2.95 MD peaking factor, 3.1 persons served per residential connection, an AD residential per capita demand of 106 gallons per day, and an AD water usage of 1,000 gallons per day per acre for commercial developments. Assumptions for MD peaking factor, population served per connection, and AD residential per capita demand were obtained from historical utility records displayed in **Table 3**. MD demand projections and the City's firm pumping capacity during the planning period are shown in ***Figure 10***.

Figure 10
Firm Pumping Capacity vs. Maximum Day Demand

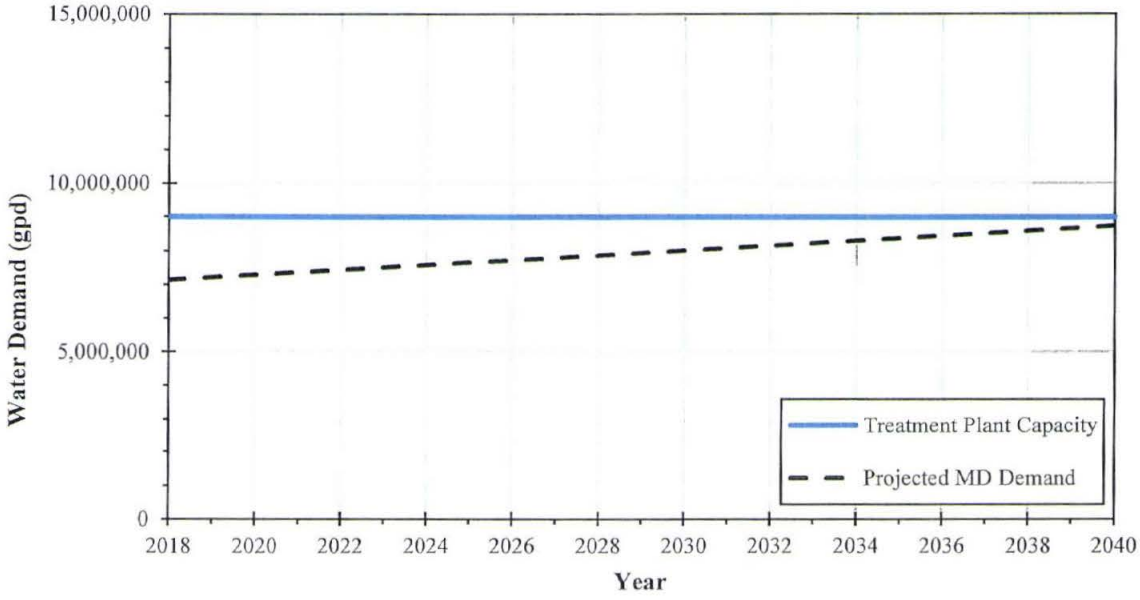


7.2 Treatment

The existing treatment plant has a capacity of 9 MGD. Based on the assumptions used to project growth, the MD demand for the City of Andover will be approximately 8.7 MGD by the year 2040. Thus, water treatment capacity improvements will not likely be needed within the planning period. Additional treatment capacity will be needed shortly after 2040. Given the growth and water demand trends used in this study, it is expected that additional treatment capacity will be needed by the year 2043. Additional treatment

capacity could be achieved by construction of a new water treatment plant (WTP No. 2). It is anticipated that WTP No. 2 will be designed to remove iron and manganese from groundwater. WTP No. 2 should be designed with an ultimate filtration treatment capacity of 4.0 MGD. With the addition of this new water treatment plant, the City would have a total treatment capacity of 13 MGD, which is greater than the MD demand predicted for the ultimate buildout condition (12.9 MGD). Plant design capacity and the estimated year of construction should be re-evaluated in future comprehensive planning efforts using updated assumptions. Water demand projections and the City's treatment capacity during the planning period are shown in ***Figure 11***.

Figure 11
Projected Treatment Capacity Needs



An alternative to building a new 4 MGD water treatment plant and two new wells to supply water to the plant would be to install a small treatment system at Well No. 3. Currently, Well No. 3 is only used to meet seasonal demands and its water enters the distribution system without being treated for iron and manganese. Thus, its pumping capacity is not accounted for when calculating the City's total treatment capacity. Similar to proposed WTP No. 2, the treatment system installed at Well No. 3 should be designed to remove iron and manganese from the groundwater. Additionally, this treatment system should also treat radium. By treating the water pumped by Well No. 3, the treatment capacity of the future WTP No. 2 could be reduced to 2.6 MGD, and there may not be a need to build two new wells (Wells No. 10 and No. 11) to supply water to WTP No. 2. This alternative should be re-evaluated in future comprehensive planning efforts using updated assumptions.

7.3 Storage

The volume of storage required on a water distribution system is determined by examining many variables, including operational needs, fire flow needs, and firm supply capacity. The calculations used for determining the existing and ultimate storage needs for the Andover water system are presented in **Table 7**.

Table 7

Storage Volume Requirements

		Existing	2040	Ultimate (2108)
A	AD Water Use in gpd	2,393,000	2,963,000	4,374,000
B	MD / AD Ratio	3.19	2.95	2.95
C	MD Water Use in gpd (A x B)	7,625,000	8,741,000	12,903,000
D	MD Water Use in gpm (2)	6,354	7,284	10,753
E	Firm Pumping Supply Capacity in gpm	8,150	8,150	10,950 (1)
F	ISO Design Fire Fighting Rate in gpm	3,500	3,500	3,500
G	Fire Fighting Duration in hours	3	3	3
H	Design Fire Fighting Volume in gal (F x G x 60 min/hour)	630,000	630,000	630,000
I	Total Coincident Demand in gpm (D + F)	9,854	10,784	14,253
J	Required Draft from Storage in gpm (I – E)	1,704	2,634	3,303
K	Adjusted Fire Fighting Storage in gal (G x 60 min/hr x J)	307,000	474,000	594,000
L	Equalization Storage in gpd (C x 25%)	1,906,250	2,185,250	3,225,750
M	Total Storage Needed in gal (K +L)	2,213,250	2,659,250	3,819,750
N	Andover's Storage Capacity in gallons	3,000,000	3,000,000	3,000,000
O	Additional Storage Capacity Needed in gallons (M – N)	0	0	819,750

(1) Firm pumping capacity is planned to increase by 2,800 gpm after wells No. 10 and 11 are constructed (assuming each well has a firm pumping capacity of 1,400 gpm). See Section 7.1 for a detailed explanation as to when and why firm pumping capacity should be increased before ultimate buildout conditions are reached.

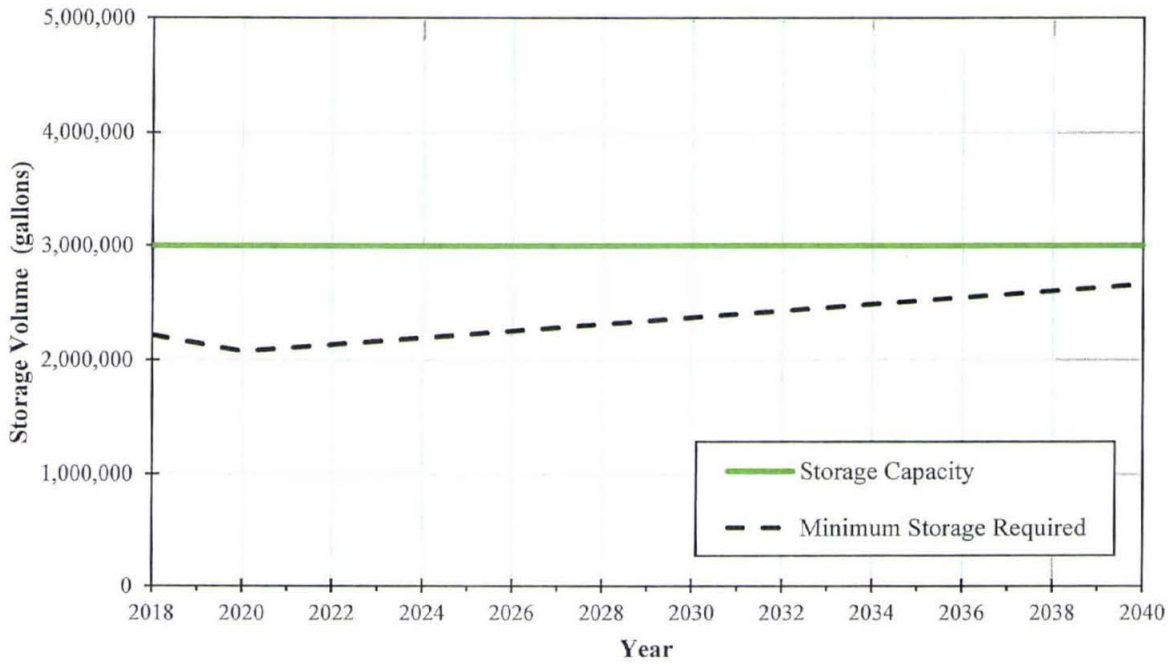
(2) MD Water Use in gpm was calculated assuming the City has 20 hours to supply this demand. The reason for this is that backwashing of the water treatment plant filters and pump cycling limits the amount of supply water that can be processed.

Given the development expected to take place in Andover and the calculations shown in **Table 7**, the City of Andover will need approximately 2.66 MG in storage volume by the year 2040. The City's existing storage capacity (3.0 MG) exceeds the calculated storage requirement by approximately 0.4 MG. Thus, no storage upgrades are needed before the end of the planning period. However, the City will need approximately 0.8 MG of additional storage volume to be able to meet the storage requirements for ultimate development.

The City has plans to demolish the existing 0.5 MG elevated storage tank in the future, reducing its future storage capacity to 2.5 MG. When this occurs, the City should plan to construct a 1.5 MG ground storage tank. This could be accomplished with an expansion of the existing below-ground clearwell storage at the existing Water Treatment Plant No. 1. With the addition of this new storage tank, the City would have a total storage capacity

of 4 MG, which is greater than the required storage capacity that is needed for ultimate development (3.8 MG). Based on the assumptions utilized in this report, demolition of the existing 0.5 MG elevated storage tank and construction of a 1.5 MG ground storage tank should take place around the year 2058. The City's storage requirements and existing storage capacity are shown in ***Figure 12.***

Figure 12
Projected Storage Requirements



A trigger chart displaying the recommended supply and treatment improvements for the City of Andover until full buildout conditions are reached is displayed in ***Figure 13***.

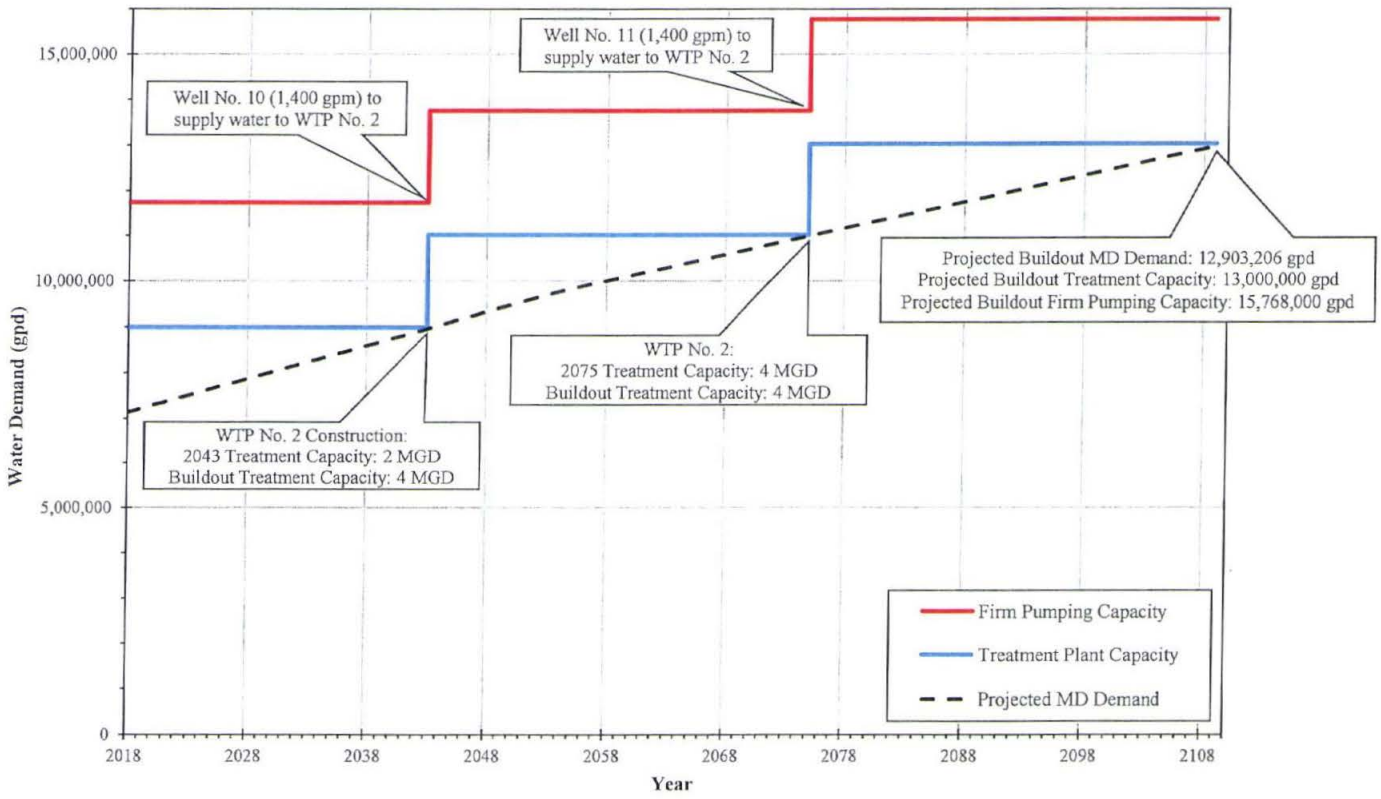


Figure 13 – Supply and Treatment Improvement Trigger Chart – Buildout Projections

7.4 Distribution System

As discussed with regard to available fire flows on the existing system in Section 5.5, there are some isolated regions within the current service area where flows could be improved by upgrading to larger water mains and/or converting dead-ends, or branched-style pipe networks, to looped networks. Looping should be used wherever possible since it makes the supply more reliable, and increases the available flow at any given location. Dead ends result in a lack of redundancy of service to downstream areas (large areas will be out of service in the event of a main failure or system maintenance) and rapid losses of pressure and flow during high flow conditions, as are found during fire fighting operations. In addition to improving available fire flow rates, increased trunk main looping allows for better system balance between supply and storage facilities.

It should be noted that the existing system has many trunk main loops, and flow results are relatively good. The recommendations discussed here are intended to allow the City to focus further improvements where they are most needed. These upgrades should be coordinated with other utility work or street repairs if possible. As the water system expands to serve future service areas, these strategies should also be carried over to those new developments.

In ***Figure 9***, a proposed trunk main layout to serve future land-use areas is illustrated. Several 8-, 10-, 12-, and 16-inch trunk main segments have been proposed to extend water service to the planned development areas, minimizing dead ends where possible. Consideration should be given to the type of proposed land use when locating new trunk mains. Developments that require larger fire flow rates should be located close to trunk main loops. The water model developed for this study can be employed in the future to estimate available flow rates to certain areas under given conditions, and to aid in the sizing of water mains used to serve these areas.

7.4.1 Combined Single Pressure Zone Analysis

The existing Andover water system includes a low-pressure zone and a high-pressure zone as identified in ***Figure 2***. The 1 MG water tower provides water storage and pressure for the high-pressure zone. The high-pressure zone receives mostly treated water from the water treatment plant. Well No. 3 pumps non-treated water directly into the high-pressure zone during peak water demands. The 0.5 MG water tower provides water storage and pressure for the low-pressure zone. The low-pressure zone receives treated water from the high-pressure zone during non-peak and peak water demands

The City's two pressure zone system requires additional operation and maintenance compared to a single pressure zone system. The pressure reducing station and controls must be carefully monitored by City staff and require periodic adjustments and repairs.

For future conditions, a single pressure zone was modeled without the 0.5 MG water tower and pressure reducing station to determine the expected AD water pressures and MD fire flows. The existing low-pressure zone would receive

adequate fire flows for the residential development when modeling the distribution system as a single pressure zone. A single pressure zone would:

1. Improve water quality for customers that are currently located in the low-pressure zone during peak water demands;
2. Eliminate pressure spikes caused by the altitude valve station, which has resulted in damaged plumbing systems;
3. Increase the water pressure for customers located in the low-pressure zone; and
4. Eliminate the operation and maintenance that is currently required for the two-pressure zone system.

The existing 0.5 MG water tower that serves the low-pressure zone would need to be replaced with an expansion of the below-ground clearwell storage at the existing Water Treatment Plant No. 1. The City plans to demolish the 0.5 MG tower and remove the altitude valve in the future. These changes have been incorporated into the ultimate system analysis in Section 8.

7.5 Probable Construction Costs

The proposed improvements for the City's water system are summarized in **Table 8**. The approximate year of completion and Engineer's opinion of probable construction cost in 2018 dollars are also shown in **Table 8**.

Table 8
Proposed Water System Improvements

Proposed Improvement			Approximate Year of Completion	Engineer's Opinion of Probable Cost
Quaternary Aquifer Observation Well			2018-2020	$54,000
Demolish Low Pressure Zone Tower and Valve Station			2030-2035	$205,000
Expand Water Treatment Plant Clearwell Capacity by 1.5 MG			2030-2035	$2,123,000
Test Well No. 10			2035-2040	$54,000
Well No. 10			2040-2045	$221,000
Water Treatment Plant No. 2			2040-2045	$9,943,000
Test Well No. 11			2065-2070	$54,000
Well No. 11			2070-2075	$221,000
Trunk Main Improvements	Rural Reserve Area	Over-sizing costs only	N/A	$795,000
		Total trunk costs	N/A	4,073,000
	Non-Rural Area	Over-sizing costs only	N/A	$999,000
		Total trunk costs	N/A	13,291,000

8.0 ANALYSIS OF ULTIMATE SERVICE AREA WITH PROPOSED IMPROVEMENTS

8.1 System Pressures after Improvements

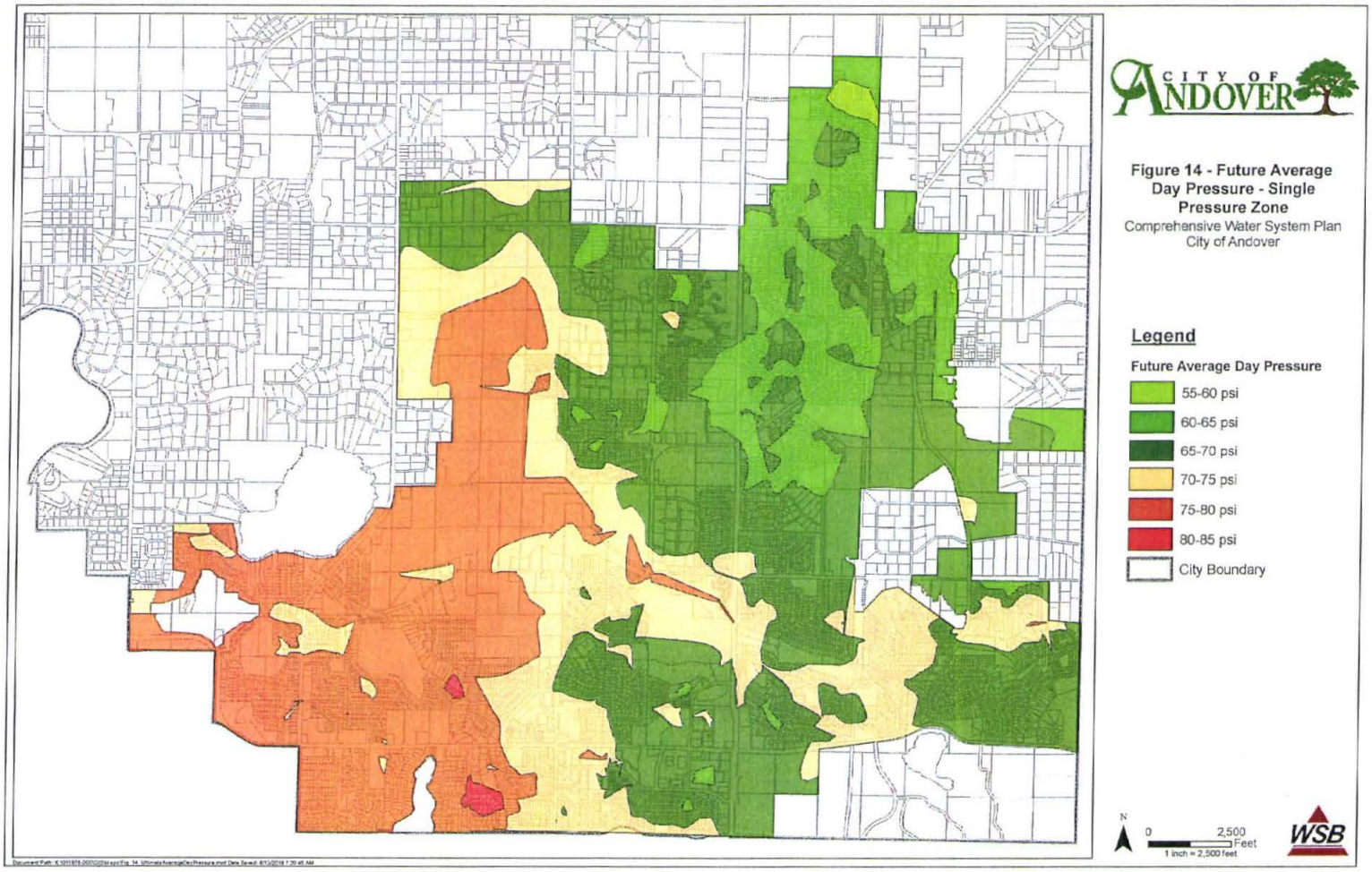
The model results for AD static pressures, with the proposed ultimate system layout described above, are shown in ***Figure 14***. As expected, pressures are shown to have increased in the southwestern portion of the service area due to the elimination of the low-pressure zone. Pressures have remained largely unchanged throughout the remainder of the existing service area.

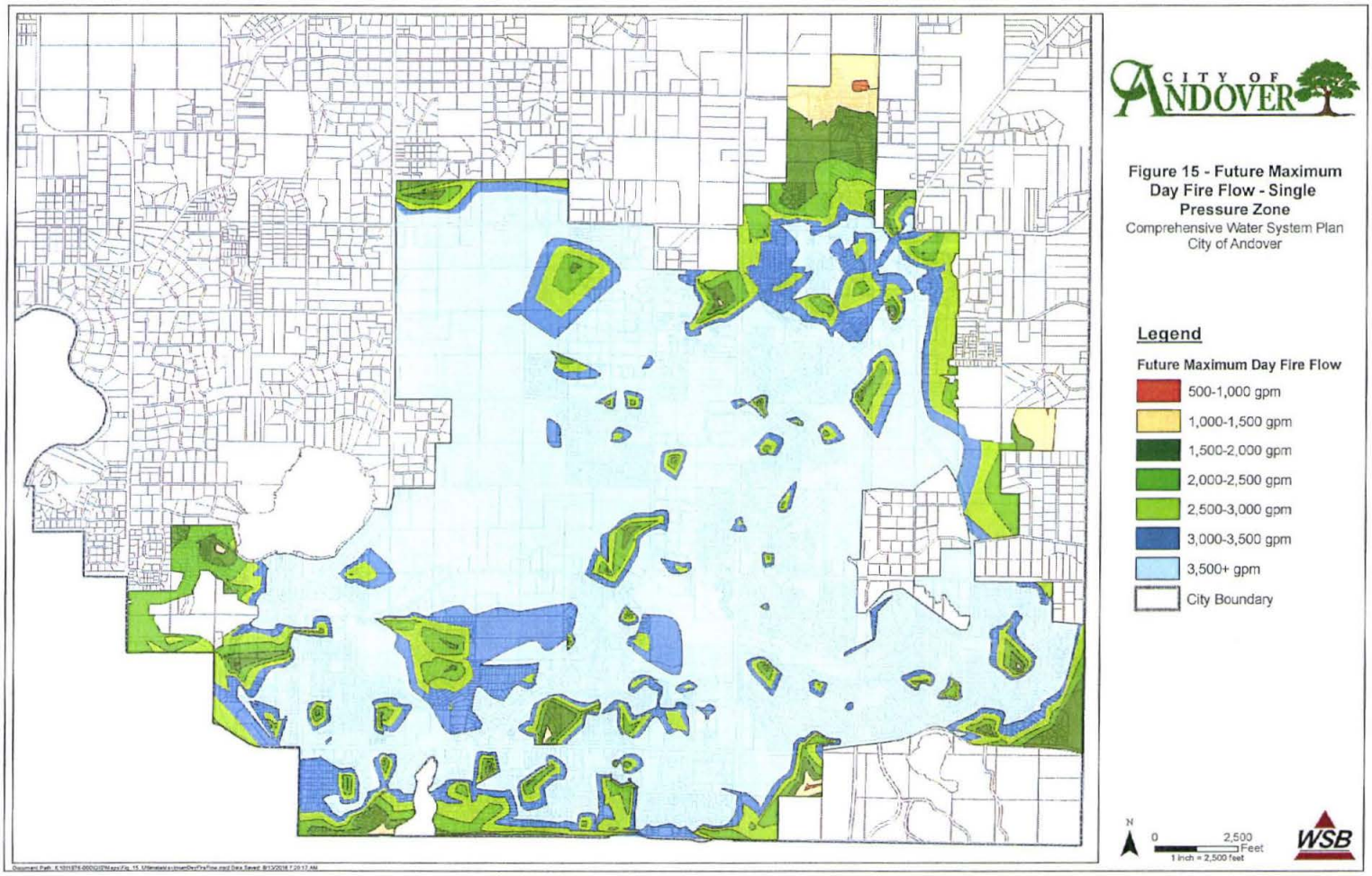
Throughout the entire ultimate service area, the vast majority of the static pressures are expected to fall in the 60 to 80 psi range, which is ideal for water system operation according to the American Water Works Association. There are isolated areas in the southwestern part of the system that are shown to have pressures slightly greater than 80 psi. Similarly, there are areas in the northeastern part of the system that have pressures slightly lower than 60 psi. Pressures higher than 80 psi occur at points with relatively low elevations, and pressures lower than 60 psi occur at points with higher elevations. This should not be a concern for operation of the water system considering that the areas experiencing static pressures greater than 80 or lower than 60 psi are relatively small.

8.2 Available Fire Flows after Improvements

The future available fire flows are represented in ***Figure 15***. These flows represent the future expected available fire flows with all recommended system improvements as shown in ***Figure 9***.

Comparing ***Figure 15*** with the proposed trunk main layout in ***Figure 9***, it can be seen that in locations where the proposed trunk mains dead-end at the system extents, frictional energy losses begin to limit the amount of flow available. If the loss in available fire flow is found to be unacceptable for a particular planned land use, improvements in fire flow can be made by increasing trunk main sizes and/or creating additional loops in the trunk main network. Specific questions can be addressed as they arise during development, using the water model as a tool to predict results under various scenarios. It is expected that the flow rates shown should be acceptable for most residential land uses.


CITY OF ANDOVER
Figure 14 - Future Average Day Pressure - Single Pressure Zone
Comprehensive Water System Plan
City of Andover
Legend
Future Average Day Pressure
55-60 psi
60-65 psi
65-70 psi
70-75 psi
75-80 psi
80-85 psi
City Boundary
N
0
2,500
Feet
1 inch = 2,500 feet
WSB


CITY OF ANDOVER
Figure 15 - Future Maximum Day Fire Flow - Single Pressure Zone
Comprehensive Water System Plan
City of Andover
Legend
Future Maximum Day Fire Flow
500-1,000 gpm
1,000-1,500 gpm
1,500-2,000 gpm
2,000-2,500 gpm
2,500-3,000 gpm
3,000-3,500 gpm
3,500+ gpm
City Boundary
N
0
2,500
Feet
1 inch = 2,500 feet
WSB

8.3 Economic Analysis

The City of Andover evaluates the costs of supplying, treating, storing, and constructing new trunk water main on an annual basis. The vast majority of the costs shown in **Table 8** will be recovered through a combination of area charges (distribution and storage), and connection charges (supply and treatment).

While the proposed facilities will be constructed mainly to serve growth, in some cases they also provide benefit to existing customers. The City can decide how much cost to assign to existing customers, and then recover a portion of these costs through water rates or other means.

9.0 CONCLUSIONS AND RECOMMENDATIONS

9.1 Supply

Currently, firm supply capacity exceeds MD demands, indicating that water supply facilities are adequate for current system demands. With planned growth and expansion, supply capacity in the form of additional municipal wells will be needed to meet the projected demands. In addition to projected increases in water demand, future plans for the elimination of wells that are not treated for iron and manganese will influence the need for additional supply capacity.

An estimated schedule for future treatment, supply, and storage improvement projects has been prepared and it can be found in **Table 8**. In addition to a construction schedule, **Table 8** also displays the Engineer's opinion of probably construction cost in 2018 dollars.

Future supply wells (Well No. 10 and 11) are planned in the Shadowbrook Development, near the location of proposed WTP No. 2. The future wells will likely produce high levels of iron and manganese, and they will supply water to the future WTP No. 2. Well siting studies and test wells are recommended to determine the suitability of these sites for production wells.

9.2 Treatment

The City's water treatment capacity will have to be increased shortly after the year 2040. During peak summer water demands, a portion of the water supply for Andover comes from remote wells that do not receive treatment for iron and manganese. The use of these wells should be phased out over time in the future if possible. That, combined with increasing water demands will create a need for a second water treatment plant. The future water treatment plant should be constructed in the Shadowbrook Development in southeastern Andover before 2043. The capacity of WTP No. 2 should be approximately 4 MGD. Plant design capacity and year of construction should be re-evaluated in future comprehensive planning efforts using updated assumptions

9.3 Storage

The projected storage need for the ultimate water system is approximately 3.8 MG. This will require 1.5 MG of additional storage capacity. The construction of a 1.5 MG spiral-wound concrete ground storage reservoir is recommended adjacent to the existing water treatment plant to meet this requirement. A figure displaying the proposed location of the ground storage reservoir can be found in ***Appendix A***.

9.4 Distribution System

Hydraulic modeling was employed in the analysis of the existing water distribution system in Andover. Modeling results indicate that the existing water distribution system has capacity to meet normal operational water demands and emergency fire flows throughout the service area. It is recommended that dead end mains be eliminated where feasible to improve available fire flow rates and increase reliability.

The water service area is currently divided into two separate pressure zones, with the southwestern portion of the system operating at lower pressures. The City's two pressure zone system requires additional operation and maintenance compared to a single pressure zone system. Hydraulic analysis indicates that this lower pressure zone is not required for system operations. Combining the two pressure zones into a single pressure zone would reduce maintenance while improving the water quality and water pressures for customers that are currently located in the low-pressure zone. The two pressure zones should be combined into a single pressure zone through demolition of the 0.5 MG elevated storage tank serving the lower pressure zone, and decommissioning of an altitude valve which currently controls water flow into this zone.

The water distribution system will require expansion in the future to serve proposed development. The proposed service area is shown in ***Figure 8***. Proposed development areas, along with future distribution system facilities to serve these areas are shown in ***Figure 9***. The proposed system layout shown in ***Figure 9*** was analyzed using the hydraulic model. Water mains were sized to provide the expected flow rates that will be needed, based on the type of land use expected in each proposed development area.

APPENDIX A

Water Treatment Plant Site Plan

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CITY OF ANDOVER

Water Treatment Plant Site Plan

Comprehensive Water System Plan
City of Andover

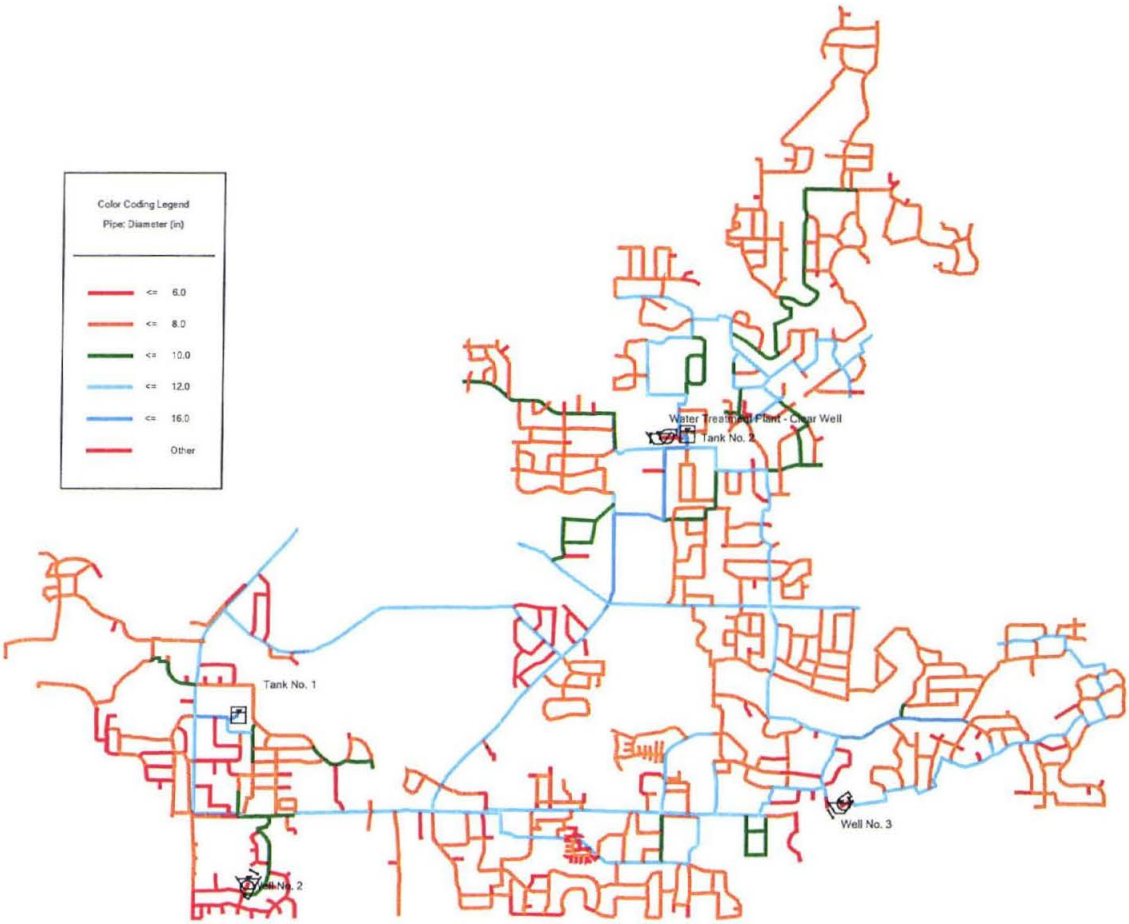
0 100 Feet
1 inch = 100 feet

WSB

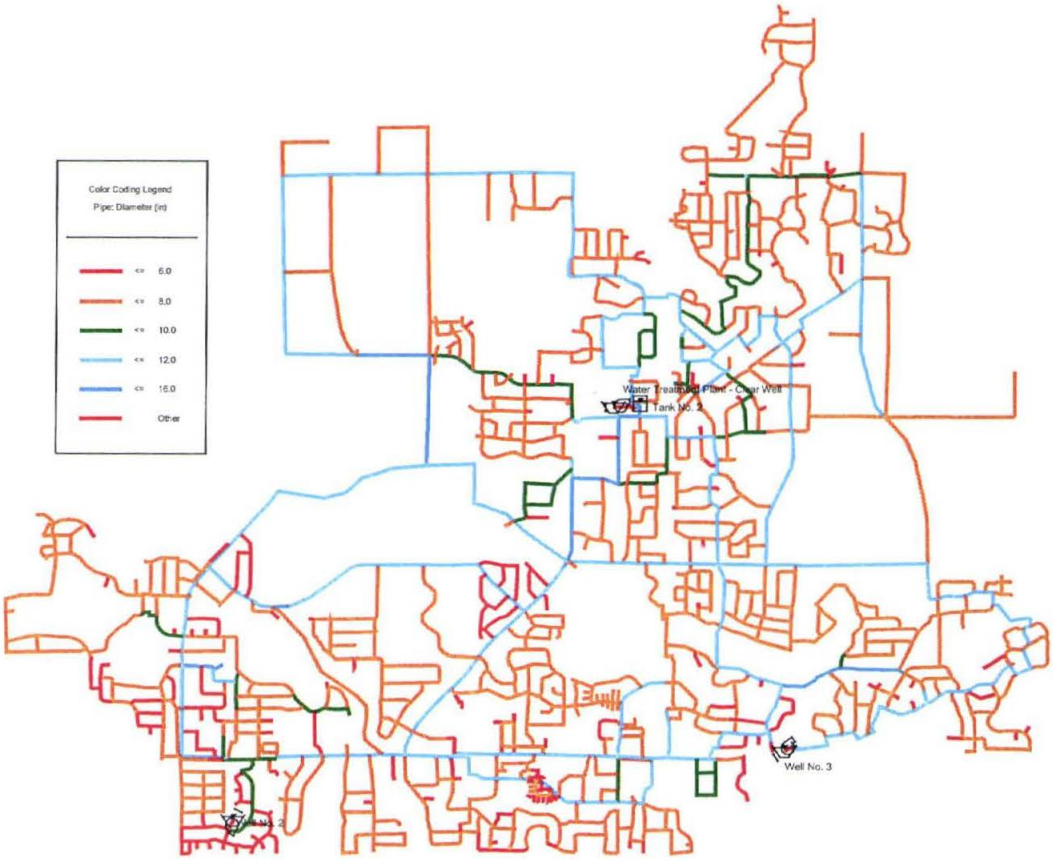
APPENDIX B

WaterCAD Model Map

City of Andover 2018 Comprehensive Water Plan
Existing Water System



City of Andover 2018 Comprehensive Water Plan
Future Water System



APPENDIX C

WaterCAD Model Data

City of Andover 2018 Comprehensive Water Plan

Pipe Report

Label	Length (ft)	Diameter (in)	Material	Hazen-Williams C	Zone
P-1	609	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-1a	243	16.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1b	338	16.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-2	288	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-2a	152	10.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-2b	138	10.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-3	489	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-3a	168	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-3b	152	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-4	461	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-5	293	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-6	459	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-7	287	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-8	284	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-9	363	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-10	625	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-11	219	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-12	1,108	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-13	412	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-14	474	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-15	1,238	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-17	155	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-18	879	10.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-19	225	10.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-20	209	6.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-21	312	6.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-22	426	6.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-23	511	12.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-25	574	12.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-26	937	12.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-27	363	12.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-28	208	12.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-29	429	12.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-30	371	12.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-31	1,150	12.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-32	626	12.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-33	331	12.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-34	130	12.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-35	569	12.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-36	319	12.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-37	655	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-38	315	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-39	862	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-40	384	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-41	89	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-42	397	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-43	1,222	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-44	1,238	12.0	Ductile Iron	130.0	Zone No. 1 - Existing

City of Andover 2018 Comprehensive Water Plan

Pipe Report

Label	Length (ft)	Diameter (in)	Material	Hazen-Williams C	Zone
P-45	144	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-46	327	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-48	754	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-49	267	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-51	54	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-52	1,282	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-53	244	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-54	412	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-55	413	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-56	804	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-57	488	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-58	402	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-59	342	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-60	318	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-61	345	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-62	297	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-63	301	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-66	1,204	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-67	301	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-68	496	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-69	231	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-70	761	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-71	348	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-72	577	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-73	362	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-74	931	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-75	1,131	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-76	429	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-77	831	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-78	504	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-79	1,290	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-80	808	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-81	186	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-82	724	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-83	869	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-84	430	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-85	1,473	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-86	179	16.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-87	685	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-88	244	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-89	205	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-90	472	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-91	656	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-92	505	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-94	676	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-95	676	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-96	435	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-97	392	12.0	Ductile Iron	130.0	Zone No. 1 - Existing

City of Andover 2018 Comprehensive Water Plan

Pipe Report

Label	Length (ft)	Diameter (in)	Material	Hazen-Williams C	Zone
P-98	254	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-99	431	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-100	367	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-102	162	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-103	615	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-104	355	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-105	335	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-106	336	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-107	256	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-108	1,283	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-109	576	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-110	156	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-111	200	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-112	125	12.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-113	653	6.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-114	69	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-115	420	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-116	245	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-118	460	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-119	1,225	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-120	944	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-121	268	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-122	389	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-123	339	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-124	411	10.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-125	277	10.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-126	337	10.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-127	600	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-128	320	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-129	1,241	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-130	316	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-131	602	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-132	321	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-133	350	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-134	386	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-135	310	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-136	148	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-137	602	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-138	322	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-139	96	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-140	564	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-141	858	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-142	645	10.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-143	223	10.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-144	317	10.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-145	410	10.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-146	154	6.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-147	383	6.0	Ductile Iron	130.0	Zone No. 2 - Existing

City of Andover 2018 Comprehensive Water Plan

Pipe Report

Label	Length (ft)	Diameter (in)	Material	Hazen-Williams C	Zone
P-148	383	6.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-149	362	6.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-150	603	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-151	367	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-152	355	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-153	216	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-154	254	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-155	153	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-156	837	6.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-157	920	6.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-158	1,331	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-159	469	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-160	470	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-161	510	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-162	300	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-163	341	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-164	337	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-165	720	6.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-166	347	6.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-167	226	6.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-168	655	6.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-169	811	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-170	103	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-171	1,289	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-172	80	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-174	362	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-175	598	6.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-176	541	6.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-177	355	6.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-178	335	6.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-179	517	6.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-180	1,351	6.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-181	376	16.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-182	522	16.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-183	297	16.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-184	1,379	6.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-185	624	6.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-186	552	6.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-188	175	10.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-189	563	10.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-190	941	10.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-191	337	6.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-192	218	10.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-193	324	10.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-194	656	10.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-195	439	6.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-196	648	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-197	333	6.0	Ductile Iron	130.0	Zone No. 2 - Existing

City of Andover 2018 Comprehensive Water Plan

Pipe Report

Label	Length (ft)	Diameter (in)	Material	Hazen-Williams C	Zone
P-198	257	6.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-199	262	6.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-200	237	6.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-201	347	6.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-202	368	6.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-203	652	6.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-204	427	6.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-205	626	6.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-206	438	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-207	413	6.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-208	68	10.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-209	790	10.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-210	674	12.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-211	1,376	6.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-212	1,097	10.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-213	599	10.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-214	635	6.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-215	653	12.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-216	607	6.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-217	506	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-220	921	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-221	450	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-222	930	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-223	802	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-224	484	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-225	492	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-226	356	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-227	1,409	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-228	395	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-229	643	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-230	670	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-231	213	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-232	1,381	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-234	327	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-235	839	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-236	239	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-237	613	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-238	457	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-239	572	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-240	388	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-241	469	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-242	196	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-243	477	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-244	607	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-245	325	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-246	479	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-247	773	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-248	191	6.0	Ductile Iron	130.0	Zone No. 1 - Existing

City of Andover 2018 Comprehensive Water Plan

Pipe Report

Label	Length (ft)	Diameter (in)	Material	Hazen-Williams C	Zone
P-249	559	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-250	265	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-252	1,493	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-253	641	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-254	1,493	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-255	542	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-257	1,283	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-258	488	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-259	374	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-260	742	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-261	488	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-262	363	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-263	676	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-264	986	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-265	549	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-266	390	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-268	684	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-269	312	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-270	369	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-271	299	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-273	728	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-274	200	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-275	266	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-276	650	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-277	527	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-278	668	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-279	331	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-280	664	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-281	331	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-282	192	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-283	196	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-284	227	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-285	219	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-286	275	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-287	398	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-288	104	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-289	731	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-290	947	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-291	620	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-292	661	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-293	1,344	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-294	914	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-295	494	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-296	331	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-297	473	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-298	363	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-299	212	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-300	168	12.0	Ductile Iron	130.0	Zone No. 1 - Existing

City of Andover 2018 Comprehensive Water Plan

Pipe Report

Label	Length (ft)	Diameter (in)	Material	Hazen-Williams C	Zone
P-301	234	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-302	247	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-303	853	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-304	267	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-305	420	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-306	655	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-308	345	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-309	718	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-311	1,172	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-312	730	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-313	285	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-315	1,240	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-316	1,007	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-317	409	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-318	1,067	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-319	353	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-320	342	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-321	810	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-322	1,031	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-323	369	10.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-324	448	10.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-325	261	10.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-326	273	10.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-327	208	10.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-328	222	10.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-329	206	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-330	1,474	16.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-331	1,386	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-332	639	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-333	273	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-334	100	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-335	486	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-336	897	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-337	450	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-338	975	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-339	119	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-340	690	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-341	351	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-342	386	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-343	1,793	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-344	244	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-345	263	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-346	412	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-347	281	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-348	204	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-349	279	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-350	241	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-351	621	8.0	Ductile Iron	130.0	Zone No. 1 - Existing

City of Andover 2018 Comprehensive Water Plan

Pipe Report

Label	Length (ft)	Diameter (in)	Material	Hazen-Williams C	Zone
P-352	1,193	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-353	1,318	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-354	802	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-355	399	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-356	339	10.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-357	324	10.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-358	634	10.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-359	331	10.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-360	852	10.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-361	516	10.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-362	353	10.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-363	206	10.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-364	595	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-365	217	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-366	466	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-367	220	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-368	225	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-369	544	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-370	428	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-371	275	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-372	198	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-373	480	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-374	1,119	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-375	1,054	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-376	165	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-377	249	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-378	224	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-379	135	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-380	289	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-381	224	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-382	816	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-383	329	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-384	525	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-385	353	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-386	358	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-387	891	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-388	344	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-389	360	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-390	783	16.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-391	707	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-392	641	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-393	385	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-394	306	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-395	329	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-396	133	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-397	435	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-398	555	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-399	400	8.0	Ductile Iron	130.0	Zone No. 1 - Existing

City of Andover 2018 Comprehensive Water Plan

Pipe Report

Label	Length (ft)	Diameter (in)	Material	Hazen-Williams C	Zone
P-400	329	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-401	702	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-402	741	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-403	303	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-404	321	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-405	322	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-406	593	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-407	384	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-408	344	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-409	387	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-410	346	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-411	479	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-412	356	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-413	1,074	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-414	939	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-415	420	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-416	237	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-417	857	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-418	350	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-419	776	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-420	381	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-421	419	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-422	321	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-423	983	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-424	197	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-425	1,363	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-426	221	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-427	54	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-428	998	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-429	270	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-430	893	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-432	729	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-433	279	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-434	858	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-435	181	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-436	723	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-437	217	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-438	1,077	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-439	160	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-440	478	16.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-441	193	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-442	289	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-443	632	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-444	377	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-445	347	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-446	162	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-447	660	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-448	496	8.0	Ductile Iron	130.0	Zone No. 1 - Existing

City of Andover 2018 Comprehensive Water Plan

Pipe Report

Label	Length (ft)	Diameter (in)	Material	Hazen-Williams C	Zone
P-449	1,092	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-451	1,420	16.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-452	330	16.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-453	1,568	16.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-454	409	10.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-455	591	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-456	1,075	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-457	807	16.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-458	737	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-459	831	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-460	517	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-461	483	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-462	518	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-463	348	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-464	274	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-465	421	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-466	748	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-467	504	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-468	727	6.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-469	1,020	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-470	1,386	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-471	460	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-472	602	12.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-473	314	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-475	389	16.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-476	390	6.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-477	175	16.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-478	750	10.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-479	114	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-480	376	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-481	816	6.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-482	557	12.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-483	75	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-484	241	12.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-485	191	6.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-486	1,660	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-487	227	6.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-488	201	6.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-489	226	6.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-490	459	6.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-491	175	6.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-492	533	6.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-493	144	6.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-494	289	6.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-495	202	6.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-496	304	6.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-497	367	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-498	215	6.0	Ductile Iron	130.0	Zone No. 1 - Existing

City of Andover 2018 Comprehensive Water Plan

Pipe Report

Label	Length (ft)	Diameter (in)	Material	Hazen-Williams C	Zone
P-499	785	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-500	259	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-501	676	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-502	246	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-503	303	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-505	699	12.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-506	353	10.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-507	1,251	6.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-508	373	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-509	216	6.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-510	329	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-511	215	6.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-512	588	6.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-513	160	6.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-514	470	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-515	1,158	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-516	859	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-517	1,204	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-518	1,895	12.0	Ductile Iron	130.0	Zone No. 1 - Future
P-519	225	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-520	503	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-521	2,178	12.0	Ductile Iron	130.0	Zone No. 1 - Future
P-522	2,616	12.0	Ductile Iron	130.0	Zone No. 1 - Future
P-523	1,296	12.0	Ductile Iron	130.0	Zone No. 1 - Future
P-524	1,280	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-526	183	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-527	361	10.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-528	1,654	12.0	Ductile Iron	130.0	Zone No. 1 - Future
P-529	491	10.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-530	308	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-531	383	10.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-534	1,292	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-535	455	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-536	54	10.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-537	1,169	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-538	577	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-540	431	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-541	108	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-543	121	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-544	359	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-545	84	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-546	377	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-547	85	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-548	467	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-549	122	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-550	849	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-551	308	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-552	326	8.0	Ductile Iron	130.0	Zone No. 1 - Existing

City of Andover 2018 Comprehensive Water Plan

Pipe Report

Label	Length (ft)	Diameter (in)	Material	Hazen-Williams C	Zone
P-553	341	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-554	103	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-555	984	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-556	627	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-557	922	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-558	739	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-559	782	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-562	445	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-563	474	10.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-564	418	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-566	430	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-567	1,401	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-568	193	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-569	1,118	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-570	822	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-571	383	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-572	407	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-573	339	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-574	169	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-575	225	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-576	443	6.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-577	737	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-578	726	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-579	310	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-580	437	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-581	412	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-582	671	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-583	322	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-584	180	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-586	1,012	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-587	153	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-588	480	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-589	456	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-590	443	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-591	477	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-592	469	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-593	1,310	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-594	342	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-595	251	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-596	698	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-597	625	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-598	556	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-599	1,135	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-600	265	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-601	1,953	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-602	454	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-603	165	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-604	275	8.0	Ductile Iron	130.0	Zone No. 1 - Existing

City of Andover 2018 Comprehensive Water Plan

Pipe Report

Label	Length (ft)	Diameter (in)	Material	Hazen-Williams C	Zone
P-605	836	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-606	842	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-607	1,156	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-608	294	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-609	471	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-611	276	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-612	228	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-613	257	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-614	272	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-615	527	6.0	Ductile Iron	130.0	Zone No. 1 - Future
P-616	417	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-617	246	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-618	225	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-619	888	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-620	197	16.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-621	880	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-622	323	6.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-623	219	6.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-624	801	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-625	465	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-626	459	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-627	177	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-628	539	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-629	771	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-630	385	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-631	524	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-632	1,135	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-633	1,117	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-634	557	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-635	995	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-636	884	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-637	404	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-638	582	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-639	317	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-640	736	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-641	665	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-642	1,244	16.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-643	480	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-644	547	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-645	351	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-646	554	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-647	355	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-648	255	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-649	1,091	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-650	996	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-651	642	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-652	339	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-653	412	8.0	Ductile Iron	130.0	Zone No. 1 - Existing

City of Andover 2018 Comprehensive Water Plan

Pipe Report

Label	Length (ft)	Diameter (in)	Material	Hazen-Williams C	Zone
P-654	389	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-655	854	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-656	796	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-657	356	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-658	827	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-659	489	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-660	313	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-661	385	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-662	407	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-663	186	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-664	440	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-665	417	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-666	381	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-667	508	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-668	188	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-669	554	16.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-670	583	16.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-671	1,173	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-674	684	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-675	346	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-676	290	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-677	537	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-678	542	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-679	745	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-680	805	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-681	354	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-682	211	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-685	846	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-686	315	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-687	1,029	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-688	547	10.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-689	647	10.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-690	792	10.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-692	366	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-693	354	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-694	247	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-695	507	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-696	323	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-697	293	10.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-698	388	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-699	228	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-700	264	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-701	405	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-702	964	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-703	259	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-704	170	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-705	394	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-706	909	8.0	Ductile Iron	130.0	Zone No. 1 - Existing

City of Andover 2018 Comprehensive Water Plan

Pipe Report

Label	Length (ft)	Diameter (in)	Material	Hazen-Williams C	Zone
P-707	283	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-708	873	10.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-709	430	10.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-710	1,863	10.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-712	551	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-713	353	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-714	166	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-715	238	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-716	179	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-717	359	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-719	319	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-720	167	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-721	200	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-722	147	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-723	35	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-724	122	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-725	1,039	10.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-726	961	10.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-727	539	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-728	348	10.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-729	988	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-730	479	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-731	324	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-732	603	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-733	290	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-734	886	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-735	894	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-736	469	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-737	329	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-738	258	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-739	546	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-740	1,195	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-741	459	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-742	764	10.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-746	431	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-747	292	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-748	556	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-749	303	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-750	670	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-751	547	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-752	328	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-753	444	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-754	396	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-755	593	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-756	1,388	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-757	292	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-759	582	12.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-761	337	8.0	Ductile Iron	130.0	Zone No. 2 - Existing

City of Andover 2018 Comprehensive Water Plan

Pipe Report

Label	Length (ft)	Diameter (in)	Material	Hazen-Williams C	Zone
P-762	92	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-763	669	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-764	564	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-765	335	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-767	405	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-769	136	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-770	149	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-771	322	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-772	561	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-774	206	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-775	552	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-776	247	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-777	124	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-778	367	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-779	1,001	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-780	467	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-781	64	10.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-783	923	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-784	151	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-786	911	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-787	303	10.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-788	495	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-789	468	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-790	150	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-792	766	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-794	420	10.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-795	445	10.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-796	1,112	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-797	221	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-798	428	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-799	241	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-800	798	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-801	373	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-802	192	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-803	692	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-804	1,818	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-806	376	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-807	262	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-808	262	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-809	637	10.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-810	1,397	10.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-811	359	10.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-812	339	10.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-813	1,269	10.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-814	611	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-815	246	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-816	160	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-817	668	8.0	Ductile Iron	130.0	Zone No. 1 - Future

City of Andover 2018 Comprehensive Water Plan

Pipe Report

Label	Length (ft)	Diameter (in)	Material	Hazen-Williams C	Zone
P-818	605	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-819	351	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-820	861	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-821	337	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-822	317	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-823	339	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-824	861	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-825	476	10.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-826	415	10.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-827	516	10.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-828	391	10.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-829	355	10.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-830	512	10.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-831	382	10.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-832	338	10.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-833	188	10.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-834	324	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-835	389	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-836	393	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-837	1,252	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-838	289	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-839	283	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-840	180	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-841	153	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-842	473	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-843	631	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-844	94	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-846	710	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-847	2,089	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-848	178	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-850	653	10.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-852	269	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-853	317	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-854	729	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-855	410	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-856	150	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-857	277	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-858	176	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-859	274	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-860	214	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-861	695	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-862	696	10.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-863	269	10.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-864	406	10.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-865	219	10.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-866	462	10.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-867	412	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-868	845	8.0	Ductile Iron	130.0	Zone No. 1 - Existing

City of Andover 2018 Comprehensive Water Plan

Pipe Report

Label	Length (ft)	Diameter (in)	Material	Hazen-Williams C	Zone
P-869	270	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-870	755	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-871	277	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-872	708	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-873	274	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-874	983	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-875	653	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-876	178	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-877	699	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-878	334	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-879	321	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-880	216	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-881	689	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-882	321	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-883	351	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-884	316	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-885	422	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-886	1,004	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-887	573	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-888	159	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-889	179	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-890	439	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-891	309	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-892	229	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-893	161	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-894	872	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-895	268	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-897	208	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-898	300	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-899	358	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-900	252	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-901	175	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-902	496	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-903	312	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-904	463	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-905	212	6.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-906	447	6.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-907	833	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-908	104	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-912	598	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-913	474	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-914	286	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-915	511	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-916	497	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-917	228	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-918	342	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-957	460	12.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-959	59	6.0	Ductile Iron	130.0	Zone No. 2 - Existing

City of Andover 2018 Comprehensive Water Plan

Pipe Report

Label	Length (ft)	Diameter (in)	Material	Hazen-Williams C	Zone
P-960	717	6.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-961	451	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-962	84	10.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-963	284	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-964	73	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-965	907	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-966	364	6.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-967	619	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-968	145	10.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-969	437	10.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-970	222	6.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-971	185	6.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-972	332	6.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-973	329	6.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-974	222	6.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-975	110	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-976	47	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-977	546	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-979	703	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-980	681	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-981	588	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-982	107	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-983	21	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-984	123	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-985	135	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-986	15	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-987	124	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-988	138	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-989	148	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-990	476	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-991	636	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-992	215	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-993	432	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-994	153	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-995	125	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-996	160	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-997	224	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-998	226	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-999	234	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1000	430	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1001	234	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1002	223	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1003	135	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1004	223	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1005	168	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1006	354	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1007	211	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1008	366	8.0	Ductile Iron	130.0	Zone No. 1 - Existing

City of Andover 2018 Comprehensive Water Plan

Pipe Report

Label	Length (ft)	Diameter (in)	Material	Hazen-Williams C	Zone
P-1009	190	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1010	655	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1011	872	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1012	358	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1013	438	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1014	1,062	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1015	261	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1016	213	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1017	956	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1018	326	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1019	257	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1020	173	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1021	221	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1022	719	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1023	893	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1024	671	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1025	745	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1026	839	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1027	232	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1028	989	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1029	1,120	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1030	735	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1031	478	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1032	447	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1033	251	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1034	935	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1035	363	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1036	67	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1037	138	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1038	386	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1039	240	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1040	892	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1041	467	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1042	124	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1043	751	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1044	179	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1045	254	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1046	240	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1047	443	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1048	931	10.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1049	223	10.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1050	173	10.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1051	515	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1052	208	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1053	507	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1055	323	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1056	688	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1057	306	8.0	Ductile Iron	130.0	Zone No. 1 - Existing

City of Andover 2018 Comprehensive Water Plan

Pipe Report

Label	Length (ft)	Diameter (in)	Material	Hazen-Williams C	Zone
P-1058	477	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1059	481	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1060	386	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1061	320	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1062	595	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1063	802	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1064	714	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1065	616	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1066	772	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1067	657	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1068	180	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1069	290	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1070	890	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1071	1,098	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1072	233	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1073	791	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1074	852	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1075	926	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1076	299	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1077	386	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1078	539	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1079	137	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1080	364	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1081	339	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1082	409	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1083	550	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1084	664	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1085	131	10.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1086	495	10.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1087	237	10.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1088	393	10.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1089	150	10.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1090	244	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1091	230	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1092	243	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1093	306	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1094	460	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1095	305	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1096	461	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1097	354	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1098	26	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1099	159	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1100	139	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1101	424	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1102	301	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1103	181	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1104	1,201	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1105	286	8.0	Ductile Iron	130.0	Zone No. 1 - Existing

City of Andover 2018 Comprehensive Water Plan

Pipe Report

Label	Length (ft)	Diameter (in)	Material	Hazen-Williams C	Zone
P-1106	163	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1107	256	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1108	539	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1109	153	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1110	911	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1111	939	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1112	1,464	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1114	146	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1115	315	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1116	284	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1117	364	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1118	164	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1119	83	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1120	247	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1121	67	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1122	184	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1123	296	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1124	293	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1125	97	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1126	156	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1127	154	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1128	194	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1129	196	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1130	64	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1131	137	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1132	169	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1133	318	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1134	137	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1135	102	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1136	40	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1137	83	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1138	62	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1139	127	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1140	125	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1141	88	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1142	84	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1143	193	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1144	196	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1149	356	10.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1150	639	10.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1152	376	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1153	348	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1154	309	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1155	289	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1156	174	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1157	748	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1158	1,033	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1159	277	8.0	Ductile Iron	130.0	Zone No. 1 - Future

City of Andover 2018 Comprehensive Water Plan

Pipe Report

Label	Length (ft)	Diameter (in)	Material	Hazen-Williams C	Zone
P-1161	1,285	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1163	969	12.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1169	3,519	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1170	2,521	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1171	1,766	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1172	2,801	12.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1173	614	12.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1174	895	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1175	980	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1177	475	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1182	422	12.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1183	705	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1184	550	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1185	317	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1187	405	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1188	1,315	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1189	528	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1190	927	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1191	643	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1192	691	12.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1193	803	12.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1194	902	12.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1195	314	12.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1196	646	12.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1197	609	12.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1198	624	12.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1199	1,059	12.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1200	106	12.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1203	724	12.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1204	1,440	12.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1205	917	10.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1207	1,158	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1208	901	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1211	732	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1212	764	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1213	1,715	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1214	1,282	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1215	1,124	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1217	542	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1218	828	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1219	320	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1220	860	12.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1224	2,636	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1225	2,376	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1226	2,042	16.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1227	888	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1230	353	12.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-1231	326	12.0	Ductile Iron	130.0	Zone No. 2 - Existing

City of Andover 2018 Comprehensive Water Plan

Pipe Report

Label	Length (ft)	Diameter (in)	Material	Hazen-Williams C	Zone
P-1232	694	12.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-1233	518	12.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-1236	99	6.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-1237	115	6.0	Ductile Iron	130.0	Zone No. 2 - Future
P-1238	466	8.0	Ductile Iron	130.0	Zone No. 2 - Future
P-1239	708	8.0	Ductile Iron	130.0	Zone No. 2 - Future
P-1240	513	8.0	Ductile Iron	130.0	Zone No. 2 - Future
P-1241	131	8.0	Ductile Iron	130.0	Zone No. 2 - Future
P-1245	339	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-1246	377	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-1247	520	8.0	Ductile Iron	130.0	Zone No. 2 - Future
P-1248	889	8.0	Ductile Iron	130.0	Zone No. 2 - Future
P-1249	382	8.0	Ductile Iron	130.0	Zone No. 2 - Future
P-1252	455	8.0	Ductile Iron	130.0	Zone No. 2 - Future
P-1254	463	8.0	Ductile Iron	130.0	Zone No. 2 - Future
P-1257	305	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1262	326	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1263	214	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1268	1,263	8.0	Ductile Iron	130.0	Zone No. 2 - Future
P-1269	2,196	8.0	Ductile Iron	130.0	Zone No. 2 - Future
P-1270	1,868	8.0	Ductile Iron	130.0	Zone No. 2 - Future
P-1274	1,184	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1276	771	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1277	714	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1278	1,297	8.0	Ductile Iron	130.0	Zone No. 2 - Future
P-1282	491	8.0	Ductile Iron	130.0	Zone No. 2 - Future
P-1283	128	6.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1284	378	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1285	706	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1286	397	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1287	1,979	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1288	480	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1289	684	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1290	821	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1291	1,097	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1293	638	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1294	737	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1295	1,636	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1296	267	6.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-1297	1,208	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1298	799	8.0	Ductile Iron	130.0	Zone No. 2 - Future
P-1299	472	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1300	388	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1301	2,014	8.0	Ductile Iron	130.0	Zone No. 2 - Future
P-1302	695	8.0	Ductile Iron	130.0	Zone No. 2 - Future
P-1303	602	8.0	Ductile Iron	130.0	Zone No. 2 - Future
P-1304	316	8.0	Ductile Iron	130.0	Zone No. 2 - Future
P-1305	218	8.0	Ductile Iron	130.0	Zone No. 1 - Future

City of Andover 2018 Comprehensive Water Plan

Pipe Report

Label	Length (ft)	Diameter (in)	Material	Hazen-Williams C	Zone
P-1306	711	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1307	339	8.0	Ductile Iron	130.0	Zone No. 2 - Future
P-1308	369	8.0	Ductile Iron	130.0	Zone No. 2 - Future
P-1309	605	8.0	Ductile Iron	130.0	Zone No. 2 - Future
P-1310	900	8.0	Ductile Iron	130.0	Zone No. 2 - Future
P-1311	550	8.0	Ductile Iron	130.0	Zone No. 2 - Future
P-1312	376	8.0	Ductile Iron	130.0	Zone No. 2 - Future
P-1313	350	8.0	Ductile Iron	130.0	Zone No. 2 - Future
P-1314	552	8.0	Ductile Iron	130.0	Zone No. 2 - Future
P-1315	478	8.0	Ductile Iron	130.0	Zone No. 2 - Future
P-1316	936	8.0	Ductile Iron	130.0	Zone No. 2 - Future
P-1317	899	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1318	608	12.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1319	616	12.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1320	1,758	12.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1321	2,968	16.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1322	254	6.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1323	555	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1324	482	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1325	446	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1326	263	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1328	240	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1330	172	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1331	1,069	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1332	1,230	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1333	335	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1334	538	12.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1335	1,061	12.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1336	689	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1337	451	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1338	2,178	12.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1339	1,199	12.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1340	300	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1342	460	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1343	454	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1344	668	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1345	531	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1349	1,544	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1350	1,601	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1351	800	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1352	220	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1354	595	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1355	661	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1356	261	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1357	574	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1358	547	8.0	Ductile Iron	130.0	Zone No. 2 - Future
P-1359	1,992	8.0	Ductile Iron	130.0	Zone No. 2 - Future
P-1362	860	8.0	Ductile Iron	130.0	Zone No. 2 - Future

City of Andover 2018 Comprehensive Water Plan

Pipe Report

Label	Length (ft)	Diameter (in)	Material	Hazen-Williams C	Zone
P-1363	1,028	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-1365	757	8.0	Ductile Iron	130.0	Zone No. 2 - Future
P-1366	1,018	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-1367	174	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-1368	423	8.0	Ductile Iron	130.0	Zone No. 2 - Future
P-1369	902	8.0	Ductile Iron	130.0	Zone No. 2 - Future
P-1370	205	8.0	Ductile Iron	130.0	Zone No. 2 - Future
P-1371	380	8.0	Ductile Iron	130.0	Zone No. 2 - Future
P-1374	1,021	8.0	Ductile Iron	130.0	Zone No. 2 - Future
P-1375	457	8.0	Ductile Iron	130.0	Zone No. 2 - Future
P-1376	477	8.0	Ductile Iron	130.0	Zone No. 2 - Future
P-1377	278	8.0	Ductile Iron	130.0	Zone No. 2 - Future
P-1378	1,535	12.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-1379	2,910	12.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1380	1,351	12.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1381	388	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1382	444	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1383	241	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1384	204	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1385	691	12.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1386	218	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1387	57	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1388	981	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1389	176	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-1390	1,295	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-1391	1,124	8.0	Ductile Iron	130.0	Zone No. 2 - Future
P-1392	413	8.0	Ductile Iron	130.0	Zone No. 2 - Future
P-1393	244	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-1394	363	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-1395	265	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-1396	263	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-1397	260	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-1398	207	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-1399	686	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1400	197	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1401	627	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1402	599	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1403	1,057	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1405	586	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1406	360	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1407	185	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1408	172	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1409	331	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1410	360	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1411	472	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1412	318	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1414	773	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1415	359	8.0	Ductile Iron	130.0	Zone No. 1 - Existing

City of Andover 2018 Comprehensive Water Plan

Pipe Report

Label	Length (ft)	Diameter (in)	Material	Hazen-Williams C	Zone
P-1416	333	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1417	774	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1418	324	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1419	316	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1420	1,083	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1421	437	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1422	196	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1423	149	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1424	472	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1425	961	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1426	422	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1427	237	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1428	513	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1429	375	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1430	570	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1431	535	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1433	895	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1434	1,262	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1435	1,332	12.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1436	1,345	12.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1437	1,239	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1438	1,348	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1439	1,244	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1440	763	12.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1441	2,107	8.0	Ductile Iron	130.0	Zone No. 2 - Future
P-1442	1,391	8.0	Ductile Iron	130.0	Zone No. 2 - Future
P-1443	423	8.0	Ductile Iron	130.0	Zone No. 2 - Future
P-1444	209	8.0	Ductile Iron	130.0	Zone No. 2 - Future
P-1445	781	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1446	595	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1447	631	12.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-1448	404	12.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-1450	1,332	8.0	Ductile Iron	130.0	Zone No. 2 - Future
P-1451	1,148	8.0	Ductile Iron	130.0	Zone No. 2 - Future
P-1454	845	8.0	Ductile Iron	130.0	Zone No. 2 - Future
P-1456	798	8.0	Ductile Iron	130.0	Zone No. 2 - Future
P-1461	747	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1462	1,429	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1465	160	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1466	129	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1467	664	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1468	1,105	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1469	769	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1470	451	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1471	1,301	12.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1472	1,292	12.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1473	604	12.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1474	2,614	8.0	Ductile Iron	130.0	Zone No. 1 - Future

City of Andover 2018 Comprehensive Water Plan

Pipe Report

Label	Length (ft)	Diameter (in)	Material	Hazen-Williams C	Zone
P-1476	438	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1477	38	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1480	138	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-1481	75	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-1482	20	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-1483	82	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-1484	246	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-1485	6	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1488	40	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1489	93	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-1489	302	6.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-1490	5	6.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-1490	355	8.0	Ductile Iron	130.0	Zone No. 2 - Future
P-1491	236	8.0	Ductile Iron	130.0	Zone No. 2 - Future
P-1494	183	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-1495	175	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-1496	369	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-1497	209	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-1498	81	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-1499	503	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-1500	151	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-1501	273	6.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-1502	27	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-1502	290	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1503	342	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1504	214	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1505	212	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1506	260	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-1506	206	10.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-1507	285	10.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-1508	195	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1508	473	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-1509	552	8.0	Ductile Iron	130.0	Zone No. 2 - Future
P-1510	6	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1510	159	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1511	201	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1511	216	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1512	291	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1513	284	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1514	274	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1515	11	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1515	980	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1516	332	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1517	251	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1518	216	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1519	157	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1520	338	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1521	78	8.0	Ductile Iron	130.0	Zone No. 1 - Existing

City of Andover 2018 Comprehensive Water Plan

Pipe Report

Label	Length (ft)	Diameter (in)	Material	Hazen-Williams C	Zone
P-1521	158	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1522	717	8.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1523	691	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-1524	365	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-1525	56	10.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1525	268	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1526	361	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1527	94	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1528	568	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1530	142	10.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1531	102	10.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1532	113	10.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1534	119	10.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1535	112	10.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1536	106	10.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1537	114	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1537	47	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1538	52	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1539	39	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1540	82	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1540	30	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1541	20	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1542	38	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1543	12	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1544	468	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1544	11	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1545	334	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1546	291	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1546	362	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1547	236	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1547	160	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1548	112	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1549	12	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-1550	878	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-1551	31	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-1552	43	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-1553	77	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1554	258	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1555	52	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1556	186	6.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-1557	316	12.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-1558	28	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1559	20	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1560	41	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1561	6	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1562	57	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1563	337	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1570	484	6.0	Ductile Iron	130.0	Zone No. 1 - Existing

City of Andover 2018 Comprehensive Water Plan

Pipe Report

Label	Length (ft)	Diameter (in)	Material	Hazen-Williams C	Zone
P-1571	182	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1572	282	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1573	44	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1574	211	6.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-1574	278	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1575	114	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1576	116	6.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-1576	64	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1577	32	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1578	34	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1579	159	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1580	57	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1581	61	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1581	45	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1582	108	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1582	171	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1583	147	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1584	321	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1585	399	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1586	61	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1587	10	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1587	874	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1588	253	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1589	196	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1590	36	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1591	33	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1591	320	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1592	17	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1592	14	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1593	8	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1593	225	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1594	16	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1594	61	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1597	192	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1598	1,394	6.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1599	122	99.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1600	170	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1600	162	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1601	14	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1603	20	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1603	66	6.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1604	24	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1604	685	6.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1605	138	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1605	121	6.0	Ductile Iron	130.0	Zone No. 1 - Future
P-1606	21	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1606	162	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1607	184	6.0	Ductile Iron	130.0	Zone No. 1 - Existing

City of Andover 2018 Comprehensive Water Plan

Pipe Report

Label	Length (ft)	Diameter (in)	Material	Hazen-Williams C	Zone
P-1607	9	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1608	14	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1608	18	16.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1620	269	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1622	4	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1630	44	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1631	421	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1632	5	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1633	260	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1634	141	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1635	517	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1636	712	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1637	5	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1638	37	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1641	334	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1642	7	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1643	5	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1645	7	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1646	7	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1647	162	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1651	16	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1653	275	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1655	285	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1657	284	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1658	71	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1659	108	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1661	5	6.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-1662	82	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1663	121	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1664	81	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1665	313	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1666	23	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1667	6	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1668	133	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1670	66	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1673	517	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1675	125	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1676	16	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1679	242	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1682	255	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1683	158	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1686	143	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1688	327	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1690	508	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1692	518	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1695	284	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1696	30	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1701	215	12.0	Ductile Iron	130.0	Zone No. 1 - Existing

City of Andover 2018 Comprehensive Water Plan

Pipe Report

Label	Length (ft)	Diameter (in)	Material	Hazen-Williams C	Zone
P-1702	347	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1704	493	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1710	185	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1718	379	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1720	253	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1722	514	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1730	435	14.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-1731	307	12.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-1737	900	6.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-1738	31	6.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-1739	176	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-1740	401	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-1745	27	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1747	162	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1749	651	12.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-1751	650	12.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-1753	534	12.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-1757	269	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1758	407	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1762	828	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1766	80	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1767	295	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1768	37	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1769	19	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1772	161	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1774	109	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-1776	464	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1778	460	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1779	248	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1780	139	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1785	31	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1786	10	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1787	8	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1788	19	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1789	25	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1790	66	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1792	393	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1793	52	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1794	502	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1797	363	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1800	315	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1801	402	12.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1802	134	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1806	26	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1807	386	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1809	11	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1810	361	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1812	210	8.0	Ductile Iron	130.0	Zone No. 1 - Existing

City of Andover 2018 Comprehensive Water Plan

Pipe Report

Label	Length (ft)	Diameter (in)	Material	Hazen-Williams C	Zone
P-1813	141	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1815	420	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1816	200	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1818	23	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1820	430	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1822	433	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1824	319	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1825	4	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1826	4	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1828	439	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1829	25	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1831	366	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1833	386	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1834	228	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1836	4	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1837	171	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1845	392	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1846	869	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1848	27	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1850	788	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-1852	491	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-1853	297	8.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-1854	16	6.0	Ductile Iron	130.0	Zone No. 2 - Existing
P-1856	249	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1857	186	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1858	183	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1859	57	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1860	331	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1861	185	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1862	208	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1865	15	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1866	13	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1867	284	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1868	134	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1869	253	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1871	32	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1872	206	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1873	14	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1874	426	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1875	138	6.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1877	254	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1878	92	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1880	319	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1882	193	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1884	164	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1886	213	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1889	49	8.0	Ductile Iron	130.0	Zone No. 1 - Existing
P-1890	473	8.0	Ductile Iron	130.0	Zone No. 1 - Existing

City of Andover 2018 Comprehensive Water Plan

Pipe Report

Label	Length (ft)	Diameter (in)	Material	Hazen-Williams C	Zone
P-1892	91	8.0	Ductile Iron	130.0	Zone No. 1 - Existing

City of Andover 2018 Comprehensive Water Plan
Junction Report

Label	Elevation (ft)	Demand* (gpm)	Pattern (Constituent)	Zone
J-1	880.90	1.61	Fixed	Zone No. 2 - Existing
J-2	878.39	1.61	Fixed	Zone No. 2 - Existing
J-3	877.79	1.61	Fixed	Zone No. 2 - Existing
J-4	882.30	1.61	Fixed	Zone No. 2 - Existing
J-5	876.99	1.61	Fixed	Zone No. 2 - Existing
J-6	876.99	1.61	Fixed	Zone No. 2 - Existing
J-7	873.73	1.61	Fixed	Zone No. 2 - Existing
J-8	873.73	1.61	Fixed	Zone No. 2 - Existing
J-9	871.87	1.61	Fixed	Zone No. 2 - Existing
J-10	870.14	1.61	Fixed	Zone No. 2 - Existing
J-11	871.87	1.61	Fixed	Zone No. 2 - Existing
J-12	871.64	1.61	Fixed	Zone No. 2 - Existing
J-13	882.92	1.61	Fixed	Zone No. 2 - Existing
J-14	882.92	1.61	Fixed	Zone No. 2 - Existing
J-15	874.48	1.61	Fixed	Zone No. 2 - Existing
J-16	883.70	1.61	Fixed	Zone No. 2 - Existing
J-17	874.48	1.61	Fixed	Zone No. 2 - Existing
J-18	871.64	1.61	Fixed	Zone No. 2 - Existing
J-19	889.00	(N/A)	Fixed	Zone No. 1 - Future
J-20	882.92	1.61	Fixed	Zone No. 2 - Existing
J-21	875.30	1.61	Fixed	Zone No. 2 - Existing
J-22	875.30	1.61	Fixed	Zone No. 2 - Existing
J-23	878.45	1.61	Fixed	Zone No. 2 - Existing
J-24	876.93	1.61	Fixed	Zone No. 2 - Existing
J-25	876.93	1.61	Fixed	Zone No. 2 - Existing
J-26	880.88	1.61	Fixed	Zone No. 2 - Existing
J-27	871.00	2.68	Fixed	Zone No. 2 - Existing
J-28	879.71	1.07	Fixed	Zone No. 2 - Existing
J-29	875.00	1.07	Fixed	Zone No. 2 - Existing
J-30	876.17	1.07	Fixed	Zone No. 2 - Existing
J-31	876.71	1.61	Fixed	Zone No. 2 - Existing
J-32	876.76	1.61	Fixed	Zone No. 2 - Existing
J-33	877.77	1.61	Fixed	Zone No. 2 - Existing
J-34	875.66	1.61	Fixed	Zone No. 2 - Existing
J-35	893.00	(N/A)	Fixed	Zone No. 1 - Future
J-36	875.66	1.61	Fixed	Zone No. 2 - Existing
J-37	878.50	1.07	Fixed	Zone No. 1 - Existing
J-38	882.53	1.07	Fixed	Zone No. 1 - Existing
J-39	886.53	1.07	Fixed	Zone No. 1 - Existing
J-40	886.53	1.07	Fixed	Zone No. 1 - Existing
J-41	886.53	1.07	Fixed	Zone No. 1 - Existing
J-42	884.10	1.61	Fixed	Zone No. 1 - Existing
J-43	884.56	1.07	Fixed	Zone No. 1 - Existing
J-44	885.00	1.61	Fixed	Zone No. 1 - Existing
J-45	889.00	1.61	Fixed	Zone No. 1 - Existing
J-46	894.80	1.61	Fixed	Zone No. 1 - Existing
J-47	894.00	1.07	Fixed	Zone No. 1 - Existing
J-48	894.00	1.07	Fixed	Zone No. 1 - Existing

City of Andover 2018 Comprehensive Water Plan
Junction Report

Label	Elevation (ft)	Demand* (gpm)	Pattern (Constituent)	Zone
J-49	895.70	1.07	Fixed	Zone No. 1 - Existing
J-50	895.70	1.07	Fixed	Zone No. 1 - Existing
J-51	898.54	1.07	Fixed	Zone No. 1 - Existing
J-52	898.28	1.07	Fixed	Zone No. 1 - Existing
J-53	895.70	1.07	Fixed	Zone No. 1 - Existing
J-54	893.36	1.07	Fixed	Zone No. 1 - Existing
J-55	898.00	1.61	Fixed	Zone No. 1 - Existing
J-56	894.20	1.61	Fixed	Zone No. 1 - Existing
J-57	903.41	1.61	Fixed	Zone No. 1 - Existing
J-58	896.50	1.61	Fixed	Zone No. 1 - Existing
J-59	896.50	1.61	Fixed	Zone No. 1 - Existing
J-60	890.72	1.61	Fixed	Zone No. 1 - Existing
J-61	885.20	1.61	Fixed	Zone No. 1 - Existing
J-62	890.85	1.61	Fixed	Zone No. 1 - Existing
J-64	893.85	1.61	Fixed	Zone No. 1 - Existing
J-65	891.87	1.61	Fixed	Zone No. 1 - Existing
J-66	890.43	1.61	Fixed	Zone No. 1 - Existing
J-67	891.80	1.61	Fixed	Zone No. 1 - Existing
J-68	891.80	1.61	Fixed	Zone No. 1 - Existing
J-69	890.00	1.61	Fixed	Zone No. 1 - Existing
J-70	896.63	1.61	Fixed	Zone No. 1 - Existing
J-71	885.51	1.61	Fixed	Zone No. 1 - Existing
J-72	888.96	1.61	Fixed	Zone No. 1 - Existing
J-73	888.04	1.61	Fixed	Zone No. 1 - Existing
J-74	894.23	1.61	Fixed	Zone No. 1 - Existing
J-75	893.92	1.61	Fixed	Zone No. 1 - Existing
J-76	893.00	1.61	Fixed	Zone No. 1 - Existing
J-77	893.21	1.61	Fixed	Zone No. 1 - Existing
J-78	894.30	1.61	Fixed	Zone No. 1 - Existing
J-79	890.03	1.61	Fixed	Zone No. 1 - Existing
J-80	889.95	1.61	Fixed	Zone No. 1 - Existing
J-81	889.95	1.61	Fixed	Zone No. 1 - Existing
J-82	889.50	1.61	Fixed	Zone No. 1 - Existing
J-83	887.08	1.61	Fixed	Zone No. 1 - Existing
J-84	883.30	1.61	Fixed	Zone No. 1 - Existing
J-85	873.50	1.07	Fixed	Zone No. 1 - Existing
J-86	873.50	1.07	Fixed	Zone No. 1 - Existing
J-87	882.05	1.61	Fixed	Zone No. 1 - Existing
J-88	883.00	1.61	Fixed	Zone No. 1 - Existing
J-89	884.63	1.61	Fixed	Zone No. 1 - Existing
J-90	887.61	1.61	Fixed	Zone No. 1 - Existing
J-91	889.00	1.61	Fixed	Zone No. 1 - Existing
J-92	892.85	1.61	Fixed	Zone No. 1 - Existing
J-93	880.00	1.61	Fixed	Zone No. 1 - Existing
J-94	891.01	1.61	Fixed	Zone No. 1 - Existing
J-95	890.45	1.61	Fixed	Zone No. 1 - Existing
J-96	892.37	1.61	Fixed	Zone No. 1 - Existing
J-97	892.10	1.61	Fixed	Zone No. 1 - Existing

*Demands Displayed Correspond to Existing AD Demand

City of Andover 2018 Comprehensive Water Plan
Junction Report

Label	Elevation (ft)	Demand* (gpm)	Pattern (Constituent)	Zone
J-98	895.13	1.61	Fixed	Zone No. 1 - Existing
J-99	901.83	1.61	Fixed	Zone No. 1 - Existing
J-100	903.77	1.61	Fixed	Zone No. 1 - Existing
J-101	903.77	1.61	Fixed	Zone No. 1 - Existing
J-102	899.58	1.61	Fixed	Zone No. 1 - Existing
J-103	901.23	1.61	Fixed	Zone No. 1 - Existing
J-104	902.78	1.61	Fixed	Zone No. 1 - Existing
J-105	900.49	1.61	Fixed	Zone No. 1 - Existing
J-106	900.50	1.07	Fixed	Zone No. 1 - Existing
J-107	896.10	1.07	Fixed	Zone No. 1 - Existing
J-108	891.00	1.07	Fixed	Zone No. 1 - Existing
J-109	899.89	1.61	Fixed	Zone No. 1 - Existing
J-110	899.89	1.61	Fixed	Zone No. 1 - Existing
J-111	875.30	1.61	Fixed	Zone No. 2 - Existing
J-112	876.00	1.61	Fixed	Zone No. 2 - Existing
J-113	875.00	1.61	Fixed	Zone No. 2 - Existing
J-114	875.30	1.61	Fixed	Zone No. 2 - Existing
J-115	883.00	1.61	Fixed	Zone No. 2 - Existing
J-116	875.66	1.61	Fixed	Zone No. 2 - Existing
J-117	880.59	1.61	Fixed	Zone No. 2 - Existing
J-118	875.80	1.61	Fixed	Zone No. 2 - Existing
J-119	880.97	1.61	Fixed	Zone No. 2 - Existing
J-120	879.01	1.61	Fixed	Zone No. 2 - Existing
J-121	877.41	1.61	Fixed	Zone No. 2 - Existing
J-122	877.41	1.61	Fixed	Zone No. 2 - Existing
J-123	876.17	1.61	Fixed	Zone No. 2 - Existing
J-124	873.87	1.61	Fixed	Zone No. 2 - Existing
J-125	876.86	1.61	Fixed	Zone No. 2 - Existing
J-126	879.82	1.61	Fixed	Zone No. 2 - Existing
J-127	876.71	1.61	Fixed	Zone No. 2 - Existing
J-128	875.71	1.61	Fixed	Zone No. 2 - Existing
J-129	878.50	1.61	Fixed	Zone No. 2 - Existing
J-130	878.50	1.61	Fixed	Zone No. 2 - Existing
J-131	877.57	1.61	Fixed	Zone No. 2 - Existing
J-132	879.01	1.61	Fixed	Zone No. 2 - Existing
J-133	875.07	1.61	Fixed	Zone No. 2 - Existing
J-134	875.15	1.61	Fixed	Zone No. 2 - Existing
J-135	875.19	1.61	Fixed	Zone No. 2 - Existing
J-136	875.19	1.61	Fixed	Zone No. 2 - Existing
J-137	875.15	1.61	Fixed	Zone No. 2 - Existing
J-138	876.86	1.61	Fixed	Zone No. 2 - Existing
J-139	877.57	1.61	Fixed	Zone No. 2 - Existing
J-140	880.88	1.61	Fixed	Zone No. 2 - Existing
J-141	874.63	1.61	Fixed	Zone No. 2 - Existing
J-142	872.64	1.61	Fixed	Zone No. 2 - Existing
J-143	874.49	1.61	Fixed	Zone No. 2 - Existing
J-144	874.49	1.61	Fixed	Zone No. 2 - Existing
J-145	879.71	1.61	Fixed	Zone No. 2 - Existing

City of Andover 2018 Comprehensive Water Plan
Junction Report

Label	Elevation (ft)	Demand* (gpm)	Pattern (Constituent)	Zone
J-146	874.61	1.61	Fixed	Zone No. 2 - Existing
J-147	873.10	1.61	Fixed	Zone No. 2 - Existing
J-148	874.96	1.61	Fixed	Zone No. 2 - Existing
J-149	872.54	1.61	Fixed	Zone No. 2 - Existing
J-150	873.06	1.61	Fixed	Zone No. 2 - Existing
J-151	875.57	1.61	Fixed	Zone No. 2 - Existing
J-152	879.21	1.61	Fixed	Zone No. 2 - Existing
J-153	872.66	1.61	Fixed	Zone No. 2 - Existing
J-154	872.66	1.61	Fixed	Zone No. 2 - Existing
J-155	875.00	1.07	Fixed	Zone No. 2 - Existing
J-156	878.00	1.61	Fixed	Zone No. 2 - Existing
J-157	876.15	1.61	Fixed	Zone No. 2 - Existing
J-158	879.19	1.61	Fixed	Zone No. 2 - Existing
J-159	878.88	1.61	Fixed	Zone No. 2 - Existing
J-160	878.00	1.61	Fixed	Zone No. 2 - Existing
J-161	875.73	1.61	Fixed	Zone No. 2 - Existing
J-162	874.96	1.61	Fixed	Zone No. 2 - Existing
J-163	878.59	1.61	Fixed	Zone No. 2 - Existing
J-164	874.90	1.61	Fixed	Zone No. 2 - Existing
J-165	875.86	1.61	Fixed	Zone No. 2 - Existing
J-166	874.77	1.61	Fixed	Zone No. 2 - Existing
J-167	876.00	1.61	Fixed	Zone No. 2 - Existing
J-168	876.40	1.61	Fixed	Zone No. 2 - Existing
J-169	876.40	1.61	Fixed	Zone No. 2 - Existing
J-170	903.00	(N/A)	Fixed	Zone No. 1 - Future
J-171	874.82	1.61	Fixed	Zone No. 2 - Existing
J-172	874.82	1.61	Fixed	Zone No. 2 - Existing
J-173	874.82	1.61	Fixed	Zone No. 2 - Existing
J-174	874.56	1.61	Fixed	Zone No. 2 - Existing
J-175	874.50	1.61	Fixed	Zone No. 2 - Existing
J-176	875.00	1.61	Fixed	Zone No. 2 - Existing
J-177	875.00	1.61	Fixed	Zone No. 2 - Existing
J-178	876.17	1.07	Fixed	Zone No. 2 - Existing
J-179	876.17	1.07	Fixed	Zone No. 2 - Existing
J-180	878.00	1.07	Fixed	Zone No. 2 - Existing
J-181	876.00	1.07	Fixed	Zone No. 2 - Existing
J-182	878.28	1.61	Fixed	Zone No. 2 - Existing
J-183	878.28	1.61	Fixed	Zone No. 2 - Existing
J-184	878.28	1.61	Fixed	Zone No. 2 - Existing
J-185	875.66	1.61	Fixed	Zone No. 2 - Existing
J-186	877.40	1.61	Fixed	Zone No. 1 - Existing
J-187	870.00	(N/A)	Fixed	Zone No. 1 - Future
J-188	877.44	1.61	Fixed	Zone No. 1 - Existing
J-189	877.28	1.61	Fixed	Zone No. 1 - Existing
J-190	879.77	1.61	Fixed	Zone No. 1 - Existing
J-191	879.53	1.61	Fixed	Zone No. 1 - Existing
J-192	891.70	1.61	Fixed	Zone No. 1 - Existing
J-193	887.64	1.61	Fixed	Zone No. 1 - Existing

City of Andover 2018 Comprehensive Water Plan
Junction Report

Label	Elevation (ft)	Demand* (gpm)	Pattern (Constituent)	Zone
J-194	881.10	1.61	Fixed	Zone No. 1 - Existing
J-195	880.90	1.61	Fixed	Zone No. 1 - Existing
J-196	880.31	1.61	Fixed	Zone No. 1 - Existing
J-197	877.28	1.61	Fixed	Zone No. 1 - Existing
J-198	880.30	1.61	Fixed	Zone No. 1 - Existing
J-199	884.94	1.61	Fixed	Zone No. 1 - Existing
J-200	885.86	1.61	Fixed	Zone No. 1 - Existing
J-201	886.00	1.61	Fixed	Zone No. 1 - Existing
J-202	887.80	1.61	Fixed	Zone No. 1 - Existing
J-203	885.06	1.61	Fixed	Zone No. 1 - Existing
J-204	883.40	1.61	Fixed	Zone No. 1 - Existing
J-205	887.70	1.61	Fixed	Zone No. 1 - Existing
J-206	887.80	1.61	Fixed	Zone No. 1 - Existing
J-207	887.70	1.61	Fixed	Zone No. 1 - Existing
J-208	885.63	1.61	Fixed	Zone No. 1 - Existing
J-209	887.59	1.61	Fixed	Zone No. 1 - Existing
J-211	886.39	1.61	Fixed	Zone No. 1 - Existing
J-212	893.78	1.61	Fixed	Zone No. 1 - Existing
J-213	886.71	1.61	Fixed	Zone No. 1 - Existing
J-214	898.13	1.61	Fixed	Zone No. 1 - Existing
J-215	899.36	1.61	Fixed	Zone No. 1 - Existing
J-216	899.36	1.61	Fixed	Zone No. 1 - Existing
J-217	888.29	1.61	Fixed	Zone No. 1 - Existing
J-218	903.82	1.61	Fixed	Zone No. 1 - Existing
J-219	899.04	1.61	Fixed	Zone No. 1 - Existing
J-220	898.54	1.07	Fixed	Zone No. 1 - Existing
J-221	889.42	1.61	Fixed	Zone No. 1 - Existing
J-222	892.20	1.61	Fixed	Zone No. 1 - Existing
J-223	894.93	1.61	Fixed	Zone No. 1 - Existing
J-224	890.20	1.61	Fixed	Zone No. 1 - Existing
J-225	890.00	1.61	Fixed	Zone No. 1 - Existing
J-226	886.20	1.61	Fixed	Zone No. 1 - Existing
J-227	885.50	1.61	Fixed	Zone No. 1 - Existing
J-228	882.79	1.61	Fixed	Zone No. 1 - Existing
J-229	883.03	1.61	Fixed	Zone No. 1 - Existing
J-230	882.79	1.61	Fixed	Zone No. 1 - Existing
J-231	885.50	1.61	Fixed	Zone No. 1 - Existing
J-232	894.93	1.61	Fixed	Zone No. 1 - Existing
J-233	887.32	1.61	Fixed	Zone No. 1 - Existing
J-234	885.00	1.61	Fixed	Zone No. 1 - Existing
J-235	890.00	1.61	Fixed	Zone No. 1 - Existing
J-236	883.80	1.61	Fixed	Zone No. 1 - Existing
J-237	891.80	1.61	Fixed	Zone No. 1 - Existing
J-238	885.21	1.61	Fixed	Zone No. 1 - Existing
J-239	888.56	1.61	Fixed	Zone No. 1 - Existing
J-240	878.00	1.61	Fixed	Zone No. 2 - Existing
J-241	886.84	1.61	Fixed	Zone No. 1 - Existing
J-242	885.00	1.61	Fixed	Zone No. 1 - Existing

City of Andover 2018 Comprehensive Water Plan
Junction Report

Label	Elevation (ft)	Demand* (gpm)	Pattern (Constituent)	Zone
J-243	885.80	1.61	Fixed	Zone No. 1 - Existing
J-244	889.00	1.61	Fixed	Zone No. 1 - Existing
J-245	896.00	1.61	Fixed	Zone No. 1 - Existing
J-246	896.97	1.61	Fixed	Zone No. 1 - Existing
J-247	888.69	1.61	Fixed	Zone No. 1 - Existing
J-248	889.24	1.61	Fixed	Zone No. 1 - Existing
J-249	889.00	1.61	Fixed	Zone No. 1 - Existing
J-251	891.51	1.61	Fixed	Zone No. 1 - Existing
J-252	893.17	1.61	Fixed	Zone No. 1 - Existing
J-253	894.79	1.61	Fixed	Zone No. 1 - Existing
J-254	891.41	1.61	Fixed	Zone No. 1 - Existing
J-255	899.50	1.61	Fixed	Zone No. 1 - Existing
J-256	891.60	1.61	Fixed	Zone No. 1 - Existing
J-257	898.57	1.61	Fixed	Zone No. 1 - Existing
J-258	899.00	1.61	Fixed	Zone No. 1 - Existing
J-259	898.21	1.61	Fixed	Zone No. 1 - Existing
J-260	900.00	1.61	Fixed	Zone No. 1 - Existing
J-261	899.56	1.61	Fixed	Zone No. 1 - Existing
J-262	902.00	1.61	Fixed	Zone No. 1 - Existing
J-263	901.49	1.61	Fixed	Zone No. 1 - Existing
J-264	901.49	1.61	Fixed	Zone No. 1 - Existing
J-265	894.80	1.61	Fixed	Zone No. 1 - Existing
J-266	895.79	1.61	Fixed	Zone No. 1 - Existing
J-267	895.79	1.61	Fixed	Zone No. 1 - Existing
J-268	891.10	1.61	Fixed	Zone No. 1 - Existing
J-269	892.28	1.61	Fixed	Zone No. 1 - Existing
J-270	892.28	1.61	Fixed	Zone No. 1 - Existing
J-271	895.53	1.61	Fixed	Zone No. 1 - Existing
J-272	901.23	1.61	Fixed	Zone No. 1 - Existing
J-273	904.76	1.61	Fixed	Zone No. 1 - Existing
J-274	904.76	1.61	Fixed	Zone No. 1 - Existing
J-275	902.00	1.61	Fixed	Zone No. 1 - Existing
J-276	902.00	1.61	Fixed	Zone No. 1 - Existing
J-277	905.54	1.61	Fixed	Zone No. 1 - Existing
J-278	901.03	1.07	Fixed	Zone No. 1 - Existing
J-279	899.73	1.61	Fixed	Zone No. 1 - Existing
J-280	904.76	1.61	Fixed	Zone No. 1 - Existing
J-281	906.60	1.61	Fixed	Zone No. 1 - Existing
J-282	905.20	1.61	Fixed	Zone No. 1 - Existing
J-283	905.20	1.61	Fixed	Zone No. 1 - Existing
J-284	899.98	1.61	Fixed	Zone No. 1 - Existing
J-285	899.98	1.61	Fixed	Zone No. 1 - Existing
J-286	899.73	1.61	Fixed	Zone No. 1 - Existing
J-287	892.37	1.61	Fixed	Zone No. 1 - Existing
J-288	890.00	1.61	Fixed	Zone No. 1 - Existing
J-289	891.61	1.61	Fixed	Zone No. 1 - Existing
J-290	894.00	1.61	Fixed	Zone No. 1 - Existing
J-291	894.00	1.61	Fixed	Zone No. 1 - Existing

*Demands Displayed Correspond to Existing AD Demand

City of Andover 2018 Comprehensive Water Plan
Junction Report

Label	Elevation (ft)	Demand* (gpm)	Pattern (Constituent)	Zone
J-292	893.00	1.61	Fixed	Zone No. 1 - Existing
J-293	893.00	1.61	Fixed	Zone No. 1 - Existing
J-294	891.00	1.61	Fixed	Zone No. 1 - Existing
J-295	891.00	1.61	Fixed	Zone No. 1 - Existing
J-296	891.00	1.61	Fixed	Zone No. 1 - Existing
J-297	891.00	1.61	Fixed	Zone No. 1 - Existing
J-298	894.00	1.61	Fixed	Zone No. 1 - Existing
J-299	890.70	1.61	Fixed	Zone No. 1 - Existing
J-300	894.67	1.61	Fixed	Zone No. 1 - Existing
J-301	891.40	1.61	Fixed	Zone No. 1 - Existing
J-302	885.50	1.61	Fixed	Zone No. 1 - Existing
J-303	889.65	1.61	Fixed	Zone No. 1 - Existing
J-304	887.50	1.61	Fixed	Zone No. 1 - Existing
J-305	887.55	1.61	Fixed	Zone No. 1 - Existing
J-306	887.55	1.61	Fixed	Zone No. 1 - Existing
J-307	889.65	1.61	Fixed	Zone No. 1 - Existing
J-308	891.21	1.61	Fixed	Zone No. 1 - Existing
J-309	891.48	1.61	Fixed	Zone No. 1 - Existing
J-310	891.28	1.61	Fixed	Zone No. 1 - Existing
J-311	891.22	1.61	Fixed	Zone No. 1 - Existing
J-312	895.00	1.61	Fixed	Zone No. 1 - Existing
J-313	891.71	1.61	Fixed	Zone No. 1 - Existing
J-314	892.93	1.61	Fixed	Zone No. 1 - Existing
J-315	893.00	1.61	Fixed	Zone No. 1 - Existing
J-316	895.62	1.61	Fixed	Zone No. 1 - Existing
J-317	897.60	1.61	Fixed	Zone No. 1 - Existing
J-318	894.78	1.61	Fixed	Zone No. 1 - Existing
J-319	894.78	1.61	Fixed	Zone No. 1 - Existing
J-320	890.32	1.61	Fixed	Zone No. 1 - Existing
J-321	877.43	1.61	Fixed	Zone No. 1 - Existing
J-322	890.69	1.61	Fixed	Zone No. 1 - Existing
J-323	893.00	1.61	Fixed	Zone No. 1 - Existing
J-324	892.93	1.61	Fixed	Zone No. 1 - Existing
J-325	894.78	1.61	Fixed	Zone No. 1 - Existing
J-326	894.78	1.61	Fixed	Zone No. 1 - Existing
J-327	890.72	1.61	Fixed	Zone No. 1 - Existing
J-328	894.97	1.61	Fixed	Zone No. 1 - Existing
J-329	894.00	1.61	Fixed	Zone No. 1 - Existing
J-330	893.93	1.61	Fixed	Zone No. 1 - Existing
J-331	891.29	1.61	Fixed	Zone No. 1 - Existing
J-332	889.96	1.61	Fixed	Zone No. 1 - Existing
J-333	903.00	1.61	Fixed	Zone No. 1 - Existing
J-334	888.96	1.61	Fixed	Zone No. 1 - Existing
J-335	903.00	1.61	Fixed	Zone No. 1 - Existing
J-336	893.36	1.61	Fixed	Zone No. 1 - Existing
J-337	903.35	1.61	Fixed	Zone No. 1 - Existing
J-338	895.00	1.07	Fixed	Zone No. 1 - Existing
J-339	885.01	1.61	Fixed	Zone No. 1 - Existing

City of Andover 2018 Comprehensive Water Plan
Junction Report

Label	Elevation (ft)	Demand* (gpm)	Pattern (Constituent)	Zone
J-340	881.91	1.61	Fixed	Zone No. 1 - Existing
J-341	881.60	1.61	Fixed	Zone No. 1 - Existing
J-342	894.00	1.61	Fixed	Zone No. 1 - Existing
J-343	882.78	1.61	Fixed	Zone No. 1 - Existing
J-344	879.90	1.61	Fixed	Zone No. 1 - Existing
J-345	889.00	1.61	Fixed	Zone No. 1 - Existing
J-346	882.97	1.61	Fixed	Zone No. 1 - Existing
J-347	882.97	1.61	Fixed	Zone No. 1 - Existing
J-348	886.67	1.61	Fixed	Zone No. 1 - Existing
J-349	887.52	1.61	Fixed	Zone No. 1 - Existing
J-350	887.52	1.61	Fixed	Zone No. 1 - Existing
J-351	887.52	1.61	Fixed	Zone No. 1 - Existing
J-352	887.52	1.61	Fixed	Zone No. 1 - Existing
J-353	888.59	1.61	Fixed	Zone No. 1 - Existing
J-354	875.00	1.61	Fixed	Zone No. 2 - Existing
J-355	876.00	1.07	Fixed	Zone No. 2 - Existing
J-356	876.00	1.07	Fixed	Zone No. 2 - Existing
J-357	896.10	1.07	Fixed	Zone No. 1 - Existing
J-358	898.00	1.07	Fixed	Zone No. 1 - Existing
J-359	898.00	1.07	Fixed	Zone No. 1 - Existing
J-360	875.00	1.07	Fixed	Zone No. 2 - Existing
J-361	875.00	1.07	Fixed	Zone No. 2 - Existing
J-362	875.00	1.07	Fixed	Zone No. 2 - Existing
J-363	874.50	1.61	Fixed	Zone No. 2 - Existing
J-364	874.50	1.61	Fixed	Zone No. 2 - Existing
J-365	874.50	1.61	Fixed	Zone No. 2 - Existing
J-366	874.50	1.61	Fixed	Zone No. 2 - Existing
J-367	874.50	1.61	Fixed	Zone No. 2 - Existing
J-368	874.50	1.61	Fixed	Zone No. 2 - Existing
J-369	874.50	1.61	Fixed	Zone No. 2 - Existing
J-370	874.54	1.61	Fixed	Zone No. 2 - Existing
J-371	875.00	1.61	Fixed	Zone No. 2 - Existing
J-372	875.00	1.61	Fixed	Zone No. 2 - Existing
J-373	876.00	1.61	Fixed	Zone No. 2 - Existing
J-374	890.00	1.61	Fixed	Zone No. 1 - Existing
J-375	890.00	1.61	Fixed	Zone No. 1 - Existing
J-376	887.32	1.61	Fixed	Zone No. 1 - Existing
J-377	887.32	1.61	Fixed	Zone No. 1 - Existing
J-378	883.00	1.61	Fixed	Zone No. 1 - Existing
J-379	883.00	1.61	Fixed	Zone No. 1 - Existing
J-380	876.00	1.61	Fixed	Zone No. 2 - Existing
J-381	876.00	1.61	Fixed	Zone No. 2 - Existing
J-382	877.50	1.61	Fixed	Zone No. 2 - Existing
J-383	874.00	1.61	Fixed	Zone No. 2 - Existing
J-384	883.00	1.61	Fixed	Zone No. 2 - Existing
J-385	883.00	1.61	Fixed	Zone No. 2 - Existing
J-386	883.00	1.61	Fixed	Zone No. 2 - Existing
J-387	883.00	1.61	Fixed	Zone No. 2 - Existing

City of Andover 2018 Comprehensive Water Plan
Junction Report

Label	Elevation (ft)	Demand* (gpm)	Pattern (Constituent)	Zone
J-388	874.90	1.61	Fixed	Zone No. 2 - Existing
J-389	874.90	1.61	Fixed	Zone No. 2 - Existing
J-390	886.17	1.61	Fixed	Zone No. 1 - Existing
J-391	883.70	1.61	Fixed	Zone No. 1 - Existing
J-392	898.00	1.07	Fixed	Zone No. 1 - Existing
J-393	894.00	1.07	Fixed	Zone No. 1 - Existing
J-394	891.00	1.07	Fixed	Zone No. 1 - Existing
J-395	888.00	(N/A)	Fixed	Zone No. 1 - Future
J-396	881.00	1.07	Fixed	Zone No. 1 - Existing
J-397	898.00	1.61	Fixed	Zone No. 1 - Existing
J-398	898.00	1.07	Fixed	Zone No. 1 - Existing
J-399	898.00	1.07	Fixed	Zone No. 1 - Existing
J-400	898.00	1.07	Fixed	Zone No. 1 - Existing
J-401	894.00	2.68	Fixed	Zone No. 1 - Existing
J-402	900.00	1.07	Fixed	Zone No. 1 - Existing
J-403	903.00	1.07	Fixed	Zone No. 1 - Existing
J-404	903.00	1.07	Fixed	Zone No. 1 - Existing
J-405	876.00	1.61	Fixed	Zone No. 2 - Existing
J-406	876.00	1.61	Fixed	Zone No. 2 - Existing
J-407	875.00	1.07	Fixed	Zone No. 2 - Existing
J-408	875.00	1.07	Fixed	Zone No. 2 - Existing
J-409	875.00	1.61	Fixed	Zone No. 2 - Existing
J-410	875.00	1.61	Fixed	Zone No. 2 - Existing
J-411	875.00	1.61	Fixed	Zone No. 2 - Existing
J-412	875.00	1.61	Fixed	Zone No. 2 - Existing
J-413	875.00	1.61	Fixed	Zone No. 2 - Existing
J-414	875.00	1.61	Fixed	Zone No. 2 - Existing
J-415	887.55	1.61	Fixed	Zone No. 1 - Existing
J-416	887.55	1.61	Fixed	Zone No. 1 - Existing
J-417	887.00	1.61	Fixed	Zone No. 1 - Existing
J-418	887.00	1.61	Fixed	Zone No. 1 - Existing
J-419	882.97	1.61	Fixed	Zone No. 1 - Existing
J-420	884.00	1.61	Fixed	Zone No. 1 - Existing
J-421	884.00	1.61	Fixed	Zone No. 1 - Existing
J-422	880.00	1.61	Fixed	Zone No. 1 - Existing
J-423	886.00	1.61	Fixed	Zone No. 1 - Existing
J-424	881.10	1.07	Fixed	Zone No. 1 - Existing
J-425	893.36	1.61	Fixed	Zone No. 1 - Existing
J-427	878.00	1.07	Fixed	Zone No. 1 - Existing
J-428	877.00	1.61	Fixed	Zone No. 2 - Existing
J-429	898.00	1.07	Fixed	Zone No. 1 - Existing
J-430	898.00	1.07	Fixed	Zone No. 1 - Existing
J-431	875.00	1.61	Fixed	Zone No. 2 - Existing
J-432	900.00	1.61	Fixed	Zone No. 1 - Existing
J-433	900.00	1.61	Fixed	Zone No. 1 - Existing
J-434	893.00	1.61	Fixed	Zone No. 1 - Existing
J-435	895.00	1.61	Fixed	Zone No. 1 - Existing
J-436	900.00	1.61	Fixed	Zone No. 1 - Existing

City of Andover 2018 Comprehensive Water Plan
Junction Report

Label	Elevation (ft)	Demand* (gpm)	Pattern (Constituent)	Zone
J-437	899.00	1.61	Fixed	Zone No. 1 - Existing
J-438	900.00	1.61	Fixed	Zone No. 1 - Existing
J-439	898.00	1.61	Fixed	Zone No. 1 - Existing
J-440	895.00	1.61	Fixed	Zone No. 1 - Existing
J-441	900.00	1.61	Fixed	Zone No. 1 - Existing
J-442	890.00	1.61	Fixed	Zone No. 1 - Existing
J-443	895.00	1.61	Fixed	Zone No. 1 - Existing
J-444	894.00	1.61	Fixed	Zone No. 1 - Existing
J-445	900.00	1.61	Fixed	Zone No. 1 - Existing
J-446	895.00	1.61	Fixed	Zone No. 1 - Existing
J-447	900.00	1.61	Fixed	Zone No. 1 - Existing
J-448	900.00	1.61	Fixed	Zone No. 1 - Existing
J-449	896.00	1.61	Fixed	Zone No. 1 - Existing
J-450	900.00	1.61	Fixed	Zone No. 1 - Existing
J-451	895.00	1.61	Fixed	Zone No. 1 - Existing
J-452	899.00	1.61	Fixed	Zone No. 1 - Existing
J-453	897.00	1.61	Fixed	Zone No. 1 - Existing
J-454	900.00	1.61	Fixed	Zone No. 1 - Existing
J-455	901.00	1.61	Fixed	Zone No. 1 - Existing
J-456	900.00	1.61	Fixed	Zone No. 1 - Existing
J-457	901.00	1.61	Fixed	Zone No. 1 - Existing
J-458	900.00	1.61	Fixed	Zone No. 1 - Existing
J-459	898.00	1.61	Fixed	Zone No. 1 - Existing
J-460	900.00	1.61	Fixed	Zone No. 1 - Existing
J-461	897.00	1.07	Fixed	Zone No. 1 - Existing
J-462	896.00	1.61	Fixed	Zone No. 1 - Existing
J-463	900.00	1.61	Fixed	Zone No. 1 - Existing
J-464	900.00	1.61	Fixed	Zone No. 1 - Existing
J-465	902.00	1.61	Fixed	Zone No. 1 - Existing
J-466	897.00	1.61	Fixed	Zone No. 1 - Existing
J-467	900.00	1.61	Fixed	Zone No. 1 - Existing
J-468	898.00	1.61	Fixed	Zone No. 1 - Existing
J-469	901.00	1.61	Fixed	Zone No. 1 - Existing
J-470	875.00	1.61	Fixed	Zone No. 2 - Existing
J-471	898.00	1.61	Fixed	Zone No. 1 - Existing
J-472	895.00	1.61	Fixed	Zone No. 1 - Existing
J-473	896.00	1.61	Fixed	Zone No. 1 - Existing
J-474	890.00	1.61	Fixed	Zone No. 1 - Existing
J-475	898.00	1.61	Fixed	Zone No. 1 - Existing
J-476	882.00	1.61	Fixed	Zone No. 1 - Existing
J-477	885.00	1.61	Fixed	Zone No. 1 - Existing
J-478	898.00	1.07	Fixed	Zone No. 1 - Existing
J-479	899.00	1.61	Fixed	Zone No. 1 - Existing
J-480	899.00	1.61	Fixed	Zone No. 1 - Existing
J-481	897.00	1.07	Fixed	Zone No. 1 - Existing
J-482	895.00	1.61	Fixed	Zone No. 1 - Existing
J-483	890.00	1.61	Fixed	Zone No. 1 - Existing
J-484	888.00	1.61	Fixed	Zone No. 1 - Existing

City of Andover 2018 Comprehensive Water Plan
Junction Report

Label	Elevation (ft)	Demand* (gpm)	Pattern (Constituent)	Zone
J-485	887.00	1.61	Fixed	Zone No. 1 - Existing
J-486	886.00	1.61	Fixed	Zone No. 1 - Existing
J-487	892.00	1.61	Fixed	Zone No. 1 - Existing
J-488	893.00	1.61	Fixed	Zone No. 1 - Existing
J-489	890.00	1.61	Fixed	Zone No. 1 - Existing
J-490	892.00	1.61	Fixed	Zone No. 1 - Existing
J-491	894.00	1.61	Fixed	Zone No. 1 - Existing
J-492	897.00	1.61	Fixed	Zone No. 1 - Existing
J-493	900.00	1.61	Fixed	Zone No. 1 - Existing
J-494	905.00	1.61	Fixed	Zone No. 1 - Existing
J-495	886.00	1.61	Fixed	Zone No. 1 - Existing
J-496	890.00	1.61	Fixed	Zone No. 1 - Existing
J-497	898.00	1.61	Fixed	Zone No. 1 - Existing
J-498	895.00	1.61	Fixed	Zone No. 1 - Existing
J-499	895.00	1.61	Fixed	Zone No. 1 - Existing
J-500	897.00	1.61	Fixed	Zone No. 1 - Existing
J-501	902.00	1.61	Fixed	Zone No. 1 - Existing
J-502	900.00	1.61	Fixed	Zone No. 1 - Existing
J-503	902.00	1.61	Fixed	Zone No. 1 - Existing
J-504	900.00	1.61	Fixed	Zone No. 1 - Existing
J-505	901.00	1.61	Fixed	Zone No. 1 - Existing
J-506	902.00	1.61	Fixed	Zone No. 1 - Existing
J-507	903.00	1.61	Fixed	Zone No. 1 - Existing
J-508	902.00	1.61	Fixed	Zone No. 1 - Existing
J-509	904.00	1.61	Fixed	Zone No. 1 - Existing
J-511	902.00	1.61	Fixed	Zone No. 1 - Existing
J-512	903.00	1.61	Fixed	Zone No. 1 - Existing
J-513	896.00	1.61	Fixed	Zone No. 1 - Existing
J-514	900.00	1.61	Fixed	Zone No. 1 - Existing
J-515	904.00	1.61	Fixed	Zone No. 1 - Existing
J-516	902.00	1.61	Fixed	Zone No. 1 - Existing
J-517	898.00	1.61	Fixed	Zone No. 1 - Existing
J-518	902.00	1.61	Fixed	Zone No. 1 - Existing
J-520	900.00	1.07	Fixed	Zone No. 1 - Existing
J-521	895.00	1.61	Fixed	Zone No. 1 - Existing
J-522	890.00	1.61	Fixed	Zone No. 1 - Existing
J-523	880.00	1.61	Fixed	Zone No. 1 - Existing
J-524	903.00	1.61	Fixed	Zone No. 1 - Existing
J-525	902.00	1.61	Fixed	Zone No. 1 - Existing
J-526	905.00	1.61	Fixed	Zone No. 1 - Existing
J-527	902.00	1.61	Fixed	Zone No. 1 - Existing
J-528	902.00	1.61	Fixed	Zone No. 1 - Existing
J-529	902.00	1.61	Fixed	Zone No. 1 - Existing
J-530	902.50	1.61	Fixed	Zone No. 1 - Existing
J-531	904.40	1.61	Fixed	Zone No. 1 - Existing
J-532	905.80	1.61	Fixed	Zone No. 1 - Existing
J-533	903.30	1.61	Fixed	Zone No. 1 - Existing
J-534	901.20	1.61	Fixed	Zone No. 1 - Existing

City of Andover 2018 Comprehensive Water Plan
Junction Report

Label	Elevation (ft)	Demand* (gpm)	Pattern (Constituent)	Zone
J-535	904.00	1.61	Fixed	Zone No. 1 - Existing
J-536	901.00	1.61	Fixed	Zone No. 1 - Existing
J-537	902.90	1.61	Fixed	Zone No. 1 - Existing
J-538	902.00	1.61	Fixed	Zone No. 1 - Existing
J-539	901.00	1.61	Fixed	Zone No. 1 - Existing
J-540	904.00	1.61	Fixed	Zone No. 1 - Existing
J-541	902.90	1.61	Fixed	Zone No. 1 - Existing
J-542	905.00	1.07	Fixed	Zone No. 1 - Existing
J-543	903.50	1.07	Fixed	Zone No. 1 - Existing
J-544	900.50	1.61	Fixed	Zone No. 1 - Existing
J-545	897.00	1.61	Fixed	Zone No. 1 - Existing
J-546	900.00	1.61	Fixed	Zone No. 1 - Existing
J-547	896.50	1.61	Fixed	Zone No. 1 - Existing
J-548	896.00	1.61	Fixed	Zone No. 1 - Existing
J-549	896.00	1.61	Fixed	Zone No. 1 - Existing
J-550	901.00	1.61	Fixed	Zone No. 1 - Existing
J-551	902.00	1.61	Fixed	Zone No. 1 - Existing
J-552	902.00	1.61	Fixed	Zone No. 1 - Existing
J-553	900.00	1.61	Fixed	Zone No. 1 - Existing
J-554	900.00	1.61	Fixed	Zone No. 1 - Existing
J-555	902.00	1.61	Fixed	Zone No. 1 - Existing
J-556	902.00	1.61	Fixed	Zone No. 1 - Existing
J-557	873.00	1.61	Fixed	Zone No. 2 - Existing
J-559	877.00	1.61	Fixed	Zone No. 2 - Existing
J-560	874.00	1.61	Fixed	Zone No. 2 - Existing
J-561	878.00	1.61	Fixed	Zone No. 2 - Existing
J-562	878.00	1.61	Fixed	Zone No. 2 - Existing
J-563	880.00	1.61	Fixed	Zone No. 2 - Existing
J-564	879.00	1.61	Fixed	Zone No. 2 - Existing
J-565	906.00	(N/A)	Fixed	Zone No. 1 - Future
J-566	878.00	1.07	Fixed	Zone No. 1 - Existing
J-567	879.00	1.07	Fixed	Zone No. 1 - Existing
J-568	878.00	1.07	Fixed	Zone No. 1 - Existing
J-569	878.00	1.07	Fixed	Zone No. 1 - Existing
J-570	888.00	1.61	Fixed	Zone No. 1 - Existing
J-571	878.00	1.07	Fixed	Zone No. 1 - Existing
J-572	899.00	1.07	Fixed	Zone No. 1 - Existing
J-573	895.00	1.07	Fixed	Zone No. 1 - Existing
J-574	899.00	1.07	Fixed	Zone No. 1 - Existing
J-575	897.00	1.07	Fixed	Zone No. 1 - Existing
J-576	899.00	1.07	Fixed	Zone No. 1 - Existing
J-577	894.00	1.07	Fixed	Zone No. 1 - Existing
J-578	896.00	1.07	Fixed	Zone No. 1 - Existing
J-579	889.00	1.61	Fixed	Zone No. 1 - Existing
J-580	896.00	1.61	Fixed	Zone No. 1 - Existing
J-581	891.00	1.61	Fixed	Zone No. 1 - Existing
J-582	897.00	1.61	Fixed	Zone No. 1 - Existing
J-583	875.00	1.07	Fixed	Zone No. 1 - Existing

City of Andover 2018 Comprehensive Water Plan
Junction Report

Label	Elevation (ft)	Demand* (gpm)	Pattern (Constituent)	Zone
J-584	892.00	(N/A)	Fixed	Zone No. 1 - Future
J-585	877.00	1.61	Fixed	Zone No. 1 - Existing
J-586	896.00	1.07	Fixed	Zone No. 1 - Existing
J-587	893.00	1.07	Fixed	Zone No. 1 - Existing
J-588	886.00	1.07	Fixed	Zone No. 1 - Existing
J-589	883.00	1.07	Fixed	Zone No. 1 - Existing
J-590	879.00	1.07	Fixed	Zone No. 1 - Existing
J-591	893.00	1.61	Fixed	Zone No. 1 - Existing
J-592	893.00	1.61	Fixed	Zone No. 1 - Existing
J-593	902.00	1.61	Fixed	Zone No. 1 - Existing
J-594	901.00	1.61	Fixed	Zone No. 1 - Existing
J-595	900.00	1.61	Fixed	Zone No. 1 - Existing
J-596	897.00	1.61	Fixed	Zone No. 1 - Existing
J-597	893.00	1.61	Fixed	Zone No. 1 - Existing
J-598	903.00	1.61	Fixed	Zone No. 1 - Existing
J-599	903.00	1.61	Fixed	Zone No. 1 - Existing
J-600	897.00	1.61	Fixed	Zone No. 1 - Existing
J-601	903.00	1.61	Fixed	Zone No. 1 - Existing
J-602	902.00	1.61	Fixed	Zone No. 1 - Existing
J-603	893.00	1.61	Fixed	Zone No. 1 - Existing
J-604	897.00	1.61	Fixed	Zone No. 1 - Existing
J-605	900.00	1.61	Fixed	Zone No. 1 - Existing
J-606	905.00	1.61	Fixed	Zone No. 1 - Existing
J-607	897.00	1.61	Fixed	Zone No. 1 - Existing
J-608	895.00	1.61	Fixed	Zone No. 1 - Existing
J-609	900.00	1.61	Fixed	Zone No. 1 - Existing
J-610	889.00	1.61	Fixed	Zone No. 1 - Existing
J-611	897.00	1.61	Fixed	Zone No. 1 - Existing
J-612	898.00	1.61	Fixed	Zone No. 1 - Existing
J-613	886.00	1.61	Fixed	Zone No. 1 - Existing
J-614	893.00	1.61	Fixed	Zone No. 1 - Existing
J-615	892.00	1.61	Fixed	Zone No. 1 - Existing
J-616	901.00	1.07	Fixed	Zone No. 1 - Existing
J-617	901.00	1.07	Fixed	Zone No. 1 - Existing
J-618	903.00	1.61	Fixed	Zone No. 1 - Existing
J-619	906.00	1.61	Fixed	Zone No. 1 - Existing
J-620	892.00	1.07	Fixed	Zone No. 1 - Existing
J-621	906.00	1.61	Fixed	Zone No. 1 - Existing
J-622	906.00	1.61	Fixed	Zone No. 1 - Existing
J-623	908.00	1.61	Fixed	Zone No. 1 - Existing
J-624	909.00	1.61	Fixed	Zone No. 1 - Existing
J-625	909.00	1.61	Fixed	Zone No. 1 - Existing
J-626	904.00	1.61	Fixed	Zone No. 1 - Existing
J-627	903.00	1.61	Fixed	Zone No. 1 - Existing
J-628	903.00	1.61	Fixed	Zone No. 1 - Existing
J-629	901.00	1.61	Fixed	Zone No. 1 - Existing
J-630	901.00	1.61	Fixed	Zone No. 1 - Existing
J-631	900.00	1.61	Fixed	Zone No. 1 - Existing

City of Andover 2018 Comprehensive Water Plan
Junction Report

Label	Elevation (ft)	Demand* (gpm)	Pattern (Constituent)	Zone
J-632	904.00	1.61	Fixed	Zone No. 1 - Existing
J-633	902.00	1.61	Fixed	Zone No. 1 - Existing
J-634	904.00	1.61	Fixed	Zone No. 1 - Existing
J-635	897.00	1.61	Fixed	Zone No. 1 - Existing
J-636	900.00	1.61	Fixed	Zone No. 1 - Existing
J-637	900.00	1.61	Fixed	Zone No. 1 - Existing
J-638	906.00	1.61	Fixed	Zone No. 1 - Existing
J-639	907.00	1.61	Fixed	Zone No. 1 - Existing
J-640	904.00	1.61	Fixed	Zone No. 1 - Existing
J-641	898.00	1.61	Fixed	Zone No. 1 - Existing
J-642	903.00	1.61	Fixed	Zone No. 1 - Existing
J-643	902.00	1.61	Fixed	Zone No. 1 - Existing
J-644	902.00	1.61	Fixed	Zone No. 1 - Existing
J-645	896.00	1.61	Fixed	Zone No. 1 - Existing
J-646	896.00	1.61	Fixed	Zone No. 1 - Existing
J-647	904.00	1.61	Fixed	Zone No. 1 - Existing
J-648	902.00	1.61	Fixed	Zone No. 1 - Existing
J-649	897.00	1.61	Fixed	Zone No. 1 - Existing
J-650	902.00	1.61	Fixed	Zone No. 1 - Existing
J-651	904.00	1.61	Fixed	Zone No. 1 - Existing
J-652	877.00	(N/A)	Fixed	Zone No. 1 - Future
J-653	889.00	(N/A)	Fixed	Zone No. 1 - Future
J-654	891.00	(N/A)	Fixed	Zone No. 1 - Future
J-655	893.00	(N/A)	Fixed	Zone No. 1 - Future
J-656	900.00	(N/A)	Fixed	Zone No. 1 - Future
J-657	902.00	(N/A)	Fixed	Zone No. 1 - Future
J-658	900.00	(N/A)	Fixed	Zone No. 1 - Future
J-659	899.00	(N/A)	Fixed	Zone No. 1 - Future
J-660	902.00	1.61	Fixed	Zone No. 1 - Existing
J-661	896.00	1.61	Fixed	Zone No. 1 - Existing
J-662	894.00	1.61	Fixed	Zone No. 1 - Existing
J-683	876.00	(N/A)	Fixed	Zone No. 1 - Future
J-684	877.00	1.61	Fixed	Zone No. 2 - Existing
J-685	900.00	(N/A)	Fixed	Zone No. 1 - Future
J-686	878.00	1.61	Fixed	Zone No. 2 - Existing
J-687	875.00	1.61	Fixed	Zone No. 2 - Existing
J-688	875.00	1.61	Fixed	Zone No. 2 - Existing
J-689	876.17	1.07	Fixed	Zone No. 2 - Existing
J-690	875.00	1.61	Fixed	Zone No. 2 - Existing
J-691	875.00	1.61	Fixed	Zone No. 2 - Existing
J-692	879.00	1.61	Fixed	Zone No. 2 - Existing
J-693	894.00	1.07	Fixed	Zone No. 1 - Existing
J-694	900.00	1.61	Fixed	Zone No. 1 - Existing
J-695	893.00	1.07	Fixed	Zone No. 1 - Existing
J-696	890.00	1.07	Fixed	Zone No. 1 - Existing
J-697	901.00	1.61	Fixed	Zone No. 1 - Existing
J-698	901.00	1.61	Fixed	Zone No. 1 - Existing
J-699	901.00	1.61	Fixed	Zone No. 1 - Existing

*Demands Displayed Correspond to Existing AD Demand

City of Andover 2018 Comprehensive Water Plan
Junction Report

Label	Elevation (ft)	Demand* (gpm)	Pattern (Constituent)	Zone
J-700	902.00	1.61	Fixed	Zone No. 1 - Existing
J-701	902.00	1.61	Fixed	Zone No. 1 - Existing
J-702	899.00	1.61	Fixed	Zone No. 1 - Existing
J-703	894.00	1.61	Fixed	Zone No. 1 - Existing
J-704	892.00	1.61	Fixed	Zone No. 1 - Existing
J-705	891.00	1.61	Fixed	Zone No. 1 - Existing
J-706	900.00	1.61	Fixed	Zone No. 1 - Existing
J-707	900.00	1.61	Fixed	Zone No. 1 - Existing
J-708	899.00	1.61	Fixed	Zone No. 1 - Existing
J-709	900.00	1.61	Fixed	Zone No. 1 - Existing
J-710	897.00	1.61	Fixed	Zone No. 1 - Existing
J-711	899.00	1.61	Fixed	Zone No. 1 - Existing
J-712	894.00	1.61	Fixed	Zone No. 1 - Existing
J-713	900.00	1.61	Fixed	Zone No. 1 - Existing
J-714	891.00	1.61	Fixed	Zone No. 1 - Existing
J-715	896.00	1.61	Fixed	Zone No. 1 - Existing
J-716	904.00	1.61	Fixed	Zone No. 1 - Existing
J-717	898.00	1.61	Fixed	Zone No. 1 - Existing
J-718	903.00	1.61	Fixed	Zone No. 1 - Existing
J-719	892.00	1.61	Fixed	Zone No. 1 - Existing
J-720	903.00	1.61	Fixed	Zone No. 1 - Existing
J-721	892.00	1.61	Fixed	Zone No. 1 - Existing
J-722	900.00	1.07	Fixed	Zone No. 1 - Existing
J-723	890.00	1.07	Fixed	Zone No. 1 - Existing
J-724	891.00	1.07	Fixed	Zone No. 1 - Existing
J-725	888.00	1.07	Fixed	Zone No. 1 - Existing
J-726	893.00	1.07	Fixed	Zone No. 1 - Existing
J-727	889.00	1.07	Fixed	Zone No. 1 - Existing
J-728	878.00	1.61	Fixed	Zone No. 1 - Existing
J-729	890.00	1.61	Fixed	Zone No. 1 - Existing
J-730	878.00	1.61	Fixed	Zone No. 1 - Existing
J-731	884.00	1.61	Fixed	Zone No. 1 - Existing
J-732	891.00	1.61	Fixed	Zone No. 1 - Existing
J-733	910.00	1.61	Fixed	Zone No. 1 - Existing
J-734	910.00	1.61	Fixed	Zone No. 1 - Existing
J-735	902.00	1.61	Fixed	Zone No. 1 - Existing
J-736	900.00	1.61	Fixed	Zone No. 1 - Existing
J-737	900.00	1.61	Fixed	Zone No. 1 - Existing
J-738	900.00	1.61	Fixed	Zone No. 1 - Existing
J-739	900.00	1.61	Fixed	Zone No. 1 - Existing
J-740	900.00	1.61	Fixed	Zone No. 1 - Existing
J-741	900.00	1.61	Fixed	Zone No. 1 - Existing
J-742	905.00	1.61	Fixed	Zone No. 1 - Existing
J-743	908.00	1.61	Fixed	Zone No. 1 - Existing
J-744	911.00	1.61	Fixed	Zone No. 1 - Existing
J-745	911.00	1.61	Fixed	Zone No. 1 - Existing
J-746	912.00	1.61	Fixed	Zone No. 1 - Existing
J-747	910.00	1.61	Fixed	Zone No. 1 - Existing

City of Andover 2018 Comprehensive Water Plan
Junction Report

Label	Elevation (ft)	Demand* (gpm)	Pattern (Constituent)	Zone
J-748	905.00	1.61	Fixed	Zone No. 1 - Existing
J-749	870.00	(N/A)	Fixed	Zone No. 1 - Future
J-750	910.00	1.61	Fixed	Zone No. 1 - Existing
J-751	902.00	1.61	Fixed	Zone No. 1 - Existing
J-752	902.00	1.61	Fixed	Zone No. 1 - Existing
J-753	905.00	1.61	Fixed	Zone No. 1 - Existing
J-755	911.00	1.61	Fixed	Zone No. 1 - Existing
J-756	899.00	1.61	Fixed	Zone No. 1 - Existing
J-759	900.00	1.61	Fixed	Zone No. 1 - Existing
J-760	902.00	1.61	Fixed	Zone No. 1 - Existing
J-761	905.00	1.61	Fixed	Zone No. 1 - Existing
J-762	901.00	1.61	Fixed	Zone No. 1 - Existing
J-763	903.00	1.61	Fixed	Zone No. 1 - Existing
J-764	903.00	1.61	Fixed	Zone No. 1 - Existing
J-765	903.00	1.61	Fixed	Zone No. 1 - Existing
J-766	910.00	1.61	Fixed	Zone No. 1 - Existing
J-767	902.00	1.61	Fixed	Zone No. 1 - Existing
J-768	911.00	1.61	Fixed	Zone No. 1 - Existing
J-769	902.00	1.61	Fixed	Zone No. 1 - Existing
J-770	902.00	1.61	Fixed	Zone No. 1 - Existing
J-771	902.00	1.61	Fixed	Zone No. 1 - Existing
J-772	891.00	1.61	Fixed	Zone No. 1 - Existing
J-773	878.00	1.61	Fixed	Zone No. 1 - Existing
J-774	876.00	1.61	Fixed	Zone No. 1 - Existing
J-775	880.00	1.61	Fixed	Zone No. 1 - Existing
J-776	881.00	1.61	Fixed	Zone No. 1 - Existing
J-777	878.00	1.61	Fixed	Zone No. 1 - Existing
J-778	880.00	1.61	Fixed	Zone No. 1 - Existing
J-779	877.00	1.61	Fixed	Zone No. 1 - Existing
J-780	878.00	1.61	Fixed	Zone No. 1 - Existing
J-781	882.00	1.61	Fixed	Zone No. 1 - Existing
J-782	883.00	1.61	Fixed	Zone No. 1 - Existing
J-783	882.00	1.61	Fixed	Zone No. 1 - Existing
J-784	881.00	1.61	Fixed	Zone No. 1 - Existing
J-785	882.00	1.61	Fixed	Zone No. 1 - Existing
J-786	879.00	1.61	Fixed	Zone No. 1 - Existing
J-787	878.00	1.61	Fixed	Zone No. 1 - Existing
J-788	884.00	1.61	Fixed	Zone No. 1 - Existing
J-789	880.00	1.61	Fixed	Zone No. 1 - Existing
J-790	890.00	1.61	Fixed	Zone No. 1 - Existing
J-791	900.00	1.61	Fixed	Zone No. 1 - Existing
J-792	900.00	1.07	Fixed	Zone No. 1 - Existing
J-793	905.00	1.07	Fixed	Zone No. 1 - Existing
J-794	895.00	1.07	Fixed	Zone No. 1 - Existing
J-795	893.00	1.07	Fixed	Zone No. 1 - Existing
J-796	900.00	1.61	Fixed	Zone No. 1 - Existing
J-797	901.00	1.07	Fixed	Zone No. 1 - Existing
J-798	900.00	1.07	Fixed	Zone No. 1 - Existing

*Demands Displayed Correspond to Existing AD Demand

City of Andover 2018 Comprehensive Water Plan
Junction Report

Label	Elevation (ft)	Demand* (gpm)	Pattern (Constituent)	Zone
J-799	895.00	1.07	Fixed	Zone No. 1 - Existing
J-800	900.00	1.07	Fixed	Zone No. 1 - Existing
J-801	896.00	1.07	Fixed	Zone No. 1 - Existing
J-802	900.00	1.07	Fixed	Zone No. 1 - Existing
J-803	901.00	1.07	Fixed	Zone No. 1 - Existing
J-804	901.00	1.07	Fixed	Zone No. 1 - Existing
J-805	890.00	1.07	Fixed	Zone No. 1 - Existing
J-806	902.00	1.07	Fixed	Zone No. 1 - Existing
J-807	900.00	1.07	Fixed	Zone No. 1 - Existing
J-808	899.00	1.07	Fixed	Zone No. 1 - Existing
J-809	892.00	1.07	Fixed	Zone No. 1 - Existing
J-810	899.00	1.07	Fixed	Zone No. 1 - Existing
J-811	895.00	1.07	Fixed	Zone No. 1 - Existing
J-812	892.00	1.07	Fixed	Zone No. 1 - Existing
J-813	900.00	1.07	Fixed	Zone No. 1 - Existing
J-814	899.00	1.07	Fixed	Zone No. 1 - Existing
J-815	894.00	1.07	Fixed	Zone No. 1 - Existing
J-816	893.00	1.07	Fixed	Zone No. 1 - Existing
J-817	893.00	1.07	Fixed	Zone No. 1 - Existing
J-818	891.00	1.07	Fixed	Zone No. 1 - Existing
J-819	890.00	1.07	Fixed	Zone No. 1 - Existing
J-820	889.00	1.07	Fixed	Zone No. 1 - Existing
J-821	900.00	(N/A)	Fixed	Zone No. 1 - Future
J-823	900.00	1.61	Fixed	Zone No. 1 - Existing
J-824	902.00	(N/A)	Fixed	Zone No. 1 - Future
J-825	900.00	(N/A)	Fixed	Zone No. 1 - Future
J-826	907.00	(N/A)	Fixed	Zone No. 1 - Future
J-827	904.00	(N/A)	Fixed	Zone No. 1 - Future
J-828	902.00	(N/A)	Fixed	Zone No. 1 - Future
J-829	900.00	(N/A)	Fixed	Zone No. 1 - Future
J-830	900.00	(N/A)	Fixed	Zone No. 1 - Future
J-831	900.00	(N/A)	Fixed	Zone No. 1 - Future
J-834	901.00	(N/A)	Fixed	Zone No. 1 - Future
J-835	888.00	(N/A)	Fixed	Zone No. 1 - Future
J-839	900.00	(N/A)	Fixed	Zone No. 1 - Future
J-840	896.00	(N/A)	Fixed	Zone No. 1 - Future
J-843	898.00	(N/A)	Fixed	Zone No. 1 - Future
J-844	911.00	(N/A)	Fixed	Zone No. 1 - Future
J-845	901.00	(N/A)	Fixed	Zone No. 1 - Future
J-846	900.00	(N/A)	Fixed	Zone No. 1 - Future
J-847	899.00	(N/A)	Fixed	Zone No. 1 - Future
J-848	905.00	(N/A)	Fixed	Zone No. 1 - Future
J-849	900.00	1.61	Fixed	Zone No. 1 - Existing
J-850	898.00	(N/A)	Fixed	Zone No. 1 - Future
J-851	900.00	(N/A)	Fixed	Zone No. 1 - Future
J-852	899.00	(N/A)	Fixed	Zone No. 1 - Future
J-853	900.00	(N/A)	Fixed	Zone No. 1 - Future
J-854	902.00	(N/A)	Fixed	Zone No. 1 - Future

City of Andover 2018 Comprehensive Water Plan
Junction Report

Label	Elevation (ft)	Demand* (gpm)	Pattern (Constituent)	Zone
J-855	900.00	(N/A)	Fixed	Zone No. 1 - Future
J-856	901.00	(N/A)	Fixed	Zone No. 1 - Future
J-857	901.00	(N/A)	Fixed	Zone No. 1 - Future
J-858	899.00	(N/A)	Fixed	Zone No. 1 - Future
J-859	900.00	(N/A)	Fixed	Zone No. 1 - Future
J-860	901.00	(N/A)	Fixed	Zone No. 1 - Future
J-861	900.00	(N/A)	Fixed	Zone No. 1 - Future
J-862	900.00	(N/A)	Fixed	Zone No. 1 - Future
J-864	900.00	(N/A)	Fixed	Zone No. 1 - Future
J-866	910.00	(N/A)	Fixed	Zone No. 1 - Future
J-867	880.00	(N/A)	Fixed	Zone No. 1 - Future
J-868	899.00	(N/A)	Fixed	Zone No. 1 - Future
J-869	900.00	(N/A)	Fixed	Zone No. 1 - Future
J-870	902.00	(N/A)	Fixed	Zone No. 1 - Future
J-871	898.00	1.61	Fixed	Zone No. 1 - Existing
J-872	899.00	1.61	Fixed	Zone No. 1 - Existing
J-874	900.00	(N/A)	Fixed	Zone No. 1 - Future
J-875	903.00	(N/A)	Fixed	Zone No. 1 - Future
J-876	892.00	(N/A)	Fixed	Zone No. 1 - Future
J-877	897.00	(N/A)	Fixed	Zone No. 1 - Future
J-878	880.00	(N/A)	Fixed	Zone No. 1 - Future
J-879	877.00	(N/A)	Fixed	Zone No. 1 - Future
J-880	870.00	1.61	Fixed	Zone No. 2 - Existing
J-881	877.00	(N/A)	Fixed	Zone No. 1 - Future
J-884	877.00	(N/A)	Fixed	Zone No. 2 - Future
J-885	862.00	(N/A)	Fixed	Zone No. 2 - Future
J-886	876.00	1.61	Fixed	Zone No. 2 - Existing
J-887	876.00	(N/A)	Fixed	Zone No. 2 - Future
J-888	875.00	(N/A)	Fixed	Zone No. 2 - Future
J-889	878.00	1.61	Fixed	Zone No. 2 - Existing
J-890	876.00	1.61	Fixed	Zone No. 2 - Existing
J-891	871.00	(N/A)	Fixed	Zone No. 2 - Future
J-892	881.00	1.61	Fixed	Zone No. 2 - Existing
J-893	876.00	(N/A)	Fixed	Zone No. 2 - Future
J-894	880.00	(N/A)	Fixed	Zone No. 2 - Future
J-895	880.00	(N/A)	Fixed	Zone No. 2 - Future
J-896	878.00	(N/A)	Fixed	Zone No. 2 - Future
J-899	870.00	(N/A)	Fixed	Zone No. 2 - Future
J-900	870.00	(N/A)	Fixed	Zone No. 2 - Future
J-901	875.00	1.61	Fixed	Zone No. 2 - Existing
J-903	870.00	(N/A)	Fixed	Zone No. 1 - Future
J-904	870.00	(N/A)	Fixed	Zone No. 1 - Future
J-905	870.00	(N/A)	Fixed	Zone No. 1 - Future
J-906	890.00	1.07	Fixed	Zone No. 1 - Existing
J-907	890.00	1.61	Fixed	Zone No. 1 - Existing
J-908	896.00	(N/A)	Fixed	Zone No. 1 - Future
J-909	893.00	(N/A)	Fixed	Zone No. 1 - Future
J-910	870.00	(N/A)	Fixed	Zone No. 1 - Future

City of Andover 2018 Comprehensive Water Plan
Junction Report

Label	Elevation (ft)	Demand* (gpm)	Pattern (Constituent)	Zone
J-911	877.00	(N/A)	Fixed	Zone No. 1 - Future
J-912	901.00	(N/A)	Fixed	Zone No. 1 - Future
J-913	901.00	(N/A)	Fixed	Zone No. 1 - Future
J-914	901.00	(N/A)	Fixed	Zone No. 1 - Future
J-915	901.00	(N/A)	Fixed	Zone No. 1 - Future
J-916	895.00	(N/A)	Fixed	Zone No. 1 - Future
J-917	900.00	(N/A)	Fixed	Zone No. 1 - Future
J-918	888.00	(N/A)	Fixed	Zone No. 1 - Future
J-919	885.00	(N/A)	Fixed	Zone No. 1 - Future
J-920	890.00	(N/A)	Fixed	Zone No. 1 - Future
J-921	899.00	1.61	Fixed	Zone No. 1 - Existing
J-922	895.00	(N/A)	Fixed	Zone No. 1 - Future
J-923	895.00	(N/A)	Fixed	Zone No. 1 - Future
J-924	899.00	1.61	Fixed	Zone No. 1 - Existing
J-925	899.00	(N/A)	Fixed	Zone No. 1 - Future
J-926	900.00	(N/A)	Fixed	Zone No. 1 - Future
J-927	895.00	(N/A)	Fixed	Zone No. 1 - Future
J-928	894.00	(N/A)	Fixed	Zone No. 1 - Future
J-930	890.00	(N/A)	Fixed	Zone No. 1 - Future
J-931	890.00	1.61	Fixed	Zone No. 1 - Existing
J-932	900.00	(N/A)	Fixed	Zone No. 1 - Future
J-933	895.00	(N/A)	Fixed	Zone No. 1 - Future
J-935	882.00	(N/A)	Fixed	Zone No. 1 - Future
J-936	870.00	(N/A)	Fixed	Zone No. 1 - Future
J-937	876.00	(N/A)	Fixed	Zone No. 1 - Future
J-938	886.00	(N/A)	Fixed	Zone No. 1 - Future
J-939	888.00	(N/A)	Fixed	Zone No. 1 - Future
J-942	870.00	(N/A)	Fixed	Zone No. 1 - Future
J-943	870.00	(N/A)	Fixed	Zone No. 1 - Future
J-944	870.00	(N/A)	Fixed	Zone No. 1 - Future
J-945	870.00	(N/A)	Fixed	Zone No. 1 - Future
J-947	870.00	(N/A)	Fixed	Zone No. 1 - Future
J-949	870.00	(N/A)	Fixed	Zone No. 1 - Future
J-950	870.00	(N/A)	Fixed	Zone No. 1 - Future
J-952	870.00	1.61	Fixed	Zone No. 2 - Existing
J-954	860.00	(N/A)	Fixed	Zone No. 2 - Future
J-956	874.00	(N/A)	Fixed	Zone No. 2 - Future
J-957	878.00	(N/A)	Fixed	Zone No. 2 - Future
J-959	880.00	(N/A)	Fixed	Zone No. 2 - Future
J-960	880.00	(N/A)	Fixed	Zone No. 2 - Future
J-961	880.00	(N/A)	Fixed	Zone No. 2 - Future
J-962	880.00	(N/A)	Fixed	Zone No. 2 - Future
J-963	902.00	(N/A)	Fixed	Zone No. 1 - Future
J-966	902.00	1.61	Fixed	Zone No. 1 - Existing
J-968	902.00	1.61	Fixed	Zone No. 1 - Existing
J-970	906.00	1.61	Fixed	Zone No. 1 - Existing
J-971	900.00	1.61	Fixed	Zone No. 1 - Existing
J-972	905.00	(N/A)	Fixed	Zone No. 1 - Future

City of Andover 2018 Comprehensive Water Plan
Junction Report

Label	Elevation (ft)	Demand* (gpm)	Pattern (Constituent)	Zone
J-973	903.00	(N/A)	Fixed	Zone No. 1 - Future
J-974	899.00	(N/A)	Fixed	Zone No. 1 - Future
J-975	898.00	(N/A)	Fixed	Zone No. 1 - Future
J-987	877.00	1.61	Fixed	Zone No. 1 - Existing
J-988	877.00	1.61	Fixed	Zone No. 1 - Existing
J-989	878.00	(N/A)	Fixed	Zone No. 1 - Future
J-991	872.00	(N/A)	Fixed	Zone No. 1 - Future
J-992	892.00	1.07	Fixed	Zone No. 1 - Existing
J-994	895.00	1.07	Fixed	Zone No. 1 - Existing
J-995	873.00	(N/A)	Fixed	Zone No. 2 - Future
J-996	865.00	1.61	Fixed	Zone No. 2 - Existing
J-997	867.00	1.61	Fixed	Zone No. 2 - Existing
J-998	878.00	1.61	Fixed	Zone No. 2 - Existing
J-999	874.00	(N/A)	Fixed	Zone No. 2 - Future
J-1000	872.00	(N/A)	Fixed	Zone No. 2 - Future
J-1001	872.00	(N/A)	Fixed	Zone No. 2 - Future
J-1002	870.00	(N/A)	Fixed	Zone No. 2 - Future
J-1005	870.00	(N/A)	Fixed	Zone No. 2 - Future
J-1006	870.00	(N/A)	Fixed	Zone No. 1 - Future
J-1007	900.00	1.61	Fixed	Zone No. 1 - Existing
J-1008	900.00	1.61	Fixed	Zone No. 1 - Existing
J-1010	883.00	1.61	Fixed	Zone No. 2 - Existing
J-1011	880.00	(N/A)	Fixed	Zone No. 2 - Future
J-1012	865.00	1.61	Fixed	Zone No. 2 - Existing
J-1013	865.00	1.61	Fixed	Zone No. 2 - Existing
J-1014	876.00	1.61	Fixed	Zone No. 2 - Existing
J-1015	880.00	1.61	Fixed	Zone No. 1 - Existing
J-1016	897.00	1.07	Fixed	Zone No. 1 - Existing
J-1017	900.00	1.61	Fixed	Zone No. 1 - Existing
J-1018	900.00	1.61	Fixed	Zone No. 1 - Existing
J-1019	900.00	1.61	Fixed	Zone No. 1 - Existing
J-1020	898.00	1.61	Fixed	Zone No. 1 - Existing
J-1021	897.00	1.61	Fixed	Zone No. 1 - Existing
J-1022	898.00	1.61	Fixed	Zone No. 1 - Existing
J-1023	899.00	1.61	Fixed	Zone No. 1 - Existing
J-1024	903.00	1.61	Fixed	Zone No. 1 - Existing
J-1025	904.00	1.61	Fixed	Zone No. 1 - Existing
J-1026	902.00	1.61	Fixed	Zone No. 1 - Existing
J-1027	900.00	1.61	Fixed	Zone No. 1 - Existing
J-1028	901.00	1.61	Fixed	Zone No. 1 - Existing
J-1029	899.00	1.61	Fixed	Zone No. 1 - Existing
J-1030	898.00	1.61	Fixed	Zone No. 1 - Existing
J-1031	901.00	1.61	Fixed	Zone No. 1 - Existing
J-1032	898.00	1.61	Fixed	Zone No. 1 - Existing
J-1033	900.00	1.61	Fixed	Zone No. 1 - Existing
J-1034	891.00	1.61	Fixed	Zone No. 1 - Existing
J-1035	900.00	1.07	Fixed	Zone No. 1 - Existing
J-1036	896.00	(N/A)	Fixed	Zone No. 1 - Future

*Demands Displayed Correspond to Existing AD Demand

City of Andover 2018 Comprehensive Water Plan
Junction Report

Label	Elevation (ft)	Demand* (gpm)	Pattern (Constituent)	Zone
J-1037	890.00	(N/A)	Fixed	Zone No. 1 - Future
J-1038	901.00	(N/A)	Fixed	Zone No. 1 - Future
J-1039	888.00	(N/A)	Fixed	Zone No. 1 - Future
J-1040	887.00	(N/A)	Fixed	Zone No. 1 - Future
J-1041	870.00	(N/A)	Fixed	Zone No. 2 - Future
J-1042	878.00	(N/A)	Fixed	Zone No. 2 - Future
J-1043	900.00	(N/A)	Fixed	Zone No. 1 - Future
J-1044	873.00	1.61	Fixed	Zone No. 2 - Existing
J-1045	874.00	(N/A)	Fixed	Zone No. 2 - Future
J-1050	900.00	1.61	Fixed	Zone No. 1 - Existing
J-1051	870.00	(N/A)	Fixed	Zone No. 1 - Future
J-1052	870.00	(N/A)	Fixed	Zone No. 1 - Future
J-1053	892.00	(N/A)	Fixed	Zone No. 1 - Future
J-1054	890.00	1.61	Fixed	Zone No. 1 - Existing
J-1055	877.00	(N/A)	Fixed	Zone No. 1 - Future
J-1057	880.00	1.61	Fixed	Zone No. 1 - Existing
J-1060	902.00	1.61	Fixed	Zone No. 1 - Existing
J-1061	904.00	1.61	Fixed	Zone No. 1 - Existing
J-1062	904.00	1.61	Fixed	Zone No. 1 - Existing
J-1063	903.00	1.61	Fixed	Zone No. 1 - Existing
J-1064	903.00	1.61	Fixed	Zone No. 1 - Existing
J-1067	884.00	1.61	Fixed	Zone No. 1 - Existing
J-1069	876.00	1.61	Fixed	Zone No. 2 - Existing
J-1070	876.00	1.61	Fixed	Zone No. 2 - Existing
J-1075	880.00	1.61	Fixed	Zone No. 1 - Existing
J-1079	896.00	1.07	Fixed	Zone No. 1 - Existing
J-1083	900.00	1.61	Fixed	Zone No. 1 - Existing
J-1084	900.00	1.61	Fixed	Zone No. 1 - Existing
J-1097	887.00	1.61	Fixed	Zone No. 1 - Existing
J-1098	887.00	1.61	Fixed	Zone No. 1 - Existing
J-1105	888.00	1.07	Fixed	Zone No. 1 - Existing
J-1113	891.00	1.61	Fixed	Zone No. 1 - Existing
J-1114	891.00	1.61	Fixed	Zone No. 1 - Existing
J-1115	884.00	1.61	Fixed	Zone No. 1 - Existing
J-1117	907.00	1.61	Fixed	Zone No. 1 - Existing
J-1118	907.00	1.61	Fixed	Zone No. 1 - Existing
J-1125	913.00	1.61	Fixed	Zone No. 1 - Existing
J-1126	913.00	1.61	Fixed	Zone No. 1 - Existing
J-1128	895.00	1.07	Fixed	Zone No. 1 - Existing
J-1135	903.00	1.07	Fixed	Zone No. 1 - Existing
J-1136	903.00	1.07	Fixed	Zone No. 1 - Existing
J-1152	884.00	1.61	Fixed	Zone No. 1 - Existing
J-1154	886.00	1.61	Fixed	Zone No. 1 - Existing
J-1155	886.00	1.61	Fixed	Zone No. 1 - Existing
J-1156	890.00	1.07	Fixed	Zone No. 1 - Existing
J-1157	890.00	1.07	Fixed	Zone No. 1 - Existing
J-1158	892.00	1.61	Fixed	Zone No. 1 - Existing
J-1159	892.00	1.61	Fixed	Zone No. 1 - Existing

City of Andover 2018 Comprehensive Water Plan
Junction Report

Label	Elevation (ft)	Demand* (gpm)	Pattern (Constituent)	Zone
J-1162	898.00	1.07	Fixed	Zone No. 1 - Existing
J-1164	890.00	1.07	Fixed	Zone No. 1 - Existing
J-1167	887.00	1.61	Fixed	Zone No. 1 - Existing
J-1170	897.00	1.07	Fixed	Zone No. 1 - Existing
J-1173	889.00	1.07	Fixed	Zone No. 1 - Existing
J-1177	903.00	1.61	Fixed	Zone No. 1 - Existing
J-1178	870.00	1.61	Fixed	Zone No. 2 - Existing
J-1182	878.00	1.61	Fixed	Zone No. 2 - Existing
J-1183	892.00	1.61	Fixed	Zone No. 1 - Existing
J-1184	908.00	1.61	Fixed	Zone No. 1 - Existing
J-1185	908.00	1.61	Fixed	Zone No. 1 - Existing
J-1186	892.00	1.61	Fixed	Zone No. 1 - Existing
J-1188	890.00	1.07	Fixed	Zone No. 1 - Existing
J-1191	908.00	1.61	Fixed	Zone No. 1 - Existing
J-1192	908.00	1.61	Fixed	Zone No. 1 - Existing
J-1193	898.00	1.07	Fixed	Zone No. 1 - Existing
J-1196	904.00	1.61	Fixed	Zone No. 1 - Existing
J-1198	908.00	1.61	Fixed	Zone No. 1 - Existing
J-1200	908.00	1.61	Fixed	Zone No. 1 - Existing
J-1203	906.00	1.61	Fixed	Zone No. 1 - Existing
J-1205	901.00	1.07	Fixed	Zone No. 1 - Existing
J-1206	913.00	1.61	Fixed	Zone No. 1 - Existing
J-1207	913.00	1.61	Fixed	Zone No. 1 - Existing
J-1208	883.00	1.61	Fixed	Zone No. 1 - Existing
J-1210	904.00	1.61	Fixed	Zone No. 1 - Existing
J-1212	882.00	1.61	Fixed	Zone No. 1 - Existing
J-1213	882.00	1.61	Fixed	Zone No. 1 - Existing
J-1215	895.00	1.61	Fixed	Zone No. 1 - Existing
J-1217	890.00	1.07	Fixed	Zone No. 1 - Existing
J-1218	890.00	1.07	Fixed	Zone No. 1 - Existing
J-1220	883.00	1.61	Fixed	Zone No. 1 - Existing
J-1222	880.00	1.61	Fixed	Zone No. 1 - Existing
J-1224	905.00	1.61	Fixed	Zone No. 1 - Existing
J-1226	903.50	1.61	Fixed	Zone No. 1 - Existing
J-1228	917.00	1.61	Fixed	Zone No. 1 - Existing
J-1232	902.00	1.07	Fixed	Zone No. 1 - Existing
J-1233	902.00	1.07	Fixed	Zone No. 1 - Existing
J-1234	892.00	1.61	Fixed	Zone No. 1 - Existing
J-1236	886.00	1.61	Fixed	Zone No. 1 - Existing
J-1238	899.50	1.07	Fixed	Zone No. 1 - Existing
J-1239	912.00	1.61	Fixed	Zone No. 1 - Existing
J-1241	895.50	1.07	Fixed	Zone No. 1 - Existing
J-1242	900.00	1.61	Fixed	Zone No. 1 - Existing
J-1244	912.00	1.61	Fixed	Zone No. 1 - Existing
J-1249	909.00	1.61	Fixed	Zone No. 1 - Existing
J-1250	908.00	1.61	Fixed	Zone No. 1 - Existing
J-1251	908.00	1.61	Fixed	Zone No. 1 - Existing
J-1253	914.00	1.61	Fixed	Zone No. 1 - Existing

City of Andover 2018 Comprehensive Water Plan
Junction Report

Label	Elevation (ft)	Demand* (gpm)	Pattern (Constituent)	Zone
J-1255	890.00	1.07	Fixed	Zone No. 1 - Existing
J-1256	880.00	1.61	Fixed	Zone No. 2 - Existing
J-1258	919.00	1.61	Fixed	Zone No. 1 - Existing
J-1260	880.00	1.61	Fixed	Zone No. 2 - Existing
J-1261	880.00	1.61	Fixed	Zone No. 2 - Existing
J-1262	909.00	1.61	Fixed	Zone No. 1 - Existing
J-1266	895.00	1.61	Fixed	Zone No. 1 - Existing
J-1268	896.00	1.61	Fixed	Zone No. 1 - Existing
J-1273	895.00	1.61	Fixed	Zone No. 1 - Existing
J-1274	916.00	1.61	Fixed	Zone No. 1 - Existing
J-1276	912.00	1.61	Fixed	Zone No. 1 - Existing
J-1278	898.00	1.61	Fixed	Zone No. 1 - Existing
J-1280	901.00	1.61	Fixed	Zone No. 1 - Existing
J-1282	908.00	1.61	Fixed	Zone No. 1 - Existing
J-1286	870.00	1.61	Fixed	Zone No. 2 - Existing
J-1287	870.00	1.61	Fixed	Zone No. 2 - Existing
J-1288	895.00	1.07	Fixed	Zone No. 1 - Existing
J-1290	890.00	1.61	Fixed	Zone No. 1 - Existing
J-1291	902.00	1.61	Fixed	Zone No. 1 - Existing
J-1293	902.00	1.07	Fixed	Zone No. 1 - Existing
J-1295	904.00	1.61	Fixed	Zone No. 1 - Existing
J-1299	874.00	1.61	Fixed	Zone No. 2 - Existing
J-1301	882.00	1.61	Fixed	Zone No. 1 - Existing
J-1303	903.00	1.07	Fixed	Zone No. 1 - Existing
J-1305	904.00	1.61	Fixed	Zone No. 1 - Existing
J-1306	904.00	1.61	Fixed	Zone No. 1 - Existing
J-1307	892.00	1.61	Fixed	Zone No. 1 - Existing
J-1308	902.00	1.07	Fixed	Zone No. 1 - Existing
J-1310	910.00	1.61	Fixed	Zone No. 1 - Existing
J-1312	878.00	1.61	Fixed	Zone No. 2 - Existing
J-1316	870.00	1.61	Fixed	Zone No. 2 - Existing
J-1317	890.00	1.07	Fixed	Zone No. 1 - Existing
J-1318	895.00	1.07	Fixed	Zone No. 1 - Existing
J-1319	916.00	1.61	Fixed	Zone No. 1 - Existing
J-1321	895.00	1.07	Fixed	Zone No. 1 - Existing
J-1324	903.00	1.61	Fixed	Zone No. 1 - Existing
J-1325	903.00	1.61	Fixed	Zone No. 1 - Existing
J-1327	905.00	1.61	Fixed	Zone No. 1 - Existing
J-1331	890.00	1.07	Fixed	Zone No. 1 - Existing
J-1332	886.00	1.07	Fixed	Zone No. 1 - Existing
J-1336	907.00	1.61	Fixed	Zone No. 1 - Existing
J-1337	907.00	1.61	Fixed	Zone No. 1 - Existing
J-1338	914.00	1.61	Fixed	Zone No. 1 - Existing
J-1339	914.00	1.61	Fixed	Zone No. 1 - Existing
J-1341	918.00	1.61	Fixed	Zone No. 1 - Existing
J-1343	872.00	1.61	Fixed	Zone No. 2 - Existing
J-1345	890.00	1.07	Fixed	Zone No. 1 - Existing
J-1346	905.00	1.61	Fixed	Zone No. 1 - Existing

City of Andover 2018 Comprehensive Water Plan
Junction Report

Label	Elevation (ft)	Demand* (gpm)	Pattern (Constituent)	Zone
J-1347	886.00	1.61	Fixed	Zone No. 1 - Existing
J-1349	891.00	1.61	Fixed	Zone No. 1 - Existing
J-1350	891.00	1.07	Fixed	Zone No. 1 - Existing
J-1352	883.00	1.61	Fixed	Zone No. 2 - Existing
J-1354	916.00	1.61	Fixed	Zone No. 1 - Existing
J-1356	884.00	1.61	Fixed	Zone No. 1 - Existing
J-1359	891.00	1.07	Fixed	Zone No. 1 - Existing
J-1361	903.00	1.07	Fixed	Zone No. 1 - Existing
J-1362	872.00	1.61	Fixed	Zone No. 2 - Existing
J-1364	897.00	1.07	Fixed	Zone No. 1 - Existing
J-1367	876.00	1.61	Fixed	Zone No. 2 - Existing
J-1368	876.00	1.61	Fixed	Zone No. 2 - Existing
J-1369	902.00	1.07	Fixed	Zone No. 1 - Existing
J-1370	888.00	1.07	Fixed	Zone No. 1 - Existing
J-1372	884.00	1.61	Fixed	Zone No. 1 - Existing
J-1374	871.00	1.61	Fixed	Zone No. 2 - Existing
J-1376	872.00	1.61	Fixed	Zone No. 2 - Existing
J-1380	886.00	1.61	Fixed	Zone No. 1 - Existing
J-1383	908.00	1.61	Fixed	Zone No. 1 - Existing
J-1384	908.00	1.61	Fixed	Zone No. 1 - Existing
J-1385	886.00	1.61	Fixed	Zone No. 1 - Existing
J-1387	889.00	1.61	Fixed	Zone No. 1 - Existing
J-1389	880.00	1.61	Fixed	Zone No. 1 - Existing
J-1392	890.00	1.07	Fixed	Zone No. 1 - Existing
J-1393	873.00	1.61	Fixed	Zone No. 1 - Existing
J-1395	902.00	1.61	Fixed	Zone No. 1 - Existing
J-1397	878.00	1.61	Fixed	Zone No. 2 - Existing
J-1399	890.00	1.07	Fixed	Zone No. 1 - Existing
J-1400	890.00	1.07	Fixed	Zone No. 1 - Existing
J-1403	890.00	1.07	Fixed	Zone No. 1 - Existing
J-1404	870.00	1.61	Fixed	Zone No. 2 - Existing
J-1405	902.00	1.07	Fixed	Zone No. 1 - Existing
J-1406	902.00	1.07	Fixed	Zone No. 1 - Existing
J-1407	910.00	1.61	Fixed	Zone No. 1 - Existing
J-1408	910.00	1.61	Fixed	Zone No. 1 - Existing
J-1409	880.00	1.61	Fixed	Zone No. 2 - Existing
J-1410	882.00	1.61	Fixed	Zone No. 2 - Existing
J-1411	906.00	1.61	Fixed	Zone No. 1 - Existing
J-1412	904.00	1.61	Fixed	Zone No. 1 - Existing
J-1413	902.00	1.07	Fixed	Zone No. 1 - Existing
J-1414	901.00	1.07	Fixed	Zone No. 1 - Existing
J-1415	870.00	1.61	Fixed	Zone No. 2 - Existing
J-1416	870.00	1.61	Fixed	Zone No. 2 - Existing
J-1417	901.00	1.61	Fixed	Zone No. 1 - Existing
J-1419	890.00	1.07	Fixed	Zone No. 1 - Existing
J-1420	868.00	1.61	Fixed	Zone No. 2 - Existing
J-1421	903.00	1.61	Fixed	Zone No. 1 - Existing
J-1422	893.00	1.07	Fixed	Zone No. 1 - Existing

City of Andover 2018 Comprehensive Water Plan
Junction Report

Label	Elevation (ft)	Demand* (gpm)	Pattern (Constituent)	Zone
J-1423	890.00	1.07	Fixed	Zone No. 1 - Existing
J-1424	914.00	1.61	Fixed	Zone No. 1 - Existing
J-1426	872.00	1.61	Fixed	Zone No. 2 - Existing
J-1428	905.00	1.61	Fixed	Zone No. 1 - Existing
J-1429	913.00	1.61	Fixed	Zone No. 1 - Existing
J-1431	883.00	1.61	Fixed	Zone No. 1 - Existing
J-1432	890.00	1.07	Fixed	Zone No. 1 - Existing
J-1433	903.00	1.61	Fixed	Zone No. 1 - Existing
J-1434	916.00	1.61	Fixed	Zone No. 1 - Existing
J-1435	910.00	1.61	Fixed	Zone No. 1 - Existing
J-1436	876.00	1.61	Fixed	Zone No. 2 - Existing
J-1437	870.00	1.61	Fixed	Zone No. 2 - Existing
J-1439	900.00	1.61	Fixed	Zone No. 1 - Existing
J-1440	896.50	1.61	Fixed	Zone No. 1 - Existing
J-1441	903.00	1.61	Fixed	Zone No. 1 - Existing
J-1442	886.00	1.61	Fixed	Zone No. 1 - Existing
J-1443	879.00	1.61	Fixed	Zone No. 2 - Existing
J-1444	912.00	1.61	Fixed	Zone No. 1 - Existing
J-1445	893.00	1.61	Fixed	Zone No. 1 - Existing
J-1448	919.00	1.61	Fixed	Zone No. 1 - Existing
J-1449	885.00	1.61	Fixed	Zone No. 1 - Existing
J-1450	904.00	1.61	Fixed	Zone No. 1 - Existing
J-1451	908.50	1.61	Fixed	Zone No. 1 - Existing
J-1452	892.00	1.07	Fixed	Zone No. 1 - Existing
J-1454	888.00	1.61	Fixed	Zone No. 1 - Existing
J-1455	917.00	1.61	Fixed	Zone No. 1 - Existing
J-1456	909.00	1.61	Fixed	Zone No. 1 - Existing
J-1457	874.00	1.61	Fixed	Zone No. 1 - Existing
J-1458	888.00	1.61	Fixed	Zone No. 1 - Existing
J-1459	909.50	1.61	Fixed	Zone No. 1 - Existing
J-1460	907.00	1.61	Fixed	Zone No. 1 - Existing
J-1461	915.00	1.61	Fixed	Zone No. 1 - Existing
J-1462	910.00	1.61	Fixed	Zone No. 1 - Existing
J-1463	915.00	1.61	Fixed	Zone No. 1 - Existing
J-1465	881.00	1.61	Fixed	Zone No. 1 - Existing
J-1466	898.00	1.61	Fixed	Zone No. 1 - Existing
J-1467	906.00	1.61	Fixed	Zone No. 1 - Existing
J-1468	881.00	1.61	Fixed	Zone No. 1 - Existing
J-1469	900.00	1.07	Fixed	Zone No. 1 - Existing
J-1470	903.00	1.07	Fixed	Zone No. 1 - Existing
J-1471	880.00	1.61	Fixed	Zone No. 1 - Existing
J-1472	880.00	1.61	Fixed	Zone No. 1 - Existing
J-1474	878.00	1.61	Fixed	Zone No. 1 - Existing
J-1476	896.00	1.61	Fixed	Zone No. 1 - Existing
J-1477	904.00	1.61	Fixed	Zone No. 1 - Existing
J-1478	876.00	1.61	Fixed	Zone No. 2 - Existing
J-1480	870.00	1.61	Fixed	Zone No. 2 - Existing
J-1481	872.00	(N/A)	Fixed	Zone No. 2 - Future

City of Andover 2018 Comprehensive Water Plan
Junction Report

Label	Elevation (ft)	Demand* (gpm)	Pattern (Constituent)	Zone
J-1482	878.00	1.61	Fixed	Zone No. 2 - Existing
J-1483	878.00	1.61	Fixed	Zone No. 2 - Existing
J-1484	876.50	1.61	Fixed	Zone No. 2 - Existing
J-1485	874.69	1.61	Fixed	Zone No. 2 - Existing
J-1486	871.00	1.61	Fixed	Zone No. 2 - Existing
J-1487	876.00	1.61	Fixed	Zone No. 1 - Existing
J-1488	878.00	1.61	Fixed	Zone No. 1 - Existing
J-1489	879.00	1.61	Fixed	Zone No. 2 - Existing
J-1490	876.00	1.61	Fixed	Zone No. 2 - Existing
J-1492	902.78	1.61	Fixed	Zone No. 1 - Existing
J-1494	905.00	1.61	Fixed	Zone No. 1 - Existing
J-1495	901.56	1.61	Fixed	Zone No. 1 - Existing
J-1496	898.00	1.61	Fixed	Zone No. 1 - Existing
J-1497	892.00	1.61	Fixed	Zone No. 1 - Existing
J-1498	888.00	1.61	Fixed	Zone No. 1 - Existing
J-1499	878.42	1.07	Fixed	Zone No. 1 - Existing
J-1500	884.00	1.61	Fixed	Zone No. 1 - Existing
J-1501	887.45	1.61	Fixed	Zone No. 1 - Existing
J-1502	875.00	1.61	Fixed	Zone No. 2 - Existing
J-1503	894.00	1.07	Fixed	Zone No. 1 - Existing
J-1504	893.14	1.07	Fixed	Zone No. 1 - Existing
J-1505	901.00	1.07	Fixed	Zone No. 1 - Existing
J-1506	901.00	1.07	Fixed	Zone No. 1 - Existing
J-1507	901.01	1.07	Fixed	Zone No. 1 - Existing
J-1508	901.02	1.07	Fixed	Zone No. 1 - Existing
J-1509	909.00	1.07	Fixed	Zone No. 1 - Existing
J-1510	890.00	1.61	Fixed	Zone No. 1 - Existing
J-1511	890.00	1.61	Fixed	Zone No. 1 - Existing
J-1512	897.00	1.61	Fixed	Zone No. 1 - Existing
J-1519	856.00	-1,000.00	Fixed	Zone No. 1 - Existing
J-1522	823.05	-9,000.00	Fixed	Zone No. 1 - Existing
J-1523	900.00	(N/A)	Fixed	Zone No. 1 - Future
J-1524	904.00	(N/A)	Fixed	Zone No. 1 - Future
J-1525	902.60	1.61	Fixed	Zone No. 1 - Existing
J-1527	876.76	1.61	Fixed	Zone No. 1 - Existing
J-1528	805.00	-1,000.00	Fixed	Zone No. 2 - Existing
Test_1-Flow	903.22	1.07	Fixed	Zone No. 1 - Existing
Test_1-Read	906.23	1.61	Fixed	Zone No. 1 - Existing
Test_2-Read	907.90	1.61	Fixed	Zone No. 1 - Existing
Test_3-Flow	902.00	1.07	Fixed	Zone No. 1 - Existing
Test_3-Read	904.00	1.61	Fixed	Zone No. 1 - Existing
Test_4-Flow	876.00	1.61	Fixed	Zone No. 1 - Existing
Test_4-Read	875.00	1.07	Fixed	Zone No. 1 - Existing
Test_5-Flow	881.00	1.07	Fixed	Zone No. 1 - Existing
Test_5-Read	881.00	1.07	Fixed	Zone No. 1 - Existing
Test_6-Flow	896.00	1.61	Fixed	Zone No. 1 - Existing
Test_6-Read	894.00	1.61	Fixed	Zone No. 1 - Existing
Test_7-Flow	876.40	1.61	Fixed	Zone No. 2 - Existing

*Demands Displayed Correspond to Existing AD Demand

City of Andover 2018 Comprehensive Water Plan

Junction Report

Label	Elevation (ft)	Demand* (gpm)	Pattern (Constituent)	Zone
Test_7-Read	876.40	1.61	Fixed	Zone No. 2 - Existing
Test_8-Flow	879.00	1.61	Fixed	Zone No. 2 - Existing
Test_8-Read	882.30	1.61	Fixed	Zone No. 2 - Existing

City of Andover 2018 Comprehensive Water Plan
Pump Report

Label	Pump Definition	Zone
Water Treatment Plant	High Service Pumps	Zone No. 1 - Existing
Well No. 3	Well No. 3 Pumps	Zone No. 1 - Existing
Well No. 2	Well No. 2 Pumps	Zone No. 2 - Existing

City of Andover 2018 Comprehensive Water Plan
Tank Report

Label	Zone	Elevation (Base) (ft)	Elevation (Minimum) (ft)	Elevation (Initial) (ft)	Elevation (Maximum) (ft)	Diameter (ft)
Tank No. 1	Zone No. 2 - Existing	971.00	971.00	1,000.00	1,010.00	47.32
Tank No. 2	Zone No. 1 - Existing	1,011.00	1,011.00	1,045.00	1,055.00	65.23