



HURRICANE CITY
UTAH

Public Notice

The Hurricane City Council will hold a Public Hearing during their regular meeting at 147 N. 870 West Hurricane, Utah on Thursday, December 4, 2025, commencing at 6 p.m. to take comments on the following:

1. Amending the 2025-2026 Fiscal Year Budget.
2. A Sensitive Land Application for an 80 lot single family subdivision located at 400 N 2800 West.
3. Adopting a Secondary Water System Impact Fee Facilities Plan (IFFP), a Secondary Water Impact Fee Analysis (IFA), and modifying the current Secondary Water Impact Fee.

The IFFP and IFA are available for inspection at the Hurricane City Office, 147 N. 870 West, Hurricane, Utah during regular business hours and at the Washington County Library System Hurricane branch. It can also be found on the City website www.cityofhurricane.com and Utah Public Notice website <https://www.utah.gov/pmn/index.html>

If you would like to make comments, please plan to attend the meeting, or provide written comments for the City Council's consideration by 3 p.m., the day before the meeting.



HURRICANE CITY
UTAH

SUMMARY FOR THE SECONDARY WATER SYSTEM IMPACT FEE FACILITY PLAN AND IMPACT FEE ANALYSIS

Hurricane City is proposing the adoption of an updated Secondary Water System Impact Fee Facilities Plan and Secondary Water Impact Fee Analysis (the “Proposed Impact Fee”). The current Secondary Water System Impact Fee Facilities was adopted in 2023. The purpose of the Proposed Impact Fee is to calculate the updated proportional cost of each new connection to the City’s secondary water system and pass that cost on to the applicants requesting the new connections. The amount of the impact fee varies depending on lot size because larger lots generally use more secondary water. A breakdown of the impact fee based on lot size and area of the City is set forth on pages 36-38 of the Secondary Water System Impact Fee Facilities Plan.

HURRICANE CITY SECONDARY WATER SYSTEM IMPACT FEE FACILITIES PLAN

DRAFT

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IMPACT FEE CERTIFICATION 11-36A-306(1)		

Exhibits

<i>Exhibit 1</i>	<i>Existing Pressurized Irrigation System</i>
<i>Exhibit 2</i>	<i>Hurricane Bench Irrigation Service Areas</i>
<i>Exhibit 3</i>	<i>Proposed Build-Out System</i>
<i>Exhibit 4</i>	<i>Sand Hollow Service Area</i>
<i>Exhibit 5</i>	<i>Proposed 10-Year Projects</i>

Appendix

10-Year Projects Cost Estimates

Section 1 Introduction

A. Scope

This Impact Fee Facilities Plan (IFFP) for the Hurricane City Secondary Water System is prepared to evaluate costs of future development of the irrigation system and outline the improvements which may be funded through impact fees. The IFFP will identify needed capital improvements to serve both existing development and future development within the City during the next 10 years (plan period). The IFFP will also evaluate the existing system for excess capacity and allocate the cost (value) of that excess capacity to future development.

Much of the information forming the basis of this IFFP has been taken from the Hurricane City Secondary Water System Capital Facilities Plan (July 2025 Update). The reader should refer to that document for additional discussion of planning and evaluation methodology beyond what is contained in this report.

B. Impact Fee Facilities Plan Requirements

Requirements for the preparation of an IFFP are outlined in Title 11, Chapter 36a of the Utah Code Annotated (the Impact Fees Act). Under these requirements, an IFFP shall accomplish the following:

1. Identify the existing level of service;
2. Establish a proposed level of service;
3. Identify any excess capacity in the existing system to accommodate future growth at the proposed level of service;
4. Identify demands placed upon existing public facilities by new development; and
5. Identify the means by which demands for new development will be met.

The sections of this report have been organized to address each of these requirements.

C. Background

The existing secondary water system in Hurricane City serves only a small core area of about 2.5 square miles within the city's 52.0 square mile boundary. In 2024, the city had 8,885 residential culinary water connections and 1510 residential secondary water connections, with secondary service to about 17% of the population.

The existing secondary water system receives water from the Virgin River through the Quail Lake Feeder Pipeline. Irrigation water is drawn from the pipeline and pumped to a 3.0 million gallon desilting pond where settleable materials are removed from the water. The water then flows from the desilting pond through micro-screens and into the distribution system. During spring runoff and following storm events, high amounts of silt are carried in the water which causes operational and maintenance issues with the pumps, desilting pond and micro-screens. At times the City must shut down the system because of the high silt loads. Additionally, the desilting pond must be shut down for periodic cleaning and requires the system to be shut down.

Because of the operational problems with the existing source facilities (pumps, pond and screens), the City is currently (2025) constructing new source facilities near 1300 South and 1200 West which will include two 3 million gallons settling ponds, a pump station and filters to treat water from the Virgin River. The new Virgin River source facilities will be used to treat water obtained under irrigation rights which are restricted to the Hurricane Canal Company service area. The new Virgin River facilities will serve both existing and future demands.

Ultimately, the City-Wide secondary water system will have new primary source facilities that will include the new Virgin River source facilities, wastewater reuse facilities, and wells. The Capital Facilities Plan provides a rational development concept for future facilities which will provide a build-out service strategy.

D. Demographics

The US Census Bureau estimates the 2024 population of Hurricane City to be 26,105 people. Table 1 shows the Washington County population projections by the Kem C. Gardner Policy Institute and Hurricane City population projections. Typically, cities grow at a faster rate than counties because of slow rural growth in the counties. It is anticipated that Hurricane City will grow at a rate approximately 1-percent faster than Washington County as noted in Table 1.

For the planning period of 2025 to 2035 the Hurricane City population is projected to increase by 12,653 persons with an average annual growth of 3.5%.

The Capital Facilities Plan uses a mix of residential development types which includes existing single family, new single family, multi-family, planned community, mixed use, and rural single-family units. The total residential units (RU) at build-out are estimated to be 67,088 which would lead to a build-out population of approximately 165,000, based upon 2.5 persons per RU.

Table 1. Population Growth Projections

End of Year	Washington County ¹			Hurricane City ²		
	Population	Increase	Annual Growth	Population	Increase	Annual Growth
2025	224,866			26,460		
2030	265,864	40,998	3.41%	32,984	6,524	4.51%
2035	301,775	35,911	2.57%	39,300	6,316	3.57%
2040	337,326	35,551	2.25%	46,121	6,820	3.25%
2045	370,195	32,867	1.88%	53,148	7,027	2.88%
2050	401,757	31,564	1.65%	60,573	7,425	2.65%
2055	433,954	32,197	1.55%	68,713	8,140	2.55%
2060	464,528	30,574	1.37%	77,254	8,541	2.37%

¹ Kem C. Gardner Policy Institute, State and County Demographic and Economic Projections 2020-2060

² Growth based on Washington County annual growth plus 1%

E. Units of Demand

For purposes of this analysis, outdoor water demands are based on irrigated acreage. Secondary water service may be provided to developments which vary greatly in irrigated area, ranging from parks to typical residential and from institutional/religious to commercial and mixed use. Impact fees should be assessed based on irrigated acreage.

F. 2024 Secondary Water System

Hurricane City's existing secondary system is shown on **Exhibit 1**. Existing residential development in the City is primarily low density and, for this analysis, it is assumed that existing residential units will average 12,000 square feet gross lot area (includes streets and walkways) with 5,000 square feet of irrigated area. Future development is projected to include more high and moderate density housing with smaller irrigated areas.

In 2016, an infrared study of the service area determined that there were 340.2 total acres under irrigation. The study also determined there were 124.8 acres of bare developable land that was not irrigated. Aerial photography in 2015 shows approximately 38 acres of irrigated land in public/institutional/church land uses.

In 2016 when the infrared study was performed, there were 1210 total connections with an estimated 1182 being residential connections. Based on an average of 5,000 square feet of irrigation on a residential lot, approximately 135.67 irrigated acres were in residential land use. 38 irrigated acres were in developed commercial/institutional uses and the remaining 166.53 acres were assumed to be in agricultural land use.

Table 2 shows estimated irrigated land use in 2016.

Table 2. 2016 Secondary System Land Uses

Description	Quantity
Residential Connections	1,182
Commercial/Institutional Connections	14
Agricultural Connections	14
Total Connections	1,210
Total Acres Under Irrigation (2016 Infrared Study)	340.2
Average Residential Lot Size, Square Feet (Assumed)	12,000
Average Residential Lot Irrigation, Square Feet (Assumed)	5,000
Acres Residential Irrigation	135.67
Acres Commercial/Institutional/Church Irrigation	38
Acres Irrigated, Non-Agricultural	173.67
Acres Irrigated, Agricultural	166.53
Acres Not Irrigated, Developable	124.80
Acres Available for Development, Total	291.33

In 2020, there were 1350 residential connections on the secondary system which was a 140 connection increase since 2016. The estimated irrigation area in 2020 was 155 acres residential, 38 acres commercial/Institutional/religious, and 120 acres agricultural for a total of 313.2 total acres irrigated.

The number of secondary water system connections increased from 1350 residential connections in 2020 to 1510 residential connections in 2024, for 160 new residential connections. It is assumed that the new connections were built on agricultural land which would change its use to residential. If the most recent lots are 10,000 square feet and have 3,000 square feet of irrigated landscaping, the agricultural land would decrease by 36.73 acres and the irrigated residential area would increase by 11.02 acres, for a net decrease in irrigated acreage of 25.7 acres. It is estimated there were 287.5 acres under irrigation in the existing secondary water service area in 2024 as shown in Table 3.

Table 3. 2024 Secondary System Land Uses

Description	2020 Quantity	2024 Quantity
Residential Connections	1,350	1,510
Commercial/Institutional	14	19
Agricultural Connections	14	15
Total Connections	1,378	1,544
Connections Added, 2016 to 2020 to 2024	168	166
Average Residential Lot Size, Square Feet (Assumed)	12,000	10,000
Acres Removed from Irrigation	46.28	38.11
Average Residential Lot Irrigation, Square Feet (Assumed)	5,000	3,000
Acres Added to Irrigation	19.28	11.43
Acres Residential Irrigation	154.96	166.39
Acres Commercial/Institutional/Church Irrigation	38	38
Acres Irrigated, Non-Agricultural	192.96	204.39
Acres Irrigated, Agricultural	120.25	82.14
Acres Under Irrigation, Total	313.21	286.53
Acres Available for Development, Total	245.05	206.94

Section 2 Impact Fee Facilities Plan

A. Existing Level of Service

From the Capital Facilities Master Plan, the 2024 Level of Service in the existing service area is summarized in Table 4.

Table 4. 2024 Level of Service

Description	2024 Secondary System Water Use	2024 Secondary System Level of Service (Non-Agricultural)
Irrigated Area, Total ¹	286.53 acres	
Irrigated Area, Non-Agricultural	204.39 acres	
Proration Rate: Non-Agricultural/Total	71.3%	
Annual Water Use, Total ²	1414.0 AF	
Peak Day Water Use, Total ²	10.28 AF	
Peak Hour Flow, Total ²	4,654 GPM	
Storage, Total ²	3.00 MG	
Population	26,105	
Connections, Non-Agricultural	1510	
Irrigated Area, Non-Agricultural	204.39 acres	
Annual Usage, Non-Agricultural	1,008.7 AF	4.93 AF/acre
Peak Day Demand, Non-Agricultural	7.34 AF	8.12 gpm/acre
Peak Hour Demand, Non-Agriculture	3,320 gpm	16.24 gpm/acre
Storage, Non-Agricultural	2.14 MG	10,470 gal/acre

¹ Table 3

² Hurricane City Secondary Water System Capital Facilities Plan, August 2022, Table 4

Storage in the existing system is provided in the 3.0 million gallon silt settling pond. Silt settling in this pond will be discontinued when new desilting and pump facilities are constructed, and the pond will then be used exclusively for storage.

B. Proposed Level of Service

The proposed City-Wide secondary water system is closely correlated with the Hurricane City General Plan and the Culinary Water System Master Plan for projected population and land uses. Development of the City outside of the core area will consist of low, moderate, and high-density housing areas, commercial/industrial areas, public areas, and open spaces. The proposed level of service for the aggregate City-Wide System at build-out is summarized in Table 5.

Table 5. Proposed Level of Service (Build-Out City-Wide System)

Description	Build-Out Non-Ag Water Use	Build-Out Non-Ag Level of Service	2024 Non-Ag Level of Service	Change in Non-Ag Level of Service
Population	167,720 ¹			
Residential Units	67,088 ²			
Irrigated Area (acres)	3,870.84 ²			
Annual Usage (AF)	11,345.6 ²	2.93 AF/acre	4.93 AF/acre	-2.00 AF/acre
Peak Day Demand (MG)	23.34 ²	1.36 gpm/acre	8.14 gpm/acre	-6.76 gpm/acre
Peak Hour Demand (gpm)	32,421 ²	8.38 gpm/acre	16.23 gpm/acre	-7.87 gpm/acre
Storage (MG)	10.0	2,583 gal/acre	10,470 gal/acre	-7,887 gal/acre

¹ Based on 2.5 Persons per Residential Unit

² Data from Build-Out Estimated Irrigation Usage Calculation (see appendix)

Irrigated area per Residential Unit is 2,513 square feet at build-out, based on 67,088 projected residential units.

Storage would be provided by tanks in individual pressure zones.

Proposed Level of Service in the Build-Out System is less than the existing Level of Service

C. Excess Capacity in Existing Facilities

For the secondary water system, facilities generally consist of 4 components:

1. Water Rights
2. Source Facilities (diversions, pumps, treatment, transmission pipelines, wells, etc.)
3. Storage Facilities
4. Distribution Facilities

1. Water Rights

Hurricane City currently owns water rights for the existing secondary system as summarized in Table 6.

Table 6. Water Rights for Existing Secondary System

Description	Hurricane City Secondary System
Utah Water Right 81-2475	193.38 AF
Hurricane Canal Company Primary Shares 351.70 Shares @ 5.4 AF/Share	1,899.18 AF
Hurricane Canal Company Secondary Shares 42.166 Shares @ 1.5 AF/Share	63.25 AF
Gould Wash Well Utah Water Rights 81-4197, 5092, 5475	467.06 AF
Total	2,622.87 AF

The canal company water rights, totaling 2,155.81 acre-feet, are restricted by point of use to the Hurricane Canal Company service area as shown in **Exhibit 2**. Both Hurricane City and Hurricane Canal Company provide water within the service area. **Exhibit 2** shows service zones within the service area. The Annex area is in the process of changing from the canal company delivery zone to the city delivery zone. The change has not yet been completed as of this writing.

Hurricane City also owns water rights in the Gould Wash Well for 467.06 acre-feet which also be used in the Hurricane Canal Company Service Area. The well is in development stages and is not used in the current secondary system.

In 2024 there were 204.39 acres of non-agricultural irrigation (Table 3) in the existing system. At the current Level of Service of 4.93 acre-feet/acre, 1007.65 acre-feet would be required to serve the current non-agricultural irrigation demand. If 2.5% of the gross existing service area remains perpetually in agricultural use (39.45 acres) at 4.0 acre-feet per acre, 157.80 acre-feet of the water rights would remain in agricultural use. 1,456.42 acre-feet would be available for future non-agriculture use as shown in Table 7.

There are currently about 82.14 acres of agricultural land being irrigated by the secondary water system (Table 3) which would use 329 acre-feet of water (48" annual water application). It is assumed that the 2.5% perpetual agricultural water use would be retained from the 329 current acre-feet being used.

Table 7. Excess Water Rights

Description	Acreage	Unit Use (AF/acre)	Quantity (acre feet)
Total Canal Company Water Rights			2,155.81
Gould Wash Well Rights			467.06
Gross Area of Existing Service Area	1,578		
Assume 2.5% of Gross Service Area Remains in Agriculture Use	39.45	4.00	-157.80
2024 Irrigated Non-Agricultural Use	204.39	4,935	-1,008.65
Water Rights Available for Future Development			1,456.42

2. Source Facilities

Existing source facilities consist of a pump system, desilting pond, and micro-screens. The current site arrangement requires the pumps to be located ahead of the settling process. The pumps must be shut off during spring runoff and following storm events when the river contains high sediment loads.

Additionally, the pond site is limited in area and cannot be expanded. The single pond must be drained for cleaning, which requires the source facilities to be shut down. The City desires to provide duplicity for the settling process.

Because of the operational problems and limited area to expand, the City plans to build new source facilities at a different location and utilize the existing source facilities as a supplemental source.

Because the existing source facilities will no longer be the primary source component of the system, they will not be considered for excess capacity for the purposes of this report.

3. Storage Facilities

The existing settling pond is the only current storage on the secondary system. A new concrete storage tank will be constructed in the future at a more central location to serve the existing service area and the existing storage pond will provide only supplemental storage.

Because the existing pond will operate as supplemental storage it will not be considered for excess capacity for the purposes of this report.

There is an existing 1,500,000 gallon storage tank in the Sand Hollow Pressure Zone that is used for irrigation of the Sand Hollow Golf Course. It is estimated that there are about 150 acres of irrigated turf on the golf course that would use 600 acre-feet of water each year. Estimated peak day water use for the golf course is 1,000,000 gallons and storage needs are 500,000 gallons. There is excess storage of about 1.0 million gallons available for residential irrigation.

4. Distribution Facilities

City Secondary Water System

The distribution system for the existing service area is shown in **Exhibit 1**. The distribution facilities consist of approximately 30.7 miles of piping ranging in size from 4" to 16" which cover most of the current service area. There are no noted deficiencies in the existing distribution system.

In 2016 it was estimated that there were 291.33 total acres yet to be developed in the existing service area (Table 2). From 2016 to 2020 it is estimated that 46.28 acres were developed and from 2020 to 2024 there were an additional 38.11 acres developed (Table 3), leaving 206.94 acres which could be available for development.

If 2.5% of the gross service area remains perpetually in agricultural use (39.45 acres) and using 4 acre-feet per acre for agricultural irrigation, there would be 157.80 acre-feet of water rights that would remain in agricultural use. Developable area would then be reduced to 167.49 acres as shown in Table 8.

Table 8. Existing Distribution System Irrigation at Build-Out

Description	Quantity
2024 Acres Under Irrigation ¹	286.53
2024 Acres Non-Agricultural Irrigation ¹	204.39
2024 Total Acres Undeveloped ²	206.94
Less Acres Retained in Perpetual Agricultural Irrigation	39.45
Acres Available for Development	167.49
Average Residential Lot Size, Square Feet (Assumed)	10,000
Lots Added to Existing Service System, 2024 – Build-Out	730
Average Area Irrigated per Lot, Square Feet (Build-Out) ³	2,513
Acres Added by Future Non-Agricultural Development	42.10
Build-Out Acres Under Non-Agricultural Irrigation (Existing Distribution System Only)	246.49

¹ Table 3

² Includes land not irrigated but developable (see Table 2 and above discussion)

³ Table 5 and discussion below Table 5

There were 1510 residential connections on the existing system in 2024 and it is projected to have 2,240 residential connections at build-out.

Because the existing distribution currently provides adequate service without any noted deficiencies, and because demand will decrease as the area develops, there is sufficient capacity (excess) to serve all future development on the existing system. See Table 9.

Table 9. Demand on Existing Distribution System, 2024 and Build-Out

Description	2024	To Build-Out	Build-Out
Acres Irrigated, Non-Agricultural (acres)	204.39	42.10	246.49
Non-Agricultural Unit Demand (AF/acre) ¹	4.93	2.93	
Non-Agricultural Demand (AF)	1,008.65	123.38	1,132.03
Area Irrigated, Agricultural (acres)	82.14 ²	-42.69	39.45
Agricultural Unit Demand (AF/acre) ¹	4.00	4.00	
Agricultural Demand (AF)	328.56	-170.76	157.80
Total Demand on Existing System (AF)	1,337.21	-47.38	1,289.83

¹ Unit demands are based on metered water use in 2024. It is noted that metered amounts in other years were less. Future unit demand is projected to be 2.93 AF/acre for residential development (Build-out Level of Service).

² Table 3

Canal Company Delivery System

The irrigation distribution facilities in the area south of Gould Wash are currently owned and operated by the Hurricane Canal Company. Hurricane City is in the process of taking over ownership and operation of the Canal Company's existing system between Gould Wash and 1500 South Street. This area is termed the "Annex Area" in this report.

Distribution facilities in this area are open ditches and low-pressure irrigation pipes and will not be adequate for the pressures which will be required in the expanded system. The existing distribution facilities in this area are scheduled for replacement by the City.

There is no excess capacity in the distribution facilities in the Annex Area because of the programmed abandonment.

D. New Development Demands on Existing Secondary Water System

1. Planning Period

The planning period for this Impact Fee Facilities Plan is the 10-year period from 2025 to 2035. Projected development of existing irrigation facilities during the 10-year plan period are shown in Table 10.

Table 10. Projected Growth of Existing Secondary System

Description	Total
<i>City-Wide Population Growth</i>	
Build-Out Population ¹	167,720
2025 Population	26,460
Population Increase 2025 to Build-Out	141,260
2035 Population	39,300
Population Increase 2025 to 2035	12,840
Percent Population Increase 2025 to 2035	9.09%
<i>Existing System Growth</i>	
Existing System Build-Out Irrigated Acreage ²	246.49
Existing System 2024 Irrigated Acreage ¹	204.39
Irrigated Acreage Increase 2025 to Build-out	42.10
Assumed Acreage Increase Rate 2025 to 2035 ³	50%
Estimated Acreage Increase 2025 to 2035	21.05

¹ Table 3

² Table 8

³ See discussion below.

Because the area for future development in the existing system is relatively small compared to the projected build-out system, it is estimated that the area within the existing service area will have a high development rate as compared to the city-wide growth. For the purposes of this report, it is assumed that 50% of the remaining developable land within the existing service area will be developed within the next 10 years.

2. Existing Water Rights

There are currently 1,456.42 acre-feet of excess water rights (Table 7).

As noted in Table 8, it is estimated that 730 new connections will be added to the existing secondary water system at build-out. Applying the 10-year proration rate of 50% (Table 10) results in an estimated 365 new connections during the planning period.

There are 82.14 acres in the existing system that have agricultural irrigation (Table 3) and it is assumed that 39.45 acres will remain perpetually in agricultural irrigation. A total of 42.69 agricultural acres will be converted to residential uses at build-out. It is assumed that 50% of the agricultural land will be developed in the planning period which, at 4.0 acre-feet per acre agricultural demand, reduces water use by 85.38 acre-feet.

Development of 365 connections, each with an average irrigated area of 2,513 square feet, adds 21.05 acres of residential irrigation. Using a residential irrigation use of 2.93 acre-feet per acre results in by 61.69 acre-feet of new residential water use demand during the planning period.

Net water right demand will decrease by 23.69 acre-feet during the planning period. There are sufficient water rights to serve new development in the existing secondary water system during the planning period,

At build-out, there will be an additional 23.69 acre-feet reduction in water demand. Total water use in the existing system is estimated to be 1,289.83 acre-feet at build-out (Table 9) with an excess water right of 1,333.04 acre-feet at build-out. There are sufficient water rights to serve new development in the existing secondary water system through build-out.

New development will buy-in to existing water rights with impact fees.

3. Existing Source Facilities

The existing source facilities for the existing secondary water system are programmed to operate only as supplemental to the new source facilities.

New development in the existing secondary water system will have no impact on the existing source facilities.

New source facilities for future development within Hurricane City are discussed in Subsection E, below.

4. Existing Storage Facilities

The existing 3.0 million gallon settling basin will be re-tasked when the new source facilities are constructed and will function only as supplemental storage for the existing system.

New development will have no impact on existing storage facilities in the existing secondary water system.

The existing 1.5 million gallon storage tank in the Sand Hollow Pressure Zone had excess capacity of 1.0 million gallons. New non-agricultural development will fully utilize the excess capacity and will buy-in to the storage facility excess capacity. The computed value of the storage tank is \$1,850,000 and the excess capacity available for buy-in has a value of \$ 1,233,000.

New storage facilities for future development within Hurricane City are discussed in Subsection E, below.

5. Existing Distribution Facilities

There is sufficient capacity in the existing distribution piping system to serve all new development within the existing secondary water system. No additional piping, except local service lines within the new developments, is required.

New development will have no impact on existing distribution facilities in the existing secondary water system.

New distribution facilities for future development within Hurricane City are discussed in Subsection E, below

E. Infrastructure Required to Meet Demands of New Development

1. Planning Period

As noted previously, the planning period for this Impact Fee Facilities Plan is the 10-year period from 2025 to 2035. Projected development of city-wide secondary irrigation facilities during the 10-year plan period is shown in Table 11.

Table 11. Projected Growth of City-Wide Secondary System

Description	Total
<i>City-Wide Population Growth</i>	
Build-Out Population ¹	167,720
2025 Population	26,460
Population Increase 2025 to Build-Out	141,260
2035 Population	39,300
Population Increase 2025 to 2035	12,840
Percent Population Increase 2025 to 2035	9.09%
<i>Secondary Water System Growth</i>	
City-Wide Build-Out Irrigated Acreage ²	3,870.84
Existing 2024 Irrigated Acreage	204.39
Irrigated Acreage Increase 2025 to Build-out	3,666.45
Assumed Acreage Increase Rate 2025 to 2035	9.09%
Estimated Acreage Increase 2025 to 2035	333.27

¹ Table 1

² Table 5

Population projections indicate an increase of 12,840 persons city-wide during the planning period (Table 11), or 9.09% of the projected population increase to build-out. Assuming the irrigation acreage matches population growth, there should be 333.27 acres added as shown in Table 11 for a total city-wide irrigated area of 537.66 acres at the end of the planning period.

Several land development projects are planned in the area outside of the current secondary water service area. Large tract developments include the Gateway project in the Dixie Springs area, the Sand Hollow Mesa project east of Sand Hollow Reservoir, and the Copper Rock project near the southern city boundary. Other subdivisions are also being planned in various locations within the city.

The area between 1500 South Street and the Goulds Wash will also be added to the irrigation system upon completion of the existing canal company pipeline replacement project.

Table 12 shows the growth anticipated by the Hurricane City Planning Department during the 2025 to 2035 planning period.

Table 12. Projected New Development During the 2025 to 2035 Planning Period City-Wide

Description	Total Units At Build-Out	Estimated Development 2025-2035	Unit Irrigated Area (sf)	Estimated Irrigation Area (acres)
Residential Connections in Annex Area ¹	5,800	1,400	2,000	64.28
School/Church Irrigation Existing in Annex Area (acres) ¹	20	100%		20.00
Gateway Residential Development (residential lots)	7,000	2,500	1000	57.39
Gateway Commercial Development (acres)	500	10%		50.00
Sand Hollow Messa Development (residential lots)	3,667	2,091	500	24.00
Copper Rock Development (residential lots)	2,582	1,350	1,000	30.99
Other developments (residential lots)	7,571	3,773	1,000	86.61
Total New Developments in Planning Period		11,114		333.28

¹ Hurricane City Secondary Water System Capital Facilities Plan, Updated October 2025, Page 19

Build-out total irrigated area is projected to be 3,870.84 acres. With 204.39 existing non-agricultural irrigated acres (Table 3) and 333.27 irrigated acres added during the planning period, 3,333.16 acres of irrigation will be added after the planning period. Table 13 shows the proration rates for costs of new development.

Table 13. General Cost Proration Rates for New Facilities

Description	Existing	10-Year Plan	Beyond 10-Years	Total
Irrigated Acreage (acres)	204.39	333.27	3,333.17	3,870.84
Cost Proration Rate for New Facilities Serving Combined Existing and New Development	5.280%	8.610%	86.110%	100%
Cost Proration Rate for New Facilities Serving New Development Only		9.090%	90.910%	100%

Secondary Water Piping is being installed in new developments outside of the existing system but remain dry until new sources are connected.

The Build-Out Secondary Water System is shown in **Exhibit 3**.

2. Future Water Rights

It is projected that there will be a total annual use of 11,345.6 acre-feet of water use at build-out (Table 5). Hurricane City currently has rights to 2,622.87 acre-feet and is in the process of acquiring an additional 1,774.60 acre-feet from wells in the Dixie Springs area.

Additional water rights will have to be acquired to help meet new demands at Build-Out. The City is continuously working to acquire additional water rights through construction of new wells and by purchase of Hurricane Canal Company stock as it becomes available.

Hurricane City is establishing two service areas, the Hurricane Valley Service Area and the Sand Hollow Service Area, where city-owned water rights will be allocated. Connections within those service areas will be charged impact fees to pay for the water rights.

The City will purchase wholesale water from the Washington County Water Conservancy District to serve connections outside of the service areas, and the consumers will be charged for the water on monthly billings. It is anticipated that a major portion of the water required for new development will be purchased from the Washington County Water Conservancy District.

Hurricane Valley Service Area

The Hurricane Service District Service Area will match the existing canal company service area. Hurricane City owns 2,122.81 acre-feet of water rights based on shares in the Hurricane Canal Company, including Utah Water Right 81-2475. Hurricane Canal Company shares are restricted for use only within the boundary of the canal company service area as shown in **Exhibit 2**.

The City also owns water rights in the Gould Well which total 467.06 acre-feet. The well water will also be used within the Hurricane Valley Service Area.

Total water rights of 2,622.87 acre-feet are currently available within the Hurricane Valley Service Area.

It is estimated that 1008.65 acre-feet are now used for non-agricultural irrigation in the current service area. If 2.5% of the gross existing service area remains perpetually in agricultural use with 157.80 acre-feet of water use, there would be 1,456.42 excess acre-feet available for use in the Hurricane Valley Service Area (Table 7).

Development of irrigated acreage during and after the plan period 2025 to 2035 is estimated as shown in Table 14.

Table 14. Hurricane Valley Service Area - Projected Development of Irrigated Acreage and Water Use

Description	Existing System	Annex Area	Bench Lake Area	Total
Gross Area (acres)	1,578	1,612	2,525	5,715
Build-Out Connections	2,240	5,800	10,100 ¹	18,140
Existing Connections	1,510			1,510
Planning Period 2025 to 2035				
Connections Added 2025 to 2035	365	1400	918 ²	2,683
Irrigation Acreage Added 2025 to 2035 ³	21.05	80.77	52.96	154.78
Water Usage Added 2025 to 2035 (AF) ⁴	61.68	236.73	155.24	453.65
After Planning Period				
Connections Added After 2035	364	4,400	9,182	13,947
Irrigation Acreage After 2035 ³	21.04	253.84	529.71	804.59
Water Usage After 2035 (AF) ⁴	61.68	744.01	1,552.62	2,358.30
Water Usage at Build-Out (AF)	1,132.01	980.35	1,707.84	3,820.60

¹ Bench Lake gross area of 2,525 acres x 4 connection/acre.

² Assumed growth rate during plan period 9.09% (Table 11) x build-out connections.

³ Assumed 2,513 square feet/connection (Table 8).

⁴ Assumed Level of Service 2.93 acre-feet/acre (Table 5)

The value of existing water rights is based on historical purchase prices as estimated by the canal company and as recorded by Hurricane City and shown in Table 15. The value of \$5,400 will be used to compute buy-in costs for existing water rights used for new development as shown in Table 16.

Table 15. Historical Cost of Existing Hurricane Canal Company Primary Shares

Period	Shares Purchased	Purchase Price	Cost
Pre-1980 Purchases	30	\$ 1,000	\$ 30,000
1980 to 1990 Purchases	140	\$ 1,500	\$ 210,000
1990 to 2000 Purchases	50	\$ 5,000	\$ 250,000
1980 to 1990 Trade	50	\$ 2,000	\$ 100,000
2000 to 2022 Purchases	62.037	\$ 10,000	\$ 620.370
2020 to 2025 Purchases	47.31	\$ 10,000	\$ 473,100
2025 Purchases	25	\$ 20,000	\$ 500,000
Total	404.347		\$ 2,183,470
Average Cost of Existing Share		\$ 5,400	

Table 16. Value and Buy-In Cost for Existing Water Rights – Hurricane Valley Service Area

Current Water Rights	Acreage	Unit Use	Quantity
Current Water Rights (AF)			2,622.87 AF
Assume 5% of Total Water Rights Remain in Agricultural Use (AF)	(Table 7)		157.80 AF
Current Irrigated Non-Agriculture	204.39 acres	4.93 AF/acre	1,008.65 AF
Water rights available for Future Use (AF)			1,456.42 AF
10-Year Buy-In	Acreage	Unit Use	Quantity
10-Year Irrigation Addition	154.78 acres	2.93 AF/acre	453.65 AF
Irrigation Shares @ 5.4 AF/share			84.01 Shares
Cost @ \$ 5,400/Share			\$ 453,654
Beyond 10-year Buy-In	Acreage	Unit Use	Quantity
Beyond 10-Year Water Rights Remaining	342.12 acres	2.93 AF/acre	1,002.77 AF
Canal Company Shares @ 5.4 AF/Share			221.80 Shares
Cost @ \$ 5,400/Share			\$ 1,002,767

There are approximately 5,715 total acres within the canal company service area. It is estimated that 3,781.61 acre-feet of water rights will be required in the Hurricane Valley Service Area at build-out. With 2,622.87 current water rights, an additional 1,197.73 acre-feet of water rights will be required to serve the Hurricane Valley Service Area at build-out as shown in Table 17.

Table 17. Hurricane Valley Service Area Build-Out Water Rights and Cost Summary

Build-Out Water Rights	Quantity
2024 Residential Connections	1510
2024 Non-Agricultural Irrigated Acreage	204.39 acres
2024 Non-Agricultural Water Use	1,008.65 AF
Existing Water Rights	2,661.87 AF
Water Rights Remaining in Agricultural Use (Table 7)	157.80 AF
Excess Water Rights Available for New Development	1,456.42 AF
Canal Company Shares at 5.4 AF/Share	269.71 Shares
Value of Existing Water Rights (Table 15)	\$ 5,400
Buy-In Cost of Excess Water Rights	\$ 1,456,421
Total Build-Out Water Rights Required (Table 14)	3,820.60 AF
Additional Water Rights Needed to Build-Out	1,197.73 AF
Additional Canal Company Shares Needed at 5.4 AF/Share	221.80 Shares
Current Purchase Price for Canal Company Shares (\$/Share)	\$ 20,000
Cost of Additional Water Rights Needed	\$ 4,436,043
Total Cost of Water Rights for New Development	\$ 5,892,464
New Development Irrigated Acreage (Table 14)	959.37 acres
New Development Connections (Table 14)	16,630
Cost per New Connection	\$ 354.34

The current purchase price for a primary share of canal company water rights is \$20,000. It is intended to purchase additional canal company shares with impact fees assessed in the Hurricane Valley Service Area.

Sand Hollow Service Area

Hurricane City is in the process of acquiring 1,774.60 acre-feet of water rights for irrigation from wells which will be used on the west side of the city as shown in Table 18.

Table 18. Water Rights on West Side of City

Description	Hurricane City Secondary System
Pending Water Rights	1,735.60 AF
Utah Water Right 81-281 (Christensen Well pending)	39.00 AF
Total	1,774.60 AF

The City is establishing the Sand Hollow Service Area where connections will pay for those water rights with impact fees. The Sand Hollow Service Area is more fully discussed in the Capital Facilities Plan.

Construction is underway on a large development called 'Gateway' which will encompass 1,442 acres and contain 2,300 residential lots and limited commercial/institutional/religious uses. Gateway will utilize 644.91 acre-feet of the new water rights.

The remaining water rights of 1,129.69 acre-feet will provide secondary water for an additional 1,490 connections. Table 19 is a summary of the Sand Hollow Service Area build-out water rights and cost.

Table 19. Sand Hollow Service Area Build-Out Water Rights and Cost

Build-Out Water Rights	Quantity
Sand Hollow Service Area	2,930 acres
Gateway Development Area	1,442 acres
Remaining Area of New Development	1,488 acres
Water Rights Being Acquired in Gateway Wells	1,735.60 AF
Water Rights Being Acquired in Christensen Well	39.00 AF
Total Water Rights	1,774.60 AF
Gateway Secondary Water Use	644.91 AF
Water Use in Remaining New Development	1,129.69 AF
Gateway Residential Connections	2,300
Assumed Residential Density Outside of Gateway Development	4 connections/acre
Connections in Remaining New Development	5,952
Total Residential Connections	8,252
Appraised Cost of Water Rights in Gateway Wells	\$ 13,364,120
Estimated Cost of Water Rights in Christensen Well	\$ 250,000
Cost of Water Rights	\$ 13,614,120
Cost per Acre-Foot	\$ 7,672
Cost per Connection	\$ 1,650

Purchase price for the new water rights is \$13,614,120. Use of this water will be restricted to the specific area called the Sand Hollow Service Area as shown on **Exhibit 4**.

For this analysis, it is assumed that the Gateway development will reach 2/3 of build-out during the 10-year planning period and use 2/3 of the 644.91 acre-feet projected water need. During the Planning period, the Gateway development will use 429.51 acre-feet and will use an additional 215.40 acre-feet after the planning period.

The remaining water rights in the Sand Hollow Service Area, 1,129.69 acre-feet, will be used in the Sand Hollow Service Area outside of the Gateway development. For this analysis, it will be assumed that development will occur at the growth rates shown in Table 13.

Table 20 summarizes the allocated costs of water rights in the Sand Hollow Service Area.

Table 20. Prorated Cost of Water Rights and Irrigated Area in the Sand Hollow Service Area.

Description	10-Year Plan Period	Beyond 10-Years	Total
Total Water Rights in Sand Hollow Service Area	1774.60 AF ¹		
Gateway Build-Out Water Use	644.91 AF ¹		
Water Use Outside of Gateway Development	1,129.69 AF		
Proration Rate for Gateway Development	66.6%	33.4%	100%
Prorated Gateway Water Use (acre-feet)	429.51	215.40	644.91
Irrigated Acres in Gateway Development ²	212.12		
Allocated Irrigated Area in Gateway Development	141.29	70.86	212.15
Proration Rate Outside Gateway (Table 13)	9.090%	90.910%	100%
Prorated Water Use Outside Gateway (acre-feet)	102.69	1,027.00	1,129.69
Service Area Irrigated Area Outside of Gateway ³	409.78		
Allocated Irrigated Area Outside of Gateway	37.25	372.53	409.78
Total Prorated Water Use (acre-feet)	532.20	1,242.40	1,774.60
Combined Proration Rate	29.990%	70.010%	100%
Sand Hollow Water Rights Cost	\$ 13,614,120 ¹		
Prorated Cost of Sand Hollow Service Area Water Rights	\$ 4,082,829	\$ 9,531,291	\$13,614,120
Irrigated Acres in Sand Hollow Service Area	178.54	443.39	621.93

¹ Capital Facilities Plan, Table 8 (excluding source and storage costs)

² Capital Facilities Plan, Table 16

³ Capital Facilities Plan, Page 28 (5,950 lots x 3,000 sf/lot)

Water Rights Costs

It is estimated that new development in the Hurricane Valley Service Area will use 1,456.42 acre-feet of existing rights and will have a buy-in cost of \$ \$ 1,456,421. An additional 1,197.73 acre-feet of new water rights will be needed in the Hurricane Valley Service Area at build-out and have a cost of \$ 4,436,043. Total cost of water rights for new development in the Hurricane Valley Service Area is \$ 5,892,464.

New development in the Sand Hollow Service Area is projected to require new water rights of 1,774.60 acre-feet and have a cost of \$13,614,120. It is estimated that 532.20 acre-feet will be used in the planning period, and 1,242.40 acre-feet will be added after the planning period,

Total cost of water rights to serve new development in the Hurricane Valley Service Area and Sand Hollow Service Area is \$ 19,506,584.

Secondary water used in other than the Hurricane Valley Service Area and Sand Hollow Service Area is anticipated to be purchased from wastewater reuse sources and costs will be paid through monthly user fees which will be based the cost of water from the water provider(s).

3. Future Source Facilities

The existing source facilities are being programmed to supplement new source facilities in the Hurricane Valley Service Area.

New source facilities which are being programmed for the secondary water system include a new settling pond/pump/filter system to serve the Hurricane Valley Service Area on the east side of the city, new wells to serve Sand Hollow Service Area on the west side of the city, and a wastewater reuse system to serve and supplement various areas of the city. The proposed facilities are described in detail in the Capital Facilities Plan.

The new source on the east side of the city will consist of duplicate settling ponds, pumps, and micro-screens which will be located near 1300 South Street and 1200 West. The facilities will be designed to remove silt in the water from the Virgin River and to meet future peak day demand of 9,000 gallons per minute in the Hurricane Valley Service Area shown in **Exhibit 2**. Gould Wash Well and wastewater reuse will supplement the new treatment facilities to meet additional peak day demands from the Colina Tinta Pressure Zone and the South Bench Lake Pressure Zone.

Two new well sources will be constructed on the west side of the city, each with a capacity of 2,000 gallons per minute, to serve peak day demands in the Sand Hollow Service Area. Wastewater reuse will supplement the wells to meet additional peak demands in the Sand Hollow Pressure Zone and Dixie Springs Pressure Zone.

A wastewater reuse system will provide treated water from the Ash Creek Special Service District wastewater treatment plant and from the St. George wastewater treatment plant to serve the Stratton, 3400 West, Sky Mountain, Colina Tinta, and South Lake Bench Pressure Zones and to supplement the Hurricane Valley Service Area and the Sand Hollow Service Area.

Cost of New Hurricane Valley Source Facilities

The new settling ponds, pumps and micro-screens will serve the existing secondary water service area, the new annexed area between Gould Wash and 1500 South Street and new development south of 1500 South Street within the Hurricane Valley Service Area. The city has obtained a 75% grant from the Natural Resource and Conservation Service (NRCS) to construct the new facility. Hurricane City costs for the new source facilities are allocated according to the proration rates shown in Table 21.

Table 21. Prorated Costs of New Source Facilities for Hurricane Valley

Description		Cost		
Project Bid (CFP, Table 12)		\$ 8,665,213		
5% Contingency		\$ 433,261		
15% Engineering and Legal		\$ 1,299,782		
Construction Cost		\$ 10,398,256		
Hurricane City Share (25%)		\$ 2,599,564		
Pond/Pump Site Purchase		\$ 1,700,000		
Project Cost - Hurricane City		\$ 4,299,564		
Proration				
	Existing	10-Year Plan Period	Beyond 10-Years	Total
Proration Rate (Table 13)	5.280%	8.610%	86.110%	100%
Allocated Cost New Hurricane Valley Source Facilities	\$ 227,029	\$ 370,185	\$ 3,702,350	\$ 4,299,564

Cost of Sand Hollow Service Area Source Facilities

As noted above, two new well sources will be constructed on the west side of the city, each with a capacity of 2,000 gallons per minute, to serve peak day demands in the Sand Hollow Service Area. It is proposed that the Gateway developer will construct the wells and Hurricane City will reimburse the developer using impact fees assessed in the Sand Hollow Service Area.

For this analysis, it is assumed that the Gateway development will reach 2/3 of build-out during the 10-year planning period and use 2/3 of the 644.91 acre-feet projected water need. During the Planning period, the Gateway development will use 429.51 acre-feet and will use an additional 215.40 acre-feet after the planning period (Table 20).

The remaining 1,129.69 acre-feet of water available from the wells will be used in the Sand Hollow Service Area outside of the Gateway development. For this analysis, it will be assumed that development outside of the Gateway development will occur at the growth rates shown in Table 13.

Cost proration of the wells is shown in Table 22.

Table 22. Prorated Cost of Gateway Wells

Description	10-Year Plan Period	Beyond 10-Years	Total
Total Water Use in Sand Hollow Service Area	1774.60 AF ¹		
Gateway Build-Out Water Use	644.91 AF ¹		
Water Use Outside of Gateway Development	1,129.69 AF		
Proration Rate for Gateway Development	66.6%	33.4%	100%
Prorated Gateway Water Use (acre-feet)	429.51	215.40	644.91
Proration Rate Outside Gateway (Table 13)	9.090%	90.910%	100%
Prorated Water Use Outside Gateway (acre-feet)	102.69	1,027.00	1,129.69
Total Prorated Water Use (acre-feet)	532.20	1,242.40	1,774.60
Combined Proration Rate	29.990%	70.010%	100%
Cost of Gateway Wells (CFP, Table 19)	\$ 2,825,000 ¹		
Prorated Cost of Sand Hollow Service Area Water Rights	\$ 847,208	\$ 1,977,792	\$ 2,825,000

¹ Appendix, 10-Year Projects List, Project 4

4. Future Storage Facilities

The existing 3.0 million gallon settling basin will be re-tasked when the new source facilities are constructed and will function only as supplemental storage for the existing system.

New development, therefore, will have no impact on existing storage facilities in the existing secondary water system.

An existing 1.50 MG irrigation storage tank serving the Sand Hollow Pressure Zone will be integrated into the city's secondary water system. The tank now serves only irrigation of the golf course and has excess capacity of 1.0 million gallons. New non-agricultural development will fully utilize the excess capacity and will buy-in to the storage facility. The computed value of the storage tank is \$1,850,000 and the excess capacity available for buy-in has a value of \$ 1,233,000. The buy-in value is allocated as shown in Table 23.

Table 23. Prorated Costs of Existing Storage

Storage Tank Serving Existing and New Development		Estimated Cost	
Sand Hollow Pressure Zone Tank and Associated Pipeline		\$ 1,740,845	
Proration			
	10-Year Plan Period	Beyond 10-Years	Total
Proration Rate (Table 13)	9.090%	90.910%	100%
Allocated Cost of Existing Water Tanks Serving New Development	\$ 158,240	\$ 1,582,605	\$ 1,740,845

A new concrete storage tank is programmed for the Hurricane Valley Pressure Zone at a more central location which will serve existing and new development. Additional new storage tanks will be constructed in each pressure zone to serve the peak demands within the individual zones.

Costs for the new storage tanks to serve the existing system and future development are allocated according to Table 13 proration rates as shown in Table 24.

Table 24. Prorated Costs of New Storage

Storage Tank Serving Existing and New Development				Estimated Cost ¹
Hurricane Valley Pressure Zone Tank				\$ 3,275,000
Proration				
	Existing	10-Year Plan Period	Beyond 10-Years	Total
Proration Rate (Table 10)	5.280%	8.610%	86.110%	100%
Allocated Cost of Water Tanks Serving Existing Development	\$ 172,929	\$ 281,972	\$ 2,820,099	\$ 3,275,000
New Storage Tanks Serving New Development Only				Estimated Cost ¹
Dixie Springs Pressure Zone Tank				\$ 1,850,000
Colina Tinta Pressure Zone Tank				\$ 400,000
South Bench Lake Pressure Zone Tank				\$ 625,000
Sky Mountain Pressure Zone Tank				\$ 2,10,000
3400 West Pressure Zone Tank				\$ 850,000
Stratton Pressure Zone Tank				\$ 1,300,000
Total Cost of Tanks				\$ 7,125,000
Proration				
	Existing	10-Year Plan Period	Beyond 10-Years	Total
Proration Rate	0%	9.090%	90.910%	100%
Allocated Cost of Water Tanks Serving New Development Only	\$ 0	\$ 647,648	\$ 6,477,352	\$ 7,125,000
Grand Total Allocated Cost	\$ 172,929	\$ 929,620	\$9,297,450	\$ 10,400,000

¹ See CFP, Table 24.

5. Future Distribution Facilities

New distribution infrastructure will be required to meet demands of new development, except for the distribution facilities in the existing system. The existing distribution piping is adequate to meet build-out demands that will be placed on those specific facilities.

Existing Distribution System

There is excess capacity in the existing distribution piping system which is sufficient to serve all new development within the existing secondary water system. No additional piping, except local service lines within the new developments, will be required.

Future irrigated acreage in the existing system is estimated in Table 25.

Table 25. Existing System Build-Out Irrigation Estimates

Description	Quantity
Existing System	
2024 Non-Agricultural Irrigation Area (acres) ¹	204.39
Future Non-Agricultural Irrigated Area (acres) ²	42.10
Irrigated Acres Developed in 10-Year Plan Period (50%) ²	21.05
Irrigated Acres Developed beyond 10-Year Plan Period (50%) ²	21.05

¹ Table 3

² Table 8

Table 26 shows the allocated costs of the existing irrigation system for new development buy-in.

Table 26. Prorated Costs of Existing Distribution System

Description	Existing	10-Year Plan Period	Beyond 10-Years	Total
Irrigated Acres at Build-Out Existing Service Area	204.39	21.05	21.05	246.49
Proration	82.922%	8.539%	8.539%	100%
Value of Existing Distribution Piping ¹	\$ 14,453,208			
Allocated Cost of Existing Distribution System	\$11,984,846	\$ 1,234,181	\$ 1,234,181	\$14,453,208

¹ Capital Facilities Plan, Table 8 (excluding source and storage costs)

New development Buy-In costs for the existing distribution system are \$ 1,234,181 for the 10-Year Plan Period and \$ 1,234,181 beyond the 10-Year plan period.

Expanded Distribution System

It was previously noted that the City will take over the existing irrigation distribution facilities between Gould Wash and 1500 South Street which are currently owned and operated by the Hurricane Canal Company. This area is termed the “Annex Area”. Distribution facilities in this area are open ditches and low-pressure irrigation pipes and will not be adequate for the pressures which will be required in the expanded system.

The city will construct new pipelines within the annex area to serve demands within that area. Additionally, the newly constructed pipelines will transport water from the new source facilities to the distribution system in the existing service area. The combined existing service area and annex area is termed the “Expanded System”.

Hurricane City has secured a 75% grant from the NRCS to replace the existing irrigation facilities in the Annex area.

Table 27 shows the estimated irrigated acreage that will be developed in the Expanded Service Area.

Table 27. Expanded System Irrigation Estimates

Description	Quantity
Existing System ¹	
2024 Non-Agricultural Irrigation Area (acres)	204.39
Future Non-Agricultural Irrigated Area (acres)	42.10
Irrigated Acres Developed in 10-Year Plan Period (50%)	21.05
Irrigated Acres Developed beyond 10-Year Plan Period (50%)	21.05
Annex Area	
Total Gross Area in Annex Area (acres)	1,612
Assume 5% Remains Undeveloped (acres)	80.6
Total Area Developed in Annex Area (acres)	1,531.4
Future Lots Developed in Annex Area ²	5800
Average Area Irrigated per Lot, Square Feet (Build-Out) ³	2,513
Future Non-Agricultural Irrigated Area (acres)	334.65
Irrigated Acres Developed in 10-Year Plan Period (90.090%) ⁴	30.42
Irrigated Acres Developed beyond 10-Year Plan Period (90.910%) ⁴	304.23
Total Irrigated Area in Expanded Area at Build-Out (acres)	581.13

¹ Table 24

² Table 12

³ Table 8

⁴ Table 13

A cost sharing analysis of the distribution system for the Expanded System based on proportioned irrigated acreage is shown in Table 28.

Table 28. Prorated Costs of New Distribution Facilities in Annex Area

Description	Existing	10-Year Plan Period	Beyond 10-Years	Total
Irrigated Acres in at Build-Out Annex Area ¹		30.42	304.23	334.65
Cost Proration Annex Irrigation Total Acres at Build-Out		9.090%	91.910%	100%
Cost of New Distribution Piping ²	\$ 6,474,915			
Allocated Cost of Expanded System Distribution Piping		\$ 588,557	\$ 5,886,358	\$ 6,474,915

¹ Table 27

² Capital Facilities Plan, Table 12 (Items 9-20 Piping Only).

City-Wide Distribution System

New piping will be required to extend service to all new development outside the Expanded System, except for the small area of the Marla Subdivision in the Elim development which has a private secondary water system. Costs for new distribution facilities required to build-out are shown in Table 29. Prorated costs for new distribution piping are shown in Table 30.

Table 29. Cost of New Distribution Piping in City-Wide System at Build-Out

Pipe Size with Valves and Fittings	Lineal Feet	Unit Price	Cost
6" Pipe, Valves and Fittings	1,027	\$ 72.60	\$ 74,560
8" Pipe, Valves and Fittings	278,213	\$ 96.80	\$ 26,931,018
10" Pipe, Valves and Fittings	51,890	\$ 121.00	\$ 6,278,690
12" Pipe, Valves and Fittings	68,351	\$ 145.20	\$ 9,924,565
14" Pipe, Valves and Fittings	17,433	\$ 169.40	\$ 2,953,150
16" Pipe, Valves and Fittings	10,236	\$ 193.60	\$ 1,981,690
18" Pipe, Valves and Fittings	8,083	\$ 217.80	\$ 1,760,477
Asphalt Repair ¹	174,093	\$ 16.50	\$ 2,872,538
Subtotal			\$ 52,776,689
Contingency (20%)			\$ 10,500,000
Engineering, Legal, Fiscal (15%)			\$ 8,000,000
Construction Total			\$ 71,276,689

Table 30. Prorated Costs of New Distribution Piping

Description	10-Year Plan Period	Beyond 10-Years	Total
Cost of New Distribution Piping	\$71,276,698		
Proration Rate	9.090%	90.910%	100%
Prorated Cost of New Distribution Piping	\$ 6,478,909	\$64,797,780	\$ 71,276,689

F. Summary of Costs

Table 31 shows a summary of allocated costs for the future secondary water system.

Table 31. Summary of Allocated Costs for Build-Out Secondary Water System

Description	Existing	10-Year Plan Period	Beyond 10-Years	Total
Hurricane Valley Service Area Existing Water Rights (Buy-In) (Table 16)		\$ 453,654	\$ 1,002,767	\$ 1,456,421
Hurricane Valley Service Area New Water Rights (Table 17)			\$ 4,436,043	\$ 4,436,043
Sand Hollow Service Area New Water Rights (Table 20)		\$ 4,082,829	\$ 9,531,291	\$13,614,120
Hurricane Service Area New Source Facilities (Table 21)	\$ 227,029	\$ 370,185	\$ 3,702,349	\$ 4,299,564
Sand Hollow Service Area New Source Facilities (Table 22)		\$ 847,208	\$ 1,977,792	\$ 2,825,000
Sand Hollow Pressure Zone Storage Facilities (Buy-In) (Table 23)		\$ 158,240	\$ 1,582,605	\$ 1,740,845
City-Wide System New Storage Facilities (Table 24)	\$ 172,929	\$ 929,620	\$ 9,297,450	\$ 10,400,000
Existing System Distribution Piping (Buy-In) (Table 26)	\$ 11,984,846	\$ 1,234,181	\$ 1,234,181	\$ 14,453,208
Annex Area New Distribution Piping (Table 28)		\$ 588,557	\$ 5,886,358	\$ 6,474,915
City-Wide System New Distribution Piping (Table 30)		\$ 6,478,909	\$ 64,797,780	\$ 71,276,689
Grand Total	\$ 12,384,804	\$ 15,143,383	\$103,448,617	\$130,976,804

G. 10-Year Projects List

Programmed projects that the City intends to construct during the 10-Year planning period are shown on **Exhibit 5**. Table 32 is a list of the programmed projects with the prorated costs. Impact fees may be applicable to projects in the planning period for capital costs to provide service to new development.

Table 32. 10-Year Projects List and Prorated Costs

Project			Estimated Cost	Cost Proration			Allocated Cost		
				Existing System	10-Year Plan	Beyond 10-Year	Existing System	10-Year Plan	Beyond 10-Year
CONSTRUCTION PROJECTS									
1A Hurricane Valley Raw Water Handling Facilities (Hurricane City Share = 25%)									
1A1	Property Acquisition for Settling Ponds and Pump Station		\$ 550,750	5.280%	8.610%	86.110%	\$ 29,080	\$ 47,420	\$ 474,251
1A2	Dual 3 MG Settling Ponds		\$ 982,775	5.280%	8.610%	86.110%	\$ 51,891	\$ 84,617	\$ 846,267
1A3	24" Raw Waterline from 700 W to New Pond (1300S)		\$ 456,710	5.280%	8.610%	86.110%	\$ 24,114	\$ 39,323	\$ 393,273
Subtotal			\$ 1,990,235				\$ 105,084	\$ 171,359	\$ 1,713,791
1B East Distribution Main Pipelines (Expanded Area) (Hurricane City Share = 25%)									
1B1	Pipelines		\$ 1,147,443	5.280%	8.610%	86.110%	\$ 60,585	\$ 98,795	\$ 988,063
1B2	Asphalt Repair		\$ 112,500	5.280%	8.610%	86.110%	\$ 5,944	\$ 9,686	\$ 96,874
1B3	Air Valves		\$ 51,250	5.280%	8.610%	86.110%	\$ 2,706	\$ 4,413	\$ 44,131
1B4	Service Connection		\$ 205,000	5.280%	8.610%	86.110%	\$ 10,824	\$ 17,651	\$ 176,256
1B5	Miscellaneous Repairs		\$ 102,536	5.280%	8.610%	86.110%	\$ 5,414	\$ 8,828	\$ 88,293
Subtotal			\$ 1,618,729				\$ 85,469	\$ 139,373	\$ 1,393,887
2 Gould Wash Well									
2A	Well		\$ 960,000	5.280%	8.610%	86.110%	\$ 50,688	\$ 82,656	\$ 826,656
2B	Pipelines		\$ 285,250	5.280%	8.610%	86.110%	\$ 15,061	\$ 24,560	\$ 245,629
2C	Non-Construction Costs		\$ 580,000	5.280%	8.610%	86.110%	\$ 30,624	\$ 49,938	\$ 499,438
Subtotal			\$ 1,825,250				\$ 96,373	\$ 157,154	\$ 1,571,723
3 Sand Hollow Mesa Transmission Pipeline									
3A	Pipelines		\$ 3,579,510		9.090%	90.910%		\$ 325,377	\$ 3,254,133
3B	Non-Construction Costs		\$ 1,250,000		9.090%	90.910%		\$ 113,625	\$ 1,136,375
Subtotal			\$ 4,829,510					\$ 439,002	\$ 4,390,508

Table 32 (continued)

Project		Estimated Cost	Cost Proration			Allocated Cost		
			Existing System	10-Year Plan	Beyond 10-Year	Existing System	10-Year Plan	Beyond 10-Year
4 Dixie Springs Wells								
4A	Well	\$ 2,090,000		29.990%	70.010%		\$ 626,791	\$ 1,463,209
4B	Non-Construction Costs	\$ 735,000		29.990%	70.010%		\$ 220,427	\$ 514,574
Subtotal		\$2,825,000					\$ 847,218	\$ 1,977,783
5 Gateway Distribution (Oversized Pipelines)								
5A	Pipelines	\$ 2,130,260		9.090%	90.910%		\$ 193,641	\$ 1,936,619
5B	Non-Construction Costs	\$ 745,000		9.090%	90.910%		\$ 67,721	\$ 766,280
Subtotal		\$ 2,875,260					\$ 261,361	\$ 2,613,899
6 Dixie Springs Tank								
6A	Tank	\$ 1,850,000		9.090%	90.910%		\$ 168,165	\$ 1,681,835
6B	Non-Construction Costs	\$ 645,000		9.090%	90.910%		\$ 58,631	\$ 677,280
Subtotal		\$ 2,496,000					\$ 226,796	\$ 2,286,205
7 Christensen Well								
7A	Well	\$ 475,000		9.090%	90.910%		\$ 43,178	\$ 431,823
7B	Pipelines	\$ 124,410		9.090%	90.910%		\$ 11,309	\$ 113,101
7C	Non-Construction Costs	\$ 180,000		9.090%	90.910%		\$ 16,362	\$ 163,638
Subtotal		\$ 779,410					\$ 70,848	\$ 708,562
8 Stratton Pressure Zone								
8A	Pressure Reducing Station	\$ 112,500		9.090%	90.910%		\$ 10,226	\$ 102,274
8B	Major Transmission Pipelines	\$ 1,219,020		9.090%	90.910%		\$ 110,809	\$ 1,108,211
8C	Non-Construction Costs	\$ 470,000		9.090%	90.910%		\$ 42,723	\$ 427,277
Subtotal		\$ 1,801,520					\$ 163,758	\$ 1,637,762

Table 32 (continued)

Project		Estimated Cost	Cost Proration			Allocated Cost		
			Existing System	10-Year Plan	Beyond 10-Year	Existing System	10-Year Plan	Beyond 10-Year
9 Sand Hollow Pressure Zone (Pump from Dixie Springs Pressure Zone)								
9A	Well	\$ 360,000		9.090%	90.910%		\$ 32,724	\$ 327,276
9B	Major Transmission Pipelines	\$ 1,617,000		9.090%	90.910%		\$ 146,985	\$ 1,470,015
9C	Non-Construction Costs	\$ 695,000		9.090%	90.910%		\$ 63,176	\$ 631,825
Subtotal		\$ 2,672,000					\$ 242,885	\$ 2,429,115
10 Frog Hollow Well								
10A	Well	\$ 920,000	5.280%	8.610%	86.110%	\$ 48,576	\$ 9,212	\$ 729,212
10B	Pipelines	\$ 695,200	5.280%	8.610%	86.110%	\$ 36,707	\$ 59,857	\$ 598,637
10C	Non-Construction Costs	\$ 540,000	5.280%	8.610%	86.110%	\$ 28,512	\$ 46,494	\$ 464,994
Subtotal		\$ 2,155,200				\$ 113,795	\$ 185,563	\$ 1,855,843
11 Sand Hollow Pressure Zone (Reuse Water)								
11A	Reuse Pump Station	\$ 1,005,000		9.090%	90.910%		\$ 91,355	\$ 913,646
11B	Major Transmission Pipelines	\$ 966,240		9.090%	90.910%		\$ 87,831	\$ 878,409
11C	Non-Construction Costs	\$ 690,000		9.090%	90.910%		\$ 62,721	\$ 627,279
Subtotal		\$ 2,661,240					\$ 241,907	\$ 2,419,333
12 Dixie Springs Pressure Zone (Reuse Water)								
7A	Reuse Pump Station	\$ 975,000		9.090%	90.910%		\$ 88,628	\$ 886,373
7B	Pipelines	\$ 371,250		9.090%	90.910%		\$ 33,747	\$ 337,503
7C	Non-Construction Costs	\$ 465,000		9.090%	90.910%		\$ 42,269	\$ 422,723
Subtotal		\$ 1,811,250					\$ 164,643	\$ 1,646,607

Table 32 (continued)

Project		Estimated Cost	Cost Proration			Allocated Cost		
			Existing System	10-Year Plan	Beyond 10-Year	Existing System	10-Year Plan	Beyond 10-Year
13 3400 West Pressure Zone (Reuse Water)								
13A	Reuse Pump Station	\$ 560,000		9.090%	90.910%		\$ 50,904	\$ 509,096
13B	600,000 Gallon Tank	\$ 850,000		9.090%	90.910%		\$ 77,265	\$ 772,735
13C	Major Transmission Pipelines	\$ 643,500		9.090%	90.910%		\$ 58,494	\$ 585,006
13D	Non-Construction Costs	\$ 715,000		9.090%	90.910%		\$ 64,994	\$ 650,007
Subtotal		\$ 2,768,500					\$ 251,657	\$ 2,515,843
14 Sky Mountain Pressure Zone (Reuse Water)								
14A	Reuse Pump Station	\$ 1,166,000		9.090%	90.910%		\$ 105,989	\$ 1,060,011
14B	1,750,000 Gallon Tank	\$ 2,085,000		9.090%	90.910%		\$ 189,527	\$ 1,895,474
14C	Major Transmission Pipelines	\$ 1,999,650		9.090%	90.910%		\$ 181,768	\$ 1,817,882
14D	Non-Construction Costs	\$ 1,580,000		9.090%	90.910%		\$ 143,622	\$ 1,436,378
Subtotal		\$ 6,830,650					\$ 620,906	\$ 6,209,744
15 Hurricane Valley Pressure Zone (Reuse Water)								
15A	Reuse Pump Station	\$ 997,000	5.280%	8.610%	86.110%	\$ 52,642	\$ 85,842	\$ 858,517
15B	3,000,000 Gallon Tank	\$ 3,270,000	5.280%	8.610%	86.110%	\$ 172,656	\$ 281,547	\$ 2,815,797
15C	Major Transmission Pipelines	\$ 517,000	5.280%	8.610%	86.110%	\$ 27,298	\$ 44,514	\$ 445,189
15D	Non-Construction Costs	\$ 1,670,000	5.280%	8.610%	86.110%	\$ 88,176	\$ 143,787	\$ 1,438,037
Subtotal		\$ 6,454,000				\$ 340,771	\$ 555,689	\$ 5,557,539
GRAND TOTALS						\$ 741,492	\$ 4,740,118	\$ 40,911,143
						\$ 46,392,753		

Section 3 Impact Fees

City owned water rights will be used exclusively in the Hurricane Valley Service Area and the Sand Hollow Service Area.

There are currently excess water rights in the Hurricane Valley Service area which will be sufficient to meet new demands through the Planning Period 2025-2035. New development will buy-in to the excess water rights with impact fees assessed in the Hurricane Valley Service Area.

New water rights amounting to 1,774.60 are being acquired by the city for the Sand Hollow Service Area. Those water rights will be paid for with impact fees assessed in the Sand Hollow Service Area.

There is excess capacity in the existing distribution system which is sufficient to handle new demands though build-out within the existing service area. New development will buy-in to that capacity with the general impact fee assessed for the City-Wide Secondary Water System's physical facilities.

The existing 1.5 MG water tank in the Sand Hollow pressure zone is currently used to store water for the Sand Hollow Golf Course irrigation system. There is 1.0 MG excess storage capacity in the tank which is sufficient to meet new development demands through the Planning Period 2025-2035. New development will buy-in to the excess storage capacity with impact fees assessed for the City-Wide Secondary Water System's physical facilities.

Consulting fees for preparation of the Impact Fee Facilities Plan and Impact Fee Analysis are projected to be \$ 180,000.

Construction projects programmed in the next 10 years amount to \$ 46,392,753. Payment for the projects is allocated as follows:

Existing Development	\$ 741,492
New Development within 10 years	\$ 4,740,118
New Development beyond 10 years	<u>\$ 40,911,143</u>
Total Construction Cost	\$ 46,392,753

For the 10-year planning period, costs for new development will have an allocated cost as follows:

Existing Sand Hollow Tank Buy-In	\$ 158,240 (Table 23)
Existing System Buy-In	\$ 1,234,181 (Table 26)
Construction Cost in Annex	\$ 588,557 (Table 28)
Construction Cost (new development)	\$ 4,740,188 (Table 32)
Impact Fee Consulting Cost	<u>\$ 180,000</u>
Total Cost	\$ 6,901,165

Funds for construction of the City-Wide Secondary Water System will be acquired by impact fees received uniformly over the entire build-out service area

From Table 12, it is estimated that 333.28 acres of irrigated landscape will be added during the planning period and the cost per irrigated acre is \$ 20,707 or \$ 0.475 per square foot for physical facilities in the secondary system. Tables 33B shows a proposed Impact Fee Schedule for physical facilities using Hurricane City's current residential development standards for lot sizing.

From Table 16, in the Hurricane Valley Service Area there will be \$ 453,654 of buy-in cost for water rights to serve an additional 154.78 irrigated acres during the planning period, or \$0.067 per square foot. Table 34B shows a proposed Impact Fee Schedule for water rights in the Hurricane Valley Service Area.

From Table 20, in the Sand Hollow Service Area there will be \$4,082,829 of buy-in cost for water rights to serve an additional 178.54 irrigated acres during the planning period, or \$0.525 per square foot. Table 35B shows a proposed Impact Fee Schedule for water rights in the Sand Hollow Service Area.

Table 33A. Calculated Basis for Impact Fee for Physical Facilities

Development Standard ¹	Description	Basis		Impact Fee
		Irrigated Area (Square Feet)	Unit Cost / Square Foot	
RA-1	50,000 sf – 25,000 sf Gross Lot Area	7,500	\$ 0.475	\$ 3,562.50
RA-0.5	25,000 sf – 15,000 sf Gross Lot Area	5,000	\$ 0.475	\$ 2,375.00
R1-15 / R1-10	15,000 sf – 8,000 sf Gross Lot Area	3,500	\$ 0.475	\$ 1,662.50
R1-8 / R1-6	8,000 sf – 4,800 sf Gross Lot Area	2,500	\$ 0.475	\$ 1,187.50
RM-1	Multi-Family 0 - 6 Units/Acre	1,089	\$ 0.475	\$ 517.28 /unit
RM-2	Multi-Family >6 - 10 Units/Acre	653	\$ 0.475	\$ 310.18 /unit
RM-3	Multi-Family >10 Units/Acre	435	\$ 0.475	\$ 206.63 /unit
Ag/Comm/Ind	Non-Residential Land Uses	Actual	\$0.475	Computed

¹ From Hurricane Utah, Code of Ordinances / Title 10-Land Use Regulations

Table 33B. Proposed City-Wide Impact Fee Schedule for Physical Facilities

Description	Impact Fee
50,000 sf – 25,000 sf Gross Lot Area	\$ 3,565.00
25,000 sf – 15,000 sf Gross Lot Area	\$ 2,375.00
15,000 sf – 8,000 sf Gross Lot Area	\$ 1,665.00
8,000 sf – 4,800 sf Gross Lot Area	\$ 1,190.00
Multi-Family – 0 to 6 Units/Acre	\$ 520.00 per Unit
Multi-Family – >6 to 10 Units/Acre	\$ 315.00 per Unit
Multi-Family – >10 to 15 Units/Acre	\$ 210.00 per Unit
Non-Residential Land Uses	Irrigated Area x \$ 0.475

Table 34A. Calculated Basis for Impact Fee for Hurricane Valley Service Area Water Rights

Development Standard ¹	Description	Basis		Impact Fee
		Irrigated Area (Square Feet)	Unit Cost / Square Foot	
RA-1	50,000 sf – 25,000 sf Gross Lot Area	7,500	\$ 0.067	\$ 502.50
RA-0.5	25,000 sf – 15,000 sf Gross Lot Area	5,000	\$ 0.067	\$ 335.00
R1-15 / R1-10	15,000 sf – 8,000 sf Gross Lot Area	3,500	\$ 0.067	\$ 234.50
R1-8 / R1-6	8,000 sf – 4,800 sf Gross Lot Area	2,500	\$ 0.067	\$ 167.50
RM-1	Multi-Family 0 - 6 Units/Acre	1,089	\$ 0.067	\$ 72.96 /unit
RM-2	Multi-Family >6 - 10 Units/Acre	653	\$ 0.067	\$ 43.75 /unit
RM-3	Multi-Family >10 Units/Acre	435	\$ 0.067	\$ 29.15 /unit
Ag/Comm/Ind	Non-Residential Land Uses	Actual	\$0.067	Computed

Table 34B. Proposed Impact Fee Schedule for Hurricane Valley Service Area Water Rights

Description	Impact Fee
50,000 sf – 25,000 sf Gross Lot Area	\$ 505.00
25,000 sf – 15,000 sf Gross Lot Area	\$ 335.00
15,000 sf – 8,000 sf Gross Lot Area	\$ 235.00
8,000 sf – 4,800 sf Gross Lot Area	\$ 170.00
Multi-Family – 0 to 6 Units/Acre	\$ 75.00 per Unit
Multi-Family – >6 to 10 Units/Acre	\$ 45.00 per Unit
Multi-Family – >10 to 15 Units/Acre	\$ 30.00 per Unit
Non-Residential Land Uses	Irrigated Area x \$ 0.067

Table 35A. Calculated Basis for Impact Fee for Sand Hollow Service Area Water Rights

Development Standard ¹	Description	Basis		Impact Fee
		Irrigated Area (Square Feet)	Unit Cost / Square Foot	
RA-1	50,000 sf – 25,000 sf Gross Lot Area	7,500	\$ 0.525	\$ 3,937.50
RA-0.5	25,000 sf – 15,000 sf Gross Lot Area	5,000	\$ 0.525	\$ 2,625.00
R1-15 / R1-10	15,000 sf – 8,000 sf Gross Lot Area	3,500	\$ 0.525	\$ 1,837.50
R1-8 / R1-6	8,000 sf – 4,800 sf Gross Lot Area	2,500	\$ 0.525	\$ 1,312.50
RM-1	Multi-Family 0 - 6 Units/Acre	1,089	\$ 0.525	\$ 571.73 /unit
RM-2	Multi-Family >6 - 10 Units/Acre	653	\$ 0.525	\$ 342.83 /unit
RM-3	Multi-Family >10 Units/Acre	435	\$ 0.525	\$ 228.38 /unit
Ag/Comm/Ind	Non-Residential Land Uses	Actual	\$ 0.525	Computed

Table 35B. Proposed Impact Fee Schedule for Sand Hollow Service Area Water Rights

Description	Impact Fee
50,000 sf – 25,000 sf Gross Lot Area	\$ 3,940.00
25,000 sf – 15,000 sf Gross Lot Area	\$ 2,625.00
15,000 sf – 8,000 sf Gross Lot Area	\$ 1,840.00
8,000 sf – 4,800 sf Gross Lot Area	\$ 1,315.00
Multi-Family – 0 to 6 Units/Acre	\$ 575.00 per Unit
Multi-Family – >6 to 10 Units/Acre	\$ 345.00 per Unit
Multi-Family – >10 to 15 Units/Acre	\$ 230.00 per Unit
Non-Residential Land Uses	Irrigated Area x \$ 0.525

IMPACT FEE CERTIFICATION 11-36A-306(1)

This IFFP has been prepared in accordance with Utah Code Title 11 Chapter 36a (the "Impact Fees Act"), which prescribes the laws pertaining to the imposition of impact fees in Utah. The accuracy of this IFFP relies in part upon planning, engineering, and other source data, provided by the City and its designees.

In accordance with Utah Code Annotated, 11-36a-306(1), Alpha Engineering makes the following certification:

I certify that the attached impact fee facilities plan:

1. Includes only the costs of public facilities that are:
 - a. allowed under the Impact Fees Act; and
 - b. actually incurred; or
 - c. projected to be incurred or encumbered within six years after the day on which each impact fee is paid.
2. Does not include:
 - a. costs of operation and maintenance of public facilities.
 - b. costs for qualifying public facilities that will raise the level of service for the facilities, through impact fees, above the level of service that is supported by existing residents.
 - c. an expense for overhead, unless the expense is calculated pursuant to a methodology that is consistent with generally accepted cost accounting practices and the methodological standards set forth by the federal Office of Management and Budget for federal grant reimbursement.
3. Complies in each relevant respect with the Impact Fees Act.

Glen E Carnahan, P.E.

Exhibits

Exhibit 1 Existing Pressurized Irrigation System

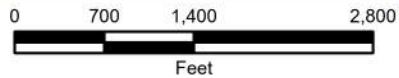
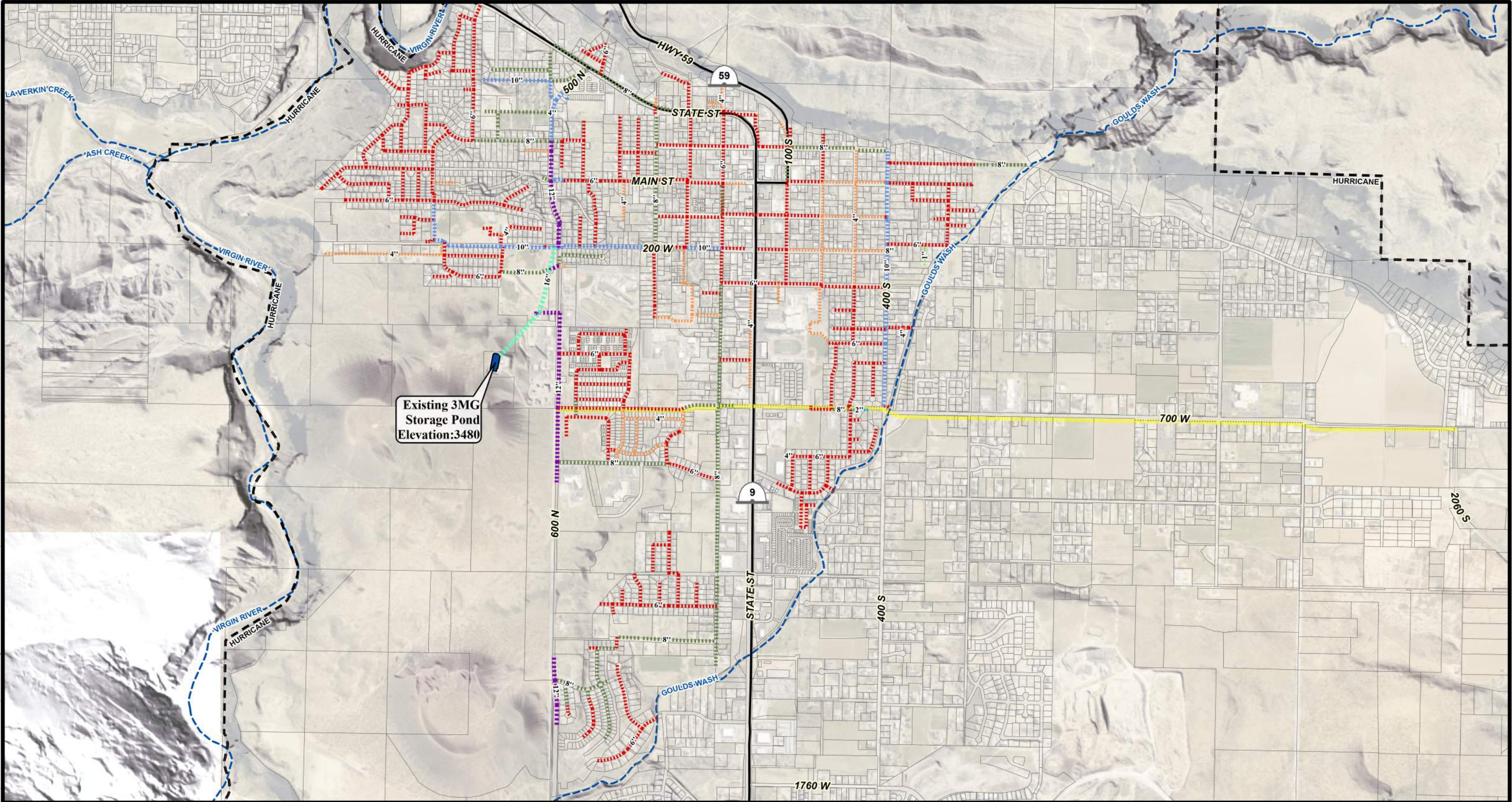
Exhibit 2 Hurricane Bench Irrigation Service Areas

Exhibit 3 Proposed Build-Out System

Exhibit 4 Sand Hollow Service Area

Exhibit 5 Proposed 10-Year Projects

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Legend

- Existing 36" Transmission Line
- Washington County Parcels
- Municipal Boundary

- 1"
- 2"
- 4"
- 6"
- 8"
- 10"
- 12"
- 16"



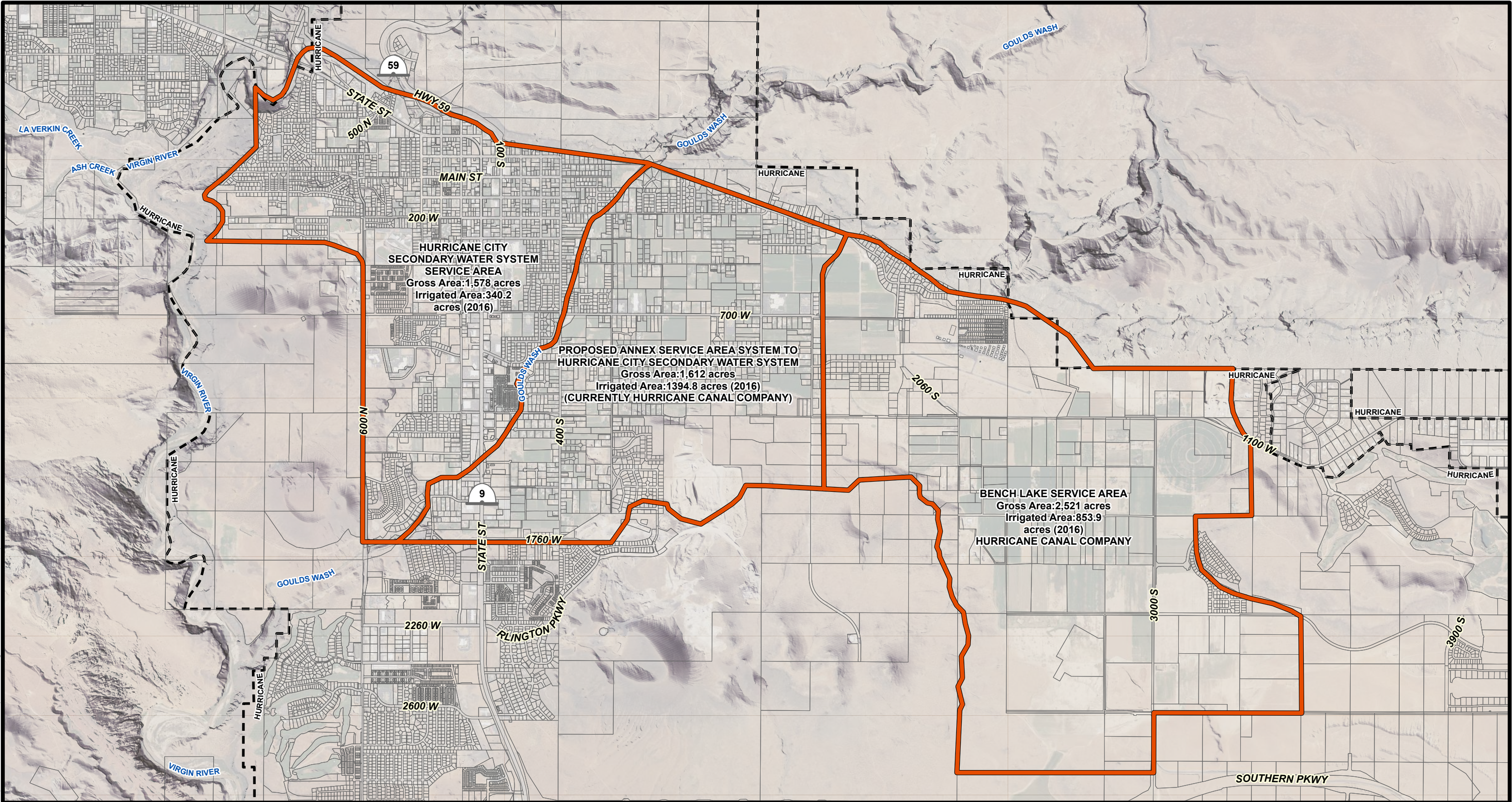
EXHIBIT 1

EXISTING PRESSURIZED IRRIGATION SYSTEM

Hurricane, Utah

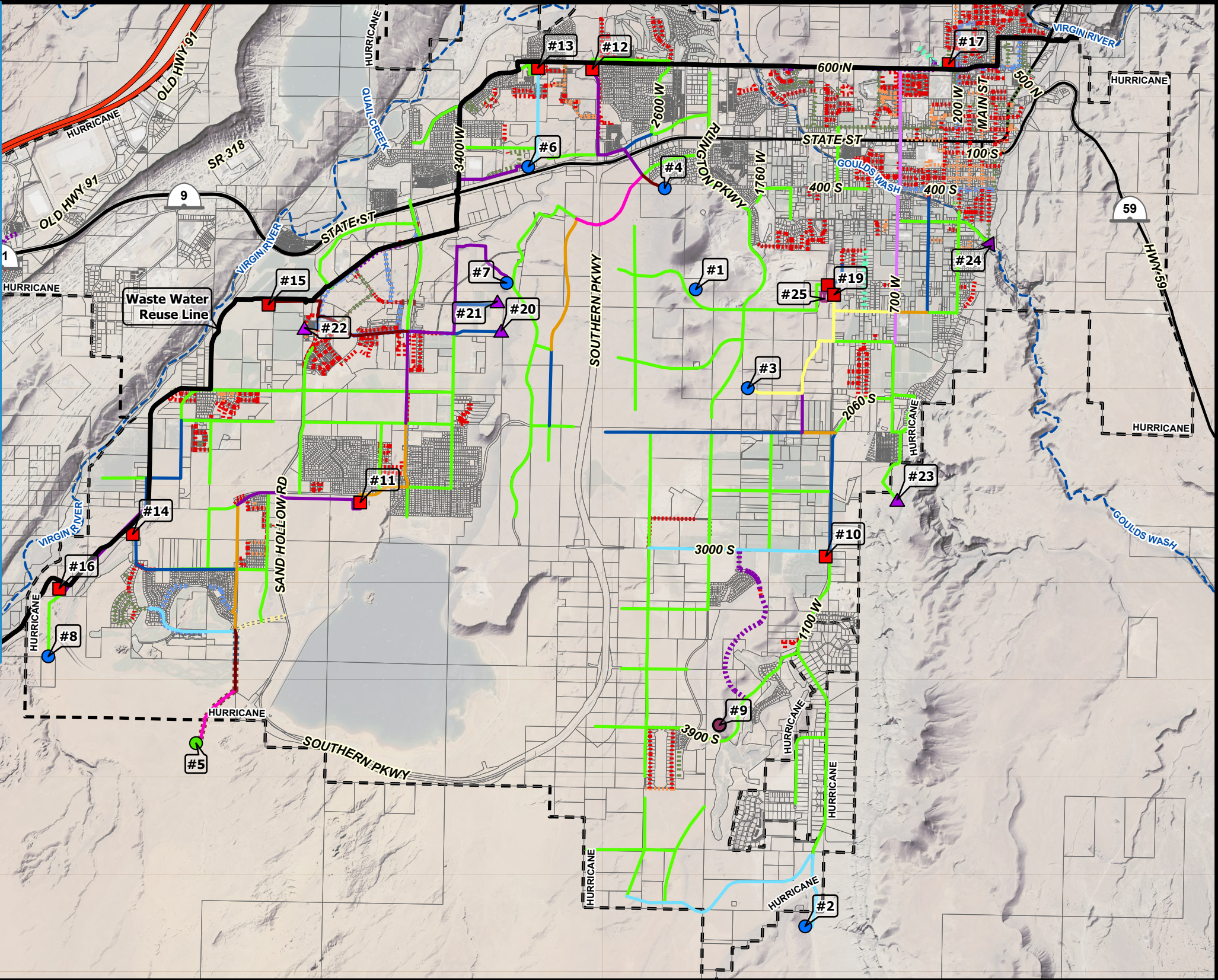
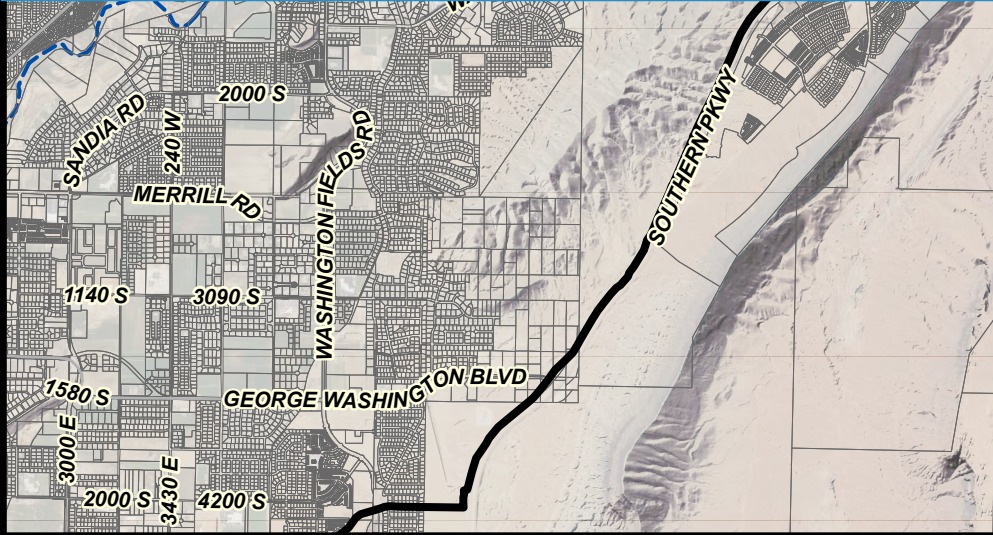
Spatial Reference:	Utah State Plane NAD 83, feet
Drawn By:	WSS
Scale:	1" = 1,500 feet
Date:	October 28, 2025

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	Legend Service Area Boundary	 EXHIBIT 2	<h2 style="text-align: center;">HURRICANE VALLEY IRRIGATION SERVICE AREAS</h2> <p style="text-align: center;">Hurricane, Utah</p>								
<p>ALPHA ENGINEERING</p> <p>43 South 100 East, Suite 100 • St George, Utah 84770 T: 435.628.6500 • F: 435.628.6553 • alphaengineering.com</p>			<table border="1"> <tr> <td>Spatial Reference:</td> <td>Utah State Plane NAD 83, feet</td> </tr> <tr> <td>Drawn By:</td> <td>WSS</td> </tr> <tr> <td>Scale:</td> <td>1" = 2,500 feet</td> </tr> <tr> <td>Date:</td> <td>October 28, 2025</td> </tr> </table>	Spatial Reference:	Utah State Plane NAD 83, feet	Drawn By:	WSS	Scale:	1" = 2,500 feet	Date:	October 28, 2025
Spatial Reference:	Utah State Plane NAD 83, feet										
Drawn By:	WSS										
Scale:	1" = 2,500 feet										
Date:	October 28, 2025										

Number	Structure	Size	Elevation
1	Colina Tinta Tank	250,000 GAL	3700'
2	South Lake Bench Tank	400,000 GAL	3550'
3	Hurricane Valley Tank	3,000,000 GAL	3480'
4	Sky Mountain Tank	1,750,000 GAL	3350'
5	Sand Hollow Tank (Existing)	1,500,000 GAL	3250'
6	3400 West Tank	600,000 GAL	3150'
7	Dixie Springs Tank	1,500,000 GAL	3100'
8	Stratton Tank	1,000,000 GAL	3050'
9	South Bench Lake Potential Tank	125,000 GAL	3500'
10	South Bench Lake Pump Station	750 GPM	3570'
11	Sand Hollow Pump Station	500 GPM	3270'
12	Sky Mountain Pump Station (Reuse)	3,200 GPM	3370'
13	3400 West Pump Station (Reuse)	1,100 GPM	3170'
14	Sand Hollow Pump Station (Reuse)	1,700 GPM	3270'
15	Dixie Springs Pump Station (Reuse)	1,600 GPM	3120'
16	Stratton Pump Station (Reuse)	1,000 GPM	3070'
17	Hurricane Valley Pump Station (Reuse)	2,000 GPM	3500'
18	Hurricane Valley Pump Station (Canal)	9,000 GPM	3500'
19	Colina Tinta Pump Station	400 GPM	3720'
20	Gateway Well #1	2,000 GPM	3120'
21	Gateway Well #2	2,000 GPM	3120'
22	Christensen Well	33 GPM	3120'
23	Goulds Wash Well	450 GPM	3500'
24	Frog Hollow Well	250 GPM	3500'
25	2 Settling Ponds	3,000,000 GAL (EACH)	--



03,0006,00012,000

Feet

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ENGINEERING

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Legend

Existing Irrigation Lines

3/4"1"1 1/4"1 1/2"2 1/2"

Proposed Irrigation Lines

3"4"10"15"16"18"

20"6 inch8 inch10 inch12 inch

14 inch16 inch18 inch20 inch24 inch36 inch

EXHIBIT 3

BUILD-OUT MASTER PLAN
SYSTEM LAYOUT
Hurricane, Utah

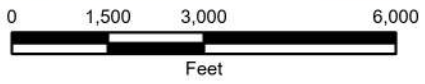
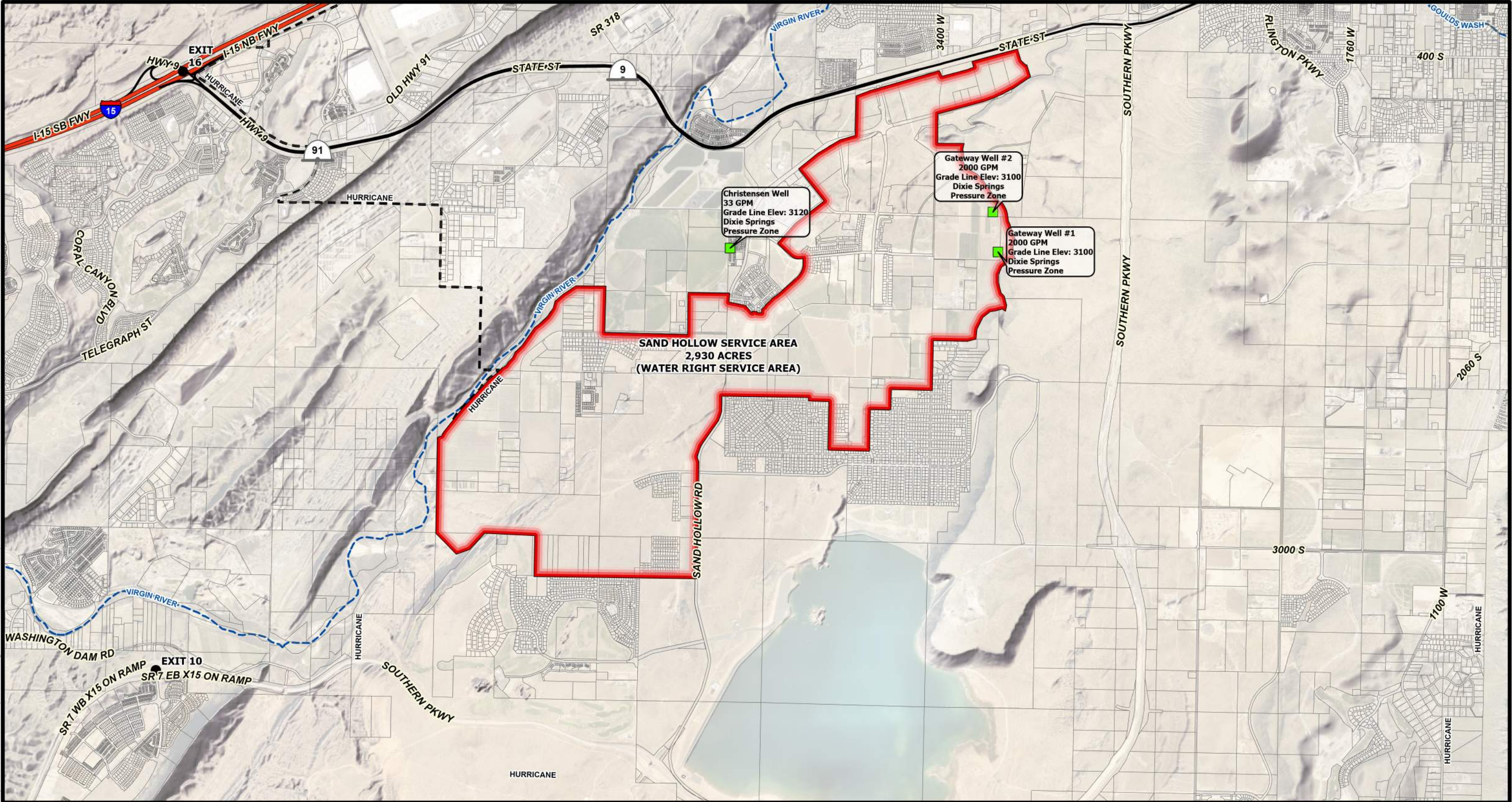
Spatial Reference: Utah State Plane NAD 83, feet

Drawn By: WSS

Scale: 1" = 5,000 feet

Date: October 28, 2025

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Legend



EXHIBIT 4

SAND HOLLOW SERVICE AREA

Hurricane, Utah

Spatial Reference:	Utah State Plane NAD 83, feet
Drawn By:	WSS
Scale:	1" = 3,000 feet
Date:	October 28, 2025

Appendix

10-Year Projects Cost Estimates

**HURRICANE CITY SECONDARY WATER SYSTEM
10-YEAR PROJECTS LIST AND ESTIMATED COSTS**

Page 1

PROJECT 1				
<i>East Side Irrigation Efficiency Project (75% NRCS Funded)</i>				
Treatment System	Quantity	Units	Unit Price	Total Price
(2) 3.0 MG Settling Ponds	1	LS	\$2,203,000.00	\$2,203,000.00
Treatment Facility				
Sitework	1	LS	\$1,022,598.50	\$1,022,598.50
Structures	1	LS	\$1,546,000.00	\$1,546,000.00
Pumps	1	LS	\$450,000.00	\$450,000.00
Filters	1	LS	\$229,500.00	\$229,500.00
Electrical	1	LS	\$683,000.00	\$683,000.00
Feeder Pipeline	1	LS	\$1,826,840.00	\$1,826,840.00
Phase 1 Subtotal				\$7,960,938.50
Pipeline Replacement				
16" Pipe	1,320	LnFt	\$193.60	\$255,552.00
14" Pipe	1,320	LnFt	\$169.40	\$223,608.00
12" pipe	3,500	LnFt	\$145.20	\$508,200.00
10" Pipe	1,000	LnFt	\$121.00	\$121,000.00
8" Pipe	15,340	LnFt	\$96.80	\$1,484,912.00
6" pipe	27,500	LnFt	\$72.60	\$1,996,500.00
Asphalt Repair	30,000	LnFt	\$15.00	\$450,000.00
Air Valves	1	LS	\$205,000.00	\$205,000.00
Service Connections	1	LS	\$820,000.00	\$820,000.00
Miscellaneous Repairs	1	LS	\$410,142.00	\$410,142.00
Phase 2 Subtotal				\$6,474,914.00
Project Total				\$14,435,852.50
Funded by NRCS (75%)				\$10,826,889.38
Funded by Hurricane City				\$3,608,963.13

**HURRICANE CITY SECONDARY WATER SYSTEM
10-YEAR PROJECTS LIST AND ESTIMATED COSTS**

Page 2

PROJECT 2				
<u>Gould Wash Well</u>	<i>Quantity</i>	<i>Units</i>	<i>Unit Price</i>	<i>Total Price</i>
Well				
Well Drilling	1	LS	\$500,000	\$500,000
Sitework	1	LS	\$25,000	\$25,000
Structures	1	LS	\$175,000	\$175,000
Pumps	1	LS	\$125,000	\$125,000
Piping	1	LS	\$75,000	\$75,000
Electrical	1	LS	\$60,000	\$60,000
Pipeline				
10" Pipe	3,500	LnFt	\$65.00	\$227,500
Asphalt Repair	3,500	LnFt	\$16.50	\$57,750
Construction Total				\$1,245,250
20% Contingency				\$330,000
15% Engineering, Legal, Fiscal				\$250,000
Project Total				\$1,825,250

PROJECT 3				
<u>Sand Hollow Mesa Pipelines</u>	<i>Quantity</i>	<i>Units</i>	<i>Unit Price</i>	<i>Total Price</i>
Major Distribution Pipelines				
24" Pipe	4,500	LnFt	\$290.40	\$1,306,800
14" Pipe	3,500	LnFt	\$169.40	\$592,900
12" Pipe	5,300	LnFt	\$145.20	\$769,560
10" Pipe	3,200	LnFt	\$121.00	\$387,200
8" Pipe	4,500	LnFt	\$96.80	\$435,600
Asphalt Repair	5,300	LnFt	\$16.50	\$87,450
Construction Total				\$3,579,510
20% Contingency				\$715,000
15% Engineering, Legal, Fiscal				\$535,000
Project Total				\$4,829,510

PROJECT 4				
<u>Dixie Springs Wells (Gateway)</u>	<i>Quantity</i>	<i>Units</i>	<i>Unit Price</i>	<i>Total Price</i>
Wells				
Well Drilling	2	Each	\$500,000	\$1,000,000
Sitework	2	Each	\$30,000	\$60,000
Structures	2	Each	\$175,000	\$350,000
Pumps	2	Each	\$150,000	\$300,000
Piping	2	Each	\$120,000	\$240,000
Electrical	2	Each	\$70,000	\$140,000
Construction Total				\$2,090,000
20% Contingency				\$420,000
15% Engineering, Legal, Fiscal				\$315,000
Project Total				\$2,825,000

**HURRICANE CITY SECONDARY WATER SYSTEM
10-YEAR PROJECTS LIST AND ESTIMATED COSTS**

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PROJECT 5				
<i>Dixie Springs Distribution (Gateway)</i>	<i>Quantity</i>	<i>Units</i>	<i>Unit Price</i>	<i>Total Price</i>
Major Distribution Pipelines			(8" difference)	
16" Pipe	7,200	LnFt	\$96.80	\$696,960
14" Pipe	4,700	LnFt	\$72.60	\$341,220
12" Pipe	13,200	LnFt	\$48.40	\$638,880
10" Pipe	8,500	LnFt	\$24.20	\$205,700
Asphalt Repair	15,000	LnFt	\$16.50	\$247,500
Construction Total				\$2,130,260
20% Contingency				\$425,000
15% Engineering, Legal, Fiscal				\$320,000
Project Total				\$2,875,260

PROJECT 6				
<i>Dixie Springs Tank (Gateway)</i>	<i>Quantity</i>	<i>Units</i>	<i>Unit Price</i>	<i>Total Price</i>
1,500,000 Gallon Tank				
Sitework	1	LS	\$750,000	\$750,000
Structures	1	LS	\$1,000,000	\$1,000,000
Pipe	1	LS	\$100,000	\$100,000
Construction Total				\$1,850,000
20% Contingency				\$370,000
15% Engineering, Legal, Fiscal				\$275,000
Project Total				\$2,495,000

PROJECT 7				
<i>Christensen Well</i>	<i>Quantity</i>	<i>Units</i>	<i>Unit Price</i>	<i>Total Price</i>
Well				
Well Rehabilitation	1	LS	\$50,000	\$50,000
Sitework	1	LS	\$25,000	\$25,000
Structures	1	LS	\$250,000	\$250,000
Pumps	1	LS	\$75,000	\$75,000
Piping	1	LS	\$25,000	\$25,000
Electrical	1	LS	\$50,000	\$50,000
Pipeline				
8" Pipe	1,200	LnFt	\$96.80	\$116,160
Asphalt Repair	500	LnFt	\$16.50	\$8,250
Construction Total				\$599,410
20% Contingency				\$120,000
15% Engineering, Legal, Fiscal				\$60,000
Project Total				\$779,410

**HURRICANE CITY SECONDARY WATER SYSTEM
10-YEAR PROJECTS LIST AND ESTIMATED COSTS**

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PROJECT 8				
<u>Stratton Pressure Zone</u>	<i>Quantity</i>	<i>Units</i>	<i>Unit Price</i>	<i>Total Price</i>
PRV Station				
Sitework	1	LS	\$15,000	\$15,000
Structures	1	LS	\$75,000	\$75,000
Valve	1	LS	\$10,000	\$10,000
Piping	1	LS	\$10,000	\$10,000
Electrical	1	LS	\$2,500	\$2,500
Major Distribution Pipeline				
12" Pipe	2,600	LnFt	\$145.20	\$377,520
10" Pipe	6,000	LnFt	\$121.00	\$726,000
Asphalt Repair	7,000	LnFt	\$16.50	\$115,500
1,000,000 Gallon Tank (Postpone until reuse is available)				
Construction Total				\$1,331,520
20% Contingency				\$270,000
15% Engineering, Legal, Fiscal				\$200,000
Project Total				\$1,801,520

PROJECT 9				
<u>Sand Hollow Pressure Zone</u>	<i>Quantity</i>	<i>Units</i>	<i>Unit Price</i>	<i>Total Price</i>
Pump Station				
Sitework	1	LS	\$50,000	\$50,000
Structures	1	LS	\$300,000	\$300,000
Pumps	1	LS	\$4,300	\$4,300
Piping	1	LS	\$1,600	\$1,600
Electrical	1	LS	\$4,100	\$4,100
Major Distribution Pipelines				
14" Pipe	2,800	LnFt	\$169.40	\$474,320
10" Pipe	3,200	LnFt	\$121.00	\$387,200
8" Pipe	6,100	LnFt	\$96.80	\$590,480
Asphalt Repair	10,000	LnFt	\$16.50	\$165,000
Existing Tank				
Construction Total				\$1,977,000
20% Contingency				\$395,000
15% Engineering, Legal, Fiscal				\$300,000
Project Total				\$2,672,000

**HURRICANE CITY SECONDARY WATER SYSTEM
10-YEAR PROJECTS LIST AND ESTIMATED COSTS**

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PROJECT 10				
<u>Frog Hollow Well</u>	<i>Quantity</i>	<i>Units</i>	<i>Unit Price</i>	<i>Total Price</i>
Well				
Well Drilling	1	LS	\$500,000	\$500,000
Sitework	1	LS	\$25,000	\$25,000
Structures	1	LS	\$175,000	\$175,000
Pumps	1	LS	\$100,000	\$100,000
Piping	1	LS	\$65,000	\$65,000
Electrical	1	LS	\$55,000	\$55,000
Pipeline				
8" Pipe	6,500	LnFt	\$96.80	\$629,200
Asphalt Repair	4,000	LnFt	\$16.50	\$66,000
Construction Total				\$1,615,200
20% Contingency				\$310,000
15% Engineering, Legal, Fiscal				\$230,000
Project Total				\$2,155,200

PROJECT 11				
<u>Sand Hollow Pressure Zone</u>	<i>Quantity</i>	<i>Units</i>	<i>Unit Price</i>	<i>Total Price</i>
Reuse Pump Station				
Sitework	1	LS	\$150,000	\$150,000
Structures	1	LS	\$500,000	\$500,000
Pumps	1	LS	\$175,000	\$175,000
Piping	1	LS	\$30,000	\$30,000
Electrical	1	LS	\$150,000	\$150,000
Pipeline				
12" Pipe	6,200	LnFt	\$145.20	\$900,240
Asphalt Repair	4,000	LnFt	\$16.50	\$66,000
Construction Total				\$1,971,240
20% Contingency				\$395,000
15% Engineering, Legal, Fiscal				\$295,000
Project Total				\$2,661,240

**HURRICANE CITY SECONDARY WATER SYSTEM
10-YEAR PROJECTS LIST AND ESTIMATED COSTS**

PROJECT 12

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<u>Dixie Springs Pressure Zone</u>	<i>Quantity</i>	<i>Units</i>	<i>Unit Price</i>	<i>Total Price</i>
Reuse Pump Station				
Sitework	1	LS	\$125,000	\$125,000
Structures	1	LS	\$500,000	\$500,000
Pumps	1	LS	\$175,000	\$175,000
Piping	1	LS	\$30,000	\$30,000
Electrical	1	LS	\$145,000	\$145,000
Pipeline				
12" Pipe	2,500	LnFt	\$145.20	\$363,000
Asphalt Repair	500	LnFt	\$16.50	\$8,250
Construction Total				\$1,346,250
20% Contingency				\$265,000
15% Engineering, Legal, Fiscal				\$200,000
Project Total				\$1,811,250

PROJECT 13

<u>3400 West Pressure Zone</u>	<i>Quantity</i>	<i>Units</i>	<i>Unit Price</i>	<i>Total Price</i>
Reuse Pump Station				
Sitework	1	LS	\$150,000	\$150,000
Structures	1	LS	\$300,000	\$300,000
Pumps	1	LS	\$45,000	\$45,000
Piping	1	LS	\$25,000	\$25,000
Electrical	1	LS	\$40,000	\$40,000
600,000 Gallon Tank				
Sitework	1	LS	\$320,000	\$320,000
Structures	1	LS	\$480,000	\$480,000
Pipe	1	LS	\$50,000	\$50,000
Major Distribution Pipelines				
10" Pipe	4,800	LnFt	\$121.00	\$580,800
Asphalt Repair	3,800	LnFt	\$16.50	\$62,700
Construction Total				\$2,053,500
20% Contingency				\$410,000
15% Engineering, Legal, Fiscal				\$305,000
Project Total				\$2,768,500

**HURRICANE CITY SECONDARY WATER SYSTEM
10-YEAR PROJECTS LIST AND ESTIMATED COSTS**

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PROJECT 14				
<u>Sky Mountain Pressure Zone</u>	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Total Price</u>
Reuse Pump Station				
Sitework	1	LS	\$250,000	\$250,000
Structures	1	LS	\$500,000	\$500,000
Pumps	1	LS	\$205,000	\$205,000
Piping	1	LS	\$36,000	\$36,000
Electrical	1	LS	\$175,000	\$175,000
1,750,000 Gallon Tank				
Sitework	1	LS	\$830,000	\$830,000
Structures	1	LS	\$1,140,000	\$1,140,000
Pipe	1	LS	\$115,000	\$115,000
Major Distribution Pipelines				
18" Pipe	8,000	LnFt	\$217.80	\$1,742,400
Hwy 9 Crossing	1	LS	\$150,000.00	\$150,000
Asphalt Repair	6,500	LnFt	\$16.50	\$107,250
Construction Total				\$5,250,650
20% Contingency				\$905,000
15% Engineering, Legal, Fiscal				\$675,000
Project Total				\$6,830,650

PROJECT 15				
<u>Hurricane Valley Pressure Zone</u>	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Total Price</u>
Reuse Pump Station				
Sitework	1	LS	\$240,000	\$240,000
Structures	1	LS	\$500,000	\$500,000
Pumps	1	LS	\$115,000	\$115,000
Piping	1	LS	\$30,000	\$30,000
Electrical	1	LS	\$102,000	\$102,000
Tie-in to Existing Piping	1	LS	\$10,000	\$10,000
3,000,000 Gallon Tank				
Sitework	1	LS	\$1,265,000	\$1,265,000
Structures	1	LS	\$1,825,000	\$1,825,000
Pipe	1	LS	\$180,000	\$180,000
Major Distribution Pipelines				
24" Pipe	2,500	LnFt	\$193.60	\$484,000
Asphalt Repair	2,000	LS	\$16.50	\$33,000
Construction Total				\$4,784,000
20% Contingency				\$955,000
15% Engineering, Legal, Fiscal				\$715,000
Project Total				\$6,454,000



Hurricane City

DRAFT Secondary Water
Impact Fee Analysis
December 2025



ZIONS PUBLIC FINANCE, INC.

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EXECUTIVE SUMMARY

An impact fee is a one-time fee imposed on new development activity to mitigate the impact of new development on capital facilities. In conjunction with this Impact Fee Analysis, Alpha Engineering prepared the *Hurricane City Secondary Water System Impact Fee Facilities Plan* (IFFP) dated December 2025. The IFFP forms the basis for this impact fee analysis.

The recommended impact fee structure presented in this analysis has been prepared to satisfy the Impact Fees Act, Utah Code Ann. § 11-36a-101 et. seq., and represents the maximum impact fees Hurricane City (“City”) may assess. The City will be required to use revenue sources other than impact fees to fund any projects that constitute repair and replacement, cure any existing deficiencies, or increase the level of service for existing users.

Demand Growth

The City anticipates the growth of 333.28 irrigated acres over the next 10 years, with growth of 154.78 acres in Hurricane Valley and 178.54 acres in Sand Hollow.

Secondary Water Service Levels

Level of service (LOS) defines the secondary water capital facility demands for the aggregate citywide secondary water system. The IFFP defines existing and proposed service levels as follows:

TABLE 1: SECONDARY WATER EXISTING AND PROPOSED SERVICE LEVELS

Description	Existing LOS	Proposed LOS
Annual Usage, Non-Agricultural	4.93 acre ft/acre	2.93 acre ft/acre
Peak Day Demand, Non-Agricultural	8.12 gpm/acre	1.36 gpm/acre
Peak Hour Demand, Non-Agricultural	16.24 gpm/acre	8.38 gpm/acre
Storage, Non-Agricultural	10,470 gal/acre	2,583 gal/acre

Source: *Hurricane City Secondary Water System Impact Fee Facilities Plan*, pp. 6-7

Service levels are expected to decline in the future. Impact fees can only be charged based on the level of service received by new development; in other words, fees can only be proportional to the benefit received.

Water Service Area

There is one service area for secondary water that encompasses the boundaries of Hurricane City for water source, storage and distribution facilities. There are two service areas for water rights – Hurricane Valley and Sand Hollow. See maps of service areas in the Appendix. Secondary water impact fees are only charged to those properties with access to secondary water systems.

Excess Capacity

There is excess capacity in the Hurricane Valley’s water rights. The actual cost of total excess capacity in water rights that will be consumed by new development over the next 10 years is \$453,654.

New Facilities

Total new facility costs required by growth in new development over the next 10 years are projected to reach \$9,372,719 citywide and \$4,082,829 for water rights in Sand Hollow. There are no new facilities planned exclusively for Hurricane Valley.

Secondary Water System Impact Fee Calculation

A citywide fee is calculated which must be paid by all new development plus an additional fee for either Hurricane Valley or for Sand Hollow that reflects the unique needs of those two areas.

TABLE 2: CITYWIDE GROSS FEE PER IRRIGATED ACRE

Description	Amount
Buy-In	\$0
New Facilities	\$28,122.66
Consultant Cost	\$565.59
Gross Fee per Irrigated Acre - Citywide	\$28,688.25

TABLE 3: HURRICANE VALLEY GROSS FEE PER IRRIGATED ACRE (NOT INCLUDING CITYWIDE FEE)

Description	Amount
Buy-In Cost	\$453,654
Growth in Irrigated Acres, 2025-2035	154.78
Maximum Fee per Irrigated Acre	\$2,930.96

TABLE 4: SAND HOLLOW GROSS FEE PER IRRIGATED ACRE (NOT INCLUDING CITYWIDE FEE)

Description	Amount
New Facilities	\$4,082,829
Growth in Irrigated Acres, 2025-2035	178.54
Maximum Fee per Irrigated Acre	\$22,867.87

There is an outstanding Series 2022 Secondary Water Revenue Bond, with \$763,280 remaining in principal and interest payments. There are no buy-in costs for new development; therefore, the entire remaining bond payments benefit existing development and it must be credited so that new development does not pay twice. These credits will be made against the general fee citywide. In addition, new development must be credited for the \$399,958 in new projects that will benefit existing development.

TABLE 5: CITYWIDE MAXIMUM COST PER ACRE AFTER CREDITS - CITYWIDE

Year	Gross Cost per Irrigated Acre - Citywide	Credit for New Projects Benefitting Existing Development	Bond Credit	Max Cost per Irrigated Acre - Citywide
2025	\$28,688	(\$481.62)	(\$1,471.14)	\$26,735.49
2026	\$28,688	(\$416.37)	(\$1,329.27)	\$26,942.60
2027	\$28,688	(\$356.10)	(\$1,201.82)	\$27,130.33
2028	\$28,688	(\$300.28)	(\$1,087.36)	\$27,300.61
2029	\$28,688	(\$248.47)	(\$980.96)	\$27,458.82
2030	\$28,688	(\$200.22)	(\$885.33)	\$27,602.70

Year	Gross Cost per Irrigated Acre - Citywide	Credit for New Projects Benefitting Existing Development	Bond Credit	Max Cost per Irrigated Acre - Citywide
2031	\$28,688	(\$155.16)	(\$766.22)	\$27,766.87
2032	\$28,688	(\$112.92)	(\$654.82)	\$27,920.52
2033	\$28,688	(\$73.17)	(\$552.89)	\$28,062.19
2034	\$28,688	(\$35.63)	(\$457.15)	\$28,195.47
2035	\$28,688	\$0.00	(\$369.05)	\$28,319.20

The maximum cost per irrigated acre is applied to the average irrigated acres found in different types of development sizes as shown in Table 6 below.

TABLE 6: CITYWIDE MAXIMUM IMPACT FEE, 2025-2029

Category	Irrigated SF	% of Irrigated Acre	2025	2026	2027	2028	2029
RA-1	7,500	17.2%	\$4,603.22	\$4,638.88	\$4,671.20	\$4,700.52	\$4,727.76
RA-0.5	5,000	11.5%	\$3,068.81	\$3,092.59	\$3,114.13	\$3,133.68	\$3,151.84
R1-15 / R1-10	3,500	8.0%	\$2,148.17	\$2,164.81	\$2,179.89	\$2,193.57	\$2,206.29
R1-8 / R1-6	2,500	5.7%	\$1,534.41	\$1,546.29	\$1,557.07	\$1,566.84	\$1,575.92
RM-1	1,089	2.5%	\$668.39	\$673.57	\$678.26	\$682.52	\$686.47
RM-2	653	1.5%	\$400.79	\$403.89	\$406.71	\$409.26	\$411.63
RM-3	435	1.0%	\$266.99	\$269.05	\$270.93	\$272.63	\$274.21

TABLE 7: CITYWIDE MAXIMUM IMPACT FEE, 2030-2035

Category	2030	2031	2032	2033	2034	2035
RA-1	\$4,752.53	\$4,780.80	\$4,807.25	\$4,831.64	\$4,854.59	\$4,875.90
RA-0.5	\$3,168.35	\$3,187.20	\$3,204.83	\$3,221.10	\$3,236.39	\$3,250.60
R1-15 / R1-10	\$2,217.85	\$2,231.04	\$2,243.38	\$2,254.77	\$2,265.48	\$2,275.42
R1-8 / R1-6	\$1,584.18	\$1,593.60	\$1,602.42	\$1,610.55	\$1,618.20	\$1,625.30
RM-1	\$690.07	\$694.17	\$698.01	\$701.55	\$704.89	\$707.98
RM-2	\$413.79	\$416.25	\$418.55	\$420.68	\$422.67	\$424.53
RM-3	\$275.65	\$277.29	\$278.82	\$280.24	\$281.57	\$282.80

The additional impact fees for Hurricane Valley and Sand Hollow do not vary by year because no bond credits need to be applied. The fees shown in Table 8 are in addition to the citywide fee shown in Tables 6 and 7.

TABLE 8: ADDITIONAL HURRICANE VALLEY AND SAND HOLLOW MAXIMUM IMPACT FEES

Ratios	Irrigated Acres	% of Irrigated Acre	Hurricane Valley	Sand Hollow
RA-1	7,500	17.2%	\$504.64	\$3,937.30
RA-0.5	5,000	11.5%	\$336.43	\$2,624.87
R1-15 / R1-10	3,500	8.0%	\$235.50	\$1,837.41

Ratios	Irrigated Acres	% of Irrigated Acre	Hurricane Valley	Sand Hollow
R1-8 / R1-6	2,500	5.7%	\$168.21	\$1,312.43
RM-1	1,089	2.5%	\$73.27	\$571.70
RM-2	653	1.5%	\$43.94	\$342.81
RM-3	435	1.0%	\$29.27	\$228.36
Ag/Comm/Ind	Actual			

CHAPTER 1: OVERVIEW OF THE SECONDARY WATER IMPACT FEES

Summary

An impact fee is intended to recover the City's costs of building secondary water system capacity to serve new residential and non-residential development rather than passing these growth-related costs on to existing users through rates. The Utah Impact Fees Act allows only certain costs to be included in an impact fee so that only the fair cost of expansionary projects or existing unused capacity paid for by the City is assessed through an impact fee.

Costs to be Included in the Impact Fee

The impact fees proposed in this analysis are calculated based upon:

- Excess capacity in the City's secondary water system;
- New capital infrastructure that will serve new development; and
- Professional and planning expenses related to the construction of system improvements that will serve new development.

The costs that cannot be included in the impact fee are as follows:

- Costs for projects that cure system deficiencies;
- Costs for projects that increase the LOS above that which is currently provided;
- Operations and maintenance costs;
- Costs of facilities funded by grants or other funds that the City does not have to repay; and
- Costs of reconstruction of facilities that do not have capacity to serve new growth.

Utah Code Legal Requirements

Utah law requires that communities and special districts prepare an Impact Fee Analysis (IFA) before enacting an impact fee. Utah law also requires that communities/districts give notice of their intent to prepare and adopt an IFA. This IFA follows all legal requirements as outlined below. The City has retained Zions Public Finance, Inc. (ZPFI) to prepare this Impact Fee Analysis in accordance with legal requirements.

Notice of Intent to Prepare Impact Fee Analysis

A local political subdivision must provide written notice of its intent to prepare an IFA before preparing the Plan (Utah Code §11-36a-503). This notice must be posted on the Utah Public Notice website. The City has complied with this noticing requirement for the IFA by posting notice.

Preparation of Impact Fee Analysis

Utah Code requires that each local political subdivision, before imposing an impact fee, prepare an impact fee analysis. (Utah Code 11-36a-304).

Section 11-36a-304 of the Utah Code outlines the requirements of an impact fee analysis which is required to:

- (1) An impact fee analysis shall:
 - (a) identify the anticipated impact on or consumption of any existing capacity of a public facility by the anticipated development activity;
 - (b) identify the anticipated impact on system improvements required by the anticipated development activity to maintain the established level of service for each public facility;
 - (c) demonstrate how the anticipated impacts described in Subsections (1)(a) and (b) are reasonably related to the anticipated development activity;
 - (d) estimate the proportionate share of:
 - (i) the costs for existing capacity that will be recouped; and
 - (ii) the costs of impacts on system improvements that are reasonably related to the new development activity; and
 - (e) identify how the impact fee was calculated.
- (2) In analyzing whether or not the proportionate share of the costs of public facilities are reasonably related to the new development activity, the local political subdivision or private entity, as the case may be, shall identify, if applicable:
 - (a) the cost of each existing public facility that has excess capacity to serve the anticipated development resulting from the new development activity;
 - (b) the cost of system improvements for each public facility;
 - (c) other than impact fees, the manner of financing for each public facility, such as user charges, special assessments, bonded indebtedness, general taxes, or federal grants;
 - (d) the relative extent to which development activity will contribute to financing the excess capacity of and system improvements for each existing public facility, by such means as user charges, special assessments, or payment from the proceeds of general taxes;
 - (e) the relative extent to which development activity will contribute to the cost of existing public facilities and system improvements in the future;
 - (f) the extent to which the development activity is entitled to a credit against impact fees because the development activity will dedicate system improvements or public facilities that will offset the demand for system improvements, inside or outside the proposed development;
 - (g) extraordinary costs, if any, in servicing the newly-developed properties; and
 - (h) the time-price differential inherent in fair comparisons of amounts paid at different times.

Certification of Impact Fee Analysis

Utah Code states that an Impact Fee Analysis shall include a written certification from the person or entity that prepares the Impact Fee Analysis. This certification is included at the conclusion of this analysis.

DRAFT

CHAPTER 2: IMPACT FROM GROWTH UPON THE CITY'S FACILITIES AND LEVEL OF SERVICE

Utah Code 11-36a-304(1)(a)

Projected Water Demands

The table below shows irrigated acre growth projections which will place additional demand on the City's secondary water system. The City's secondary water system (year 2025) serves 204.39 non-agricultural irrigated acres. Irrigated are expected to grow to 537.66 acres by 2035, reflecting growth of 333.28 acres.

Irrigated acres within Hurricane City are projected to grow as follows:

TABLE 9: GROWTH IN DEMAND

Growth Table	Irrigated Acres
2025	204.39
2026	225.15
2027	248.01
2028	273.20
2029	300.94
2030	331.50
2031	365.16
2032	402.25
2033	443.10
2034	488.09
2035	537.66

Source: Hurricane City Secondary Water System Impact Fee Facilities Plan (IFFP) dated December 2025; ZPFI

Hurricane Valley projects growth of 154.78 irrigated acres and Sand Hollow anticipates growth of 178.54 acres.

Level of Service

Level of service (LOS) defines the secondary water capital facility demands for the aggregate citywide secondary water system. Service levels will decline in the future. Impact fees are calculated to reflect the proposed LOS or the actual benefit received.

TABLE 10: EXISTING AND PROPOSED SERVICE LEVELS

Description	Existing LOS	Proposed LOS
Annual Usage, Non-Agricultural	4.93 acre ft/acre	2.93 acre ft/acre
Peak Day Demand, Non-Agricultural	8.12 gpm/acre	1.36 gpm/acre
Peak Hour Demand, Non-Agricultural	16.24 gpm/acre	8.38 gpm/acre
Storage, Non-Agricultural	10,470 gal/acre	2,583 gal/acre

Source: Hurricane City Secondary Water System Impact Fee Facilities Plan, pp. 6-7

CHAPTER 3: IMPACT ON CAPACITY FROM DEVELOPMENT ACTIVITY

Utah Code 11-36a-304(1)(b)(c)

Excess Capacity

The only existing excess capacity is in water rights in Hurricane Valley with an estimated buy-in cost of \$453,654 over the next 10 years.¹ New development in Hurricane Valley will need to buy into these water rights.

CHAPTER 4: SYSTEM IMPROVEMENTS REQUIRED FROM DEVELOPMENT ACTIVITY

Utah Code 11-36a-304(1)(b)(c)

The means by which the City will meet growth demands include constructing the following projects as set forth in the Impact Fee Facilities Plan. This will occur through requiring new development to pay for its fair share of existing excess capacity consumed over the next 10 years as well as paying for its fair share of new facilities.

The cost of citywide projects for new development over the next 10 years total \$9,372,719. A portion of the new source and storage projects will benefit existing development at a cost of \$399,958.

TABLE 11: NEW CONSTRUCTION IMPROVEMENTS CITYWIDE

Citywide New Construction	Existing	10-Years
Source	\$227,029	\$1,217,393
Storage	\$172,929	\$1,087,860
Distribution		\$7,067,466
TOTAL	\$399,958	\$9,372,719

In addition, Sand Hollow will need to acquire additional water rights in the amount of \$4,082,829.²

CHAPTER 5: PROPORTIONATE SHARE ANALYSIS

Maximum Legal Secondary Water Impact Fee

The Impact Fees Act requires the Impact Fee Analysis to estimate the proportionate share of the future and actual cost of existing system improvements that benefit new growth that can be recouped through impact fees. The impact fee for existing assets must be based on the actual costs while the fees for acquisition of new facilities must be based on reasonable future costs of the system.

¹ IFFP, p. 18

² IFFP, p. 21

The maximum impact fee includes buy-in costs for existing, excess capacity as well as the cost of acquisition of new facilities. A citywide fee is calculated, with an additional fee for Hurricane Valley or an additional fee for Sand Hollow that reflects the unique needs of those two areas.

Citywide Secondary Water Impact Fee

The citywide fee calculation does not include any buy-in costs but does include new facilities as shown in Table 12.

TABLE 12: NEW FACILITIES COST - CITYWIDE

Description	Amount
New Facilities Cost	\$9,372,719
Growth in Irrigated Acres, 2025-2035	333.28
Cost per Irrigated Acre	\$28,122.66

The gross impact fee citywide, before credits, is \$28,688.25 and includes consultant costs.

TABLE 13: SUMMARY OF CITYWIDE MAXIMUM FEE PER IRRIGATED ACRE

SUMMARY GENERAL CITYWIDE	Amount
Buy-In	\$0
New Facilities	\$28,122.66
Consultant Cost	\$565.59
Gross Fee per Irrigated Acre - Citywide	\$28,688.25

There is an outstanding Series 2022 Secondary Water Revenue Bond, with \$763,280 remaining in principal and interest payments. There are no buy-in costs for new development; therefore, the entire remaining bond payments benefit existing development and credits must be made so that new development does not pay more than its fair share.

TABLE 14: SUMMARY OF BOND CREDITS

Year	Bond Payment	Irrigated Acres	Cost per Irrigated Acre	NPV*
2025	\$44,030	204.39	\$215.42	\$1,471.14
2026	\$43,660	225.15	\$193.92	\$1,329.27
2027	\$43,290	248.01	\$174.55	\$1,201.82
2028	\$43,920	273.20	\$160.76	\$1,087.36
2029	\$43,540	300.94	\$144.68	\$980.96
2030	\$54,160	331.50	\$163.38	\$885.33
2031	\$54,670	365.16	\$149.71	\$766.22
2032	\$54,170	402.25	\$134.67	\$654.82
2033	\$54,670	443.10	\$123.38	\$552.89
2034	\$54,160	488.09	\$110.96	\$457.15
2035	\$54,650	537.66	\$101.64	\$369.05
2036	\$54,130	592.26	\$91.40	\$285.85
2037	\$54,610	652.41	\$83.71	\$208.75
2038	\$55,080	718.66	\$76.64	\$135.48
2039	\$54,540	791.64	\$68.90	\$65.61

*NPV = net present value discounted at 5 percent

In addition, credits must be made for new projects that benefit existing development. The IFFP identifies \$399,958 in new projects benefitting existing development. This amount can be partially paid for by cash on hand (\$217,380) thereby reducing the credit amount to \$182,578. This cost has been spread equally over 10 years.

TABLE 15: CREDIT FOR PROJECTS THAT BENEFIT EXISTING DEVELOPMENT

Credit for Existing Development	Pmt per Year	Irrigated Acres	Cost per Acre	NPV*
2026	\$18,257.80	204.39	\$89.33	\$481.62
2027	\$18,257.80	225.15	\$81.09	\$416.37
2028	\$18,257.80	248.01	\$73.62	\$356.10
2029	\$18,257.80	273.20	\$66.83	\$300.28
2030	\$18,257.80	300.94	\$60.67	\$248.47
2031	\$18,257.80	331.50	\$55.08	\$200.22
2032	\$18,257.80	365.16	\$50.00	\$155.16
2033	\$18,257.80	402.25	\$45.39	\$112.92
2034	\$18,257.80	443.10	\$41.21	\$73.17
2035	\$18,257.80	488.09	\$37.41	\$35.63

*NPV = net present value discounted at 5 percent

These credits will be made against the general fee citywide.

TABLE 16: CITYWIDE MAXIMUM COST PER ACRE AFTER CREDITS

Year	Gross Cost per Irrigated Acre - Citywide	Credit for New Projects Benefitting Existing Development	Bond Credit	Max Cost per Irrigated Acre - Citywide
2025	\$28,688.25	(\$481.62)	(\$1,471.14)	\$26,735.49
2026	\$28,688.25	(\$416.37)	(\$1,329.27)	\$26,942.60
2027	\$28,688.25	(\$356.10)	(\$1,201.82)	\$27,130.33
2028	\$28,688.25	(\$300.28)	(\$1,087.36)	\$27,300.61
2029	\$28,688.25	(\$248.47)	(\$980.96)	\$27,458.82
2030	\$28,688.25	(\$200.22)	(\$885.33)	\$27,602.70
2031	\$28,688.25	(\$155.16)	(\$766.22)	\$27,766.87
2032	\$28,688.25	(\$112.92)	(\$654.82)	\$27,920.52
2033	\$28,688.25	(\$73.17)	(\$552.89)	\$28,062.19
2034	\$28,688.25	(\$35.63)	(\$457.15)	\$28,195.47
2035	\$28,688.25	\$0.00	(\$369.05)	\$28,319.20

The maximum cost per irrigated acre is applied to the average irrigated acres found in different types of development sizes as shown in Tables 17 and 18 below.

TABLE 17: CITYWIDE MAXIMUM IMPACT FEE, 2025-2029

Category	Irrigated SF	% of Irrigated Acre	2025	2026	2027	2028	2029
RA-1	7,500	17.2%	\$4,603.22	\$4,638.88	\$4,671.20	\$4,700.52	\$4,727.76
RA-0.5	5,000	11.5%	\$3,068.81	\$3,092.59	\$3,114.13	\$3,133.68	\$3,151.84
R1-15 / R1-10	3,500	8.0%	\$2,148.17	\$2,164.81	\$2,179.89	\$2,193.57	\$2,206.29
R1-8 / R1-6	2,500	5.7%	\$1,534.41	\$1,546.29	\$1,557.07	\$1,566.84	\$1,575.92
RM-1	1,089	2.5%	\$668.39	\$673.57	\$678.26	\$682.52	\$686.47
RM-2	653	1.5%	\$400.79	\$403.89	\$406.71	\$409.26	\$411.63
RM-3	435	1.0%	\$266.99	\$269.05	\$270.93	\$272.63	\$274.21

TABLE 18: CITYWIDE MAXIMUM IMPACT FEE, 2030-2035

Category	2030	2031	2032	2033	2034	2035
RA-1	\$4,752.53	\$4,780.80	\$4,807.25	\$4,831.64	\$4,854.59	\$4,875.90
RA-0.5	\$3,168.35	\$3,187.20	\$3,204.83	\$3,221.10	\$3,236.39	\$3,250.60
R1-15 / R1-10	\$2,217.85	\$2,231.04	\$2,243.38	\$2,254.77	\$2,265.48	\$2,275.42
R1-8 / R1-6	\$1,584.18	\$1,593.60	\$1,602.42	\$1,610.55	\$1,618.20	\$1,625.30
RM-1	\$690.07	\$694.17	\$698.01	\$701.55	\$704.89	\$707.98
RM-2	\$413.79	\$416.25	\$418.55	\$420.68	\$422.67	\$424.53
RM-3	\$275.65	\$277.29	\$278.82	\$280.24	\$281.57	\$282.80

Hurricane Valley and Sand Hollow Additional Impact Fee Calculation

Residents living in Hurricane Valley will need to buy into the existing, excess capacity of the water rights.

TABLE 19: HURRICANE VALLEY MAXIMUM FEE PER IRRIGATED ACRE

HURRICANE VALLEY	Amount
Buy-In Cost	\$453,654
Growth in Irrigated Acres, 2025-2035	154.78
Cost per Irrigated Acre	\$2,930.96

Residents living in Sand Hollow will need to acquire additional water rights.

TABLE 20: SAND HOLLOW MAXIMUM FEE PER IRRIGATED ACRE

SAND HOLLOW	Amount
New Facilities	\$4,082,829
Growth in Irrigated Acres, 2025-2035	178.54
Cost per Irrigated Acre	\$22,867.87

The additional impact fees for Hurricane Valley and Sand Hollow do not vary by year because no bond credits need to be applied. The fees shown in Table 21 are in addition to the citywide fee shown in Tables 17 and 18.

TABLE 21: ADDITIONAL HURRICANE VALLEY AND SAND HOLLOW MAXIMUM IMPACT FEES

Ratios	Irrigated Acres	% of Irrigated Acre	Hurricane Valley	Sand Hollow
RA-1	7,500	17.2%	\$504.64	\$3,937.30
RA-0.5	5,000	11.5%	\$336.43	\$2,624.87
R1-15 / R1-10	3,500	8.0%	\$235.50	\$1,837.41
R1-8 / R1-6	2,500	5.7%	\$168.21	\$1,312.43
RM-1	1,089	2.5%	\$73.27	\$571.70
RM-2	653	1.5%	\$43.94	\$342.81
RM-3	435	1.0%	\$29.27	\$228.36
Ag/Comm/Ind	Actual			

CERTIFICATION

Zions Public Finance, Inc. certifies that the attached impact fee analysis:

1. includes only the cost of public facilities that are:
 - a. allowed under the Impact Fees Act; and
 - b. actually incurred; or
 - c. projected to be incurred or encumbered within six years after the day on which each impact fee is paid;
2. does not include:
 - a. costs of operation and maintenance of public facilities; or
 - b. cost for qualifying public facilities that will raise the level of service for the facilities, through impact fees, above the level of service that is supported by existing residents;
3. offset costs with grants or other alternate sources of payment; and
4. complies in each and every relevant respect with the Impact Fees Act.

APPENDIX

