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# UTILITIES

## Introduction

Volume II of the Utilities element provides additional information related to existing utility systems in Airway Heights, as well as the forecasted needs over the course of this plan's 20-year horizon from 2023 to 2042.

## Water System

### Existing Conditions

The City of Airway Heights historically provided drinking water within the city limits, from eight City-owned and operated supply wells.<sup>1</sup> The City's service area is bordered on the east and south by the City of Spokane's service area, and the Fairchild AFB water system borders on the west.

In 2017, a Comprehensive Water Plan (CWSP) was prepared for the City of Airway Heights. The final approval of this plan was interrupted by contamination of the City's drinking water sources and discontinuation of the wells that provided drinking water to the system. A final CWSP was submitted to the Washington State Department of Health (DOH) in August 2021 and was approved by DOH on November 24, 2021. With the discontinuation of use of the City wells a second interim agreement was reached with the City of Spokane to construct and utilize a second intertie with the City of Spokane's water system located near the intersection of McFarlane Road and Craig Road. This intertie is restricted to provide 1,400 gpm of drinking water source in addition to the previous 1,500 gpm provided through the first intertie. The agreement is renewable up to 5 years. The U.S. Airforce installed a temporary/seasonal granular activated carbon (GAC) filtration system on the City's Well #9 providing an additional 1,000 gpm of source capacity. The 3,900 gpm was determined to provide sufficient capacity through agreement term. The United States Air Force completed an analysis of options to mitigate the impacts of contamination on the City's groundwater sources. For this plan it is assumed that the final mitigation measures identified and funded by the Air Force will at a minimum provide drinking water sources equivalent to what the City had prior to discovering the contamination.

This 2021 Comprehensive Water System Plan which was based on the City's wells providing the drinking water source, contains an analysis of the existing system, current consumption levels, and the service area. It examined the future service area the City's water system was expected to cover, and using population projections, provided a forecast for future water system demand. Finally, the plan addressed discrepancies between projected demand and the City's existing capacity, suggesting necessary

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<sup>1</sup> Seven of eight wells are presently active.

improvements to meet future demand. The following summarizes findings from that plan, updated with current data, as available.

## Service Area

The existing water service area is limited to the area defined in the Spokane County Coordinated Water System Plan. The area within the city limits east of Hayford Road is currently served by the City of Spokane. Since sizable portions of City land are vacant, service lines do not currently service all areas of the City. In particular, with the exception of the City's new Recreation Center, the area north of the Washington State Department of Corrections facility is currently not serviced. The existing water system is shown in Figure 9.1. The future and retail service areas are shown in Figure 9.2.

## Water Supply

It is assumed that the City will obtain all its potable water supply from groundwater resources in the future. There are four (4) wells on the south and southeast sides of the City, which were used as water sources. The total well capacity for the City of Airway Heights was 1,450 gpm, not including the capacity of well #2 (since it is currently inactive) or Parkwest well which is only available in an emergency condition. In addition, Airway Heights is connected to two interties with the City of Spokane water system capable of providing water to the City of which only one is permanent. The following describes each of these water sources:

- Well #1 and #4 – These wells are located together approximately 800 feet east of Lawson Street and 900 feet north of McFarlane Road, and are considered a well field. Both wells are drilled to a depth of approximately 200 feet and supply the City with a capacity of 450 gpm.
- Well #2 – This well is located approximately 600 feet east of Garfield Road and 600 feet north of 21st Avenue. It is 200 feet deep and pumps at a rate of 35 gpm. This well has not been utilized by the City because of its low volume along with a number of operational problems that have been experienced with this well. Testing reported in 1995 exhibited high levels of nitrate, and for this reason, the well is used for “non potable” supply.
- Well #3 – This well is located near the City maintenance shop at 21st and Russell Street. It is 148 feet deep and has a flow of approximately 60 gpm. As with Well #2, this well is not currently used due to high nitrate readings. The well will be placed back in operation as soon as a proper period of testing certifies that the well is clear of nitrates.
- Well #5 - This well is located approximately 600 feet east of Garfield Road and about 40 feet north of McFarlane Road. It is 200 feet deep and has a capacity of 65 gpm. This well is also not used unless there is an emergency condition.
- Well #7 - This well is located at the intersection of Russell Street and McFarlane Road approximately 150 feet south of McFarlane. The capacity of this well is 120 gpm. The well is used occasionally and/or when it is needed.
- Parkwest Well – This well is located approximately 2.5 miles south of the City adjacent to Craig Road. The well is 301 feet deep and has a capacity of 1,400 gpm. Due to impacts to adjacent wells when Parkwest well is pumping, the City

entered into an agreement with Washington State Department of Ecology to only use this well under emergency conditions.

- Well 9 (Recovery Well) – This well was drilled in 2012 with the intent to withdraw reclaimed water from the aquifer after recharge from the Reclaimed Water Plant. The well is located approximately 470 feet south of the intersection of 21st Ave. and Lundstrom Street. It has a capacity of 1,000 gpm.
- City of Spokane -The City of Airway Heights receives water from the City of Spokane permanent intertie on an as-needed basis through a dual pump booster station. This source is capable of providing 1,500 gpm to the City of Airway Heights water system. The second temporary intertie with the City of Spokane is through a connection at the intersection of Craig Road and McFarlane Road and is restricted to 1,400 gpm.

## Water Distribution

The present distribution system in the City of Airway Heights is a network of four-inch (4") through 16-inch (16") diameter water lines. Primarily, water line materials consist of poly-vinyl chloride (PVC), asbestos-cement (A-C), ductile iron, and thin-wall steel pipe. During maintenance, the City has been using PVC as its replacement material. An existing pipe inventory is presented in Table 9.1.

*Table 9.1 - Water Distribution System*

Diameter	PVC	Ductile Iron	A-C	Steel	Total	Percent of Total
4"	–	–	-	2,400 lf	2,400 lf	0.7
6"	13,050 lf	–	5,820 lf	26,700 lf	45,570 lf	12.8
8"	212,330lf	–	500 lf	–	212,830 lf	59.9
10"	4,200 lf	–	3,200 lf	–	7,400 lf	2.1
12"	57,105 lf	4,100 lf	2,000 lf	–	63,205	17.8
16"	24,045				24,045	6.7
<b>Total</b>	<b>310,730 lf</b>	<b>4,100 lf</b>	<b>11,520 lf</b>	<b>29,100 lf</b>	<b>355,450 lf</b>	<b>100.0</b>

*Source: Airway Heights Comprehensive Water System Plan, 2021*

The intertie connecting Airway Heights to the City of Spokane water system is fed from a 24-inch diameter waterline extension. This line is reduced to 12 inches in diameter at Highway 2 and Hayford Road then to eight inches (8") in diameter as it extends into the metering vault. Once through the vault, it increases to a 12-inch diameter pipe to the booster station. A 12-inch diameter pipe extends from the booster station to the City of Airway Heights water system.

The second temporary intertie is connected to a 36" City of Spokane Main in Craig Road. It is connected with an 8" main and has a flow restrictor install in the line to limit the flow to 1,400 gpm.

## Water Demand

Water use in Airway Heights at the time of this plan's development is presented in Table 9.2.1 below, expressed in per-capita and gallons per-minute figures.

*Table 9.2.1 - Water Demand*

Average Daily Demand	340 Gallons/ERU/Day
Maximum Daily Demand	904 Gallons/ERU/Day
Peak Hourly Residential System Demand	5,579 Gallons/Minute

*Source: Airway Heights Comprehensive Water System Plan, 2021*

Due to PFAS contamination in the groundwater that historically supplied drinking water to the City, interties with the City of Spokane have supplied the majority of water to Airway Heights since 2017. Through water system planning in 2021 it was determined that the water supply agreements with the City of Spokane and the water supplied and treated by Well #9 would not be sufficient to meeting the growing demands of the City.

The City has taken several steps to increase the water system capacity that will allow growth to continue in the City. Those steps have included:

- Begin negotiations with the City of Spokane for an additional 250 gpm of intertie capacity that will be available in 2024. An additional 1,000 gpm will be available in 2026 and additional availability from the City of Spokane and the demand for the City of Airway Heights to 2045 are under review and discussion for additional agreement for water supply.
- Starting design of a Granular Activated Carbon (GAC) filtration system on City's wells 1 and 4.
- Beginning the process to develop a new well with a capacity of 2,500 gpm in the Spokane Valley/Rathdrum Prairie Aquifer (SVRPA).

These steps will all increase the capacity of the City's water system to serve future water connections (ERUs). The table 9.2.2 below shows how many additional ERUs each step will support:

Table 9.2.2 - Additional ERUs/Step	Additional Source (MGD)	Number of ERUs Step will support
2024 Additional Intertie capacity (250 gpm) 3,150 gpm total	0.36 MGD	1,059
2026 Additional Intertie capacity (1000 gpm) 3,900 gpm total	1,.08 MGD	3,176
GAC Filtration Wells 1&4	0.48 MGD	1,429
New Well in SVRPA	2.7 MGD	7,941

Based on current projections an additional 1,916 ERUs are anticipated in the 6-year planning period. A combination of two or more of the steps planned will provide sufficient water system capacity to meet the demands for the 20-year planning horizon.

### Future Conditions

Based on future land use and growth projections the future water system demands have been estimated for the 6 year and 20-year planning periods. These projected demands were broken down into 3 categories:

1. known and growth in areas expected to see future residential development
2. known and growth in areas expected to see commercial growth
3. known developments and areas expected to see future Tribal development are based on the 2021 Leland Market Analysis with additional consideration of the phased development proposals of the Spokane Tribe of Indians 2012 EIS and the 2022 Kalispel Tribe of Indians Master plan

The total ERU growth projections for all classifications and areas are shown in Table 9-6 below:

<i>Table 9-6</i> Total Future Projected ERU Growth WATER		
	1-6 Years	7-20Years
Residential	1,144	2,355
Commercial/Industrial	160	20
Tribal	612	0
<b>TOTAL ERU GROWTH</b>	<b>1,916</b>	<b>2,375</b>

### Required System Upgrades to Meet Future Demands:

The water system has three components that determine their ability to meet water system demands: source, storage, and distribution system. As described in the City's

Comprehensive Water System Plan (CWSP) the capacity of these components must be based on certain criteria, those criteria are briefly discussed below. A more detailed description can be found in the CWSP:

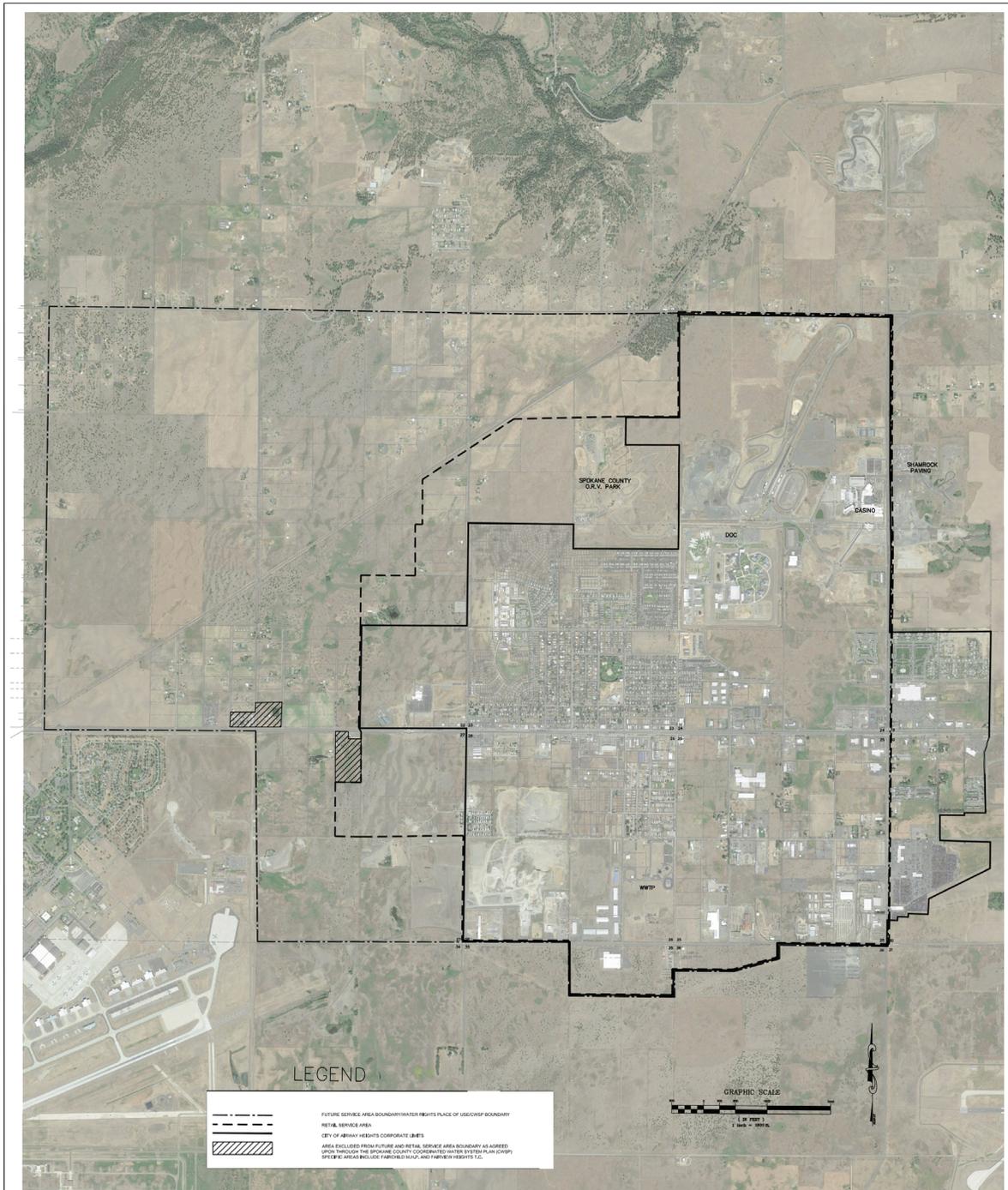
- Source: The system must be able to provide enough water to meet the Maximum Day Demand (MDD)
- Storage: The system must have sufficient storage to provide the difference between the peak hourly demand and the MDD for a period of 150 minutes (Equalization Storage), plus fire flow for the system's critical fire event, and Standby Storage for the condition that the system's largest source of supply is inoperable.
- Distribution System: The distribution system, which includes water mains and booster stations, must have the capacity to deliver peak hourly demands and fire demands throughout the system without drawing pressures below threshold levels during the various system demands. These are described as design criteria in the CWSP.

Recent calculations provided to the Washington State Department of Health shows the City's source capacity can support a total of 6,212 ERUs. Table 2-9 of the CWSP shows that the City's current storage capacity can serve approximately 6,300 ERUs, and the distribution system has been evaluated based on the current water system hydraulic model.

The estimated number of ERUs in The CWSP at the beginning of 2022 is 5,495 (Table 2-7 CWSP). With the addition of 1,916 ERUs in the 6-year planning period and an additional 2,375 ERUs for the 20-year period, system demand will rise to 7,411 ERUs in 2027 and 9,786 ERUs in 2042. The system will therefore reach capacity based on its source in the first 6 years. It's important to note that source and storage are interrelated, meaning that as the City adds additional source capacity the required storage capacity may be reduced. Since the City is currently focused on developing additional sources then the needed system improvements and CIP will be developed with the goal of increasing source capacity.

Future water system needs are discussed later in this chapter.

Figure 9.1 - Water Service Area



<p><b>REUSE OF DOCUMENTS</b></p> <p>THIS DRAWING, AND THE DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF CENTURY WEST ENGINEERING CORPORATION, AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN CONSENT OF CENTURY WEST ENGINEERING CORPORATION.</p> <p>CENTURY WEST ENGINEERING CORPORATION</p>		<p>DESIGNED BY: DDF</p> <p>DRAWN BY: TMR</p> <p>CHECKED BY: DDF</p> <p>PROJECT NO: 30423.057.04</p>	<p>DATE: 06/24/2021</p> <p>DWG NAME: BOUNDARY</p> <p>SCALE: 1" = 800'</p>	<p>SPokane Office 1010 E. MIDWAY DRIVE SPOKANE VALLEY, WA 99036 (509) 325-1010 WWW.CWENG.COM</p>	<p>CITY OF AIRWAY HEIGHTS</p>	<p>DWG. NO. 1 OF 1</p>
		<p>EXHIBIT #1 WATER SERVICE AREA BOUNDARY MAP</p>		<p>SHEET NO. 1 OF 1</p>		

# Sewer System

## Existing Conditions

Adequate sewer collection, treatment, and disposal are necessary to ensure public health is protected and environmental damage is avoided. Two primary methods of disposal within the City of Airway Heights are centralized sanitary sewer systems and septic tanks. The sewer system currently serves the majority of the residential and commercial properties within the City, with septic systems still serving the mobile home parks and some industrial businesses south of State Highway 2. The centralized sewer collection system serves both the north and south sides of the City and includes service to the Department of Corrections Facility and developments within lands governed by the Kalispel and Spokane Tribes. All new development north and south of State Highway 2 is served by the City's sewer collection system. Areas within the city limits east of Hayford Road are served by the City of Spokane's sewer system.

## Sewer Collection System

The sewer system serving Airway Heights incorporates a system of gravity and force mains and lift stations, delivering wastewater to the City's Water Reclamation Plant (WRP). As part of the WRP an emergency overflow connection to the Spokane International Airport (SIA) trunk sewer line was installed. The city has agreed to disconnect this overflow and is currently working on doing so. Prior to the City constructing its Water Reclamation Facility, all flows from the City of Airway Heights were treated at the City of Spokane's Reclamation Facility through an agreement between the two agencies. An interceptor sewer was developed by the City of Spokane to service Fairchild Air Force Base, Airway Heights, and an areas south of Airway Heights. The interceptor connected to the City's collection system at the intersection of Highway 2 and Hayford Road. The sewage collected in this line flowed to the City of Spokane Riverside Park Water Reclamation Facility. The emergency overflow was constructed to allow flow to enter the Spokane system if there was a prolonged failure at the City of Airway Heights Water Reclamation Plant. The City of Airway Heights and City of Spokane have agreed to plug this overflow line, the work is schedule to be done in 2027.

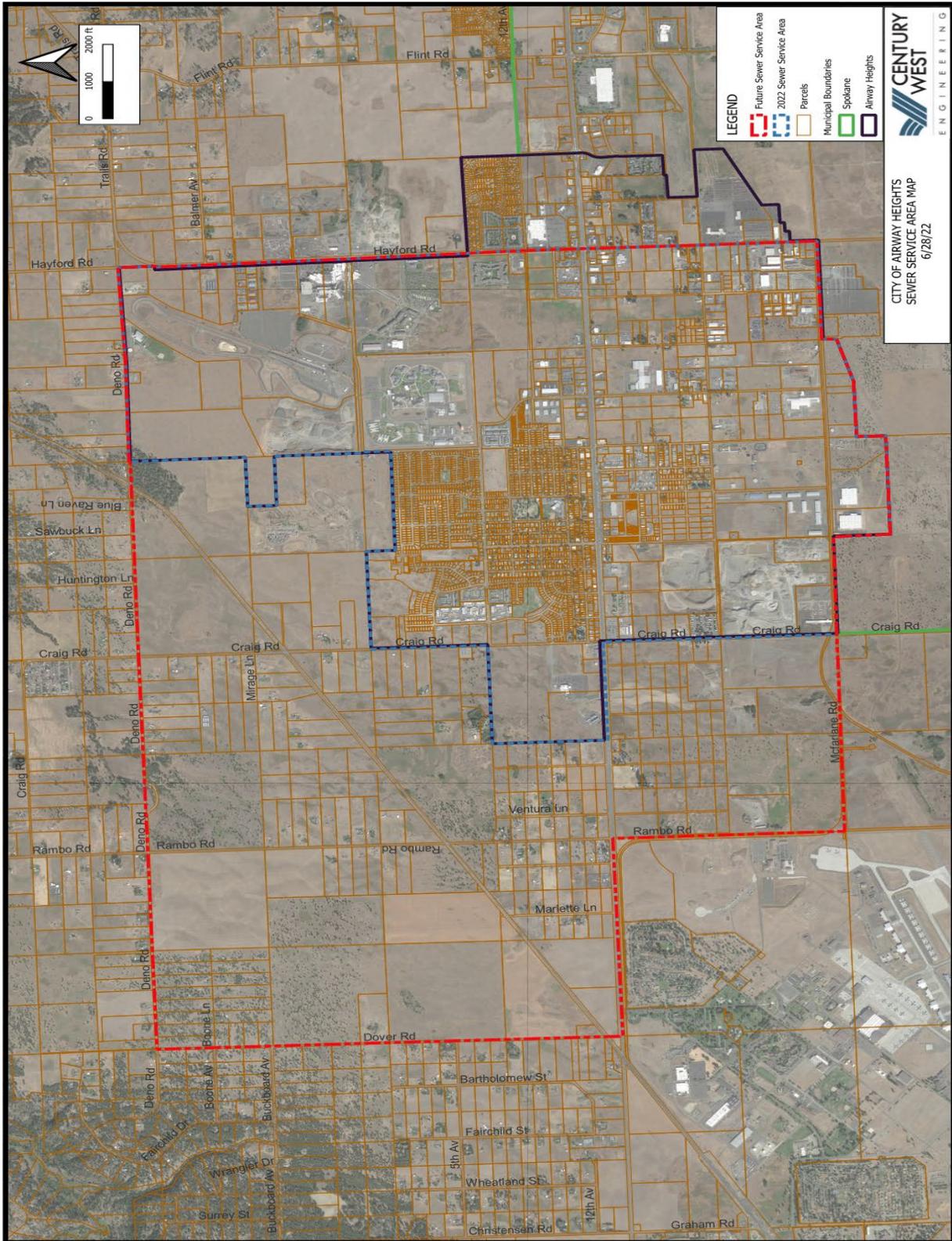
The sewer main that serves the north side of the City was constructed in 1991 by the Department of Corrections facility. Subsequently, the sewer collection system was extended to service other areas on the north side of Highway 2 in the 1990s and was subsequently expanded to the south to serve commercial areas along Highway 2. The system continues to be expanded primarily to the north as development occurs.

## Sewer Service Area

As Figure 9.2 illustrates, current service extends to areas both north and south of State Highway 2. The collection system north of State Highway 2 flows through a sewer interceptor on 10<sup>th</sup> avenue and crosses the highway west of Hayford Road then flows south to a large lift station that is south and west of the intersection of Hayford and Highway 2. This lift station pumps the sewer collected north and south of the highway to the Water Reclamation Plant through two 12" parallel force mains shown in red in Figure

9-3. A portion of the sewer collected in an area northwest of the treatment facility flows by gravity to a second lift station near the Reclamation facility where it is pumped into the Reclamation Plant. Another small portion of the City's collection system south of McFarlane Road flows to the City of Spokane's interceptor that lies along the south side of the City and is treated at the City of Spokane's facility through an agreement between the two agencies. Although the City is not required to develop a sewer service area a general service area is shown in Figure 9-4.

Figure 9.3 - Sewer Service Area



## Water Reclamation Plant

The City manages and operates its own water reclamation plant. In 2021, the reclamation facility treated approximately 318 million gallons of wastewater or approximately 871,000 gallons per day on an annual daily average. This wastewater was treated to Class A plus reclaimed water standards. The reclaimed water was used for aquifer recharge and landscape irrigation for public facilities, businesses, parks, and resorts. In 2021 the City sent approximately 97.7 million gallons to water reuse customers and 208.4 million gallons was used for aquifer recharge, which has been depleted through regional over-pumping. The remainder was used on the plant site for plant water and irrigation. In addition to the environmental benefits the reclaimed water has through reuse and aquifer recharge, the City's wastewater was removed from the City of Spokane's discharge to the Spokane River, which is an impaired surface water for a number of water quality parameters.

## Sewer Treatment Capacity

The Airway Heights wastewater treatment plant has a design capacity of 1.00 million gallons per day (GPD) on an average annual flow basis. The plant operates under a Reclaimed Water Permit (ST0045504) issued by the Washington State Department of Ecology. The permit provides performance criteria that the plant must meet. The permit also limits the flow, BOD loading, and TSS loading into the plant on a maximum monthly average. The maximum monthly average flow limitation in the permit is 1.4 million gallons per day (MGD). In 2021 the maximum monthly average occurred in January with 937,226 gallons per day flowing into the plant. On a flow basis the plant is running at approximately 67% of its permitted capacity. When the flow or other design criteria (BOD/TSS) reaches 85% of its permitted capacity the City is required to submit a planning document to address treatment of future flows.

## Stormwater

The City of Airway Heights does not have a comprehensive stormwater management system servicing the City. Level of service goals for stormwater (per Countywide standards) focus on on-site specific mitigation of impacts. All new development must meet the requirements of the Spokane Regional Stormwater Manual. Storm water plans are required in the design phase of the development and those are reviewed by the Public Works Department to ensure the on-site stormwater collection, treatment and disposal meet the requirements of the manual. In areas where stormwater may become a problem, special mitigation measures are required on the site where the problem may occur. Current practices for site-specific stormwater management rely on such techniques as the usage of drainage swales to allow for stormwater to collect and then infiltrate into the ground.

Due to the relatively flat topography and the lack of surface water within the City, plus generally permeable soil conditions that allow stormwater to infiltrate, ponding of stormwater is not normally a problem in Airway Heights. As the City experiences further development and more of the City's land is converted to impervious surfaces,

stormwater management is likely to become more challenging, and a stormwater management plan may need to be developed.

## Solid Waste & Recycling

Solid waste collection is contracted to Waste Management of Washington, Inc. This service includes curbside collection of garbage, recycling and yard/food waste for all residents and businesses. The City will continue to work with Waste Management to provide adequate services and explore innovative waste reduction strategies.

## Electricity

The provision and level of service for electricity is regulated by the Washington Utilities and Transportation Commission (UTC), which expresses the obligation to serve customers “all available...electricity...as demanded.” Inland Power and Light and Avista Utilities each provide electrical service to different parts of the City through 115kV substations that can handle loads up to 150 megavolt amperes (MVA).

Inland Power and Light's substation is located on the south side of Deno Road, north of the Spokane County Raceway and just inside the City's northern boundary. The Avista Utilities substation is located just outside the city limits on the west side of Craig Road, north of Highway 2.

## Natural Gas

The U.S. Department of Transportation and the UTC regulate the provision of natural gas service. Natural gas regulation relies on economic provision of service based on a capital investment analysis.

Natural gas is provided to Airway Heights by Avista Utilities. To ensure that customers receive adequate service, natural gas transmission and distribution systems have the ability to connect to more than one source, to route gas on different paths, and to store gas to meet peak-flow conditions. This provides flexibility for maintenance of facilities, and to ensure service to customers is maintained during abnormally low temperature conditions when demand for natural gas supplies is the greatest.

## Telecommunications

Telecommunications is the transmission of information in the form of electronic signals or similar means. The Telecommunications Act of 1996 set the regulatory climate for siting telecommunications infrastructure, and at the local level, the City has implemented regulations through the Airway Heights Municipal Code (AHMC 17.28) to regulate telecommunications infrastructure in a way that befits the specific needs of the community. The City works with a number of service providers to supply a telecommunications infrastructure that offers a broad range of information and services

to meet citizens' modern needs. Telecommunications services are provided by request, so future growth demands will be addressed by private providers.

## Landline Telephone

CenturyLink delivers telephone services to the City of Airway Heights as regulated by the UTC. CenturyLink is also subject to various federal laws and regulations administered by the Federal Communications Commission (FCC). The service lines in the City of Airway Heights are primarily aerial, and the main feed line runs along State Route 2.

It is important to note that RCW 80.36.090 requires all telecommunications companies operating in the state to provide adequate telecommunications services on demand. Accordingly, CenturyLink will provide facilities to accommodate any future growth.

## Wireless & Cellular Communications

A variety of cellular communications and wireless data service providers are available in Airway Heights, including AT&T, Verizon, and T-Mobile. Currently, these services rely on ground-based antennae located on towers or buildings.

## Cable & Satellite Television

Cable service is provided to Airway Heights by Comcast. Cable service is delivered through electronic components and cable installed on overhead lines throughout the community; some newer developments receive service through underground cables. Satellite providers include Dish and DirecTV.

## Internet Service

A number of broadband Internet providers serve Airway Heights, including AT&T, CenturyLink, and Comcast Xfinity. Satellite Internet is provided through HughesNet.

## Future Needs

### Water System

#### Supply

As discussed in the "Future Conditions" section above the number of water ERUs for 2027 and 2042 are expected to reach 7,411 and 9,786 respectively. As Table 9.3 indicates, the average daily demand as presented in the 2021 WSP is 340 gallons per day for an Equivalent Residential Unit (ERU). Because future demand is expected to remain relatively constant over time, per ERU demand may be applied to housing and commercial/industrial growth forecasts to project future water demand. A table of forecasted average daily demand is shown in Table 9.7, with peak daily demand expressed in Table 9.8.

*Table 9.7 - Average daily demand*

Year	Number of ERUs	Gallons/ERU/Day	Gallons per Day
2022	5,495	340	1,868,300

Year	Number of ERUs	Gallons/ERU/Day	Gallons per Day
2027	7,392	340	2,513,280
2042	10,711	340	3,641,740

Source: Airway Heights Comprehensive Water System Plan, 2021

Table 9.8 – Maximum (peak) daily demand

Year	Number of ERUs	Gallons/ERU/Day	Gallons per Day
2022	5,495	904	4,967,480
2027	7,392	904	6,682,368
2042	10,711	904	9,682,744

Source: Airway Heights Comprehensive Water System Plan, 2021

The City is pursuing multiple avenues to increase the systems water source capacity. These include drilling a new well in the Spokane Valley/Rathdrum Prairie Aquifer (SVRPA), additional intertie capacity with the City of Spokane, expanding its reuse system and adding additional customers, and developing aquifer storage and recovery through its Reclamation Plant. These pursuits are described below:

**New well in SVRPA:** The City is pursuing replacing the lost groundwater resources with a new well in the Spokane Valley/Rathdrum Prairie Aquifer. This will require the City to relinquish a portion of their existing water rights in the West Plains as mitigation measures for the new well. Full funding has been secured for this project. The total cost for the project is estimated at \$23,000,000. The City has secured \$14,750,000 in State Appropriations, \$3,500,000 in Federal Appropriations, \$500,000 in a WSDOH Pre-Planning loan, and the final portion funded through a Public Works Trust Fund loan.

**Additional Intertie Capacity:** Since the intertie with the Spokane water system is in place, facilities potentially exist to satisfy future demands. However, using the intertie to meet the demand deficiencies will require modifications to the second intertie and renegotiations of the intertie agreement. Initial negotiations have begun with the City of Spokane stating that some capital will be needed from Airway Heights to obtain additional water source from them. The City of Spokane has indicated that no capital costs are associated with providing the additional 250 gpm identified in the short term. Upgrades to provide an additional 750 gpm have not yet been identified but it is anticipated that these costs will be less than \$50,000 to upgrade 8" pipe to a larger size and replace the flow control valve with a larger valve.

**Expanding the Reuse System:** The City also provides reclaimed water to a school, several businesses, and public facilities, as well as the Washington State Department of Corrections Facility. The use of reclaimed water, particularly for irrigation purposes,

significantly reduces the demand on the domestic drinking water system to serve peak system demands. The City is aggressively pursuing conversion of some of the larger water users from use of drinking water for irrigation and other uses to use of reclaimed water. This will extend the time that the City's current capacity can provide adequate drinking water supply to increased demand from growth.

**Aquifer Storage and Recovery (ASR):** By State statute the city owns the water that is reclaimed through the Water Reclamation Plant if it is within the city's control. The Plant currently recharges the paleochannel aquifer and it can be withdrawn for use without a water right. A new well or an existing well can withdraw this water from the paleochannel and put it to beneficial use. A hydrogeological report would be required to show that the water being withdrawn is the water that is recharging the aquifer. This approach to developing more source could be particularly helpful if it could be shown that the water from the Plant that recharges the aquifer in the winter months is available during the peak summer demands.

## Water Rights

Water rights will also be a limiting component for the City. It currently holds a total of 2,328 Ac.Ft./Yr. of water rights of which 547.5 Ac.Ft. are under a permit. This equates to 758,529,446.4 gallons/year. In addition to water rights the city has a long-term agreement with the City of Spokane for water through the Highway 2 intertie for 1,500 gpm and no cap. This intertie could deliver up to 788,400,000 gallons of water per year (24-hour pumping). Without the intertie the city would run out of water rights in the first 6-year planning period. With the intertie (running constantly) the City has enough annual supply to meet the 20-year demands assuming all the water rights can be put to use. As discussed earlier in this Chapter, the City is negotiating additional intertie capacity with the City of Spokane in case the entire water right portfolio cannot be used.

Other options to resolve the water rights shortage are to purchase additional water rights or develop an ASR project where water rights are not needed.

## Storage

The existing storage reservoirs provide 2,643,000 gallons of usable storage for the City water system. This includes 500,000 gallons of storage that is available to the City in the DOC reservoir through an agreement. The total operational storage must be capable of providing the required capacity to meet residential daily peak demands (equalization storage), emergency demands (standby), and provide storage to meet the largest fire demand in the system.

The projections provided in the 2021 Draft Comprehensive Water Plan have been reviewed and adjusted based on actual available storage and the new growth projections included in this chapter. This evaluation indicates the existing storage capacity will be sufficient to provide the required storage through the 6-year planning period but will not provide for the 20-year projected demands. The addition of new reclaimed water users will also have a positive impact on the future needs of domestic

drinking water storage requirements. The City currently has 1,000,000 gallons of storage for its reclaimed water system.

## Sewer System

### Ability to Meet Future Demand

As future development occurs, the City's sewer system will be expanded to meet the needs of growth. The City has taken steps to expand its sewer collection system through its plans and actions to provide sewer service to areas both north and south of State Highway 2.

### Improvements: Collection System

In order to meet the City's goal of providing complete sewer service to the entire City, the existing collection system must be expanded. Additional sewer lines and lift stations must be constructed, leading to the City's treatment facility, and the City's treatment facility will need to be expanded when the flow to the facility reaches the design/permit capacity.

The new lines will primarily be located within existing road rights of way and will be designed to use gravity flow wherever possible. In low-lying areas, sewer lift stations will be required to transport wastewater to the collection system.

In 2019 the City reviewed the collection system expansions that would be needed to expand its sewer collection system south of Highway 2 to accommodate development in that areas and to determine what improvements if any to the existing collection system would be needed to accommodate the additional flows from that future development. New sewer gravity mains, lift stations, and force mains were identified in Russell Street, Garfield Road, Lyons Road, and McFarlane Road as future expansions to the system. Existing sewer interceptor upgrades were identified in the 18" interceptor that runs east and west parallel to Highway 2 from Russell Street to east of Hayden Road that would be needed to accommodate the additional future flows. A recent parallel sewer interceptor running north and south from State Highway 2 to the 10 Avenue interceptor constructed by the Kalispel Tribe eliminated future capacity issues in the existing interceptor that crosses Highway 2 west of Hayford Road. The City has secured funding from the Washington State Department of Ecology for the design and eventual construction of sewer collection system projects along McFarlane Road near Russell Street and also in Garfield Road from Highway 2 to McFarlane Road.

### Improvements: Increased Capacity

As the City begins to approach its flow or loading permitted capacity in the Reclamation Plant, the City must invest in expanding its wastewater treatment capacity. There are two ways that may be possible to achieve this goal. In 1993 the City entered into an agreement with the City of Spokane for Spokane to accept and treat up to 680,000 gallons of wastewater per day. The City has had discussions with Spokane regarding the use of this capacity as a potential interim solution when the plant reaches its capacity. The first option is to negotiate a new agreement with the City of Spokane to utilize the City's capacity within the SIA trunk sewer line and the

Riverside Park Reclaimed Water Facility. The second alternative is for the City of Airway Heights to expand its own Water Reclamation Plant. While the need for additional capacity is not urgent, planning should begin soon to assure accommodations are made for additional capacity by the time they are needed. In this way, the City can avoid limits being placed upon future development. At the time planning is required the City should evaluate both options to determine which is most beneficial to the City on a cost/funding and sewer rate basis.

## Other Utilities

Non-City utility providers will experience increased demand for services as the City grows and will need to plan for new or improved facilities. As new technologies for internet, wireless telephone, and other telecommunications systems are implemented, these improvements will further the City's goal of economic growth and competitiveness. Through its land use regulation and permitting authority, the City should ensure that these utilities are broadly available to residents and businesses throughout the City, and that there are not excessive visual impacts within existing neighborhoods and local centers.

## Water System Capital Improvement Plan

*Table 9.9 – Water System Capital Improvement Plan (6-year)*

Improvement	Type of Improvement	Description	Est. Cost	Funding Source	Year
Lawson St. Water line Replacement	Distribution	Replace Existing 10-inch AC line, Upgrade to 12-inch, 18th to 21st	\$ 500,000	Developer	2023
Water System Plan Update	Planning	Update the water system plan		City Funds	2023
New Water Source	Source	Construct new well in SVRP Aquifer and distribution main/booster station to City System	\$ 22,000,000	Federal/State Appropriations/PWTF	2024-2025
Dead End Looping	Distribution	Eliminate line dead ends (Including Seventeenth & Lundstrom to Lawson)	\$ 800,000	City Funds	2024-2029
17 <sup>th</sup> Ave Loop closure	Distribution	Install a new 8" main from the dead end line on 17 <sup>th</sup> to Lundstrom St.	\$ 150,000	City Funds	2024
New 1 MG Reservoir	Storage	Construct a new 1 Million Gallon Storage Reservoir	\$ 3,000,000	Spokane Tribe	2024
Replace SR2 Crossings	Distribution	Replace Existing 6" SR2 crossing at Craig & 12" AC crossing at Lawson	\$ 500,000	CDBG	2024
18th St. Water Main Replacement	Distribution	Replace existing 6" steel line on 18th from Lundstrom to Lawson	\$ 500,000	CDBG/City Funds	2024
15th St. Water Main Replacement	Distribution	Replace existing 6" steel line on 15th from Campbell to Lundstrom	\$ 750,000	CDBG/City Funds	2025
GAC Filtration for Wells 1 & 4	Treatment	Add GAC Filtration Treatment to Wells 1 & 4	\$ 3,000,000	DOH	2025
Permanent GAC Filtration Well 9	Treatment	Construct permanent GAC filtration facilities to Well 9	\$ 2,000,000	DOH	2025
Lundstrom St. Waterline Replace	Distribution	Replace aged line on Lundstrom	\$ 1,250,000	City Funds/CDBG Funds	2026
21 <sup>st</sup> Street Water Main	Distribution	Construct new 12" line on 21 <sup>st</sup> from Russell to Garfield	\$ 500,000	City Funds	2026
6-inch water main Replacements, Ph.1	Distribution	Construct 10-inch water main in Russell Rd from 18 <sup>th</sup> to SR2	\$ 500,000	CDBG	2026
Construct New SR2 Crossing	Distribution	Construct new SR2 crossing at Garfield Rd	\$ 400,000	City Funds	2027
Hayford Rd, Ph. II	Distribution	Construct 12" water line from 1,100 ft. mark to 21st & Loop	\$ 750,000	Developer	2033
Hayden Ave Water line	Distribution	Construct new 12" Waterline, SR2 to 21 <sup>st</sup>	\$ 1,200,000	City Funds/ Developer/ CDBG	2035
SR2 Water Main Replacement	Distribution	Construct 12-inch water main along SR2 from Ziegler to Craig Road	\$ 750,000	CDBG/City Funds	2040
SR2 Water Main Replacement	Distribution	Construct 12-inch water main along SR2 from Lawson to Ziegler	\$ 750,000	CDBG/City Funds	2040
Reclaimed Water System	Distribution	Construct water lines to add multiple users to the reclaimed water system.		Funding and Cost Estimates are outlined in the City's Reclaimed Water System Plan 2013	2024-2028
			<b>\$ 39,300,000</b>		

# Sewer System Capital Improvement Plan

Table 9.10 – Sewer System Capital Improvement Plan (6-year)

Improvement	Description	Estimated Cost	Potential Funding Source	Schedule
WRF Membrane Upgrades	Replace membrane modules with higher efficiency model.	\$ 993,000	WSDOE SRF	2023
SCADA System Upgrades	Upgrade Plant SCADA System	\$ 576,000	WSDOE	2024
McFarlane Lift Station & Force Main	L.S., Force Main and gravity sewer to connect existing services	\$ 2,800,000	State Appropriation, County ARPA, WSDOE	2024
Wastewater Facilities Plan Update	Planning for Plant Expansion	\$ 170,000	WSDOE Planning	2024
Traditions Lift Station Upgrades	Pump and controls replacements.	\$ 200,000	City Funds	2024
Sewer Main Extensions	Various Sewer Main Extensions to serve development	\$ 1,000,000	Developer	2024-2029
Reuse System Extension	Extend Reuse System to City Parks	\$ 2,500,000	WSDOE SRF	2025
Reuse System Extension	Extend Reuse System to Inland Asphalt Pit	\$ 1,800,000	WSDOE SRF	2025
Garfield Septic Elimination – Phase 1	Collection System Extension	\$ 1,100,000	WSDOE SRF	2026
Reuse Water Storage	Add 1 MG of Storage to Reuse System	\$ 3,000,000	WSDOE SRF	2026
Garfield Septic Elimination – Phase 2	Collection System Extension	\$ 2,000,000	WSDOE SRF	2027
WRF Plant Upgrade	Upgrade plant Capacity for growth	\$ 25,000,000	WSDOE SRF	2029
		<b>\$ 41,139,000</b>		