



# Hildale / Colorado City Utility Advisory Board

Thursday, January 25, 2024 at 6:00 PM

320 East Newel Avenue, Hildale City, Utah 84784

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## Agenda

Notice is hereby given to the members of the Hildale/Colorado City Utility Advisory Board and the public, that the Board will hold a public meeting on **Thursday, January 25, 2024** at 6:00 p.m. (MDT), at 320 East Newel Avenue, Hildale City, Utah 84784.

Board members may be participating electronically by video or telephone conference. The meeting will be broadcast to the public on Facebook Live under Hildale's City page. Members of the public may also watch the City of Hildale through the scheduled Zoom meeting.

<https://www.facebook.com/hildalecity/live/>

Join Zoom Meeting

<https://zoom.us/j/95770171318?pwd=aUVSU0hRSFFHcGQvcUIPT3ZYK0p5UT09>

Meeting ID: 957 7017 1318

Passcode: 993804

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Comments during the public comment or public hearing portions of the meeting may be emailed to [athenac@hildalecity.com](mailto:athenac@hildalecity.com) or privately messaged to Hildale City's Facebook page. All comments sent before the meeting may be read during the meeting and messages or emails sent during the meeting may be read at the Board Chair's discretion.

**Welcome, Introduction and Preliminary Matters:** Presiding Officer

**Pledge of Allegiance:** By Invitation of Presiding Officer

**Roll Call of Board Attendees:** Utility Administrative Assistant

**Organization of the Board :** Appointment of Vice-Chair (Presiding Officer)

1. Nominating a Vice-Chair that is good for one year

**Conflict of Interest Disclosures:** Board Members

**Approval of Minutes of Previous Meetings:** Board Members

2. Utility Board Minutes of December 20, 2023.

**Public Comments:** (3 minutes each - Discretion of Presiding Officer)

**Financial Report:**

3. Approval of Utility Financial Report and Invoice Register
4. Balance Sheet for Utilities as required in the IGA.

**Reports:**

- 5. Utility Director Report and Updates
- [6.](#) Utility Monthly Report

**Unfinished Board Business:****New Board Business:**

- [7.](#) Consideration, discussion and possible recommendation on the Hildale/Colorado City Utility 5-10 Year CIP Budget.
- [8.](#) Consideration, discussion and possible recommendation on the Sewer Ordinance updates.
- [9.](#) Consideration, discussion and possible recommendation on the Wage Structure and Classification.
- [10.](#) Consideration, discussion and possible approval of the Hildale-Colorado City Water Master Plan (January 2024) with additional new language added for better definition.

**Board Comments:** (10 minutes total)

Board members comments of issues not previously discussed in the meeting.

- [11.](#) February 2024 Utility Calendar

**Executive Session:** As needed**Infrastructure Improvements Advisory Committee Session:** Presiding Officer

- 12. Consideration, discussion and possible approval of the Hildale-Colorado City Water Master Plan (January 2024) with additional new language added for better definition.

**Adjournment:** Presiding Officer

Agenda items and any variables thereto are set for consideration, discussion, approval or other action. The Utility Advisory Board may, by motion, recess into executive session, which is not open to the public, to receive legal advice from their attorney(s) on any agenda item, or regarding sensitive personnel issues, or concerning negotiations for the purchase, sale, or lease of real property. Board Members may attend by telephone. The Agenda may be subject to change up to 24 hours prior to the meeting. Individuals needing special accommodations should notify the City Recorder at 435 874-2323 at least three days prior to the meeting.



# Hildale / Colorado City Utility Advisory Board

Wednesday, December 20, 2023 at 6:00 PM  
320 East Newel Avenue, Hildale City, Utah 84784

## Minutes

### Welcome, Introduction and Preliminary Matters: Presiding Officer

Chairman Nielsen called the meeting to order at 6:00 pm.

### Roll Call of Board Attendees: Utility Administrative Assistant

PRESENT

Chair Ezra Nielsen  
Board Member Jesse Barlow  
Board Member Theil Cooke  
Board Member Sterling Jessop, Jr.

ABSENT

Board Member James Broadbent

Staff Present: Nathan Fischer, Athena Cawley, Jerry Postema (Zoom)

Public Present: Jvar Dutson, Roger Carter

### Pledge of Allegiance: By Invitation of Presiding Officer

Chairman Nielsen asked Board Member Cooke to lead the pledge.

### Organization of the Board: Presiding Officer

1. Introduction of James Broadbent as New Appointed Board Member.

Chairman Nielsen presented that James Broadbent was appointed by Town of Colorado City Council to the board in replacement of Rick White.

### Conflict of Interest Disclosures: Board Members

No conflict of interest disclosures at this time.

### Approval of Minutes of Previous Meetings: Board Members

2. Utility Board Minutes of November 9, 2023.

The Board discussed the previous meeting minutes.

Motion made by Board Member Barlow, to approve the Utility Board minutes of November 9, 2023. Seconded by Board Member Cooke.

Voting Yea: Chair Nielsen, Board Member Barlow, Board Member Cooke, Board Member Jessop, Jr.

Motion Carried.

**Public Comments:** (3 minutes each - Discretion of Presiding Officer)

Jvar Dutson stated the importance of keeping up on city water projects and expressed appreciation of the Utility Board and staff for keeping the community aware of the work behind the scenes.

**Financial Report:**

3. Approval of Utility Financial Report and Invoice Register

Superintendent Fischer presented the financial report and invoice register.

Motion made by Board Member Barlow, to approve the financial report and invoice register. Seconded by Board Member Jessop, Jr..

Voting Yea: Chair Nielsen, Board Member Barlow, Board Member Cooke, Board Member Jessop, Jr.

Motion carried.

**Reports:**

4. Utility Director Report and Updates

Utility Director Postema presented, explaining the graphs in the report on gas and water.

5. Utility Monthly Report

Superintendent Fischer presented the monthly report covering gas, water, and wastewater operations. Director Postema presented on grants and administration. He followed up on items for the last meeting involving the pump for Wel#17 and a meeting has been set in January with Centennial Park's Sewer District to have a discussion as was talked about last meeting. The projects staff have been working diligently on is the rate study for water (funded through USDA), the water impact fee and the stipulations for both Arizona and Utah.

Chairman Nielsen gave appreciation for getting the new wells permitted to get more water online for next Summer. Director Postema thanked the Board for attending the Ground Breaking Ceremony for the Mohave County Arizona ARPA project.

**Unfinished Board Business: None**

**New Board Business:**

6. Consideration, discussion, and possible recommendation to City Councils concerning the Hildale-Colorado City Water Master Plan and Draft Impact Fee.

Director Postema requested to move this discussion to the end of the meeting. The Board agreed to move item #6 after item #9 on the agenda.

Director Postema presented the Hildale-Colorado City Water Master Plan and Draft Impact Fee., explaining the requirements and steps to follow for the Water Impact Fee. He discussed the differences with AZ and UT laws concerning the process of approval and postings. The expected projection for the Water Impact Fee to go in effect would be by July 2024. The growth projections for 10 years and the Facilities Plan was explained and discussed in depth by the Board.

Jvar Dutson questioned the Upper Pressure Management on the Facilities Plan not being projected until 2026. Director Postema gave clarification that the Utility Department is currently working at putting in a booster station, which the engineer has reviewed and will be running a hydraulic model to make sure of the long term needs. There will be 2 parts/phases for the current and upper pressure zone.

Roger Carter questioned and was given clarity on the existing water capacity deficit projections in comparison with the 5 year improvement plan and the water source capacity projection with improvements. He concluded with the DOJ process of review for the Impact Fee.

Chairman Nielsen specified that Arizona law requires an appointed Infrastructure Improvements Advisory Committee, which was appointed to the Board by Town of Colorado City Council. The appointed Board is to review land use assumptions in the Water Master Facilities Plan to be in conformance with the General Plan. Also, that the infrastructure plan is complete and appears to be fair and equitable to all classes of people. The Board discussed the matter.

Motion made by Board Member Barlow, to recommend to the City Councils to start the process of adopting the Hildale-Colorado City Water Master Plan and Draft Impact Fee. Seconded by Chair Nielsen.

Voting Yea: Chair Nielsen, Board Member Barlow, Board Member Cooke, Board Member Jessop, Jr.

Motion Carried.

Motion made by Chair Nielsen, to have the Utility Administrative Assistant draft a letter to Town of Colorado City specifying that the land use assumptions are in conformance as well the infrastructure plan complete and is fair and equitable and to have TOCC Manager assist with AZ law verbiage. Seconded by Board Member Cooke.

Voting Yea: Chair Nielsen, Board Member Barlow, Board Member Cooke, Board Member Jessop, Jr.

Motion Carried.

7. Consideration, discussion, and recommendation to City Council to initiate discussion concerning a request from Ash Creek Special Services District for the Mountain Valley Estates project to discuss a connection to the Hildale Lagoons.

Director Postema presented. Apple Valley is requesting to have their wastewater flow to Hildale lagoons. The request is to have an opening of dialog to see if this is something the city can work on an agreement that is beneficial for both parties.

Motion made by Chair Nielsen, to recommend to the City Councils to initiate discussion concerning a request from Ash Creek Special Services District for the Mountain Valley Estates project to discuss a connection to the Hildale Lagoons. Seconded by Board Member Barlow.

Voting Yea: Chair Nielsen, Board Member Barlow, Board Member Cooke, Board Member Jessop, Jr.

Motion Carries.

8. Consideration, discussion, and possible recommendation to City Councils concerning inclusion of the Hildale/Colorado City Utilities as a potential recipient of class action litigation settlement funding from United States vs DuPont chemical.

Director Postema presented, explaining that there is a chemical called PFAS that is showing up in a lot of water sources in America. This chemical has been found that is bad for humans. The place that this

has been found the most is in high density commercial areas and at airports. Staff has put in for registration that we are interested in being part of this class action lawsuit and there are certain criteria that will legally need to be followed, examples being testing of the wells and completing paper work to the court. This is in the early stages and we are suggesting to recommend to the City Councils to continue involvement in this class action lawsuit.

Chairman Nielsen questioned what resources that would be expected to be involved. Director Postema informed the Board that the information will come from the state with no cost to us. Board Member Cooke asked the turn around on the testing that has already been done. Director Postema projected that it would be within a 4-6 week period. He assured that if test came back negative then no more forward testing would need to be done.

Motion made by Chair Nielsen, to recommend to the City Councils to follow up with the class action lawsuit and if PFAS is found to continue to include sampling of the spring water sources in Utah. Seconded by Board Member Cooke.

Voting Yea: Chair Nielsen, Board Member Barlow, Board Member Cooke, Board Member Jessop, Jr.

Motion carried

9. Consideration, discussion, and possible recommendation to City Councils to approve Creekside Park Subdivision Preliminary Plat.

Director Postema presented the Creekside Park Subdivision Preliminary Plat. The Utility Administrative staff met with the the engineers addressing the Utility concerns focusing on the internal fire safety system for this subdivision. The 2 concerns that haven't been completed by the engineer firm is the Hydraulic Model and a better definition of where the water is coming from with the ERU's (Equivalent Residential Units). Staff is recommending the Board approve the Creekside Park Subdivision Preliminary Plat pending a Hydraulic model be completed, verification of the water availability, and potential to enter a development agreement if the water for the subdivision will exceed the capacity of the system.

Motion made by Board Member Barlow, to recommend to the City Councils to approve the Creekside Park Subdivision Preliminary Plat pending Hydraulic Model Study, and verification of the water availability. Seconded by Board Member Jessop, Jr..

Voting Yea: Chair Nielsen, Board Member Barlow, Board Member Cooke, Board Member Jessop, Jr.

Motion Carried

**Board Comments:** (10 minutes total)

Board members comments of issues not previously discussed in the meeting.

10. January 2024 Utility Board Calendar

Chairman Nielsen went over the calendar. The next Utility Board meeting will be Thursday, January 25 at 6 pm.

**Executive Session:** As needed

None

**Adjournment:** Presiding Officer

Chairman Nielsen adjourned meeting at 8:05 pm.

Minutes were approved at the Utility Board Meeting \_\_\_\_\_.

\_\_\_\_\_  
Sirrene Barlow, City Recorder

\_\_\_\_\_  
Rosie White, Town Clerk

Draft Pending for Review

## Utility Advisory Board Recommendation Memorandum

To: Hildale City Manager & City Council/Colorado City Town Manager & Town Council

From: Hildale/Colorado City Utility Advisory Board Chair Ezra Nielsen



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Date: December 21, 2023

Cc: Jerald A Postema, Utility Director, Nathan Fischer, Utility Superintendent, Athena Crawley, Utility Administrative Assistant, Sirrene Barlow, City Clerk, Rosie White, Town Clerk

Re: **Recommendations for Creekside Park Subdivision, Ash Fork Sewer Discussions and EPA vs DuPont PFAS Class Action Suite**

On December 20, 2023, 6:00 pm at Hildale City Hall at the regularly scheduled meeting of the Utility Advisory Board, the members reviewed and took action on the following: 1. Preliminary Plat Utility Approval for Creekside Park Subdivision, 2. Ash Fork requested sewer discussion with Hildale and the 3. PFAS class action suit.

1. The Board recommends to the City and Town Councils to approve the Preliminary Plat Utility's for Creekside Subdivision with the following conditions: Completion of a hydraulic analysis submitted to Utilities, Water Usage Calculations provided in ERU's as outlined in the Water Master Plan, and flows for Peak Day Demand, Peak Day with Fire Protection Demand (1,500 gpm) and ability to serve the development with water. The Board recommends a Development Agreement for new water sources if required.
2. The Board recommends Ash Fork and Utility Department staff to begin discussions on possible sewer diversion from Ash Fork to Hildale Wastewater Plant. No agreement may be made without the review of the Utility Board and the City Council.
3. The Board recommends Utility staff continue to work with the Utah Division of Drinking Water to determine if PFAS is in the existing wells and to file the appropriate claims if fiscally responsible. If PFAS is discovered in the existing wells, the Board recommends the Utility staff sample the spring water as a further source prior to final action on the suit.

This report respectfully submitted by the Utility Advisory Board Members.



## Utility Advisory Board Recommendation Memorandum

To: Hildale City Manager & City Council/Colorado City Town Manager & Town Council

From: Hildale/Colorado City Utility Advisory Board Chair, Ezra Nielsen



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Date: December 29, 2023

Cc: Jerald A Postema, Utility Director, Nathan Fischer, Utility Superintendent, Athena Crawley, Utility Administrative Assistant, Sirrene Barlow, City Recorder, Rosie White, Town Clerk

Re: **Review of the Hildale City & Town of Colorado City Culinary Master Plan, Infrastructure Plan and Water Impact Fee**

On December 20, 2023, 6:00 pm at Hildale City Hall at the regularly scheduled meeting of the Utility Advisory Board, the members reviewed and took public questions on the proposed Water Master Plan, Water Impact Fee Facilities Plan as presented by Sunrise Engineers dated October 2023.

A motion was made and approved unanimously by the board to recommend the City and Town Councils to adopt the Water Master Plan and Water Impact Fee Facilities Plan.

The Board makes this recommendation based on the requirements being met in compliance with Arizona **ARS 9-463.05** and Utah State **UCA 11-36a** Statutes for Impact Fees.

Further, in compliance with **ARS 9-463.05, Subsections D & G**, we, as the appointed Infrastructure Improvements Advisory Committee, have reviewed the land use assumptions and have determined the assumptions are in conformance with the general plan of the municipality. We further advise the municipality (Colorado City) to adopt the updated and revised land use assumptions, infrastructure improvements plan and development fee.

As the Utility Advisory Board and Infrastructure Improvements Advisory Committee we will review and provide recommendations annually to the municipalities.

CITY OF HILDALE  
REVENUES WITH COMPARISON TO BUDGET  
FOR THE 6 MONTHS ENDING DECEMBER 31, 2023

Item 3.

2017 JUDGMENT RESOLUTION FUND

	PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEARNED	PCNT
<u>REVENUES</u>					
63-38-101 TRANSFER FROM GENERAL FUND	.00	.00	24,000.00	24,000.00	.0
63-38-102 TRANSFER FROM WATER FUND	.00	.00	8,000.00	8,000.00	.0
63-38-103 TRANSFER FROM WASTEWATER	.00	.00	8,000.00	8,000.00	.0
63-38-105 TRANSFER FROM GAS FUND	.00	.00	8,000.00	8,000.00	.0
TOTAL REVENUES	.00	.00	48,000.00	48,000.00	.0
TOTAL FUND REVENUE	.00	.00	48,000.00	48,000.00	.0

CITY OF HILDALE  
EXPENDITURES WITH COMPARISON TO BUDGET  
FOR THE 6 MONTHS ENDING DECEMBER 31, 2023

Item 3.

2017 JUDGMENT RESOLUTION FUND

	PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEXPENDED	PCNT
<u>EXPENDITURES</u>					
63-41-310 PROFESSIONAL & TECHNICAL	3,350.47	22,392.63	28,000.00	5,607.37	80.0
63-41-315 LEGAL - GENERAL	.00	.00	20,000.00	20,000.00	.0
TOTAL EXPENDITURES	3,350.47	22,392.63	48,000.00	25,607.37	46.7
TOTAL FUND EXPENDITURES	3,350.47	22,392.63	48,000.00	25,607.37	46.7
NET REVENUE OVER EXPENDITURES	( 3,350.47)	( 22,392.63)	.00	22,392.63	.0

CITY OF HILDALE  
REVENUES WITH COMPARISON TO BUDGET  
FOR THE 6 MONTHS ENDING DECEMBER 31, 2023

Item 3.

JOINT ADMINISTRATION FUND

	PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEXPENDED	PCNT
<u>REVENUES</u>					
65-38-102 TRANSFER FROM WATER FUND	.00	.00	717,270.00	717,270.00	.0
65-38-103 TRANSFER FROM WASTEWATER	.00	.00	925,730.00	925,730.00	.0
65-38-105 TRANSFER FROM GAS FUND	.00	.00	21,304.00	21,304.00	.0
65-38-910 LANDFILL REVENUES	2,000.00	12,000.00	20,000.00	8,000.00	60.0
65-38-915 GARKANE SERVICES	.00	.00	12,000.00	12,000.00	.0
TOTAL REVENUES	2,000.00	12,000.00	1,696,304.00	1,684,304.00	.7
TOTAL FUND REVENUE	2,000.00	12,000.00	1,696,304.00	1,684,304.00	.7

CITY OF HILDALE  
EXPENDITURES WITH COMPARISON TO BUDGET  
FOR THE 6 MONTHS ENDING DECEMBER 31, 2023

Item 3.

JOINT ADMINISTRATION FUND

	PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEXPENDED	PCNT
<u>EXPENDITURES</u>					
65-41-110 SALARIES-PERMANENT EMPLOYEES	48,110.74	245,048.53	757,994.00	512,945.47	32.3
65-41-113 MANAGER	2,524.62	12,623.10	97,388.00	84,764.90	13.0
65-41-114 TREASURER	3,824.46	23,280.34	55,654.00	32,373.66	41.8
65-41-115 RECORDER	2,510.00	12,379.00	37,330.00	24,951.00	33.2
65-41-120 SALARIES-TEMPORARY EMPLOYEES	3,148.71	17,494.42	103,024.00	85,529.58	17.0
65-41-130 PAYROLL TAXES	4,098.55	21,055.97	81,600.00	60,544.03	25.8
65-41-140 BENEFITS-OTHER	8,516.67	47,057.37	123,900.00	76,842.63	38.0
65-41-144 PRINT AND POSTAGE	109.75	5,189.47	20,000.00	14,810.53	26.0
65-41-145 AUDITOR	7,033.25	31,466.75	20,000.00	( 11,466.75)	157.3
65-41-150 STIPENDS - UTILITY BOARD	300.00	1,400.00	3,000.00	1,600.00	46.7
65-41-160 MERCHANT PROCESSING	.00	.00	1,000.00	1,000.00	.0
65-41-210 BOOKS, SUBSCR, & MEMBERSHIPS	351.50	1,896.81	4,200.00	2,303.19	45.2
65-41-230 TRAVEL	.00	1,090.41	3,000.00	1,909.59	36.4
65-41-235 FOOD & REFRESHMENT	.00	1,625.41	3,000.00	1,374.59	54.2
65-41-240 OFFICE EXPENSE & SUPPLIES	.00	557.07	3,000.00	2,442.93	18.6
65-41-242 SERVICE FEES	546.25	3,033.85	1,000.00	( 2,033.85)	303.4
65-41-250 EQUIPMENT SUPPLIES & MAINT	18,319.76	29,706.36	13,500.00	( 16,206.36)	220.1
65-41-257 FUEL	2,896.47	14,519.70	39,700.00	25,180.30	36.6
65-41-260 TOOLS & EQUIPMENT-NON CAPITAL	1,056.52	7,764.06	10,000.00	2,235.94	77.6
65-41-271 MAINT & SUPPLY - OFFICE	41.79	2,746.62	5,000.00	2,253.38	54.9
65-41-280 UTILITIES	1,814.10	3,900.69	23,514.00	19,613.31	16.6
65-41-285 POWER	912.28	4,559.47	27,000.00	22,440.53	16.9
65-41-287 TELEPHONE	1,321.33	6,202.07	12,000.00	5,797.93	51.7
65-41-310 PROFESSIONAL & TECHNICAL	5,653.37	33,931.33	40,000.00	6,068.67	84.8
65-41-313 AUDITOR	.00	14,070.00	20,000.00	5,930.00	70.4
65-41-315 LEGAL - GENERAL	.00	.00	4,000.00	4,000.00	.0
65-41-317 INFORMATION TECHNOLOGY - CONS	.00	.00	25,000.00	25,000.00	.0
65-41-318 INFORMATION TECHNOLOGY - SOFTW	5,147.37	30,930.12	27,000.00	( 3,930.12)	114.6
65-41-319 INFORMATION TECHNOLOGY - SYSTE	.00	.00	10,000.00	10,000.00	.0
65-41-330 EDUCATION	414.40	414.40	10,000.00	9,585.60	4.1
65-41-510 INSURANCE	598.35	101,097.75	85,500.00	( 15,597.75)	118.2
65-41-521 CREDIT CARD EXPENSE	1,108.74	7,235.41	.00	( 7,235.41)	.0
65-41-580 RENT OR LEASE	2,037.39	4,107.19	10,000.00	5,892.81	41.1
65-41-620 MISC. SERVICES	.00	12,655.76	.00	( 12,655.76)	.0
65-41-720 BUILDINGS	.00	450.00	3,000.00	2,550.00	15.0
65-41-741 EQUIPMENT - OFFICE	.00	485.29	5,000.00	4,514.71	9.7
65-41-850 DEBT SERVICE - VEHICLE & EQUIP	9,461.89	9,461.89	11,000.00	1,538.11	86.0
TOTAL EXPENDITURES	131,858.26	709,436.61	1,696,304.00	986,867.39	41.8
TOTAL FUND EXPENDITURES	131,858.26	709,436.61	1,696,304.00	986,867.39	41.8
NET REVENUE OVER EXPENDITURES	( 129,858.26)	( 697,436.61)	.00	697,436.61	.0

CITY OF HILDALE  
REVENUES WITH COMPARISON TO BUDGET  
FOR THE 6 MONTHS ENDING DECEMBER 31, 2023

Item 3.

WATER FUND

	PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEXPENDED	PCNT
<u>OPERATING REVENUES</u>					
81-37-111 WATER SALES - METERED	17,658.30	215,851.90	495,930.00	280,078.10	43.5
81-37-121 WATER SALES - FLAT RATE	39,251.50	230,590.85	459,870.00	229,279.15	50.1
81-37-160 CONSTRUCTION REVENUE	.00	.00	5,000.00	5,000.00	.0
81-37-331 CONNECTION CHARGES	425.00	19,955.00	40,000.00	20,045.00	49.9
81-37-332 CONSTRUCTION & REPAIR	50.00	525.60	89,600.00	89,074.40	.6
81-37-351 SUNDRY OPERATING REVENUE	.00	.00	20,000.00	20,000.00	.0
81-37-411 INTEREST	4,228.90	24,486.29	22,000.00	( 2,486.29)	111.3
81-37-412 PENALTIES	71.35	21,077.13	60,000.00	38,922.87	35.1
TOTAL OPERATING REVENUES	61,685.05	512,486.77	1,192,400.00	679,913.23	43.0
<u>NON-OPERATING REVENUE</u>					
81-38-102 TRANSFERS FROM R&R RESERVE	.00	.00	150,000.00	150,000.00	.0
81-38-361 LOAN PROCEEDS	.00	.00	460,000.00	460,000.00	.0
81-38-999 CONTINGENCY	.00	.00	400,000.00	400,000.00	.0
TOTAL NON-OPERATING REVENUE	.00	.00	1,010,000.00	1,010,000.00	.0
TOTAL FUND REVENUE	61,685.05	512,486.77	2,202,400.00	1,689,913.23	23.3

CITY OF HILDALE  
EXPENDITURES WITH COMPARISON TO BUDGET  
FOR THE 6 MONTHS ENDING DECEMBER 31, 2023

Item 3.

WATER FUND

	PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEXPENDED	PCNT
<u>OPERATING EXPENDITURES</u>					
81-41-210 BOOKS, SUBSCR, & MEMBERSHIPS	.00	.00	3,000.00	3,000.00	.0
81-41-230 TRAVEL	.00	.00	5,000.00	5,000.00	.0
81-41-235 FOOD & REFRESHMENT	.00	.00	1,000.00	1,000.00	.0
81-41-250 EQUIPMENT SUPPLIES & MAINT	.00	512.10	5,000.00	4,487.90	10.2
81-41-257 FUEL	.00	.00	400.00	400.00	.0
81-41-260 TOOLS & EQUIPMENT-NON CAPITAL	.00	127.28	10,000.00	9,872.72	1.3
81-41-273 MAINT & SUPPLY - SYSTEM	8,113.55	93,282.69	177,700.00	84,417.31	52.5
81-41-285 POWER	6,817.43	69,502.07	20,800.00	( 48,702.07)	334.1
81-41-311 ENGINEER	.00	33,655.00	40,100.00	6,445.00	83.9
81-41-314 LABORATORY & TESTING	1,853.86	3,915.47	12,500.00	8,584.53	31.3
81-41-315 LEGAL - GENERAL	.00	.00	1,300.00	1,300.00	.0
81-41-330 EDUCATION	550.00	1,780.00	3,500.00	1,720.00	50.9
81-41-340 SYSTEM CONSTRUCTION SERVICES	4,471.05	22,357.01	33,830.00	11,472.99	66.1
81-41-341 CONST-CUSTOMER'S INSTALLATION	.00	3,709.13	5,000.00	1,290.87	74.2
81-41-432 SPECIAL DEPT SUPPLIES	14,257.44	19,675.91	23,000.00	3,324.09	85.6
TOTAL OPERATING EXPENDITURES	36,063.33	248,516.66	342,130.00	93,613.34	72.6
<u>NON-OPERATING EXPENDITURES</u>					
81-42-560 BAD DEBT EXPENSE	.00	.00	7,000.00	7,000.00	.0
81-42-730 IMPROVEMENTS OTHER THAN BLDGS	.00	.00	7,000.00	7,000.00	.0
81-42-742 EQUIPMENT - FIELD	.00	.00	1,000.00	1,000.00	.0
81-42-750 SP PROJECTS CAPITAL	173.09	173.09	460,000.00	459,826.91	.0
81-42-780 RESERVE PURCHASES	113,364.00	113,364.00	150,000.00	36,636.00	75.6
81-42-815 PRINC. & INT W.RIGHTS LOAN	.00	.00	61,300.00	61,300.00	.0
81-42-911 TRANSFERS TO JOINT ADMIN FUND	.00	.00	717,270.00	717,270.00	.0
81-42-912 TRANSFERS TO LITIGATION	.00	.00	12,000.00	12,000.00	.0
81-42-914 TRANSFERS TO 2017 JMT RES FUND	.00	.00	8,000.00	8,000.00	.0
81-42-960 TRANSFERS TO RESERVE FUNDS	.00	.00	36,700.00	36,700.00	.0
81-42-999 CONTINGENCY	.00	.00	400,000.00	400,000.00	.0
TOTAL NON-OPERATING EXPENDITURES	113,537.09	113,537.09	1,860,270.00	1,746,732.91	6.1
TOTAL FUND EXPENDITURES	149,600.42	362,053.75	2,202,400.00	1,840,346.25	16.4
NET REVENUE OVER EXPENDITURES	( 87,915.37)	150,433.02	.00	( 150,433.02)	.0

CITY OF HILDALE  
REVENUES WITH COMPARISON TO BUDGET  
FOR THE 6 MONTHS ENDING DECEMBER 31, 2023

Item 3.

WASTEWATER FUND

	PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEXPENDED	PCNT
<u>OPERATING REVENUES</u>					
82-37-160 CONSTRUCTION REVENUE	.00	.00	10,000.00	10,000.00	.0
82-37-311 SERVICE CHARGES	71,049.51	420,976.12	804,470.00	383,493.88	52.3
82-37-312 SERVICE CHARGES - CPMCWID	16,131.04	96,465.92	196,000.00	99,534.08	49.2
82-37-331 CONNECTION CHARGES	.00	.00	11,530.00	11,530.00	.0
82-37-332 SERVICING CUSTOMER INSTALL	150.00	3,515.00	10,000.00	6,485.00	35.2
82-37-411 INTEREST	6,069.08	35,141.33	30,000.00	( 5,141.33)	117.1
82-37-451 IMPACT FEE	.00	21,000.00	600,000.00	579,000.00	3.5
82-37-452 IMPACT FEE - CPMCWID	6,000.00	610,925.00	48,500.00	( 562,425.00)	1259.6
TOTAL OPERATING REVENUES	99,399.63	1,188,023.37	1,710,500.00	522,476.63	69.5
<u>NON-OPERATING REVENUES</u>					
82-38-102 TRANSFERS FROM R&R RESERVE	.00	.00	120,000.00	120,000.00	.0
82-38-361 LOAN PROCEEDS	.00	.00	500,000.00	500,000.00	.0
82-38-440 SUNDRY NON-OPERATING REVENUE	.00	.00	1,000.00	1,000.00	.0
82-38-999 CONTINGENCY	.00	.00	400,000.00	400,000.00	.0
TOTAL NON-OPERATING REVENUES	.00	.00	1,021,000.00	1,021,000.00	.0
TOTAL FUND REVENUE	99,399.63	1,188,023.37	2,731,500.00	1,543,476.63	43.5



CITY OF HILDALE  
EXPENDITURES WITH COMPARISON TO BUDGET  
FOR THE 6 MONTHS ENDING DECEMBER 31, 2023

Item 3.

WASTEWATER FUND

	PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEXPENDED	PCNT
<u>OPERATING EXPENDITURES</u>					
82-41-210 BOOKS, SUBSCR, & MEMBERSHIPS	.00	.00	3,000.00	3,000.00	.0
82-41-230 TRAVEL	.00	77.06	8,400.00	8,322.94	.9
82-41-235 FOOD & REFRESHMENT	.00	.00	600.00	600.00	.0
82-41-250 EQUIPMENT SUPPLIES & MAINT	.00	.00	3,000.00	3,000.00	.0
82-41-257 FUEL	594.41	1,860.04	5,400.00	3,539.96	34.5
82-41-260 TOOLS & EQUIPMENT-NON CAPITAL	.00	.00	3,500.00	3,500.00	.0
82-41-273 MAINTENANCE & SUPPLY - SYSTEM	.00	7,325.18	131,000.00	123,674.82	5.6
82-41-274 MAINT & SUPPLY EQUIPMENT	.00	.00	71,670.00	71,670.00	.0
82-41-285 POWER	6,004.76	35,363.31	38,000.00	2,636.69	93.1
82-41-311 ENGINEER	.00	4,539.25	58,000.00	53,460.75	7.8
82-41-314 LABORATORY & TESTING	.00	.00	3,000.00	3,000.00	.0
82-41-315 LEGAL - GENERAL	.00	.00	2,500.00	2,500.00	.0
82-41-330 EDUCATION	550.00	550.00	5,300.00	4,750.00	10.4
82-41-340 SYSTEM CONSTRUCTION SERVICES	577.86	185,000.04	540,000.00	354,999.96	34.3
82-41-341 CONST-CUSTOMER'S INSTALLATION	.00	.00	10,000.00	10,000.00	.0
TOTAL OPERATING EXPENDITURES	7,727.03	234,714.88	883,370.00	648,655.12	26.6
<u>NON-OPERATING EXPENSES</u>					
82-42-560 BAD DEBT EXPENSE	.00	.00	10,000.00	10,000.00	.0
82-42-710 LAND	.00	.00	100,000.00	100,000.00	.0
82-42-720 BUILDINGS	.00	.00	30,000.00	30,000.00	.0
82-42-742 EQUIPMENT - FIELD	.00	.00	30,000.00	30,000.00	.0
82-42-750 SP PROJECTS CAPITAL	32.14	123,413.66	.00	( 123,413.66)	.0
82-42-780 RESERVE PURCHASES	.00	.00	230,000.00	230,000.00	.0
82-42-812 PRINCIPAL ON BONDS - RDA B	.00	.00	35,000.00	35,000.00	.0
82-42-822 INTEREST ON BONDS - RDA - B	20,163.22	20,163.22	40,000.00	19,836.78	50.4
82-42-911 TRANSFERS TO JOINT ADMIN FUND	.00	.00	925,730.00	925,730.00	.0
82-42-912 TRANSFERS TO LITIGATION	.00	.00	12,000.00	12,000.00	.0
82-42-914 TRANSFERS TO 2017 JMT RES FUND	.00	.00	8,000.00	8,000.00	.0
82-42-960 TRANSFERS TO RESERVE FUNDS	.00	.00	134,400.00	134,400.00	.0
82-42-990 APPROPRIATION FOR FUND BALANCE	.00	.00	130,000.00	130,000.00	.0
82-42-999 CONTINGENCY	.00	.00	163,000.00	163,000.00	.0
TOTAL NON-OPERATING EXPENSES	20,195.36	143,576.88	1,848,130.00	1,704,553.12	7.8
TOTAL FUND EXPENDITURES	27,922.39	378,291.76	2,731,500.00	2,353,208.24	13.9
NET REVENUE OVER EXPENDITURES	71,477.24	809,731.61	.00	( 809,731.61)	.0

CITY OF HILDALE  
REVENUES WITH COMPARISON TO BUDGET  
FOR THE 6 MONTHS ENDING DECEMBER 31, 2023

Item 3.

GAS FUND

		PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEXPENDED	PCNT
<u>OPERATING REVENUES</u>						
84-37-111	GAS SALES - METERED NAT GAS	74,922.80	172,440.59	800,000.00	627,559.41	21.6
84-37-112	GAS SALES - METERED PROPANE	27,021.60	105,090.95	796,069.00	690,978.05	13.2
84-37-113	GAS SALES - CYLINDER	42.32	1,964.06	8,700.00	6,735.94	22.6
84-37-114	GAS SALES - CYLINDER EXCHANGE	154.59	441.83	3,700.00	3,258.17	11.9
84-37-121	NATURAL GAS SALES - FLAT RATE	3,152.10	18,798.07	38,000.00	19,201.93	49.5
84-37-122	PROPANE GAS - FLAT RATE	4,071.23	24,463.83	64,000.00	39,536.17	38.2
84-37-160	CONSTRUCTION REVENUE	( 50.00)	20,510.53	100,000.00	79,489.47	20.5
84-37-331	CONNECTION CHARGES	.00	1,765.00	8,000.00	6,235.00	22.1
84-37-351	SUNDRY OPERATING REVENUE	.00	.00	47,000.00	47,000.00	.0
84-37-411	INTEREST	4,036.04	23,369.54	25,000.00	1,630.46	93.5
84-37-412	PENALTIES	1.21	5,931.60	19,000.00	13,068.40	31.2
	TOTAL OPERATING REVENUES	113,351.89	374,776.00	1,909,469.00	1,534,693.00	19.6
<u>NON-OPERATING REVENUES</u>						
84-38-102	TRANSFERS FROM R&R RESERVE	.00	.00	175,030.00	175,030.00	.0
84-38-316	INTRAGOVERNMENTAL GRANTS	.00	.00	250,000.00	250,000.00	.0
84-38-999	CONTINGENCY	.00	.00	400,000.00	400,000.00	.0
	TOTAL NON-OPERATING REVENUES	.00	.00	825,030.00	825,030.00	.0
	TOTAL FUND REVENUE	113,351.89	374,776.00	2,734,499.00	2,359,723.00	13.7

CITY OF HILDALE  
EXPENDITURES WITH COMPARISON TO BUDGET  
FOR THE 6 MONTHS ENDING DECEMBER 31, 2023

Item 3.

GAS FUND

	PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEXPENDED	PCNT
<u>OPERATING EXPENDITURES</u>					
84-41-140 BENEFITS-OTHER	.00	.00	3,000.00	3,000.00	.0
84-41-210 BOOKS, SUBSCR, & MEMBERSHIPS	.00	837.24	2,000.00	1,162.76	41.9
84-41-230 TRAVEL	.00	.00	5,000.00	5,000.00	.0
84-41-235 FOOD & REFRESHMENT	.00	.00	500.00	500.00	.0
84-41-250 EQUIPMENT SUPPLIES & MAINT	.00	39.98	5,000.00	4,960.02	.8
84-41-257 FUEL	189.73	1,023.96	3,500.00	2,476.04	29.3
84-41-260 TOOLS & EQUIPMENT-NON CAPITAL	.00	.00	8,000.00	8,000.00	.0
84-41-273 MAINT & SUPPLY SYSTEM	2,241.60	30,959.49	64,500.00	33,540.51	48.0
84-41-280 UTILITIES	24.60	89.32	.00	( 89.32)	.0
84-41-285 POWER	99.63	433.44	2,000.00	1,566.56	21.7
84-41-311 ENGINEER	.00	.00	2,000.00	2,000.00	.0
84-41-315 LEGAL - GENERAL	.00	.00	2,000.00	2,000.00	.0
84-41-330 EDUCATION	.00	3,606.90	6,200.00	2,593.10	58.2
84-41-340 SYSTEM CONSTRUCTION SERVICES	.00	11,425.53	13,600.00	2,174.47	84.0
84-41-341 CONST-CUSTOMER'S INSTALLATION	693.68	1,190.01	40,000.00	38,809.99	3.0
84-41-431 NATURAL GAS COMMODITY SUPPLY	37,093.12	61,444.96	561,100.00	499,655.04	11.0
84-41-432 PROPANE GAS COMMODITY SUPPLY	.00	18,057.28	626,500.00	608,442.72	2.9
84-41-434 NAT GAS COMMODITY TRANSPORT	4,585.48	9,924.57	27,700.00	17,775.43	35.8
84-41-510 INSURANCE	2,568.55	15,411.30	.00	( 15,411.30)	.0
84-41-580 RENT OR LEASE	100.00	500.00	4,900.00	4,400.00	10.2
84-41-610 MISC. SUPPLIES	.00	.00	5,000.00	5,000.00	.0
TOTAL OPERATING EXPENDITURES	47,596.39	154,943.98	1,382,500.00	1,227,556.02	11.2
<u>NON-OPERATING EXPENDITURES</u>					
84-42-560 BAD DEBT EXPENSE	.00	.00	6,000.00	6,000.00	.0
84-42-710 LAND	.00	.00	5,000.00	5,000.00	.0
84-42-750 SP PROJECTS CAPITAL	.00	.00	278,700.00	278,700.00	.0
84-42-780 RESERVE PURCHASES	.00	.00	122,000.00	122,000.00	.0
84-42-911 TRANSFERS TO JOINT ADMIN FUND	.00	.00	470,730.00	470,730.00	.0
84-42-912 TRANSFERS TO LITIGATION	.00	.00	12,000.00	12,000.00	.0
84-42-914 TRANSFERS TO 2017 JMT RES FUND	.00	.00	8,000.00	8,000.00	.0
84-42-960 TRANSFERS TO RESERVE FUNDS	.00	.00	105,400.00	105,400.00	.0
84-42-999 CONTINGENCY	.00	.00	344,169.00	344,169.00	.0
TOTAL NON-OPERATING EXPENDITURES	.00	.00	1,351,999.00	1,351,999.00	.0
TOTAL FUND EXPENDITURES	47,596.39	154,943.98	2,734,499.00	2,579,555.02	5.7
NET REVENUE OVER EXPENDITURES	65,755.50	219,832.02	.00	( 219,832.02)	.0

CITY OF HILDALE  
REVENUES WITH COMPARISON TO BUDGET  
FOR THE 6 MONTHS ENDING DECEMBER 31, 2023

Item 3.

90 FUND HILDALE CITY FIBER DEP

		PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEXPENDED	PCNT
	<u>OPERATING REVENUES</u>					
90-37-111	FIBER SALES	462.69	2,776.14	.00	( 2,776.14)	.0
90-37-412	PENALTIES	.00	19.40	.00	( 19.40)	.0
	TOTAL OPERATING REVENUES	462.69	2,795.54	.00	( 2,795.54)	.0
	<u>NON-OPERATING REVENUES</u>					
90-38-999	CONTINGENCY	.00	.00	125,113.00	125,113.00	.0
	TOTAL NON-OPERATING REVENUES	.00	.00	125,113.00	125,113.00	.0
	TOTAL FUND REVENUE	462.69	2,795.54	125,113.00	122,317.46	2.2

CITY OF HILDALE  
EXPENDITURES WITH COMPARISON TO BUDGET  
FOR THE 6 MONTHS ENDING DECEMBER 31, 2023

Item 3.

90 FUND HILDALE CITY FIBER DEP

	PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEXPENDED	PCNT
<u>OPERATING EXPENDITURES</u>					
90-41-580 RENT OR LEASE	100.00	600.00	.00	( 600.00)	.0
TOTAL OPERATING EXPENDITURES	100.00	600.00	.00	( 600.00)	.0
<u>NON-OPERATING EXPENDITURES</u>					
90-42-999 CONTINGENCY	.00	.00	125,113.00	125,113.00	.0
TOTAL NON-OPERATING EXPENDITURES	.00	.00	125,113.00	125,113.00	.0
TOTAL FUND EXPENDITURES	100.00	600.00	125,113.00	124,513.00	.5
NET REVENUE OVER EXPENDITURES	362.69	2,195.54	.00	( 2,195.54)	.0

Invoice	Description	Invoice Date	Due Date	Total Cost	Period	GL Activity	GL Account
CASELLE, INC. (1430)							
128964	CONTRACT FOR JANUARY 24 - 90% UTILITIES - SPLIT DISTRIBUTION	12/01/2023	12/31/2023	1,167.30	12/23	0	65-41-318
Total CASELLE, INC. (1430):				1,167.30			
CATALYST CONSTRUCTION (5712)							
151	Fiber Server Office Rent	12/01/2023	12/30/2023	100.00	12/23	0	90-41-580
Total CATALYST CONSTRUCTION (5712):				100.00			
CHEMTECH-FORD LABORATORIES, INC. (1481)							
23L0468	Water quality testing	12/11/2023	01/10/2024	51.00	12/23	0	81-41-314
23L1405	Water Tests	12/22/2023	01/21/2024	51.00	12/23	0	81-41-314
Total CHEMTECH-FORD LABORATORIES, INC. (1481):				102.00			
CLUFF DRILLING & PUMP (1521)							
1353(2)	well 17 replacement	11/22/2023	12/22/2023	113,364.00	12/23	0	81-42-780
Total CLUFF DRILLING & PUMP (1521):				113,364.00			
CUSTOMER DEPOSIT (5518)							
6830006 112	6830006 CUSTOMER DEPOSIT REFUND	11/28/2023	12/30/2023	401.33	12/23	0	81-21350
3026011 120	3026011 CUSTOMER DEPOSIT REFUND	12/05/2023	12/30/2023	719.21	12/23	0	81-21350
3210200 120	3210200 CUSTOMER DEPOSIT REFUND	12/05/2023	12/30/2023	143.93	12/23	0	81-21350
3395005 112	3395005 CUSTOMER DEPOSIT REFUND	11/28/2023	12/30/2023	89.40	12/23	0	81-21350
3432007 112	3432007 CUSTOMER DEPOSIT REFUND	11/28/2023	12/30/2023	191.80	12/23	0	81-21350
3484705 112	3484705 CUSTOMER DEPOSIT REFUND	11/28/2023	12/30/2023	93.80	12/23	0	81-21350
6017003 112	6017003 CUSTOMER DEPOSIT REFUND	11/27/2023	12/30/2023	102.11	12/23	0	81-21350
6796002 112	6796002 CUSTOMER DEPOSIT REFUND	11/27/2023	12/30/2023	148.80	12/23	0	81-21350
6449815 121	6449815 CUSTOMER DEPOSIT REFUND	12/18/2023	12/30/2023	409.39	12/23	0	81-21350
3012101 121	3012101 CUSTOMER DEPOSIT REFUND	12/19/2023	12/30/2023	11.63	12/23	0	81-21350
3271127 121	3271127 CUSTOMER DEPOSIT REFUND	12/18/2023	12/30/2023	55.15	12/23	0	81-21350
6326500 122	6326500 CUSTOMER DEPOSIT REFUND	12/20/2023	12/30/2023	45.56	12/23	0	81-21350
6459909 121	6459909 CUSTOMER DEPOSIT REFUND	12/18/2023	12/30/2023	700.00	12/23	0	81-21350
Total CUSTOMER DEPOSIT (5518):				3,112.11			
DJB GAS SERVICES, INC. (4750)							
01472889	TORCH TANK RENTAL	11/30/2023	12/30/2023	29.14	12/23	0	65-41-260
Total DJB GAS SERVICES, INC. (4750):				29.14			
DOMINION ENERGY (5607)							
5948550000	NATURAL GAS TRANSPORT	12/05/2023	12/31/2023	4,585.48	12/23	0	84-41-434
Total DOMINION ENERGY (5607):				4,585.48			
EXECUTECH UTAH, INC. (5553)							
30746	OFFICE 365 G3 GCC (GOVERNMENT) 70% SPLIT	11/30/2023	12/30/2023	661.35	12/23	0	65-41-318
30785	IT MANAGEMENT SERVICES 70% SPLIT	12/01/2023	12/30/2023	2,625.00	12/23	0	65-41-318
Total EXECUTECH UTAH, INC. (5553):				3,286.35			
GARKANE ENERGY (5057)							
1709902 122	POWER PLANT WELL	12/14/2023	12/30/2023	41.77	12/23	0	81-41-285
1717500 122	Centennial Park Lift Station	12/21/2023	12/30/2023	967.74	12/23	0	82-41-285
1734500 122	East Water Tanks	12/21/2023	12/30/2023	62.52	12/23	0	81-41-285

Invoice	Description	Invoice Date	Due Date	Total Cost	Period	GL Activity	GL Account
1763000 122	Sprinkler Pump Station	12/14/2023	12/30/2023	909.82	12/23	0	82-41-285
1763900 122	Sewer headworks power	12/14/2023	12/30/2023	4,127.20	12/23	0	82-41-285
1768100 122	Well #8 POWER	12/21/2023	12/30/2023	93.36	12/23	0	81-41-285
1772300 122	Well #10 POWER	12/21/2023	12/30/2023	54.68	12/23	0	81-41-285
1772400 122	Well #4 POWER	12/21/2023	12/30/2023	258.54	12/23	0	81-41-285
1772500 122	CITY HALL POWER 67% ADMIN	12/14/2023	12/30/2023	256.07	12/23	0	65-41-285
1775500 122	WATER PLANT POWER	12/21/2023	12/30/2023	2,040.89	12/23	0	81-41-285
1780600 122	Well #19 POWER	12/21/2023	12/30/2023	36.94	12/23	0	81-41-285
1781000 122	Well #17 POWER	12/21/2023	12/30/2023	33.18	12/23	0	81-41-285
1782300 122	LAB SHOP POWER	12/14/2023	12/30/2023	656.21	12/23	0	65-41-285
1782501 122	Well #22	12/14/2023	12/30/2023	852.83	12/23	0	81-41-285
1787300 122	PROPANE YARD	12/14/2023	12/30/2023	77.52	12/23	0	84-41-285
1793900 122	MILLION GALLON TANK	12/14/2023	12/30/2023	40.58	12/23	0	81-41-285
1945500 122	ACADEMY AVE WELL	12/21/2023	12/30/2023	535.01	12/23	0	81-41-285
2026700 122	Well #21 POWER	12/21/2023	12/30/2023	2,767.13	12/23	0	81-41-285
Total GARKANE ENERGY (5057):				13,811.99			
<b>HILDALE CITY (2160)</b>							
NAT 1023	NATURAL GAS ENERGY AND USE TAX OCTOBER 2023	10/31/2023	11/15/2023	996.39	12/23	0	84-21376
NAT 1123	NATURAL GAS ENERGY AND USE TAX	12/08/2023	12/23/2023	2,075.80	12/23	0	84-21376
Total HILDALE CITY (2160):				3,072.19			
<b>HILDALE CITY UTILITIES (2170)</b>							
3180001-112	Lab Shop Utilities	12/08/2023	12/23/2023	1,577.92	12/23	0	65-41-280
6077001-112	CITY HALL UTILITIES - 67% Utilities - Split Distribution	12/08/2023	12/23/2023	236.18	12/23	0	65-41-280
6428701-112	Propane Yard Lease	12/08/2023	12/23/2023	100.00	12/23	0	84-41-580
7011201-112	Propane VAPORIZER GAS SERVICE	12/08/2023	12/23/2023	24.60	12/23	0	84-41-280
Total HILDALE CITY UTILITIES (2170):				1,938.70			
<b>HOLIDAY RESORT MANAGEMENT, PC (5930)</b>							
12012023	APARTMENT RENT	12/01/2023	01/31/2024	1,002.49	12/23	0	65-41-580
Total HOLIDAY RESORT MANAGEMENT, PC (5930):				1,002.49			
<b>HOME DEPOT (2220)</b>							
1522237	BATHROOM VANITY FOR SEWER HEADWORKS BUILDING SPLIT	11/30/2023	12/30/2023	403.88	12/23	0	82-41-340
1522237	BATHROOM VANITY FOR SEWER HEADWORKS BUILDING SPLIT	11/30/2023	12/30/2023	173.09	12/23	0	81-42-750
3514568	GARDEN HOSE FOR WATER DEPT.	10/26/2023	11/25/2023	170.76	12/23	0	81-41-273
3624290	PRESSURE WASHER & BATTERIES FOR TRANSFER PUMP FOR WATER DEPT.	10/26/2023	11/25/2023	1,288.47	12/23	0	81-41-273
6024245	WATER SYSTEM MAINTENANCE	11/22/2023	12/22/2023	608.94	12/23	0	81-41-273
Total HOME DEPOT (2220):				2,645.14			
<b>HYDRO SPECIALTIES CO. (5201)</b>							
27627	READER REPAIRS AND RENTAL CHARGE	11/27/2023	12/31/2023	769.00	12/23	0	81-41-340
27648	3/4" Water Meters	11/30/2023	12/31/2023	2,122.24	12/23	0	81-41-340
Total HYDRO SPECIALTIES CO. (5201):				2,891.24			
<b>INKBOX Z (5530)</b>							
131	2023 CALENDAR ADS UTILITIES	12/12/2023	12/30/2023	300.00	12/23	0	65-41-210

Invoice	Description	Invoice Date	Due Date	Total Cost	Period	GL Activity	GL Account
Total INKBOX Z (5530):				300.00			
<b>JERALD A POSTEMA (5894)</b>							
1043-23	UTILITIES DIRECTOR CONTRACT FOR NOVEMBER 2023	12/10/2023	12/31/2023	5,000.00	12/23	0	65-41-310
1043-23	FOOD AND MEALS REIMBURSEMENT	12/10/2023	12/31/2023	72.82	12/23	0	65-41-310
1043-23	TRAVEL	12/10/2023	12/31/2023	551.25	12/23	0	65-41-310
Total JERALD A POSTEMA (5894):				5,624.07			
<b>JONES PAINT &amp; GLASS (2470)</b>							
SGCMI00067	DOOR PARTS - SEWER HEADWORKS BUILDING	10/16/2023	11/15/2023	99.00	12/23	0	82-41-340
SGGI101177	garage door for sewer headworks building	09/22/2023	10/22/2023	1,579.81	12/23	0	81-41-340
Total JONES PAINT & GLASS (2470):				1,678.81			
<b>LES OLSON COMPANY (2671)</b>							
EA1351890	MAINTENANCE CONTRACT - 75% UTILITIES	12/12/2023	01/11/2024	109.75	12/23	0	65-41-144
Total LES OLSON COMPANY (2671):				109.75			
<b>NEWBY BUICK (4613)</b>							
5039435 1 W	SHIFTER FOR TRUCK	11/28/2023	12/30/2023	104.37	12/23	0	65-41-250
Total NEWBY BUICK (4613):				104.37			
<b>NGL SUPPLY CO. LTD (5605)</b>							
NGL507701	Propane tanker loads 2	12/19/2023	12/30/2023	14,257.44	12/23	0	81-41-432
Total NGL SUPPLY CO. LTD (5605):				14,257.44			
<b>PINNACLE GAS PRODUCTS (5471)</b>							
161501	gas meter plugs	11/28/2023	12/30/2023	257.40	12/23	0	84-41-273
161501		11/28/2023	12/30/2023	30.77	12/23	0	84-41-273
162221	parts for customer instalation	12/14/2023	12/30/2023	609.80	12/23	0	84-41-341
162460	parts for customer instalation	12/21/2023	12/30/2023	83.88	12/23	0	84-41-341
Total PINNACLE GAS PRODUCTS (5471):				981.85			
<b>PREFERRED PARTS (4694)</b>							
15048-14818	SERVICE FOR TOYOTA SIENNA 2022	11/16/2023	12/30/2023	32.99	12/23	0	65-41-250
15048-14797	HEADLIGHT TRUCK 3151	11/13/2023	12/30/2023	15.63	12/23	0	65-41-250
15048-14860	SERVICE FOR PROPANE TRUCK	11/21/2023	12/30/2023	249.66	12/23	0	65-41-250
15048-14923	SCISSOR LIFT BATTERIES	12/01/2023	12/30/2023	624.04	12/23	0	65-41-250
15048-14994	Carb Cleaner and Starting fluid	12/11/2023	12/30/2023	139.56	12/23	0	84-41-273
15048-15014	55 gallon 15/40 oil	12/14/2023	12/30/2023	835.10	12/23	0	65-41-250
15048-15014	55 gallon 15/40 oil - RETURNED	12/14/2023	12/30/2023	835.10	12/23	0	65-41-250
15048-15015	55 gallon 15/40 oil	12/14/2023	12/30/2023	785.98	12/23	0	65-41-250
15048-15028	Filters & Oil for Propane Truck	12/15/2023	12/30/2023	295.31	12/23	0	65-41-250
Total PREFERRED PARTS (4694):				2,143.17			
<b>PUBLIC MANAGEMENT PARTNERS (5745)</b>							
11-2023	COURT MONITOR FEES FOR NOVEMBER 2023	12/09/2023	12/31/2023	1,088.50	12/23	0	63-41-310
Total PUBLIC MANAGEMENT PARTNERS (5745):				1,088.50			



Invoice	Description	Invoice Date	Due Date	Total Cost	Period	GL Activity	GL Account
<b>Remedy Excavating (5681)</b>							
3575	STREET REPAIR FOR NATURAL GAS GATE METER	10/07/2023	12/30/2023	2,252.50	12/23	0	81-41-273
Total Remedy Excavating (5681):				2,252.50			
<b>ROCKY MOUNTAIN POWER (4202)</b>							
68511976-00	MONTHLY POWER	11/22/2023	12/22/2023	11.07	12/23	0	84-41-285
68511976-00	MONTHLY POWER	12/26/2023	01/25/2024	11.04	12/23	0	84-41-285
Total ROCKY MOUNTAIN POWER (4202):				22.11			
<b>SCHOLZEN PRODUCTS COMPANY, INC. (3450)</b>							
6786879-00	WATER TREATMENT PLANT GASKETS	11/15/2023	12/15/2023	80.50	12/23	0	81-41-273
6790091-00	Hydrant collision repair kit and parts	11/30/2023	12/30/2023	655.06	12/23	0	81-41-273
6790448-00	FIRE HYDRANT REPAIR	12/04/2023	01/03/2024	540.52	12/23	0	81-41-273
1027899-00	Chlorine Cylinders	12/13/2023	01/12/2024	2,233.00	12/23	0	81-41-273
3045197-00	CYLINDER MONTHLY RENTAL	12/18/2023	01/17/2024	124.80	12/23	0	81-41-273
Total SCHOLZEN PRODUCTS COMPANY, INC. (3450):				3,633.88			
<b>SOUTH CENTRAL COMMUNICATIONS (3560)</b>							
8297800 - 12	CITY HALL PHONES & FAX LINES - 67% UTILITIES - Split Distribution	12/01/2023	12/16/2023	645.45	12/23	0	65-41-287
8297800 - 12	APPLY CREDIT	12/01/2023	12/16/2023	645.45-	12/23	0	65-41-287
8297800 112	CITY HALL PHONES & FAX LINES - 67% UTILITIES - Split Distribution	11/01/2023	11/16/2023	660.25	12/23	0	65-41-287
Total SOUTH CENTRAL COMMUNICATIONS (3560):				660.25			
<b>STATE BANK OF SOUTHERN UTAH (5793)</b>							
11152023	SEWER REVENUE BOND, SERIES 2021	11/15/2023	12/30/2023	20,163.25	12/23	0	82-42-822
Total STATE BANK OF SOUTHERN UTAH (5793):				20,163.25			
<b>STEPHEN WADE AUTO CENTER (3692)</b>							
5566745	DOOR LATCH FOR UTILITY TRUCK 3141	11/30/2023	12/30/2023	180.58	12/23	0	65-41-250
Total STEPHEN WADE AUTO CENTER (3692):				180.58			
<b>SUMMIT ENERGY, LLC (4605)</b>							
1123HILD	Natural Gas Commodity	12/03/2023	01/02/2024	37,093.12	12/23	0	84-41-431
Total SUMMIT ENERGY, LLC (4605):				37,093.12			
<b>SUU WATERLAB (5854)</b>							
WL-0650	WATER TESTING	12/21/2022	12/30/2023	140.00	12/23	0	81-41-314
WL-1186	WATER TESTING	05/31/2023	12/30/2023	154.00	12/23	0	81-41-314
WL-1192	WATER TESTING	06/02/2023	12/30/2023	120.00	12/23	0	81-41-314
WL-1216	WATER TESTING	06/12/2023	12/30/2023	78.00	12/23	0	81-41-314
WL-1312	WATER TESTING	07/12/2023	12/30/2023	176.00	12/23	0	81-41-314
WL-1423	WATER TESTING	08/02/2023	12/30/2023	154.00	12/23	0	81-41-314
WL-1436	WATER TESTING	08/02/2023	12/30/2023	78.00	12/23	0	81-41-314
WL-1499	WATER TESTING	08/15/2023	12/30/2023	235.86	12/23	0	81-41-314
WL-1547	WATER TESTING	08/29/2023	12/30/2023	154.00	12/23	0	81-41-314
WL-1648	WATER TESTING	09/26/2023	12/30/2023	154.00	12/23	0	81-41-314
WL-1785	WATER TESTING	11/08/2023	12/30/2023	154.00	12/23	0	81-41-314
WL-1884	WATER TESTING	12/11/2023	12/30/2023	154.00	12/23	0	81-41-314

Invoice	Description	Invoice Date	Due Date	Total Cost	Period	GL Activity	GL Account
Total SUU WATERLAB (5854):				1,751.86			
THATCHER COMPANY, INC. (4646)							
20231001134	CHLOTINE FOR TANK DISINFECTION	05/31/2023	12/30/2023	159.00	12/23	0	81-41-273
Total THATCHER COMPANY, INC. (4646):				159.00			
THE BANCORP BANK, N.A. (5873)							
622121	ANNUAL LEASE RENTAL SILVERADO	12/10/2023	12/30/2023	9,461.89	12/23	0	65-41-850
Total THE BANCORP BANK, N.A. (5873):				9,461.89			
TOWN OF COLORADO CITY (3930)							
10533	DOJ COURT COST SHARING - KEITH	12/01/2023	12/16/2023	2,082.30	12/23	0	63-41-310
10552	LIABILITY & AUTO INSURANCE	12/01/2023	12/16/2023	2,297.65	12/23	0	84-41-510
10552	RISK MANAGEMENT FUND	12/01/2023	12/16/2023	598.35	12/23	0	65-41-510
10552	TUITION REIMBURSEMENT FUND	12/01/2023	12/16/2023	239.34	12/23	0	65-41-140
10552	PROPANE LIABILITY	12/01/2023	12/16/2023	270.90	12/23	0	84-41-510
10556	DIESEL - PROPANE TRUCK	12/06/2023	12/21/2023	189.73	12/23	0	84-41-257
10556	DIESEL - VAC TRUCK	12/06/2023	12/21/2023	594.41	12/23	0	82-41-257
10556	FUEL - PUBLIC WORKS - UTILITIES	12/06/2023	12/21/2023	2,811.12	12/23	0	65-41-257
10556	ADMIN FEE - UTILITIES	12/06/2023	12/21/2023	85.35	12/23	0	65-41-257
10561	DOJ COST SHARING - CARTER	12/14/2023	12/29/2023	179.67	12/23	0	63-41-310
PROST 1123	AZ SALES TAX PROPANE	11/30/2023	12/15/2023	2,569.84	12/23	0	84-21371
WAT 1123	AZ SALES TAX WATER	11/30/2023	12/15/2023	1,009.62	12/23	0	81-21371
10565	JUF PAYROLL 12.08.23	12/18/2023	01/02/2024	20,864.24	12/23	0	65-41-110
10565	JUF CITY MANAGER 12.08.23	12/18/2023	01/02/2024	1,262.31	12/23	0	65-41-113
10565	JUF CITY RECORDER 12.08.23	12/18/2023	01/02/2024	1,255.00	12/23	0	65-41-115
10565	JUF CITY TREASURER 12.08.23	12/18/2023	01/02/2024	1,912.23	12/23	0	65-41-114
10565	JUF TEMP EMPLOYEE 12.08.23	12/18/2023	01/02/2024	1,599.21	12/23	0	65-41-120
10565	JUF PAYROLL TAXES	12/18/2023	01/02/2024	1,794.04	12/23	0	65-41-130
10565	JUF BENEFITS	12/18/2023	01/02/2024	1,398.62	12/23	0	65-41-140
10565	ADMIN FEES FOR UTILITIES	12/18/2023	01/02/2024	235.78	12/23	0	65-41-242
10572	JUF PAYROLL 12.22.23	12/28/2023	01/12/2024	27,246.50	12/23	0	65-41-110
10572	JUF CITY MANAGER	12/28/2023	01/12/2024	1,262.31	12/23	0	65-41-113
10572	JUF CITY RECORDER	12/28/2023	01/12/2024	1,255.00	12/23	0	65-41-115
10572	JUF CITY TREASURER	12/28/2023	01/12/2024	1,912.23	12/23	0	65-41-114
10572	JUF TEMP EMPLOYEE	12/28/2023	01/12/2024	1,549.50	12/23	0	65-41-120
10572	JUF PAYROLL TAXES	12/28/2023	01/12/2024	2,281.56	12/23	0	65-41-130
10572	JUF BENEFITS	12/28/2023	01/12/2024	6,878.71	12/23	0	65-41-140
10572	ADMIN FEES FOR UTILITIES	12/28/2023	01/12/2024	310.47	12/23	0	65-41-242
Total TOWN OF COLORADO CITY (3930):				85,945.99			
TRI-PACIFIC SUPPLY, INC (4652)							
0171834-IN	Maintenance Kits for Natural Gas Yard	11/22/2023	12/22/2023	1,268.37	12/23	0	84-41-273
Total TRI-PACIFIC SUPPLY, INC (4652):				1,268.37			
ULINE (1021)							
171903873	First aid Kits and tarps	12/08/2023	01/07/2024	545.50	12/23	0	84-41-273
Total ULINE (1021):				545.50			
UNIFIRST CORPORATION (4055)							
2310014145	LAUNDRY	12/04/2023	01/03/2024	171.82	12/23	0	65-41-260
2310014669	LAUNDRY	12/11/2023	01/10/2024	171.82	12/23	0	65-41-260

Invoice	Description	Invoice Date	Due Date	Total Cost	Period	GL Activity	GL Account
2310015177	LAUNDRY	12/18/2023	01/17/2024	171.82	12/23	0	65-41-260
2310015673	LAUNDRY	12/25/2023	01/24/2024	171.82	12/23	0	65-41-260
Total UNIFIRST CORPORATION (4055):				687.28			
<b>UTAH STATE TAX COMMISSION (4221)</b>							
STC 1023	SALES AND USE TAX OCTOBER 2023	10/31/2023	11/30/2023	664.42	12/23	0	84-21375
STC 1123	SALES AND USE TAX NOVEMBER 2023	11/30/2023	12/30/2023	1,373.32	12/23	0	84-21375
Total UTAH STATE TAX COMMISSION (4221):				2,037.74			
<b>VALCOM SALT LAKE CITY, LC (5906)</b>							
IN126815	COUNCIL CHAMBERS AV UPGRADE - COMPLETION	11/09/2023	12/30/2023	10,733.30	12/23	0	65-41-250
Total VALCOM SALT LAKE CITY, LC (5906):				10,733.30			
<b>VERIZON WIRELESS (4620)</b>							
9949321909-	WIRELESS SERVICE - UTILITIES 43% OCTOBER 15 - NOVEMBER 14	12/04/2023	01/03/2024	330.54	12/23	0	65-41-287
9949321909	WIRELESS SERVICE - UTILITIES 43% OCTOBER 15 - NOVEMBER 14	12/06/2023	01/05/2024	330.54	12/23	0	65-41-287
Total VERIZON WIRELESS (4620):				661.08			
<b>VIEWPOINT FINANCIAL SERVICES, LLC (5875)</b>							
2023-10HD	FINANCIAL CONSULTING SERVICES - OCTOBER 2023 70% SPLIT	11/30/2023	12/30/2023	7,033.25	12/23	0	65-41-145
Total VIEWPOINT FINANCIAL SERVICES, LLC (5875):				7,033.25			
<b>WHEELER MACHINERY CO. (4441)</b>							
PS00157830	Tracks for the Cat Skid steer	09/22/2023	10/22/2023	5,297.90	12/23	0	65-41-250
Total WHEELER MACHINERY CO. (4441):				5,297.90			
<b>XPRESS BILL PAY (5646)</b>							
INV-XP006	Bill Pay Transactions and Account Maintenance	11/30/2023	12/30/2023	693.72	12/23	0	65-41-318
Total XPRESS BILL PAY (5646):				693.72			
Grand Totals:				367,678.66			

## Report GL Period Summary

Vendor number hash: 0  
Vendor number hash - split: 0  
Total number of invoices: 0  
Total number of transactions: 0

CITY OF HILDALE  
COMBINED CASH INVESTMENT  
DECEMBER 31, 2023

Item 4.

COMBINED CASH ACCOUNTS

CASH ALLOCATION RECONCILIATION

63	ALLOCATION TO 2017 JUDGMENT RESOLUTION FUND	(	22,392.63)
65	ALLOCATION TO JOINT ADMINISTRATION FUND	(	739,686.57)
81	ALLOCATION TO WATER FUND		1,064,979.94
82	ALLOCATION TO WASTEWATER FUND		2,424,394.46
84	ALLOCATION TO GAS FUND		813,858.40
89	ALLOCATION TO 89 FUND COLO CITY FIBER DEPT		2,354.12
90	ALLOCATION TO 90 FUND HILDALE CITY FIBER DEP		75,616.15
TOTAL ALLOCATIONS TO OTHER FUNDS			3,619,123.87
ZERO PROOF IF ALLOCATIONS BALANCE			3,619,123.87

CITY OF HILDALE  
BALANCE SHEET  
DECEMBER 31, 2023

Item 4.

2017 JUDGMENT RESOLUTION FUND

ASSETS

63-11900	CASH - COMBINED FUND	(	22,392.63)	
	TOTAL ASSETS		(	22,392.63)

LIABILITIES AND EQUITY

FUND EQUITY

UNAPPROPRIATED FUND BALANCE:				
REVENUE OVER EXPENDITURES - YTD	(	22,392.63)		
BALANCE - CURRENT DATE	(	22,392.63)		
TOTAL FUND EQUITY			(	22,392.63)
TOTAL LIABILITIES AND EQUITY			(	22,392.63)

CITY OF HILDALE  
BALANCE SHEET  
DECEMBER 31, 2023

Item 4.

JOINT ADMINISTRATION FUND

ASSETS

65-11900	CASH - COMBINED FUND	(	739,686.57)	
65-16210	BUILDINGS		456,805.76	
65-16510	MACHINERY AND EQUIPMENT		198,291.00	
65-16610	AUTOMOBILE AND TRUCKS		27,123.35	
65-17500	ACCUMULATED DEPRECIATION	(	265,833.98)	
TOTAL ASSETS			(	323,300.44)

LIABILITIES AND EQUITY

LIABILITIES

65-24210	DUE TO OTHER FUNDS		371,459.46	
TOTAL LIABILITIES				371,459.46

FUND EQUITY

UNAPPROPRIATED FUND BALANCE:

65-29800	BALANCE - BEGINNING OF YEAR	(	27,074.16)	
65-29811	RESERVE FUND - R&R		27,074.16	
	REVENUE OVER EXPENDITURES - YTD	(	694,759.90)	
BALANCE - CURRENT DATE			(	694,759.90)
TOTAL FUND EQUITY			(	694,759.90)
TOTAL LIABILITIES AND EQUITY			(	323,300.44)

CITY OF HILDALE  
BALANCE SHEET  
DECEMBER 31, 2023

Item 4.

WATER FUND

ASSETS

81-11900	CASH - COMBINED FUND	1,064,979.94	
81-13111	ACCOUNTS RECEIVABLE	79,449.65	
81-13135	WATER CONTRACTS A/R	4,121.88	
81-13136	ALLOWANCE FOR DOUBTFUL ACCOUNT	( 4,702.92)	
81-16110	LAND	82,248.36	
81-16115	WATER RIGHTS	463,333.00	
81-16510	MACHINERY AND EQUIPMENT	234,361.97	
81-16610	AUTOMOBILE AND TRUCKS	74,134.27	
81-17112	DISTRIBUTION SYSTEM	2,865,850.23	
81-17500	ACCUMULATED DEPRECIATION	( 1,626,791.51)	
	TOTAL ASSETS		3,236,984.87

LIABILITIES AND EQUITY

LIABILITIES

81-21315	ACCRUED LIABILITIES - OTHER	60,000.00	
81-21350	CUSTOMER DEPOSITS	218,452.03	
81-21371	AZ SALES TAX PAYABLE	24.67	
81-21375	SALES & USE TAX PAYABLE - UT	( 25.37)	
81-21500	COMPENSATED ABSENCES	6,844.75	
81-24210	DUE TO OTHER FUNDS	112,883.35	
	TOTAL LIABILITIES		398,179.43

FUND EQUITY

	UNAPPROPRIATED FUND BALANCE:		
81-29800	BALANCE - BEGINNING OF YEAR	2,286,790.01	
81-29811	RESERVE FUND - R&R	471,405.46	
	REVENUE OVER EXPENDITURES - YTD	80,609.97	
	BALANCE - CURRENT DATE	2,838,805.44	
	TOTAL FUND EQUITY		2,838,805.44
	TOTAL LIABILITIES AND EQUITY		3,236,984.87

CITY OF HILDALE  
BALANCE SHEET  
DECEMBER 31, 2023

Item 4.

WASTEWATER FUND

ASSETS

82-11900	CASH - COMBINED FUND	2,424,394.46	
82-13111	ACCOUNTS RECEIVABLE	115,399.81	
82-13135	WASTEWATER CONTRACTS A/R	4,878.32	
82-13136	ALLOWANCE FOR DOUBTFUL ACCOUNT	( 4,449.75)	
82-16110	LAND	364,661.06	
82-16210	BUILDINGS	1,051,028.36	
82-16310	IMPROVEMENTS OTHER THAN BUILDI	1,579,333.85	
82-16510	MACHINERY AND EQUIPMENT	135,717.68	
82-16610	AUTOMOBILE AND TRUCKS	778,996.57	
82-16710	SEWER TREATMENT PLANT	5,332,879.74	
82-16750	CONSTRUCTION IN PROGRESS	22,046.00	
82-17500	ACCUMULATED DEPRECIATION	( 5,972,402.15)	
	TOTAL ASSETS		5,832,483.95

LIABILITIES AND EQUITY

LIABILITIES

82-21500	COMPENSATED ABSENCES	8,605.14	
82-22515	CURRENT PORTION LTD	108,000.00	
82-25150	BONDS PAYABLE 2021 REFUNDING	1,488,000.00	
82-25590	CURRENT PORTION OF LTD-OFFSET	( 108,000.00)	
	TOTAL LIABILITIES		1,496,605.14

FUND EQUITY

	UNAPPROPRIATED FUND BALANCE:		
82-29800	BALANCE - BEGINNING OF YEAR	2,768,468.97	
82-29811	RESERVE FUND - R&R	224,454.19	
82-29812	IMPACT FEES - RESTRICTED	644,435.10	
	REVENUE OVER EXPENDITURES - YTD	698,520.55	
	BALANCE - CURRENT DATE	4,335,878.81	
	TOTAL FUND EQUITY		4,335,878.81
	TOTAL LIABILITIES AND EQUITY		5,832,483.95



CITY OF HILDALE  
BALANCE SHEET  
DECEMBER 31, 2023

Item 4.

GAS FUND

ASSETS

84-11900	CASH - COMBINED FUND	813,858.40	
84-13111	ACCOUNTS RECEIVABLE	110,714.70	
84-13135	GAS CONTRACTS A/R	5,909.29	
84-13136	ALLOWANCE FOR DOUBTFUL ACCOUNT	( 10,949.83)	
84-13305	DUE FROM OTHER FUNDS (LOAN)	112,883.35	
84-15100	INVENTORY	5,021.00	
84-15611	DEPOSITS	30,804.07	
84-16510	MACHINERY AND EQUIPMENT	442,682.39	
84-16610	AUTOMOBILE AND TRUCKS	450,093.04	
84-16750	CONSTRUCTION IN PROGRESS	6,388.90	
84-17112	DISTRIBUTION SYSTEM	2,076,379.72	
84-17500	ACCUMULATED DEPRECIATION	( 1,724,483.70)	
	TOTAL ASSETS		2,319,301.33

LIABILITIES AND EQUITY

LIABILITIES

84-21371	AZ SALES TAX PAYABLE	( 17.09)	
84-21375	SALES & USE TAX PAYABLE - UT	1,527.76	
84-21376	ENERGY & USE TAX PAYABLE - HIL	( 195.37)	
84-21500	COMPENSATED ABSENCES	2,605.38	
	TOTAL LIABILITIES		3,920.68

FUND EQUITY

	UNAPPROPRIATED FUND BALANCE:		
84-29800	BALANCE - BEGINNING OF YEAR	1,668,646.87	
84-29811	RESERVE FUND - R&R	547,208.77	
	REVENUE OVER EXPENDITURES - YTD	99,525.01	
	BALANCE - CURRENT DATE	2,315,380.65	
	TOTAL FUND EQUITY		2,315,380.65
	TOTAL LIABILITIES AND EQUITY		2,319,301.33

CITY OF HILDALE  
BALANCE SHEET  
DECEMBER 31, 2023

Item 4.

89 FUND COLO CITY FIBER DEPT

ASSETS

89-11900	CASH - COMBINED FUND	2,354.12	
	TOTAL ASSETS		2,354.12

LIABILITIES AND EQUITY

FUND EQUITY

	UNAPPROPRIATED FUND BALANCE:		
89-29800	BALANCE - BEGINNING OF YEAR	2,354.12	
	BALANCE - CURRENT DATE	2,354.12	
	TOTAL FUND EQUITY		2,354.12
	TOTAL LIABILITIES AND EQUITY		2,354.12

CITY OF HILDALE  
BALANCE SHEET  
DECEMBER 31, 2023

Item 4.

90 FUND HILDALE CITY FIBER DEP

ASSETS

90-11900	CASH - COMBINED FUND	75,616.15	
90-13111	ACCOUNTS RECEIVABLE	1,247.45	
	TOTAL ASSETS		76,863.60

LIABILITIES AND EQUITY

FUND EQUITY

	UNAPPROPRIATED FUND BALANCE:		
90-29800	BALANCE - BEGINNING OF YEAR	75,130.75	
	REVENUE OVER EXPENDITURES - YTD	1,732.85	
	BALANCE - CURRENT DATE	76,863.60	
	TOTAL FUND EQUITY		76,863.60
	TOTAL LIABILITIES AND EQUITY		76,863.60



# Utilities Monthly Report

## December 2023

### **Gas Operations:**

Gas staff have been rebuilding the regulators at the Natural Gas Gate Station in Hildale.



*(Colorado City Natural Gas Gate Station)*



### **Sewer Operations:**

The Utility Crew cleaned approximately 3,650 feet of sewer main line this month. The meter at the Sewer Lift Station serving Centennial Park was calibrated and is now working accurately. The SMART Cover has worked as hoped for providing pre-alarming for higher-than-normal flows in the Centennial Park sewer system and allowing staff to respond proactively to the increased flows at the Lift Station. The damaged pumps have been replaced and/or repaired and are all back in service.

### ***Sewer Headworks Project***

Aardvark Underground Inc. has completed the construction work on the Sewer Headworks project. The city staff are coordinating an equipment start-up and training on January 8<sup>th</sup>, 2024. Once the equipment and start-up are complete, the City will have a ribbon cutting ceremony for the project.







## **Water Operations:**

The Water Treatment Plant is operating at optimum levels for removal of iron and other constituents. Colorado City/Mohave County and Hildale held a groundbreaking ceremony for the Mohave County, Arizona ARPA Grant Water Project for new Well #25 on December 20<sup>th</sup>, 2023 at the Water Treatment Plant. Mayor Ream and the guest of honor, Mohave County Board of Supervisors Chairman, Travis Lingenfelter participated in the groundbreaking and spoke about the project and funds. Council members from Colorado City, Hildale and the Utility Advisory Board were in attendance and participated in the groundbreaking.





### **Grants and Administration:**

Staff are working on completing the Arizona Department of Environmental Quality (ADEQ) permitting for the Academy Well and Well 17. During a site visit and routine sampling in November of the community wells, Utah DEQ informed us the two wells were not fully permitted and the communities will need to receive permits from the state agencies to use the wells for drinking water.

The Water Master Plan, Facilities Plan and the Impact Fee Study have been reviewed and recommended to the City and Town Councils for adoption.

The Rate Study, through the Rural Community Assistance Corporation (RCAC), is now substantially complete and will be available for discussion on the rate structure and timing of the increases in early 2024. The rate options will be discussed and reviewed by the Utility Advisory Board and further action will follow based on the comments and any follow-up work which may be requested. The project is being funded through the United States Department of Agriculture – Rural Development (USDA-RD)

Staff have been working on design and cost for the installation of a Booster Pump Station to eliminate the low-pressure zone in the southwest portion of Hildale. The consulting engineer is looking at the best options to place the booster pumps to provide the best location and have the greatest positive impact to the system by using hydraulic modeling. The booster pumps will allow construction of buildings and provide increased fire flows for the area.

Staff are working with the Water Infrastructure Finance Authority (WIFA) Loan/Grant, for the maintenance of the 600,000 (6K) gallon and 800,000 (8K) gallon tank. The 6K tank needs to be taken out of service and the inside cleaned, painted and placed back in service. The 8K tank needs cathodic protection installed and the exterior cleaned and painted.



Staff is working on energy efficiency programs for the wells and treatment plant by installing Variable Frequency Drives (VFD), the investigation includes finding grants for the purchase and installation of the VFD's.

Utilities staff are researching the conversion of the current gas and water meter reading system with an updated version that will provide better service and reliability. The current system, Badger Meter, has discontinued the gas meter portion of the sales and moved the reading platform to a cloud application using a third-party vendor, Amazon. Staff recommend moving to a generic reading system that can be used on all existing meters. The price for conversion and the reading devices would be significantly cheaper than making a change to another meter and reading company. Once the costs have been received, a presentation and recommendation will be provided to the Board and Councils.

Staff are continuing to work on the Water and Gas reports to show the use by each community and the non-revenue amount to account for all the uses of the water and gas from the system. They will be included in future reports and there will be a running amount for each fiscal year for comparison and reporting to the appropriate regulatory agencies.



2023-26 HCCUB WATER MASTER PLAN CAPITAL IMPROVEMENT PROJECTS							
PROJECT TITLE / LOCATION	PROJECT DESCRIPTION	FY 2024	FY 2025	FY 2026	FY 2028	FY 2029 - 2042	TOTAL WITH INFLATION
Treatment Plant Wells	Water Master Plan	\$ 1,327,400					\$ 1,327,400
Fire Hydrant Project	Water Master Plan	\$ 1,785,500					\$ 1,785,500
Raw Water Transmission Line	Water Master Plan	\$ 1,125,300					\$ 1,125,300
5 Year Arizona Well Field	Water Master Plan	\$ 728,500	\$ 728,500	\$ 728,500	\$ 1,457,000		\$ 3,642,500
5 Year Utah Well Field	Water Master Plan	\$ 1,531,340	\$ 1,531,340	\$ 1,531,340	\$ 3,062,680		\$ 7,656,700
Sandhill Tank 1	Water Master Plan		\$ 6,299,700				\$ 6,299,700
Small Treatment Plant (1,600 gpm)	Water Master Plan		\$ 6,264,400				\$ 6,264,400
Upper Pressure Zone Improvements	Water Master Plan			\$ 925,000			\$ 925,000
Canyon St. Line	Water Master Plan				\$ 450,800		\$ 450,800
Northwest Hildale Transmission Line	Water Master Plan				\$ 2,292,300		\$ 2,292,300
10 Year Arizona Well Field	Water Master Plan					\$ 4,970,700	\$ 4,970,700
10 Year Utah Well Field	Water Master Plan					\$ 10,324,400	\$ 10,324,400
Hildale St. Line	Water Master Plan					\$ 558,500	\$ 558,500
Trailhead Well 1	Water Master Plan					\$ 3,384,900	\$ 3,384,900
Trailhead Well 2	Water Master Plan					\$ 2,371,300	\$ 2,371,300
Trailhead Tank	Water Master Plan					\$ 3,980,400	\$ 3,980,400
Additional Treatment Capacity PH 1	Water Master Plan					\$ 12,096,800	\$ 12,096,800
Hildale Groundwater Project PH I	Water Master Plan					\$ 5,408,600	\$ 5,408,600
South Concrete Tank	Water Master Plan					\$ 6,319,700	\$ 6,319,700
Additional Treatment Capacity PH 2	Water Master Plan					\$ 16,548,100	\$ 16,548,100
Hildale Groundwater Project PH II	Water Master Plan					\$ 6,197,400	\$ 6,197,400
Sandhill Tank 2	Water Master Plan					\$ 10,088,000	\$ 10,088,000
Hildale Groundwater Project PH III	Water Master Plan					\$ 5,132,800	\$ 5,132,800
Southwest Hildale Transmission Line	Water Master Plan					\$ 1,493,800	\$ 1,493,800
20 Year Arizona Well Field	Water Master Plan					\$ 11,690,300	\$ 11,690,300
20 Year Utah Well Field	Water Master Plan					\$ 24,281,500	\$ 24,281,500
Transmission line to Airport	Water Master Plan					\$ 3,576,000	\$ 3,576,000
Power Plant Well to Treatment Plant	Piping from Well to Treatment Plant		\$ 586,500				\$ 586,500
Well #8 Enhancements	Enhance Production and Blending with 2 New Wells	\$ 245,000					\$ 245,000
Meter Replacement & Radio Read Project	Change out 200 Meters with Radio Read Meters	\$ 100,000	\$ 50,000				\$ 150,000
Well Rehabilitation and Replacement	Annual Program to Clean & Rehabilitate Wells	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 500,000
Clear Well Tank	Install New Clear Well Tank at WTP	\$ 150,000	\$ 150,000				\$ 300,000
Water Treatment Plant Upgrades	Change out Media, Upsize Header Pipe	\$ 100,000					\$ 100,000
Engineering Services	Design, Cost Estimates	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000		\$ 160,000
Legal Services	Contracts, Easements, etc.	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000		\$ 80,000
							\$ -
							\$ -
							\$ -
							\$ -
							\$ -
							\$ -
							\$ -
							\$ -
							\$ -
							\$ -
NOTES	Overall Request Before Inflation						\$ 31,157,555
							\$ -
							\$ -
TOTALS	With Inflation	\$ 7,253,040	\$ 15,770,440	\$ 3,344,840	\$ 7,422,780	\$ 128,523,200	\$ 162,314,300

2023-26 HCCUB SEWER MASTER PLAN CAPITAL IMPROVEMENT PROJECTS							
PROJECT TITLE / LOCATION	PROJECT DESCRIPTION	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028 - 2035	TOTAL WITH INFLATION
E Line Improvments	Sewer Master Plan	\$ 521,091					\$ 521,091
A2 Line Improvements	Sewer Master Plan	\$ 218,024					\$ 218,024
A Line Improvements	Sewer Master Plan	\$ 194,750					\$ 194,750
Treatment Site Improvements	Sewer Master Plan	\$ 1,216,275					\$ 1,216,275
Manhole Replacement	Replace 42 Decayed Manholes	\$ 1,200,000					\$ 1,200,000
Sewer Plant Headworks Installation	Install New Sewer Headworks at WWTP	\$ 550,000					\$ 550,000
Engineering Services	Design, Cost Estimates	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000		\$ 160,000
Legal Services	Contracts, Easements, etc	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000		\$ 80,000
							\$ -
							\$ -
							\$ -
							\$ -
							\$ -
							\$ -
							\$ -
							\$ -
							\$ -
							\$ -
							\$ -
							\$ -
NOTES	Project Interest						\$ 849,261
							\$ -
							\$ -
							\$ -
<b>TOTALS</b>		<b>\$ 1,810,000</b>	<b>\$ 60,000</b>	<b>\$ 60,000</b>	<b>\$ 60,000</b>	<b>\$ -</b>	<b>\$ 3,688,523</b>

2023-26 HCCUB GAS MASTER PLAN CAPITAL IMPROVEMENT PROJECTS							
PROJECT TITLE / LOCATION	PROJECT DESCRIPTION	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028 - 2045	TOTAL WITH INFLATION
Engineering Services	Design, Cost Estimates	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000		\$ 160,000
Legal Services	Contracts, Easements, etc	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000		\$ 80,000
							\$ -
							\$ -
							\$ -
							\$ -
							\$ -
							\$ -
							\$ -
							\$ -
							\$ -
							\$ -
							\$ -
							\$ -
							\$ -
NOTES	Overall Request						
							\$ -
							\$ -
							\$ -
<b>TOTALS</b>		\$ 60,000	\$ 60,000	\$ 60,000	\$ 60,000	\$ -	\$ 240,000

## Radio Read Meter Changeout Project

**TOTAL COST:** \$150,000

**CONSTRUCTION SCHEDULE:** 2024 - 2025

**RANKING CRITERIA MET:**

☒ Board Goals      ☒ Regulatory Requirement  
☒ Health & Safety      ☒ Service Delivery Need  
☐ Master Plan: \_\_\_\_\_

**PROJECT TYPE:**

☐ Maintenance  
☒ Replacement  
☐ New/Expansion

**NEW ON-GOING COSTS?**

Yes \$1000      No \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**DESCRIPTION:**

As part of the water system improvements and joining the 20<sup>th</sup> century with technology, moving to an automated meter reading and billing system is the next step. With radio read or fixed base meter reading systems being used nationwide, there is a track record for reducing the manual labor in physically reading each meter and sending the reads to a billing office. With radio read and fixed base systems, the reading is all automated and system software can do the billing. The change will require replacing existing meters with the radio technology and require an annual software license.

**PROJECT SCOPE:**

The Scope is to replace the old, manual read meters and add the radio read technology. This will require a meter change out program and/or a replacement of the direct read portion of the meter with a radio/fixed base read component and converting to the radio read or fixed base system. Replacing the meter with new remote read technology would cost about \$235/meter.

**HISTORY:**

As part of the routine meter reading and billing, some meters are still manually read, and the reads given to a second party for manual entering into their billing system. This is time intensive and may result in human errors. With the new technology being used since the 1990's, there is a proven track record that radio read, and fixed base systems are accurate and a time saving tool. It frees up operators to work on the system which needs regular repairs and maintenance. With increased accuracy and real time reading and recording technology, the system will see decreased unaccounted for water and leaks can be addressed after the meter by property owners.

**FUNDING PARTNERSHIPS:**

This is fully funded by HCCUB Capital Improvement funds. The priority in the water industry is more accurate accounting of water pumped and used in the system. This priority was shared in a recent adoption of a declaration of the Arizona Corporation Commission (ACC) to change the way water is being accounted for and officially requesting funding for meters at the state and federal level. The ability to receive grants will be increased by having an adopted CIP and Master Plan. Cost reflects the meters and radio read purchases, no labor costs for installation is included.

**FUNDING SOURCES FOR THIS PROJECT:**

**AMOUNT**

<u>Operating</u> Fund	FY 24	\$100,000
	FY 25	\$50000
	FY 26	
	FY 27	

FY 28 - 45

TOTAL:                      \$150,000

## **CHAPTER 50 SEWER REGULATIONS**

### **ARTICLE 50-I IN GENERAL**

### **ARTICLE 50-II USE OF PUBLIC SEWERS**

### **ARTICLE 50-III PRIVATE SEWAGE DISPOSAL**

### **ARTICLE 50-IV BUILDING SEWERS AND CONNECTIONS**

### **ARTICLE 50-V TREATMENT OF WASTE IN PUBLIC SEWERS**

### **ARTICLE 50-VI AUTHORITY OF INSPECTORS; VIOLATIONS**

### **ARTICLE 50-VII RATES, CHARGES AND PAYMENTS**

### **ARTICLE 50-VIII MISCELLANEOUS**

**State Law reference**— Water, lighting and sewers, U.C.A. 1953, § 10-7-4 et seq.

### **ARTICLE 50-I IN GENERAL**

#### **Sec 50-1 Definitions**

#### **Sec 50-2 Penalty**

### **Sec 50-1 Definitions**

The following words, terms and phrases, when used in this chapter, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

*BOD* (denoting biochemical oxygen demand) means the quantity of oxygen utilized in the biochemical oxidization of organic matter under standard laboratory procedure in five days at 20 degrees Celsius, expressed in parts per million by weight.

*Building drain* means that part of the lowest horizontal piping of a drainage system which receives the discharge from soil, waste, and other drainage pipes inside the walls of the building and conveys it to the building sewer, beginning five feet outside the inner face of the building wall.

*Building official* means the city building official as provided for under the ordinances of the city, or his duly authorized agent or representative.

*Building sewer* means the extension from the building drain to the public sewer or other place of disposal.

*Consumer or customer* means the recipient of wastewater treatment services.

*Finance director/treasurer* means the finance director/treasurer of the city as provided for under the ordinances of the city or his duly authorized agent or representative.

*Garbage* means solid wastes from the preparation, cooking and dispensing of food, and from the handling, storage and sale of food products.

*Industrial wastes* means liquid wastes from industrial processes as distinct from sanitary sewage, resulting from any commercial, manufacturing, or industrial operation or process, but the term "industrial wastes" is not to be construed as meaning any solids, sludge or paunch, or any grease that congeals or becomes solidified, or any matter that emits offensive odor.

*May* means permissive.

*Natural outlet* means any outlet into a watercourse, pond, ditch, lake or other body of surface water or groundwater.

*Occupant* means a person occupying a property for the purpose of residential, industrial or other use with the permission of the owner.

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*Occupied* means premises containing a structure which has a physical sanitary sewer connection (tap-in) and water service.

*Owner* means the person recorded on the property tax records for the deeded property.

*Permit* means any written authorization required pursuant to this or any other regulation of the city for the installation of any sewage works.

*pH* means the logarithm of the reciprocal of the weight of hydrogen ions in grams per liter of solution (i.e., the measure of relative acidity).

*Properly shredded garbage* means the wastes from the preparation, cooking and dispensing of food that have been shredded to such degrees that all particles will be carried under the flow conditions normally prevailing in the public sewer, with no particle greater than one-half inch in any dimension.

*Public sewer* means a sewer in which all owners of abutting properties have equal rights, and which is controlled by public authority.

*Public works director* means the public works director as provided for under the ordinances of the city, or his duly authorized agent or representative.

*Residence* means a building or house erected or constructed on any lot, parcel of land or premises and used primarily for dwelling purposes with a yard adjacent thereto.

*Sanitary sewage* means the washes from water closets, urinals, lavatories, sinks, bathtubs, showers, household laundries, basement floor drains, garage floor drains, bars, soda fountains, cuspidors, refrigerator drips, drinking fountains and floor drains, but excluding stormwater, surface water, groundwater and industrial wastes.

*Sanitary sewer* means a sewer which carries sewage, and to which stormwater, surface water and groundwater are not intentionally admitted.

*Sewage* means a combination of water-carried wastes from residences, business buildings, institutions and industrial establishments, together with such groundwater, surface water and stormwaters as may be present.

*Sewage treatment plant* or *treatment plant* means an arrangement of devices and structures used for treating sewage.

*Sewage works* means all facilities for collecting, pumping, treating and disposing of sewage.

*Sewer* means a pipe or conduit for carrying sewage.

*Sewer connection* means the connection to the public sewer and the extension therefrom of the sewer to the property line at the alley or the curblineline of the street, whichever is applicable, depending on the location of the public sewer.

*Sewer connection fee* means the initial sewer tap-in fee and impact fee as set forth in section 50-173 and shall apply to all sewer connections to the public sewer after the effective date of this Code.

*Shall* means mandatory.

*State authority* means either State of Arizona or State of Utah, whichever state has jurisdiction.

*Storm sewer or storm drain* means a sewer or drain which carries or disposes of stormwater, s

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*Suspended solids* means solids that either float on the surface of, or are in suspension in, water, sewage or other liquids; and which are removable by laboratory filtering.

*Treasurer* shall be used interchangeably with "finance director/treasurer" as heretofore defined.

*User charge or sewer charge* means the charge made to the recipient of sanitary sewer services by the city to defray the costs of operation, maintenance and replacement (OM&R) of the sewage collection and treatment facilities of the city.

*Wastewater superintendent* means the manager of the city wastewater department or his duly authorized agent or representative.

*Watercourse* means a channel in which a flow of water occurs either continuously or intermittently.

(Ord. No. 2-01-1, § I(2-01-1.01), 2-13-2001)

### **Sec 50-2 Penalty**

- (a) Whoever violates any provision of this chapter, for which no other penalty is already provided, beyond the time limit provided in the required notice shall be punished as provided in section 4-2.
- (b) Whoever violates any provision of this chapter shall become liable to the city for any expense, loss, or damage occasioned the city by reason of such violation.

(Ord. No. 2-01-1, § I(2-01-1.99), 2-13-2001)

## **ARTICLE 50-II USE OF PUBLIC SEWERS**

[Sec 50-21 Depositing Sanitary Matter On Property](#)

[Sec 50-22 Disposal Of Waste Into Natural Outlet](#)

[Sec 50-23 Maintaining A Privy, Privy Vault, Etc](#)

[Sec 50-24 Installation Of Toilet Facilities](#)

[Sec 50-25 Discharge Of Certain Waters Into Sanitary Sewers Unlawful](#)

[Sec 50-26 Storm Sewers/Drains](#)

[Sec 50-27 Waters Which Are Not To Be Discharged Into Sewer](#)

### **Sec 50-21 Depositing Sanitary Matter On Property**

It shall be unlawful for any person to place, deposit or permit to be deposited in any unsanitary manner upon public or private property, within the city, any human or animal excrement, garbage, or other objectionable waste.

(Ord. No. 2-01-1, § I(2-01-1.02), 2-13-2001)

### **Sec 50-22 Disposal Of Waste Into Natural Outlet**

It shall be unlawful to discharge to any natural outlet within the city or in any area under jurisdiction of the city any sanitary sewage, industrial wastes or other polluted waters, except where suitable treatment has been provided in accordance with subsequent provisions of this chapter.

(Ord. No. 2-01-1, § I(2-01-1.03), 2-13-2001)

### **Sec 50-23 Maintaining A Privy, Privy Vault, Etc**



Except as hereinafter provided, it shall be unlawful to construct or maintain any privy, privy vault, tank, cesspool or other facility intended or used for the disposal of sewage.

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(Ord. No. 2-01-1, § I(2-01-1.04), 2-13-2001)

#### **Sec 50-24 Installation Of Toilet Facilities**

The occupant of all houses, buildings or properties used for human occupancy, employment, recreation or other purpose, situated within the city and abutting on any street, alley or right-of-way in which there is now located or may in the future be located a public sanitary sewer of the city, is hereby required at his expense to connect all toilet facilities directly with the proper public sewer in accordance with the provisions of this chapter within 90 days after date of official notice to do so provided that such public sewer is within 300 feet of the structure to be served.

(Ord. No. 2-01-1, § I(2-01-1.05), 2-13-2001)

#### **Sec 50-25 Discharge Of Certain Waters Into Sanitary Sewers Unlawful**

No person shall discharge or cause to be discharged any stormwater, surface water, groundwater, roof runoff, subsurface drainage, cooling water or unpolluted industrial process water to any sanitary sewer.

(Ord. No. 2-01-1, § I(2-01-1.06), 2-13-2001)

#### **Sec 50-26 Storm Sewers/Drains**

Stormwater and all other unpolluted drainage shall be discharged to such sewers or drains as are specifically designated as such or to a natural outlet approved by the building official. Industrial cooling water or unpolluted process waters may be discharged upon approval of the building official to a storm sewer or natural outlet.

(Ord. No. 2-01-1, § I(2-01-1.07), 2-13-2001)

#### **Sec 50-27 Waters Which Are Not To Be Discharged Into Sewer**

Except as hereinafter provided, no person shall discharge or cause to be discharged any of the following described waters or wastes to any public sewer:

- (a) Any liquid or vapor having a temperature higher than 150 degrees Fahrenheit.
- (b) Any water or waste which may contain more than 50 parts per million, by weight, of fat, oil or grease.
- (c) Any gasoline, benzene, naphtha, fuel oil or other flammable or explosive liquid, solid or gas.
- (d) Any garbage that has not been properly shredded.
- (e) Any ashes, cinders, sand, mud, straw, shavings, metal, glass, rags, feathers, tar, plastics, wood, paunch manure, grits such as brick, cement, onyx and carbide or any other solid or viscous substances capable of causing obstruction to the flow in sewers or other interference with the proper operation of the sewage works.
- (f) Any waters or wastes having a pH lower than 5.5 or higher than 9.0 or having any other corrosive property capable of causing damage or hazard to structures, equipment and personnel of the sewage works.
- (g) Any waters or waste containing a toxic or poisonous substance in sufficient quantity to injure or interfere with any sewage treatment process, constitute a hazard to humans or animals, or create any hazard in the receiving waters of the sewage treatment plant.

(h) Any waters or wastes containing suspended solids of such character and quantity that undue attention or expense is required to handle such materials at the sewage treatment plant.

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(i) Any noxious or malodorous gas or substance capable of creating a public nuisance.

(Ord. No. 2-01-1, § I(2-01-1.08), 2-13-2001)

## **ARTICLE 50-III PRIVATE SEWAGE DISPOSAL**

### **Sec 50-58 When Required**

### **Sec 50-59 Before Construction Permit Required; Application Fee**

### **Sec 50-60 Inspection Of Work To Be Made**

### **Sec 50-61 Private System Must Comply With All Recommendations**

### **Sec 50-62 When Private Sewage Disposal Shall Be Abandoned**

### **Sec 50-63 Operation And Maintenance At Occupant's Expense**

### **Sec 50-64 Additional Requirements Imposed**

### **Sec 50-58 When Required**

Where a public sanitary sewer is not available under the provisions of this chapter the building sewer shall be connected to a private sewage disposal system complying with the provisions of this chapter.

(Ord. No. 2-01-1, § I(2-01-1.10), 2-13-2001)

### **Sec 50-59 Before Construction Permit Required; Application Fee**

- (a) Before the commencement of construction of a private sewage disposal system, the occupant shall first obtain a written permit signed by the building official.
- (b) The application for such a permit shall be made on a form furnished by the building department, which the applicant shall supplement by any plans, specifications and other information as are deemed necessary by the building official.
- (c) A permit and inspection fee according to the schedule of fees and penalties on file shall be paid at the time the application is filed.
- (d) At time of installation, a dry sewer shall be built to the property line nearest the future route of the public sewer in such a manner as to facilitate connection when public service is available.

(Ord. No. 2-01-1, § I(2-01-1.11), 2-13-2001)

### **Sec 50-60 Inspection Of Work To Be Made**

Use of a private sewage disposal system shall not be permitted until the installation is completed to the requirements of the state plumbing code. The building official shall be allowed to inspect the work at any stage of construction, and, in any event, the applicant for the permit shall notify the building official when the work is ready for final inspection, and before any underground portions are covered. The inspection shall be made within 72 hours of the receipt of notice by the building official.

(Ord. No. 2-01-1, § I(2-01-1.12), 2-13-2001)

### **Sec 50-61 Private System Must Comply With All Recommendations**

The type, capacity, location and layout of a private sewage disposal system shall comply with all recommendations of the appropriate state authority. No septic tank or cesspool shall be permitted to discharge into any public sewer. No septic tank or cesspool shall be allowed unless there is in connection therewith a proper leaching bed or leaching well.

### **Sec 50-62 When Private Sewage Disposal Shall Be Abandoned**

At such time as a public sewer becomes available to a property served by a private sewage disposal system, as provided in this chapter, a direct connection shall be made to the public sewer in compliance with this chapter, and any septic tanks, cesspools, or similar private sewage disposal facilities shall be abandoned and if deemed necessary by the building official, pumped out and filled with suitable materials at the expense of the occupant.

(Ord. No. 2-01-1, § I(2-01-1.14), 2-13-2001)

### **Sec 50-63 Operation And Maintenance At Occupant's Expense**

The occupant shall operate and maintain the private sewage disposal facilities in a manner satisfying the state plumbing code at all times at no expense to the city.

(Ord. No. 2-01-1, § I(2-01-1.15), 2-13-2001)

### **Sec 50-64 Additional Requirements Imposed**

No statement contained in this section shall be construed to interfere with any additional requirement that may be imposed by the building official in compliance with the state plumbing code.

(Ord. No. 2-01-1, § I(2-01-1.16), 2-13-2001)

## **ARTICLE 50-IV BUILDING SEWERS AND CONNECTIONS**

[Sec 50-87 Tampering With Public Sewer Or Appurtenance](#)

[Sec 50-88 Building Sewer Connections; Applications; Fees](#)

[Sec 50-89 Cost And Expense To Be Borne By Occupant](#)

[Sec 50-90 Separate Sewer For Each Building; Exception](#)

[Sec 50-91 When Old Building Sewers May Be Used](#)

[Sec 50-92 Sewer Specifications; Joint Specifications](#)

[Sec 50-93 Connection Of Building Sewer With Public Sewer](#)

[Sec 50-94 Notification For Inspection](#)

[Sec 50-95 Excavations To Be Adequately Guarded](#)

### **Sec 50-87 Tampering With Public Sewer Or Appurtenance**

No unauthorized person shall uncover, make any connections with or opening into, use, alter or disturb any public sewer or appurtenance thereof without first obtaining a written permit from the wastewater superintendent.

(Ord. No. 2-01-1, § I(2-01-1.20), 2-13-2001)

### **Sec 50-88 Building Sewer Connections; Applications; Fees**

(a) There shall be two classes of building sewer permits:

- (1) For residential and commercial service; and
- (2) For service to establishments producing industrial wastes.

(b) In either case, the occupant or his agent shall make application on a special form furnished the wastewater department, which the applicant shall supplement by any plans, specifications

and other information as are deemed necessary by the wastewater superintendent.

- (c) A tap-in fee and impact fee according to the schedule of fees and penalties on file shall be at the time the application is filed. Item 8.

(Ord. No. 2-01-1, § I(2-01-1.21), 2-13-2001)

### **Sec 50-89 Cost And Expense To Be Borne By Occupant**

All costs and expense incident to the installation and connection of the building sewer shall be borne by the occupant. The occupant shall indemnify the city from any loss or damage that may directly or indirectly be occasioned by the installation of the building sewer.

(Ord. No. 2-01-1, § I(2-01-1.22), 2-13-2001)

### **Sec 50-90 Separate Sewer For Each Building; Exception**

- (a) A separate and independent building sewer shall be provided for each building that is designed to be occupied by people, even if it is within the property boundaries of an existing service. These buildings include, but are not limited to: homes, schools, businesses of employment, trailers, apartments and churches. Buildings that do not require a separate service include, but are not limited to: barns, sheds, residential shops, residential animal housings and bunkhouses used exclusively for sleeping quarters on the same lot and parcel which may not legally be divided from the main building.
- (b) Exception. Where one building stands at the rear of another on ~~an~~ the same ~~interior~~ lot, which cannot be split, and no private sewer is available or can be constructed to the rear building through an adjoining alley, court, yard or driveway, the building sewer from the front building may be extended to the rear building through open areas and not underneath an impervious covering, house or building footings, foundations, floors, etc. and must be approved in advance by the Building Official or designee.

(Ord. No. 2-01-1, § I(2-01-1.23), 2-13-2001)

### **Sec 50-91 When Old Building Sewers May Be Used**

Old building sewers may be used in connection with new buildings only when they are found on examination and test by the building official to meet all the requirements of this chapter.

(Ord. No. 2-01-1, § I(2-01-1.24), 2-13-2001)

### **Sec 50-92 Sewer Specifications; Joint Specifications**

- (a) Sewer specifications.
- (1) ~~The building sewer shall be of east iron soil pipe, ASTM specification (A74-42) or equal; vitrified clay sewer pipe, ASTM specifications (C-700 extra strength or equal); SDR 35 or Schedule 40 PVC, or other suitable material approved by the building official and the state plumbing code. Joints shall be tight and waterproof. Cast iron pipe with approved joints may be required by the building official where the building sewer is exposed to damage by tree roots. If installed in filled or unstable ground, the building official may require such particular materials and/or installation methods as may be deemed necessary. Two sewer cleanouts facing each other shall be installed on the building sewer immediately three (3) feet outside the building structure. The pipeline at the building exterior shall be inspected by the Wastewater Superintendent, or designee for approval.~~
  - (2) The size and slope of the building sewer shall be subject to the approval of the building official, or designee but in no event shall the diameter be less than four inches, nor

slope of such pipe be less than one-eighth inch per foot.

*Item 8.*

- (3) No building sewer shall be laid parallel to within less than three feet of any bearing wall, which might thereby be weakened. The depth shall be sufficient to afford protection from

frost. The building sewer shall be laid at uniform grade and in straight alignment in as possible. Change in direction shall be made only with properly curved pipe and fittings.

Item 8.

- (4) In all buildings in which any building drain is too low to permit gravity flow to the public sewer, sanitary sewage carried by such drain shall be lifted by approved artificial means and discharged to the building sewer. The responsibility of the installation, operation and maintenance, and all other liability involved with the operation of such device is the sole responsibility of the occupant. The design must be submitted to the Wastewater Superintendent or designee for approval.
- (5) All excavations required for the installation of a building sewer shall be open trench work unless otherwise approved by the building official and/or Wastewater Superintendent or their designee. Pipe laying and backfill shall be performed in accordance with ASTM specification (C12-72), except that no backfill shall be placed until the work has been inspected.
- (6) In the event that the building sewer is in excess of 100 feet from the building to the property line, a downstream facing clean-out wye shall be installed at least every 100 feet of pipe length. An approved cleanout shall be installed on the owners property within five (5) feet of the property line and easement

(b) Joint specifications.

- (1) All joints and connections shall be made watertight.
- ~~(2) All joints in vitrified clay pipe or between such pipe and metals shall be made with watertight "O" ring compression joints or with approved adapters.~~
- (2) Other jointing materials and methods may be used only by approval of the building official.

(c) The standard specifications shall be the state plumbing code as adopted by the city council.

(Ord. No. 2-01-1, § I(2-01-1.25), 2-13-2001)

**Sec 50-93 Connection Of Building Sewer With Public Sewer**

The connection of the building sewer into the public sewer shall be at the property line when such interceptor is available to the occupant's property. Connection at the property line shall be made with a clean-out wye at the occupant's expense. If no interceptor is available to the property line or if the location of the interceptor is other than that desired by the occupant, the occupant shall, at his expense, install a connection to the public sewer at a location approved and as specified by the wastewater superintendent. Such connection shall be made by cutting a neat hole into the public sewer to receive the building sewer, with entry in the downstream direction at an angle of approximately 45 degrees. A 45-degree ell may be used to make such connections, with the spigot end cut so as not to extend past the inner surface of the public sewer. The invert of the building sewer at the point of connection shall be at the same or at a higher elevation than the invert of the public sewer. A smooth, neat joint shall be made, and the connection made secure and watertight. Special fittings may be used for the connection only when approved by the wastewater superintendent.

(Ord. No. 2-01-1, § I(2-01-1.26), 2-13-2001)

**Sec 50-94 Notification For Inspection**

The applicant for the building sewer connection shall notify the ~~building official or~~ the wastewater superintendent, or designee when the building sewer is ready for inspection and connection to the public sewer. The connection shall be made under the supervision of the ~~building official or the Wastewater Superintendent or designee.~~



### **Sec 50-95 Excavations To Be Adequately Guarded**

All excavations for building sewer installations shall be adequately guarded with barricades and lights so as to protect the public from hazard. Streets, sidewalks, parkways and other public property disturbed in the course of the work shall be restored in a manner satisfactory to the city as determined by the city public works director.

(Ord. No. 2-01-1, § I(2-01-1.28), 2-13-2001)

## **ARTICLE 50-V TREATMENT OF WASTE IN PUBLIC SEWERS**

[Sec 50-119 Interceptors To Be Provided When Necessary](#)

[Sec 50-120 Materials Used To Construct Interceptors](#)

[Sec 50-121 Interceptors To Be Maintained By Occupant](#)

[Sec 50-122 Procedure When Waste Is Emitted Into Public Sewer](#)

[Sec 50-123 Preliminary Treatment Facilities Maintained At Occupant's Expense](#)

[Sec 50-124 Installation Of Control Manhole](#)

[Sec 50-125 Test, Analysis, Etc, Of Water And Waste](#)

[Sec 50-126 Special Agreements Or Arrangements](#)

### **Sec 50-119 Interceptors To Be Provided When Necessary**

Grease, oil, and sand interceptors shall be provided when, according to the state plumbing code and the building official, they are necessary for the proper handling of liquid wastes, containing grease in excessive amounts, or any flammable wastes, sand and other harmful ingredients; except that such interceptors shall not be required for private living quarters or dwelling units. Grease traps shall be required at all public premises where food is served, such as restaurants, cafeterias and boardinghouses. All interceptors shall be of a type and capacity approved by the building official and shall be located to be readily accessible for cleaning. All interceptors shall be readily accessible for inspection by the wastewater superintendent.

(Ord. No. 2-01-1, § I(2-01-1.30), 2-13-2001)

### **Sec 50-120 Materials Used To Construct Interceptors**

Grease and oil interceptors shall be constructed of impervious materials capable of withstanding abrupt and extreme changes in temperature. They shall be of substantial construction, watertight and equipped with easily movable covers which, when bolted in place, shall be gastight and watertight.

(Ord. No. 2-01-1, § I(2-01-1.31), 2-13-2001)

### **Sec 50-121 Interceptors To Be Maintained By Occupant**

Where installed, all grease, oil, and sand interceptors shall be maintained by the occupant, at his expense, in continuously efficient operation at all times. The wastewater superintendent shall inspect interceptors annually.

(Ord. No. 2-01-1, § I(2-01-1.32), 2-13-2001)

### **Sec 50-122 Procedure When Waste Is Emitted Into Public Sewer**

- (a) The admission into public sewers of any wastes or waters having the following content shall be subject to the review and approval of the wastewater superintendent:

- (1) A five-day biochemical oxygen demand greater than 250 parts per million by weight;



- (2) Containing more than 300 parts per million by weight of suspended solids;
  - (3) Containing any quantity of substances having the characteristics described heretofore in section 50-27 (1) to (9) inclusive; or
  - (4) Having an average daily flow greater than two percent of the average daily sewer flow of the city.
- (b) Where necessary in the opinion of the wastewater superintendent, the occupant shall provide, at his expense, such preliminary treatment as may be necessary to:
- (1) Reduce the biochemical oxygen demand to 250 parts per million and the suspended solids to 300 parts per million by weight;
  - (2) Reduce objectionable characteristics or constituents to within the maximum limits provided above in this section;
  - (3) Control the quantities and rates of discharge of such waters and wastes; or
  - (4) Comply with federal pretreatment requirements as per 40 CFR 403.
- (c) Plans, specifications and any other pertinent data relative to proposed preliminary treatment facilities shall be submitted for the approval of the wastewater superintendent and also to the appropriate state authority and no construction of such facilities shall be commenced until such approvals are obtained in writing.

(Ord. No. 2-01-1, § I(2-01-1.33), 2-13-2001)

### **Sec 50-123 Preliminary Treatment Facilities Maintained At Occupant's Expense**

Where preliminary treatment facilities are provided for any waters or wastes, they shall be maintained continuously in satisfactory and effective operation, by the occupant at his expense.

(Ord. No. 2-01-1, § I(2-01-1.34), 2-13-2001)

### **Sec 50-124 Installation Of Control Manhole**

When required by the wastewater superintendent, the occupant of any property served by a building sewer carrying industrial waste shall install a suitable control manhole in the building sewer to facilitate observation, sampling and measurement of the wastes. Such manhole, when required, shall be accessible and safely located and shall be constructed in accordance with plans approved by the wastewater superintendent. The manhole shall be installed by the occupant at his expense, and shall be maintained by him so as to be safe and accessible to the wastewater superintendent at all times.

(Ord. No. 2-01-1, § I(2-01-1.35), 2-13-2001)

### **Sec 50-125 Test, Analysis, Etc, Of Water And Waste**

All measurement, test and analysis of the characteristics of water and wastes to which reference has been made in sections 50-122 and 50-124 shall be determined in accordance with "Standard Methods For Examination of Water and Sewage" as set forth by the state and be determined at the control manhole, provided in 50-124 or upon suitable samples taken at such control manhole. In the event that no special manhole has been required, the control manhole shall be considered to be the nearest downstream manhole in the public sewer to the point at which the building sewer is connected.

(Ord. No. 2-01-1, § I(2-01-1.36), 2-13-2001)

## **Sec 50-126 Special Agreements Or Arrangements**

Item 8.

No statement contained in this chapter shall be construed as preventing any special agreement or arrangement between the city and any industrial concern whereby an industrial waste of unusual strength or character may be accepted by the city for treatment, subject to payment therefor by the industrial concern.

(Ord. No. 2-01-1, § I(2-01-1.37), 2-13-2001)

## **ARTICLE 50-VI AUTHORITY OF INSPECTORS; VIOLATIONS**

### **Sec 50-151 Officer Shall Be Permitted For Inspection Purposes**

### **Sec 50-152 Notice Of Violation**

## **Sec 50-151 Officer Shall Be Permitted For Inspection Purposes**

The wastewater superintendent and/or other duly authorized employees of the city bearing the proper credentials and identifications shall be permitted to enter upon all properties for the purposes of inspection, observation, measurement, sampling and testing, in accordance with the provisions of this chapter.

(Ord. No. 2-01-1, § I(2-01-1.40), 2-13-2001)

## **Sec 50-152 Notice Of Violation**

Any person found to be violating any provision of this chapter shall be served by the city with written notice stating the nature of the violation and providing a reasonable time limit for the satisfactory correction thereof. The offender shall, within the period of time stated in such notice, permanently cease all violations.

(Ord. No. 2-01-1, § I(2-01-1.41), 2-13-2001)

## **ARTICLE 50-VII RATES, CHARGES AND PAYMENTS**

### **Sec 50-173 Tap-In Fees And Impact Fees**

### **Sec 50-174 Rental For Sewer Services**

### **Sec 50-175 When Not Subject To Charge**

### **Sec 50-176 Sewer Fund**

### **Sec 50-177 Sewer Rates Within The City**

### **Sec 50-178 Industrial Exemptions**

### **Sec 50-179 Payment Of Sewer Charges**

### **Sec 50-180 Beginning Of Rental**

### **Sec 50-181 Penalty For Non-Payment Of Sewer Charges**

### **Sec 50-182 Collection Of Rentals By Treasurer**

### **Sec 50-183 Industries Which Must Enter Into Special Agreements**

### **Sec 50-184 Contracts With Others Outside City Limits**

## **Sec 50-173 Tap-In Fees And Impact Fees**

- (a) At the time of application for building sewer connection there shall be collected from the applicant a sewer tap-in fee and sewer impact fee for each residence, business, or industry.
- (b) Sewer tap-in fees. A tap-in fee in the amount established by the schedule of fees and penalties shall be charged for each sewer connection. The tap-in-fee shall be levied for the purpose of defraying costs of reviewing, analyzing and changing, if necessary, the applicant's plans and/or specifications, and inspecting and mapping the installation. Said fees shall be deposited into the city's sewer fund as defined by section 50-176 and utilized for the purposes therein specified.

- (c) Sewer impact fees. Impact fees shall be computed on the basis of equivalent residential units (ERUs). One ERU shall be defined as the average sewage flow capacity expected from a typical detached single-family dwelling. All uses other than single-family dwellings shall be expressed in fractions or multiples of one ERU. In no case shall a connection be classified as less than one ERU. An impact fee per ERU as established in the schedule of fees and penalties shall be charged to all new connections according to the following table. Said fees shall be deposited into the city's sewer fund as defined by section 50-176 and utilized for the renewal and replacement of sewer collection and treatment infrastructure. Locations which have both a building permit and sewer service available in the street serving the property prior to the enactment date of the ordinance from which this chapter is derived shall be exempt from paying the impact fee.

TABLE OF ERUs FOR TYPICAL USES

Use	ERUs
Single-family dwellings (one head of household)	1
Multiple-family dwellings, per family	1
Assembly halls, churches, auditoriums, and schools	
Per set of restrooms	1
Restaurant, other public businesses	
First 30 seats	1
Each additional 30 or fraction	1
Factories, industrial plants	
Per set of restrooms	1
Hospitals, nursing homes for each eight beds	1
Offices, retail merchants, shopping centers per 3,500 square feet	1
Plus per food service	1
Plus per laundry	1
Service stations without car wash	1
Car wash	Wastewater superintendent
Other uses	Wastewater superintendent

For uses not covered in the table or for extreme quantity or quality of effluent, appropriate ERU classification shall be determined by the wastewater superintendent, in accordance with accepted engineering criteria.

- (d) In the event where the city installs new wastewater main lines, there shall be an appropriately determined construction fee assessed to each property that will be served, to cover the cost of installing wastewater main lines and appurtenances. To serve property which is not city-owned, the developer shall be responsible for the installation of main lines and appurtenances, including the sewer laterals, up to the property line of each lot to be served. Where a developer constructs, totally at his own expense, street sewers, lateral sewers, and appurtenances

thereto, all construction methods and materials used shall meet all city requirements and standards.

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- (e) Payment of Sewer tap-in and impact fees. No building sewer connection shall be allowed without payment arrangements of tap-in fees and impact fees.

(Ord. No. 2-01-1, § I(2-01-1.43), 2-13-2001)

#### **Sec 50-174 Rental For Sewer Services**

It is hereby determined and declared to be necessary and conducive to the protection of the public health, safety, welfare and convenience of the city to levy and collect service charges or sewer rentals upon all occupied premises served by, having connection with, or having access to the sanitary sewerage system and the sewage treatment plant of the city; the proceeds of such charges or rentals so derived shall be for the operation, maintenance and replacement of the sanitary sewage system and treatment plant as hereinafter provided.

(Ord. No. 2-01-1, § I(2-01-1.44), 2-13-2001)

#### **Sec 50-175 When Not Subject To Charge**

- (a) Any water which is not polluted and does not find its way into the sanitary sewerage system shall not be subject to a sewer charge.
- (b) Monthly charges may be exempted by the wastewater superintendent on a case-by-case basis if the building is under construction and there is no water going down the sewer. The occupant or a representative must present the situation in person or in writing to the wastewater superintendent for approval on a case-by-case basis.

(Ord. No. 2-01-1, § I(2-01-1.45), 2-13-2001)

#### **Sec 50-176 Sewer Fund**

The funds received from the collection of sewer service rates and charges shall be deposited with the city treasurer and kept by him in a separate and distinct fund known as the city wastewater fund. This fund shall be used for the payment of the cost of the management, construction, maintenance, debt service, operation, design, improvement, and expansion of the sewerage system and sewage treatment plant.

(Ord. No. 2-01-1, § I(2-01-1.46), 2-13-2001)

#### **Sec 50-177 Sewer Rates Within The City**

- (a) There is hereby levied and assessed upon each occupied premises, having any sewer connection with or having access to the sanitary sewerage system of the city or otherwise discharging sewage or industrial wastes into the city sanitary sewerage system, a sewer service charge or rental, payable as hereinafter provided and in an amount determinable for all users of the city sanitary sewerage system, except as hereinafter provided. The rates shall be as established in the schedule of fees and penalties.
- (b) The rates and usage shall be reviewed periodically and adjusted if necessary to cover the cost of operating, maintaining and replacing the system.

(Ord. No. 2-01-1, § I(2-01-1.47), 2-13-2001)

## **Sec 50-178 Industrial Exemptions**

Item 8.

In the event a lot, parcel of land, building or premises discharging sanitary sewage, industrial wastes, water or other liquids into the city's sewerage system, either directly or indirectly, is an industry and it can be shown, to the satisfaction of the wastewater superintendent, that a portion of the water, as measured by the water meter, does not and cannot enter the sewerage system, the wastewater superintendent may determine in such manner and by such method as he may find practicable, the percentage of metered water entering the sewerage system, and the classification used to determine the sewer charge or rental shall be that percentage, so determined, of the quantity of water measured by the water meter. This industrial waste water shall also be subject to sections 50-27 and 50-119 to 50-125.

(Ord. No. 2-01-1, § I(2-01-1.48), 2-13-2001)

## **Sec 50-179 Payment Of Sewer Charges**

The sewer charge or rental provided in this chapter shall be payable monthly at the office of the city treasurer, upon statements rendered in the method, manner and form as may be provided by the city.

(Ord. No. 2-01-1, § I(2-01-1.49), 2-13-2001)

## **Sec 50-180 Beginning Of Rental**

The sewer charge or rental shall be levied upon the first date that sanitary sewer service is connected to the occupied property except as exempted in section 50-175.

(Ord. No. 2-01-1, § I(2-01-1.50), 2-13-2001)

## **Sec 50-181 Penalty For Non-Payment Of Sewer Charges**

The non-payment of each charge or rental levied by or pursuant to this chapter is subject to a penalty of water disconnection as defined in the state building code adopted by the city, except that there shall be no monetary penalty charged on sewer services. For locations outside the city, or for locations which do not have city water service, the non-payment of sewer charges shall result in disconnection of sewer services, or court action, or both. The customer shall be liable for all costs associated with the collection of sewer charges, including court costs.

(Ord. No. 2-01-1, § I(2-01-1.51), 2-13-2001)

## **Sec 50-182 Collection Of Rentals By Treasurer**

The sewer charges or rentals charged pursuant to this chapter shall be collected by the treasurer, and the wastewater superintendent shall enforce such bylaws and regulations as may be deemed necessary for the safe, economical and efficient management and protection of the city's sewer system, pumping stations, sewage treatment works, and connections to the sewer system, and for the regulation, collection, rebating and refunding of such charges and rentals, and such bylaws and regulations shall have the effect of ordinances.

(Ord. No. 2-01-1, § I(2-01-1.52), 2-13-2001)

## **Sec 50-183 Industries Which Must Enter Into Special Agreements**

- (a) An exception to the rates set forth in section 50-177 shall be taken in special cases where industrial customers discharge an effluent of such character and strength into the city sanitary sewers which causes special problems and increased cost in sewage treatment. Included in this

class, but not limited to, are: cattle, swine and poultry processing, acid plants, canning plants, other processing plants, plating, anodizing, cool processing and manufacturing plants and the like.

Item 8.

- (b) Such industrial customers and the city shall negotiate and enter into an agreement as to the rate to be charged such industrial customers for the treatment of their wastes. In the event that no agreement can be reached as to the rate, upon written notice from the city, such industries shall be required to provide their own waste treatment facilities in accordance with requirements of the appropriate state authority. Plans shall be approved prior to construction by the appropriate state authority.
- (c) All industries and entities subject to the Federal Industrial Cost Recovery Act shall enter into an agreement with the city in accordance with U.S. EPA regulations.

(Ord. No. 2-01-1, § I(2-01-1.53), 2-13-2001)

### **Sec 50-184 Contracts With Others Outside City Limits**

The city may enter into agreements to be ratified and confirmed by the city council, with cities, towns, corporations, and individuals whose premises are located without the corporate limits of the city who desire to discharge sewage, industrial wastes, water or other liquids into the city's sewerage system; which agreement shall fix the rates, terms, and conditions under which such sewage, industrial wastes, water or other liquids may be discharged into such sewerage system and shall be in conformity with the other sections of this chapter.

(Ord. No. 2-01-1, § I(2-01-1.54), 2-13-2001)

### **ARTICLE 50-VIII MISCELLANEOUS**

#### **Sec 50-207 Tampering With Equipment Prohibited**

#### **Sec 50-208 Records To Be Kept By City**

#### **Sec 50-209 City Responsibilities And Liabilities**

#### **Sec 50-210 Ownership**

#### **Sec 50-211 Consumer's Responsibilities**

#### **Sec 50-212 Implied Service Agreement**

### **Sec 50-207 Tampering With Equipment Prohibited**

No person shall maliciously, willfully or negligently break, damage, destroy, uncover, deface or tamper with any structure, appurtenance or equipment which is a part of the municipal sewage works.

(Ord. No. 2-01-1, § I(2-01-1.55), 2-13-2001)

### **Sec 50-208 Records To Be Kept By City**

The city shall keep a record of all building connections made, the purpose for which they are to be used, together with the name of the owner and occupant of the property, his agent or representative.

(Ord. No. 2-01-1, § I(2-01-1.56), 2-13-2001)

### **Sec 50-209 City Responsibilities And Liabilities**

- (a) The city shall not be responsible for the installation, maintenance or inspection of the consumer's service line piping apparatus or for any defects therein.
- (b) The city shall have the right to refuse service unless the consumer's lines or piping are installed in such manner as to prevent cross connections or backflow.



- (c) Under normal conditions, the consumer shall be notified of any anticipated interruption of service.
- (d) The city shall not be responsible for the negligence of third persons or forces beyond the control of the city resulting in any interruption of services or damage to the property of the consumer.
- (e) The city may refuse service to any prospective consumer when the capacity of the sewer system will not permit additional loads being placed thereon.
- (f) The sewer department may discontinue its service without notice for the following reasons:
  - (1) To prevent fraud or abuse.
  - (2) The consumer's willful disregard of or refusal to comply with this chapter or other rules as may be adopted by the city.

(Ord. No. 2-01-1, § I(2-01-1.57), 2-13-2001)

### **Sec 50-210 Ownership**

The city shall have exclusive control of connections to the main sewer lines, and, upon completion, the main lines shall become and be the property of the city. Except as otherwise herein provided, all provisions of the city Code and ordinances or amendments thereto applicable to sewer services including all charges therefor shall apply to services in the proposed area.

(Ord. No. 2-01-1, § I(2-01-1.58), 2-13-2001)

### **Sec 50-211 Consumer's Responsibilities**

- (a) ~~The consumer's house or building service line, sewer connection and apparatus shall be installed and maintained by the consumer, including maintenance of the sewer lateral from the property line to the sewer main line in the street, at the consumer's expense, in a safe and efficient manner and in accordance with the city's rules and regulations and in full compliance with the regulations of the applicable state authority.~~ The property owner shall be responsible for the cleaning, repair, and replacement of sewers and connections to the public sewer line, except when the cleaning, repair or replacement requires excavation of a public street, public right-of-way (e.g. a public alleyway) or sidewalk. If the cleaning, repair or replacement of the sewer connection requires excavation of a public street, public right-of-way or sidewalk, the City shall undertake such cleaning, repair or replacement at no cost to the property owner.
- (b) The consumer shall safeguard the city's property placed on the consumer's premises and shall permit access to it only by the authorized representatives of the city.
- (c) In the event that any loss or damage to the property of the sewer department or any accident or injury to persons or property is caused by or results from the negligence or wrongful act of the consumer, his agents or employees, the cost of necessary repairs or replacements shall be paid by the consumer to the sewer department and any liability otherwise resulting shall be assumed by the consumer. The amount of such loss or damage or the cost of repairs may be added to the consumer's bill and, if not paid, service may be discontinued by the sewer department.
- (d) When service to a consumer shall require the laying of any city sewer lines or the installation of any other city property on, under, across or over the consumer's property, the consumer will grant to the city an easement, right-of-way, or license for such installation.
- (e) It is unlawful for any person having a permit to dig up any portion of any street or alley of the city for the purpose of connecting with the sewer system of the city and fail or neglect to place the street or alley in its original condition under the supervision of the city and as required by it.
- (f) Within 15 days from the date of transfer of occupancy, the customer shall deliver written notification to the city of any such change in occupancy of the real property.

(Ord. No. 2-01-1, § I(2-01-1.59), 2-13-2001)

*Item 8.*



## **Sec 50-212 Implied Service Agreement**

*Item 8.*

In the absence of a signed service agreement, the rental for wastewater service by the city and the acceptance thereof by the customer shall be deemed to constitute an agreement by and between the city and the customer for rental and acceptance of wastewater service under the terms and conditions contained in this chapter and the applicable rate schedule.

(Ord. No. 2-01-1, § I(2-01-1.60), 2-13-2001)

## Utility Operator Pay Plan#1 Flagstaff

Pay Grade	Position Title	FLSA	1	2	3	4	5	6	7	8
OWO	Utility Services Operator Trainee/Apprentice	N	\$ 19.20	\$19.87						
1WO	Utility Services Operator Grade 1	N	\$ 19.87	\$ 21.20	\$ 22.61	\$ 24.11	\$ 25.69			
2WO	Utility Services Operator Grade 2	N	\$ 21.16	\$ 22.49	\$ 23.90	\$ 25.39	\$ 26.98	\$ 28.66		
3WO	Utility Services Operator Grade 3	N	\$ 22.19	\$ 23.52	\$ 24.93	\$ 26.42	\$ 28.01	\$ 29.69	\$ 31.47	
4WO	Lead Utility Services Operator	N	\$ 23.22	\$ 24.55	\$ 25.96	\$ 27.45	\$ 29.04	\$ 30.72	\$ 32.50	\$ 34.70
5WE	Utility Supervisor	E	\$27.45	\$29.04	\$30.72	\$32.50	\$34.70	\$37.04	\$39.27	
6WE	Utility Superintendent	E	\$39.27	\$41.23	\$43.29	\$45.46	\$46.82			
	updated 12/23/2023									

## Utility Operator Plan #2 Private Water CO AW

Pay Grade	Position Title	FLSA	1	2	3	4	5	6	7	8
OWO	Utility Services Operator Trainee/Apprentice	N	\$ 19.20	\$19.87						
1WO	Utility Services Operator Grade 1	N	\$ 19.87	\$ 21.20	\$ 22.61	\$ 24.11	\$ 25.69			
2WO	Utility Services Operator Grade 2	N	\$ 21.16	\$ 22.49	\$ 23.90	\$ 25.39	\$ 26.98	\$ 28.66		
3WO	Utility Services Operator Grade 3	N	\$ 22.19	\$ 23.52	\$ 24.93	\$ 26.42	\$ 28.01	\$ 29.69	\$ 31.47	
4WO	Lead Utility Services Operator	N	\$ 25.29	\$ 26.55	\$ 27.87	\$ 29.26	\$ 30.14	\$ 31.05	\$ 32.60	
5WE	Utility Supervisor	E	\$27.45	\$29.04	\$30.72	\$32.50	\$34.70	\$37.04	\$39.27	
6WE	Utility Superintendent	E	\$39.27	\$41.23	\$43.29	\$45.46	\$46.82			
	updated 12/23/2023									

Utility Operator Plan #3  
Chino Valley

Pay Grade	Position Title	FLSA	Min	Midpoint	Max					
OWO	Utility Technician Trainee/Apprentice	N	\$ 19.20	\$19.87	\$20.03					
1WO	Utility Services Operator Grade 1	N	\$ 20.03	\$ 23.78	\$ 27.54					
2WO	Utility Services Operator Grade 2	N	\$21.43	\$25.44	\$29.46					
3WO	Utility Services Operator Grade 3	N	\$22.93	\$27.22	\$31.52					
4WO	Lead Utility Services Operator	N	\$24.53	\$29.12	\$33.72					
5WE	Utility Supervisor	E								
6WE	Utility Superintendent	E								
	updated 12/23/2023									

**PROPOSED HCC Utility Department  
January 2024**

Pay Grade	Position Title	FLSA	Min	Midpoint	Max					
OWO	Utility Technician Trainee/Apprentice	N	\$ 19.20	\$19.87	\$20.03					
1WO	Utility Services Operator Grade 1	N	\$ 20.03	\$ 23.78	\$ 27.54					
2WO	Utility Services Operator Grade 2	N	\$21.43	\$25.44	\$29.46					
3WO	Utility Services Operator Grade 3	N	\$22.93	\$27.22	\$31.52					
4WO	Lead Utility Services Operator	N	\$24.53	\$29.12	\$33.72					
5WE	Utility Supervisor	E	\$27.45	\$29.04	\$30.72	\$32.50	\$34.70	\$37.04	\$39.27	
6WE	Utility Superintendent	E	\$39.27	\$41.23	\$43.29	\$45.46	\$46.82			
	Proposed 1/4/2024									

The above table for wage and compensation allows incentive pay for staff who study for and receive certifications in the various areas of discipline within Utility's. This model may also be used for compensation in other departments within the City and Town. The model may provide incentives for certifications for specific job functions in the other areas within the City and Town.

This model provides a range which allows the departmental Administrator flexibility for rewarding employees based on performance, productivity and additional growth within the department and based on the annual appraisals, goal setting and job accomplishments. Based on the year and the budget it may be possible to set a maximum increase in any given year allowed by the City or Town Manager within the ranges.

# HILDALE CITY & TOWN OF COLORADO CITY CULINARY WATER MASTER PLAN UPDATE

January 2024

**DRAFT**

PREPARED BY:



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Appendix D – System Maps

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## I. INTRODUCTION

Hildale City is located along Highway 59 in Washington County in southwestern Utah. The Town of Colorado City is neighboring Hildale, just across the border in Mohave County, Arizona. The water system is shared and funded by both communities (city) and is operated and maintained by the Hildale & Colorado City Utility Department (HCCUD) through an Inter-Governmental Agreement (IGA) with Colorado City. This plan was created with coordination from staff from Hildale City, the Town of Colorado City and the HCCUD.

Hildale City completed a previous Culinary Water Master Plan Update in 2020, which was an update to their 2014 plan. Hildale City has contracted with Sunrise Engineering to complete an update to the 2020 plan. While this is a shorter window between plans than is typical, the city has recognized that conditions and future projections have changed significantly in that short time period. The intent of this update is to account for these changes.

The culinary water system has been analyzed under the State of Utah Division of Drinking Water guidelines to determine the current system status and to evaluate possible system needs as the community grows during the next 20 years. As part of this plan, Sunrise Engineering, Inc. has included recommended improvements to the culinary water system and has developed a potential financing plan that will help Hildale City and the Town of Colorado City obtain the necessary funds for the recommended improvements.

This plan also serves as the Impact Fee Facilities Plan for Hildale City and includes an Impact Fee Analysis. This plan also serves as the Infrastructure Improvements Plan for the Town of Colorado City.

This report does not analyze water rights or a secondary water system. This plan also does not include a user rate analysis.

## II. SYSTEM USERS' ANALYSIS

### A. LENGTH OF PLANNING PERIOD

It is typical for a master plan to use a 10 or 20-year planning period. The first year of a 10-year planning period would be the calendar year 2024 with the 10<sup>th</sup> and final year being 2033. This plan will use fiscal years and will assume a 20-year (2024-2043) planning period for recommended improvements. This period will allow an adequate evaluation of the system for potential infrastructure improvements or other needs. Revenue sources should be carefully evaluated each year as budgets are set by the city and town council.

### B. PROJECTED GROWTH RATE

An important element in the development of the water system and capacity analysis is the projection of the city's population growth rate on an annual basis. This projection gives the planner an idea of the potential future demands on the culinary water system for the length of the planning period.

Projecting the number of future culinary water connections can be a subjective process. The most effective method of estimating the number of future connections is by analyzing past historical numbers of connections and census records. Because Hildale and Colorado City utilize the same water system, the census records and past numbers of connections of both Hildale and Colorado City were included in the analysis. In the past five years the communities have seen a fluctuation of positive and negative growth rates. Due to this fluctuation, analyzing the historical growth rates is an inaccurate method of predicting future growth for these communities. Figure II-1 below shows the historic population in both communities.

Figure II-1: Historic Population

Calendar Year	Hildale Population	Colorado City Population	Total Population	Est. Growth Rate	Number of Connections
2018	2,916	4,825	7,741	0.21%	863
2019	2,910	4,836	7,746	0.06%	763
2020	2,727	4,531	7,258	-6.30%	799
2021	2,825	4,694	7,519	3.60%	855
2022	2,931	4,871	7,802	3.76%	1,113

At the time of the previous plan, the communities anticipated minimal to no growth for the first few years of the planning window. However, in the past few years the communities have seen a significant increase in number of connections, and there are multiple new developments that are in various stages of construction and planning that are anticipated to come to each community in the planning window. Development is anticipated to continue at a relatively high rate for the length of the planning window. This abrupt change in growth is one of the main reasons the city is updating their culinary water master plan after only a few years.

Staff and elected officials from both communities looked at the upcoming developments in different stages of the approval process to determine a realistic number of anticipated new connections in future years. The number of anticipated new connections was used to determine a growth rate. In the discussions with staff from each community, it was determined that based on the expected timeline of new developments, a higher than typical growth rate will be assumed over the 20-year planning period. The following growth rates were used for this study:

- 2024-2028 (first 5 years) – 10% per year
- 2029-2033 (second 5 years) – 12% per year
- 2034-2038 (third 5 years) – 10% per year
- 2039-2043 (last 5 years) – 8% per year

### C. PROJECTED POPULATION & NUMBER OF CONNECTIONS

Based on the forecasted growth rates referenced above, the number of connections the city will need to plan for can be calculated with the compound interest formula shown below.

$$F = P(1 + i)^N$$

F = Future Population      P = Present Population

i = Projected Growth Rate    N = Years

This equation was used to project the community population and number of connections for each year in the planning period. Figure II-2 below shows a summary of the growth rate analysis. Appendix A shows the full analysis.

Figure II-2: Growth Rate Analysis Summary

Calendar Year	Est. Growth Rate	Hildale Population	Colorado City Population	Total Population	Hildale Connections	Colorado City Connections	Total Connections
2023		3,224	5,358	8,582	435	790	1,224
2024	10.0%	3,547	5,894	9,440	478	869	1,347
2025	10.0%	3,901	6,483	10,384	526	956	1,481
2026	10.0%	4,291	7,132	11,423	578	1,051	1,630
2027	10.0%	4,720	7,845	12,565	636	1,156	1,792
2028	10.0%	5,192	8,629	13,822	700	1,272	1,972
2029	12.0%	5,816	9,665	15,480	784	1,425	2,208
2030	12.0%	6,513	10,825	17,338	878	1,596	2,473
2031	12.0%	7,295	12,124	19,419	983	1,787	2,770
2032	12.0%	8,170	13,578	21,749	1,101	2,001	3,103
2033	12.0%	9,151	15,208	24,359	1,233	2,242	3,475
2034	10.0%	10,066	16,729	26,794	1,357	2,466	3,822
2035	10.0%	11,073	18,401	29,474	1,492	2,712	4,205
2036	10.0%	12,180	20,241	32,421	1,641	2,984	4,625
2037	10.0%	13,398	22,266	35,663	1,806	3,282	5,088
2038	10.0%	14,738	24,492	39,230	1,986	3,610	5,596
2039	8.0%	15,917	26,452	42,368	2,145	3,899	6,044
2040	8.0%	17,190	28,568	45,758	2,317	4,211	6,528
2041	8.0%	18,565	30,853	49,418	2,502	4,548	7,050
2042	8.0%	20,050	33,321	53,372	2,702	4,912	7,614
2043	8.0%	21,654	35,987	57,641	2,918	5,305	8,223

It is important to understand that projected growth rates are not the cornerstone of this plan. If the number of system connections projected is reached earlier or later than anticipated, future improvements to support growth may come either earlier or later.

#### D. PROJECTED EQUIVALENT RESIDENTIAL UNITS (ERU)

The water system is made up of multiple connection types. Hildale City and the Town of Colorado City report their different connections to the state as either residential, commercial, industrial, or institutional. Figure II-3 shows a summary of the number of connections by type.

Figure II-3: Total Number of Units Per Connection Type

Year	Residential	Commercial	Industrial	Institutional	Total
2018	730	72	24	37	863
2019	667	66	18	12	763
2020	695	70	20	14	799
2021	742	75	23	15	855
2022	939	98	28	48	1,113
2023	1,033	108	31	53	1,225

Each of these different connection types use different amounts of water at different flow rates. To properly analyze the systems usage, the number of connections is converted to equivalent residential units (ERU). This is done by taking the usage per connection of each connection type and dividing by the usage per connection of the average residential connection. Figure II-4 and Figure II-5 show the number of ERUs per connection type and the total number of ERUs. This plan will use the number of ERUs instead of the number of connections.

Figure II-4: ERUs Per Connection Type

Residential	Commercial	Industrial	Institutional
1.0	1.4	1.1	1.7

Figure II-5: Total Number of ERUs Per Connection Type

Year	Residential	Commercial	Industrial	Institutional	Total
2018	730	71	14	33	848
2019	667	90	23	26	806
2020	695	114	14	32	855
2021	742	109	22	51	924
2022	939	142	32	82	1,195
2023	1,033	156	35	90	1,314

Applying the growth rates that were established in Figure II-2 to the number of ERUs, the projected number of ERUs can be found for the end of the planning period.

Figure II-6: Projected Number of ERUs

Calendar Year	Hildale ERUs	Colorado City ERUs	Total ERU
2023	468	847	1,315
2024	515	931	1,446
2025	566	1,024	1,591
2026	623	1,127	1,750
2027	685	1,239	1,925
2028	754	1,363	2,117
2029	844	1,527	2,371
2030	945	1,710	2,656
2031	1,059	1,915	2,974
2032	1,186	2,145	3,331
2033	1,328	2,403	3,731
2034	1,461	2,643	4,104
2035	1,607	2,907	4,514
2036	1,768	3,198	4,966
2037	1,945	3,518	5,462
2038	2,139	3,870	6,009
2039	2,310	4,179	6,489
2040	2,495	4,513	7,008
2041	2,695	4,875	7,569
2042	2,910	5,265	8,175
2043	3,143	5,686	8,829

### E. AVERAGE CULINARY WATER USAGE

The State of Utah Public Drinking Water regulations require public water systems to meet requirements based upon usage. These requirements are found in the State Code R309. The code provides a standard usage based upon the types of connections serviced in a system. For a standard residential connection, the code says to assume an average daily usage of 400 gallons per day (gpd) per ERU. Historical usage data was provided by the HCCUD and that usage was compared against the 400 gpd to check if it would adequately represent the usage in the city's system.

The historical usage from the city was from meter data over the past 5 years (2018-2022). To check against the usage indicated in the State's Code R309, the average usage per ERU was calculated from the historical usage. The total average usage over the past 5 years was divided by the average number of ERUs and then converted to gpd/ERU as shown in the calculations below.

$$285,751,000 \text{ gallons} / 926 \text{ ERU} = 308,920 \text{ gallon/ERU/year}$$

$$308,920 \text{ gallon/ERU/year} / 365 \text{ days/year} = 846 \text{ gpd/ERU}$$

Figure II-7 shows a summary of the average usage and historical data that is explained above.

Figure II-7: Hildale & Colorado City Historical Usage Summary

Year	Total Usage (Thousand Gallons)	Number of Connections	Usage per Conn (gpd/conn)	Number of ERUs	Usage per ERU (gpd/ERU)
2018	303,105	863	962	848	979
2019	251,780	763	904	806	856
2020	285,109	799	978	855	914
2021	279,736	855	896	924	829
2022	309,026	1,113	761	1,195	708
5-Year Avg:	285,751	879	900	925	846

The 846 gpd/ERU average usage calculated from the city's historical usage is significantly higher than the usage that is indicated for use in the state code. This is because the average household size in the communities of Hildale City and Colorado City is larger than the average household size in the rest of the state. Because of the larger usage per ERU, this plan will determine usage demand based on the historical usage instead of the numbers from the state code. This method will result in a more realistic analysis and is the more conservative of the two methods.

The calculations in this report will be based on the historical average usage of **846 gpd/ERU** (0.59 gpm/ERU). It is recommended that future improvements be sized based on this average usage.

#### F. PEAK DAY DEMAND CULINARY WATER USAGE

Peak Day Demand (PDD) is defined by the Utah Administrative Code as the “anticipated water demand on the day of the highest water consumption”. The state code uses 800 gpd/ERU for a peak day demand of a standard residential unit which is twice the average day demand. Therefore, it can be assumed that the PDD for this plan is double the 846 gpd/ERU average demand calculated above. Doubling the average usage results in a peak demand of **1,692 gpd/ERU** (1.17 gpm/ERU).

#### G. PEAK INSTANTANEOUS DEMAND CULINARY WATER USAGE

Peak Instantaneous Demand (PID) can be described as the highest demand at any one instance in the system. This can be determined based on hourly usage if such data is available. Where hourly usage data does not exist, which is the case of this study, the State Code uses the following method to calculate the PID:

Indoor Usage:

$$Q_{peak\ indoor} = 10.8 \times N^{0.64}$$

Where N is the number of connections and Q is the flow in gpm

Outdoor Usage:

$$Q_{peak\ outdoor} = N \times Irr. \text{ Acreage} \times Demand \text{ Factor}$$

Where N is the number of connections, Irr. Acreage is the average area that is irrigated throughout the system and the Demand Factor is based on the zone given in Table 510-7 of R309-510 of the Utah Administrative Code.

This calculation results in a PID of **2,446 gpm** for the year 2024. It's important to note that the formula does not take into account the average household size, only the number of connections. The PID is expected to go down as the average household size decreases.

## H. CONSERVATION

This plan assumes a conservation rate of 0.5% per year over the planning period. This conservation factor is used to represent any conservation efforts from the city, existing connections, or new connections. This rate also takes into account the decrease in average household size that the communities are currently experiencing. This conservation results in the following demands at the end of the planning window.

- ADD (2043) = 766 gpd/ERU
- PDD (2043) = 1,531 gpd/ERU

The conservation factor is not used for the PID. As mentioned above, the PID is the highest demand on the system at any given moment. Conservation efforts do not have a major impact on the amount of water that could be used at any given moment.

### III. WATER SOURCE CAPACITY ANALYSIS

#### A. EXISTING WATER SOURCE

To analyze source capacity, all available culinary water sources must first be identified. These sources are listed in Figure III-1. The flow capacity numbers were acquired from the HCCUD.

Figure III-1: Hildale and Colorado City Existing Water Sources

Name/#	Flow (CFS)	Flow (gpm)
Wells		
4	0.265	119
8	0.134	60
10	0.189	85
11	0.178	80
17*	0.223	100
19	0.223	100
21	0.446	200
22	0.223	100
24	0.178	80
Academy	0.512	230
Power Plant**	0.000	0
Subtotal	2.571	1154
Springs		
Jans Canyon	0.036	16
Maxwell Canyon	0.143	64
Subtotal	0.178	80
Total Source	2.750	1234

\*Well 17 is currently being refurbished and is anticipated to produce 100 gpm once it is finished.

\*\*Power Plant Well can produce 244 gpm but is currently not plumbed to the treatment plant so it is unavailable and not counted as a source.

Listed spring flows are relatively constant. These springs were developed from a horizontal bore into the Navajo sandstone formation. The springs are currently used for Maxwell Park and a fill station. With the springs being used for these non-culinary uses the culinary system does not realize the full 80 gpm associated with the springs. These uses are unmetered, so it is not known what percentage of the spring water goes into the culinary water system.

#### B. EXISTING REQUIRED WATER SOURCE CAPACITY

The Utah State Code R309-510-7 states that a water system's source needs to meet "the anticipated water demands on the day of the highest water consumption which is the Peak Day Demand". The PDD was determined Section II.F as 1,692 gpd/ERU. The source capacity demand for the water system was calculated by multiplying the PDD from Section II.F by the total number of ERUs existing in the system. The results of the analysis are presented in gallons per minute. The results of this analysis are shown in Figure III-2 and the calculation is shown in Appendix B.



Figure III-2: Required Source Capacity (Existing Conditions)

Total Required Source Capacity	1,700 gpm
Total Existing Source Available	1,234 gpm
Existing Source Capacity Deficit	-466 gpm

### C. PROJECTED REQUIRED WATER SOURCE CAPACITY

The projected culinary water source capacity required at the end of the planning period is determined from the same factors explained in Section III.B, but the projected number of ERUs is inserted into the calculations instead of the number of existing ERUs. The results of the analysis are shown below in Figure III-3, Figure III-4, and Figure III-5.

Figure III-3: Required Source Capacity (5-year Planning Period)

Total Required Source Capacity	2,440 gpm
Total Existing Source Available	1,234 gpm
Existing Source Capacity Deficit	-1,206 gpm

Figure III-4: Required Source Capacity (10-Year Planning Period)

Total Required Source Capacity	4,190 gpm
Total Existing Source Available	1,234 gpm
Existing Source Capacity Deficit	-2,956 gpm

Figure III-5: Required Source Capacity (20-Year Planning Period)

Total Required Source Capacity	9,397 gpm
Total Existing Source Available	1,234 gpm
Existing Source Capacity Deficit	-8,163 gpm

### D. RECOMMENDED WATER SOURCE CAPACITY IMPROVEMENTS

The analysis above shows that the existing available source is not sufficient to accommodate a peak day demand. The historical experience has been that during peak summer months with the system running at full capacity, the city is unable to provide enough water. Without being able to provide enough water to meet system demand the water levels in the storage tanks gradually drop during summer months affecting available fire flow and water pressures. This has caused both communities to enact water restrictions during summer months for the last several years.

Significant source availability improvements are needed now as well as in upcoming years. Hildale City and the Town of Colorado City have performed multiple studies over the years looking at different ways to improve the quantity and quality of available source. These studies, as well as this plan, provided several recommended improvements. This plan incorporates the recommendations from these studies. However, these improvements do not provide enough sources to cover the required source capacity in the planning windows.

In order to increase the available source to meet the projected required source capacity, this plan assumes that a significant number of new wells will need to be drilled. In addition to the recommended improvements from previous studies, this plan recommends additional well fields to be installed at the 0–5-year, 6–10-year, and 11–20-year windows. These well fields are included in the recommendations as 6 single projects with one well field for each community in each of the planning windows. The following assumptions were used in calculating the number of needed wells:

- Each well has a flow of 120 gpm, the average flow of all existing wells.
- The required flow for each planning window's well field is equivalent to the source deficit at the end of each planning period.
- The number of wells required was found by taking the total required flow divided by the average flow per well, then multiplied by the respective percentage to split the number of wells between the two states.

It is recommended that a well siting study be performed to identify the best possible locations to drill new wells. Because locations are not specified for these additional wells, the wells are not shown in the recommended improvements map in Appendix D.

#### 1. 1 TO 5 YEAR IMPROVEMENTS

- Treatment Plant Wells – The quickest available option to help increase source capacity is to drill two additional wells on the Arizona side of the system, one shallow well and one deep well. This portion of Arizona is an open basin and does not require obtaining water rights to drill and use a well. The city is currently working on a study to evaluate the locations of these two wells. The preliminary idea is to drill the wells near the treatment plant. Based on the output of existing wells, it is anticipated that these wells will produce roughly 80 gpm for the shallow well and 120 gpm for the deep well. The well study will help refine these estimated flows.
- 5-Year Arizona Well Field – It is anticipated that this project will comprise of 7 wells producing the needed total of 840 gpm.
- 5-Year Utah Well Field – It is anticipated that this project will comprise of 7 wells producing the needed total of 840 gpm and will require corresponding water rights.

#### 2. 6 TO 10 YEAR IMPROVEMENTS

- 10-Year Arizona Well Field - It is anticipated that this project will comprise of 8 wells producing the needed total of 960 gpm.

- 10-Year Utah Well Field - It is anticipated that this project will comprise of 8 wells producing the needed total of 960 gpm and will require corresponding water rights.

### 3. 11 TO 20 YEAR IMPROVEMENTS

- Trailhead Well 1 – The city is looking at drilling additional wells in the nearby canyons to the northeast. The water from these canyons would be obtained from different geologic formations than their current wells. The hope is that the water quality is similar to the Jans Canyon and Maxwell Canyon springs. Trailhead Well 1 would be located on city owned property near the Squirrel Canyon Trailhead. This well would provide additional source to the city but primarily will act as a test to determine potential quantity and quality of water. It is estimated that this well could produce 175 gpm. These wells are in Utah and will require water rights to drill and use the well. The city currently has water rights that can apply for a water rights transfer to the location of the proposed well.
- Trailhead Well 2- If the Trailhead Well 1 proves to be a successful route for obtaining additional source, it is recommended that the city continue to pursue this source with an additional well on the city owned land next to the Squirrel Canyon Trailhead. This well and all future wells up the canyon will require obtaining additional water rights. This well is also estimated to produce 175 gpm.
- Hildale Groundwater Project Phase I - If the Trailhead Wells are successful at producing good quality water, this plan recommends that additional wells be drilled in the area northeast of Hildale. These wells would be located on Bureau of Land Management (BLM) property and would require environmental studies and going through BLM's process (such as a SF299 application and Plan of Development) for obtaining right-of-way on BLM land. The city has already begun working through this process with the help of the Washington County Water Conservancy District. Based on the best available information that the city has, it is estimated that this project would produce roughly 350 gpm. The exact location of these wells will be determined through coordination with the city and BLM.
- Hildale Groundwater Project Phase II- This phase involves drilling two additional wells in different location than Phase I but in the same general BLM owned area. Phase II would require the same BLM process and need for additional water rights. This phase is also estimated to produce roughly 350 gpm.
- Hildale Groundwater Project Phase III – This phase is similar to the first two and involves additional wells in the BLM owned area Northeast of Hildale. It is estimated that this phase will produce 175 gpm.
- 20-Year Arizona Well Field - It is anticipated that this project will comprise of 14 wells producing the needed total of 1,680 gpm.
- 20-year Utah Well Field - It is anticipated that this project will comprise of 14 wells producing the needed total of 1,680 gpm and will require corresponding water rights.

These recommended improvements are summarized in Figure III-6. The projects with identified locations are shown in the Recommended Improvements exhibit in Appendix D.

Figure III-6: Summary of Recommended Source Improvements

Name/#	Flow (CFS)	Flow (gpm)	Est. Year Installed
<b>Wells</b>			
Treatment Plan Shallow	0.178	80	2024
Treatment Plant Deep	0.267	120	2024
1-5 Year AZ Well Field	1.872	840	2026
1-5 Year UT Well Field	1.872	840	2026
6-10 Year AZ Well Field	2.139	960	2033
6-10 Year UT Well Field	2.139	960	2033
Trailhead Well 1	0.390	175	2034
Trailhead Well 2	0.390	175	2034
Hildale Groundwater Project PH I	0.780	350	2035
Hildale Groundwater Project PH II	0.780	350	2036
11-20 Year AZ Well Field	3.743	1,680	2039
11-20 Year UT Well Field	3.743	1,680	2039
Hildale Groundwater Project PH III	0.390	175	2040
<b>Total Projected New Source</b>	<b>18.683</b>	<b>8,385</b>	

The estimated schedule for the recommended improvements is based on projected growth and the anticipated project priority. It is recommended that the early projects be pushed forward as much as possible as funding options become available.

#### E. SOURCE CAPACITY SUMMARY

Figure III-7 and Figure III-8 show the comparison between the available source capacity and the projected required source capacity. The available source capacity in Figure III-8 represents the source capacity available with the implementation of the recommended improvements including the various new wells required in each planning window.

Figure III-7: Projected Source Capacity with Existing Conditions

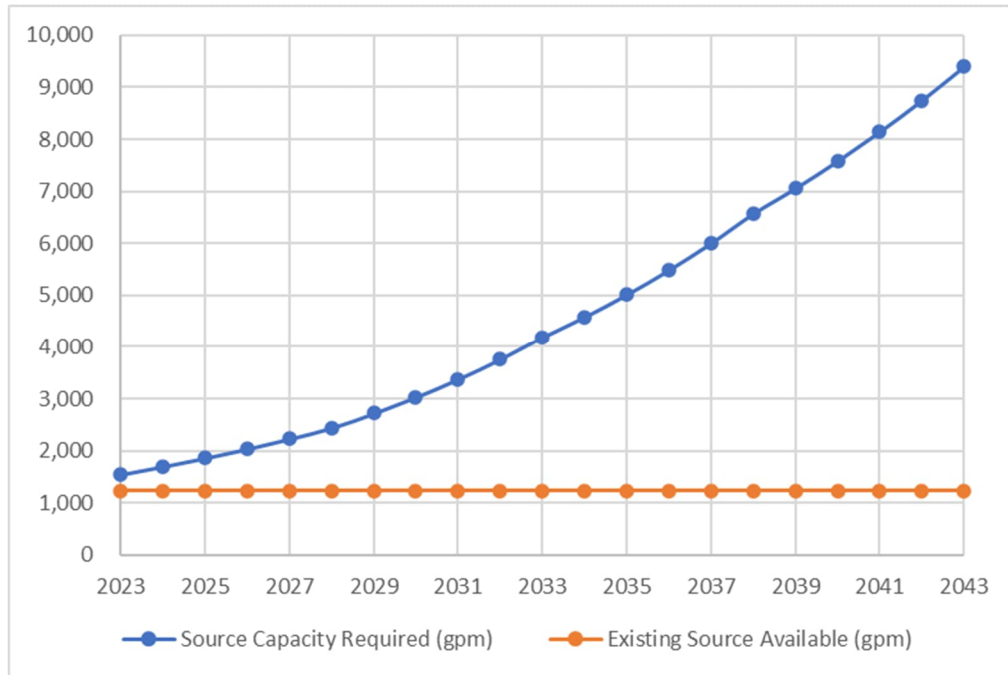
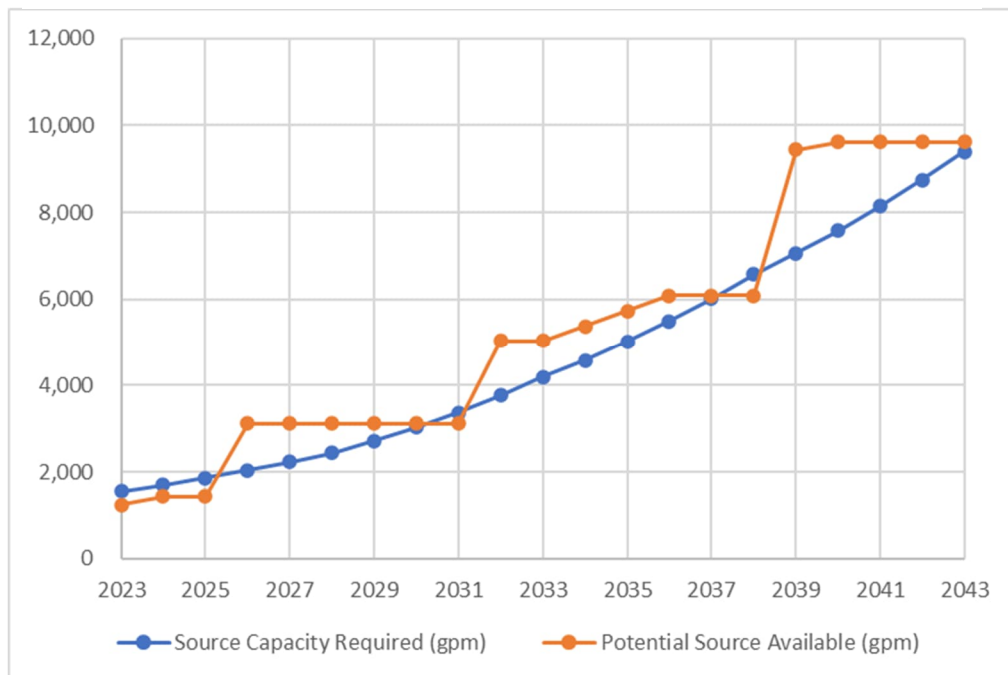


Figure III-8: Projected Source Capacity with Recommended Improvements



#### IV. WATER STORAGE CAPACITY ANALYSIS

Water storage capacity requirements are found in the State of Utah Public Drinking Water Regulations, R309-510. These regulations require storage for the community's culinary water system to meet one full day's average use requirement for all connections in the community in addition to fire flows for a minimum of two hours.

##### A. EXISTING WATER STORAGE CAPACITY

There are currently four existing water storage tanks. These tanks are identified in Figure IV-1 below. The Saddle Tank is higher than the other three, and it receives water from the springs. The outlet to the Saddle Tank is near the top of the tank allowing unpressurized outflow. In an emergency, there is a valve that can be opened to utilize the storage in the tank. The other three tanks all have the same high-water elevation and receive water from the wells through the treatment plant.

Figure IV-1: Storage Capacity Summary

Existing Tank	Available Storage (gal)
Saddle Tank	60,000
800,000 Gallon Tank	800,000
600,000 Gallon Tank	600,000
Elm Street Tank	1,000,000
<b>Total Existing Storage Capacity</b>	<b>2,460,000</b>

##### B. EXISTING REQUIRED WATER STORAGE CAPACITY

As shown in Section II-E, average water usage per ERU also known as the Average Day Demand (ADD) in the water system is 846 gpd/ERU. In general, fire flow requirements are set by the local Fire Authority or are based on building size and type of construction. This plan uses the same minimum fire flow as the previous plans of 1,500 gpm.

The required storage capacity was calculated by multiplying the ADD by the total number of ERUs currently existing in the system and adding the required fire flow of 1,500 gpm for 2 hours. When compared with the system's total storage capacity summarized above, the calculation shows that the city has surplus total storage capacity under current conditions. The results of this analysis are shown in Figure IV-2.

Figure IV-2: Required Storage Capacity (Existing Conditions)

Total Required Storage Capacity	1,404,162 gal
Total Existing Storage Available	2,460,000 gal
Existing Storage Capacity Surplus	1,055,838 gal

### C. PROJECTED REQUIRED WATER STORAGE CAPACITY

The projected culinary water storage capacity required at the end of the planning period is determined from the same factors explained in Section IV.B, but the projected number of ERUs is inserted into the calculations instead of the number of existing ERUs. The results of the analysis are shown below in Figure IV-4 and Figure IV-5.

Figure IV-3: Required Storage Capacity (5-Year Planning Window)

Total Required Storage Capacity	1,756,821 gal
Total Existing Storage Available	2,460,000 gal
Existing Storage Capacity Surplus	703,179 gal

Figure IV-4: Required Storage Capacity (10-Year Planning Window)

Total Required Storage Capacity	3,196,811 gal
Total Existing Storage Available	2,460,000 gal
Existing Storage Capacity Deficit	-736,811 gal

Figure IV-5: Required Storage Capacity (20-Year Planning Window)

Total Required Storage Capacity	6,945,872 gal
Total Existing Storage Available	2,460,000 gal
Existing Storage Capacity Deficit	-4,485,872 gal

The current storage capacity is not able to provide enough water for the 10- and 20-year windows. Therefore, improvements will be required in the future.

### D. STORAGE CAPACITY CHALLENGES

The storage capacity analysis results show that the city has adequate storage for their current needs. However, with the growth the city is expecting, the required storage will surpass the currently available storage capacity. In addition, there are still some concerns and shortcomings with the existing storage facilities.

- During summer months water operators have expressed concerns that because they are barely able to meet system demands with the wells during the day, and are not able to keep the tanks full. Therefore, the system does not have the full available storage shown in the calculation above.
- The water system consists of a single pressure zone. There are multiple areas around the system within each of the community's limits that are at an elevation higher than the existing tanks can serve and still meet pressure requirements.

## E. RECOMMENDED WATER STORAGE CAPACITY IMPROVEMENTS

Improvements need to be made to provide storage for the projected growth. An analysis was done to determine the location of the ERUs at the end of the planning period based on the available information regarding upcoming development mentioned in Section II.B. The system was divided into six regions and the total projected ERUs were placed in their corresponding region. This resulted in the following total projected ERUs per region:

- Northeast: 251 ERUs
- Northwest: 5,305 ERUs
- Central East: 376 ERUs
- Central West: 345 ERUs
- Southeast: 1,630 ERUs
- Southwest: 327 ERUs

The results of this analysis was used to determine the location and size of the recommended storage improvements. Using the minimum sizing requirement of 846 gpd/ERU a storage requirement was calculated for each region. This results in the following approximate storage required for each region:

- Northeast: 215,000 Gallons
- Northwest: 4,500,000 Gallons
- Central East: 320,000 Gallons
- Central West: 300,000 Gallons
- Southeast: 1,400,000 Gallons
- Southwest: 280,000 Gallons

The areas that require the most storage is the Northwest and Southeast. The existing tanks are able to provide the storage required for the other four regions. To reach the required storage the system needs storage in the following locations:

- Northwest: 4,000,000 Gallons
- Southeast: 500,000 Gallons

This additional 4.5 million gallons of storage will reach the states minimum sizing requirements. To provide emergency storage this plan also recommends an additional 1 million gallons of storage. This plan recommends 4 different storage projects be installed within the planning period to provide this additional storage. The recommended projects are as follows:

### 1. 1 TO 5 YEAR IMPROVEMENTS

- Sandhill Tank 1 – This tank would be constructed above the Elm Street tank to create a higher-pressure zone that would cover the area north of Utah Avenue and east of the highway. This project would include a booster pump to get water to the tank and valving to create the new pressure zone. It is recommended this tank be at least a 2 million gallons.



## 2. 6 TO 10 YEAR IMPROVEMENTS

- There are no recommended improvements for this planning period.

## 3. 11 TO 20 YEAR IMPROVEMENTS

- **Trailhead Tank** - This tank would be installed on the same site as the two wells recommended in Section III-D in the area Squirrel Canyon. This tank would serve two purposes. First, it would collect the water from the proposed Trailhead Wells and the Hildale Groundwater Project wells. The second purpose is to create a higher-pressure zone on the northeast side of Hildale. This pressure zone would serve the existing services and new development up the canyons north of Williams Avenue. This plan recommends the tank capacity to be 500,000 gallons, but the capacity should be reevaluated after the city receives results on how much water can be obtained from Trailhead Well 1.
- **South Concrete Tank** – In the southeast region of Colorado City, additional storage is required to provide storage for the new developments that are anticipated to be built in the area. It is recommended that the tank be 1,000,000 gallons and installed to be at the same elevation as the existing tanks.
- **Sandhill Tank 2** – Recently Hildale City annexed land west of the previous city limits. There are new developments for this area in the preliminary planning stages for this area and it is anticipated that these developments will be started within the planning window. This tank would be used to serve development in this area. This plan uses a recommended storage capacity of 2,000,000 gallons and anticipates that the tank will be located in a similar area and elevation as the Sandhill Tank 1. As these developments progress further along the planning stages it is recommended that the size and location of this tank be reevaluated.

These recommended storage improvements are summarized in Figure IV-5. Appendix D includes an exhibit showing the location of these improvements.

Figure IV-6: Summary of Recommended Storage Improvements

Proposed Tank	Available Storage	Recommended Elev. (ft)	Est. Installation Date
Sandhill Tank 1	2,000,000	5,340	2025
Trailhead Tank	500,000	5,270	2034
South Concrete Tank	1,000,000	5,160	2035
Sandhill 2 Tank	2,000,000	5,340	2038
Total Projected New Storage	5,500,000		

## F. STORAGE CAPACITY SUMMARY

Figure IV-7 and Figure IV-8 show the comparison between the available storage capacity and the projected required storage capacity. The available storage capacity in Figure IV-8 represents the storage capacity available with the implementation of the recommended improvements.

Figure IV-7: Projected Storage Capacity with Existing Conditions

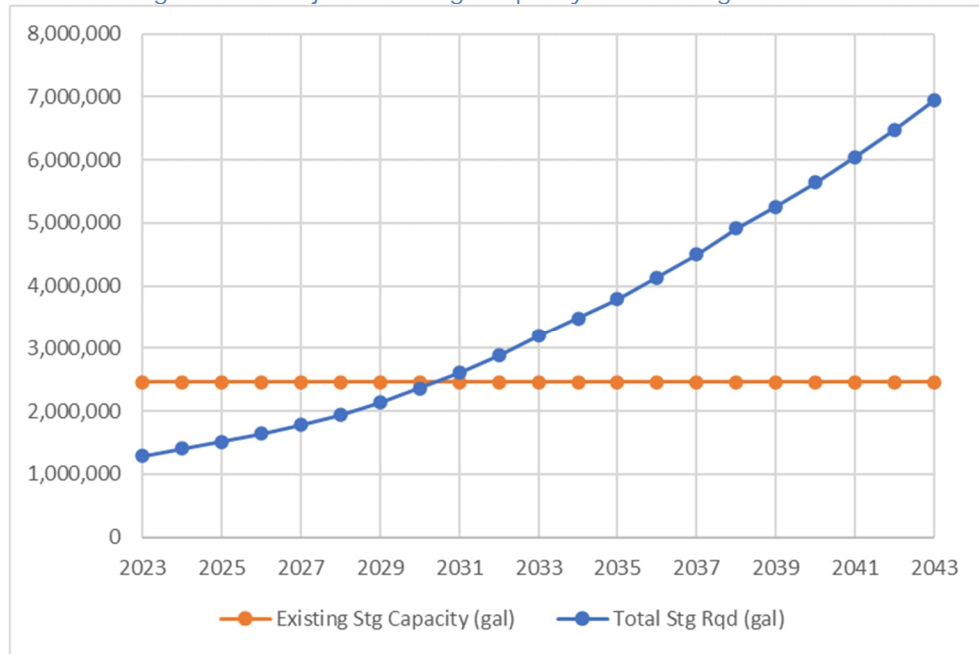
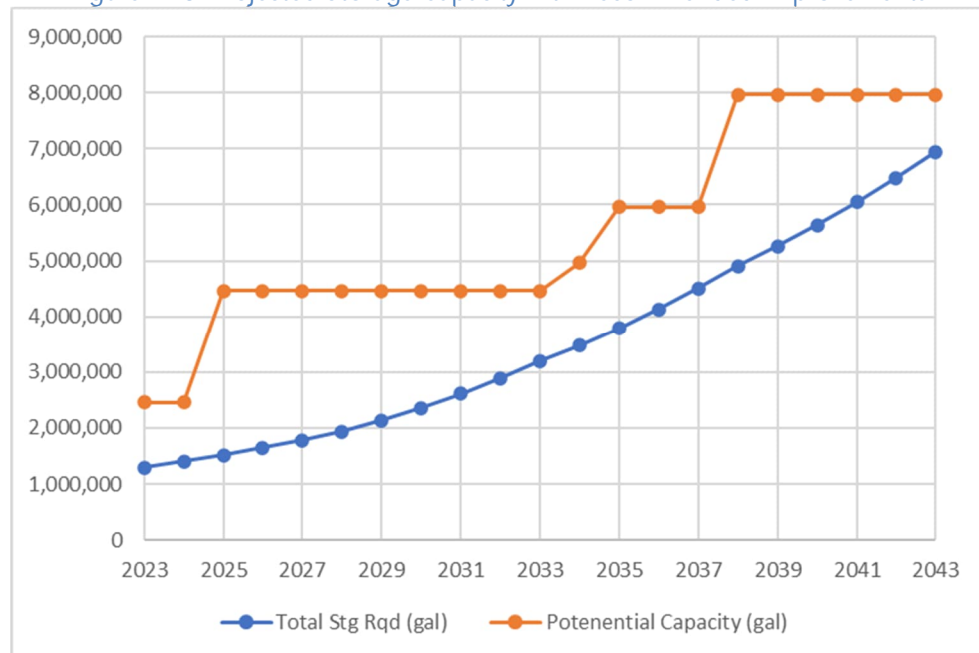


Figure IV-8: Projected Storage Capacity with Recommended Improvements



## V. WATER TREATMENT REQUIREMENTS AND ANALYSIS

### A. GENERAL REQUIREMENTS

The State of Utah Public Drinking Water Regulations, in accordance with the National Safe Drinking Water Act, have adopted “primary” regulations for the protection of public health and “secondary” regulations related to taste and aesthetics. The regulations recommend that all culinary water sources have provisions for continuous disinfection. Hildale and Colorado City have a culinary water treatment facility to treat the existing wells to meet the State’s requirements.

### B. EXISTING TREATMENT FACILITIES

The existing culinary water treatment plant uses a greensand filtration process which includes pretreating the water with potassium permanganate. The plant contains 6 pressure vessels designed to operate in parallel and treat 2,400 gpm. However, based on available data and communicating with system staff, the plant has demonstrated a functional capacity to treat approximately 2,000 gpm. The treatment plant needs to be able to treat more than the PDD so the system doesn’t run out of water. Figure V-1 below shows how the treatment plant capacity compares to the PDD.

Figure V-1: Required Treatment Capacity (Existing Conditions)

Total Required Source Capacity (PDD)	1,700 gpm
Total Existing Treatment Capacity	2,000 gpm
Existing Source Capacity Surplus	300 gpm

### C. PROJECTED WATER TREATMENT CAPACITY

As the communities continue to grow, the demands on the system will grow as well. The treatment plants will need to accommodate the increasing PDD. Below is a summary of the projected treatment capacity in relation to future treatment requirements.

Figure V-2: Projected Required Treatment Capacity (5-Year Planning Window)

Total Required Source Capacity (PDD)	2,440 gpm
Total Projected Treatment Capacity	2,000 gpm
Existing Treatment Capacity Deficit	-440 gpm

Figure V-3: Projected Required Treatment Capacity (10-Year Planning Window)

Total Required Source Capacity (PDD)	4,190 gpm
Total Projected Treatment Capacity	2,000 gpm
Existing Treatment Capacity Deficit	-2,190 gpm

Figure V-4: Projected Required Treatment Capacity (20-Year Planning Window)

Total Required Source Capacity (PDD)	9,397 gpm
Total Projected Treatment Capacity	2,000 gpm
Existing Treatment Capacity Deficit	-7,397 gpm

The existing treatment plant will not be able to treat enough water beyond the 5-year planning window. Improvements will need to be made to expand the treatment capacity in the near future.

#### D. RECOMMENDED WATER TREATMENT FACILITY IMPROVEMENTS

As mentioned before, the treatment plant has a surplus under existing conditions but will need to be improved within the next few years. The following recommendations are made to improve the treatment capacity:

##### 1. 1 TO 5 YEAR IMPROVEMENTS

- Raw Water Transmission Line - The raw water transmission lines which carry water from the wells to the treatment plant should be improved. These lines are old, undersized, and have iron and other mineral deposits adhering to the pipe. It is possible the amount of flow going to the treatment plant is restricted by these deposits. This project is a part of the Mohave County ARPA Water project and it is currently in the design phase. It is recommended that a new 12" transmission line be installed in Richard St. to convey water from the wells south of the treatment plant. It is also recommended that access points be installed that allow water operators to flush and clean out the lines on the new line and on the remaining existing raw water lines.
- Small Treatment Plant – The treatment capacity needs to be increased within the 5-year planning window, so it is recommended that a new treatment plant be constructed. This plant is recommended to treat approximately 1,600 gpm. There is no specific location selected for this plant, however it is recommended that it be built near the Power Plant well so that it can be incorporated into the culinary water system.

##### 2. 6 TO 10 YEAR IMPROVEMENTS

- There are no recommended improvements for this planning period.

##### 3. 11 TO 20 YEAR IMPROVEMENTS

- Additional Treatment Capacity Phase I - With the previous plant implemented, the treatment facilities will again be at a deficit again in the 11-20-year window. An additional 3,000 gpm will need to be added. This can be accomplished by either expanding the previous plant or building an entirely new plant. For planning purposes this report assumes

that a new treatment plant will be constructed. There is no location selected for a new plant, but once a well site study has been completed, it's recommended that the location be central to the additional wells that are constructed.

- **Additional Treatment Capacity Phase II** – In this planning window, an additional 3,000 gpm is necessary to be able to treat enough water for the system. There is no direct recommendation for this, however some options include improving the existing plant, expanding upon the Phase I Improvements, or constructing a new plant. The EOPC in Appendix C shows the cost of constructing a new plant.

This plan only identifies the deficit in treatment capacity and recommends general projects to make up the deficit. It does not include a detailed analysis or evaluation of treatment options or equipment.

## E. TREATMENT CAPACITY SUMMARY

Figure V-5 and Figure V-6 show the comparison between the available treatment capacity and the projected required treatment capacity. The available treatment capacity in Figure V-6 represents the treatment capacity available with the implementation of the recommended improvements.

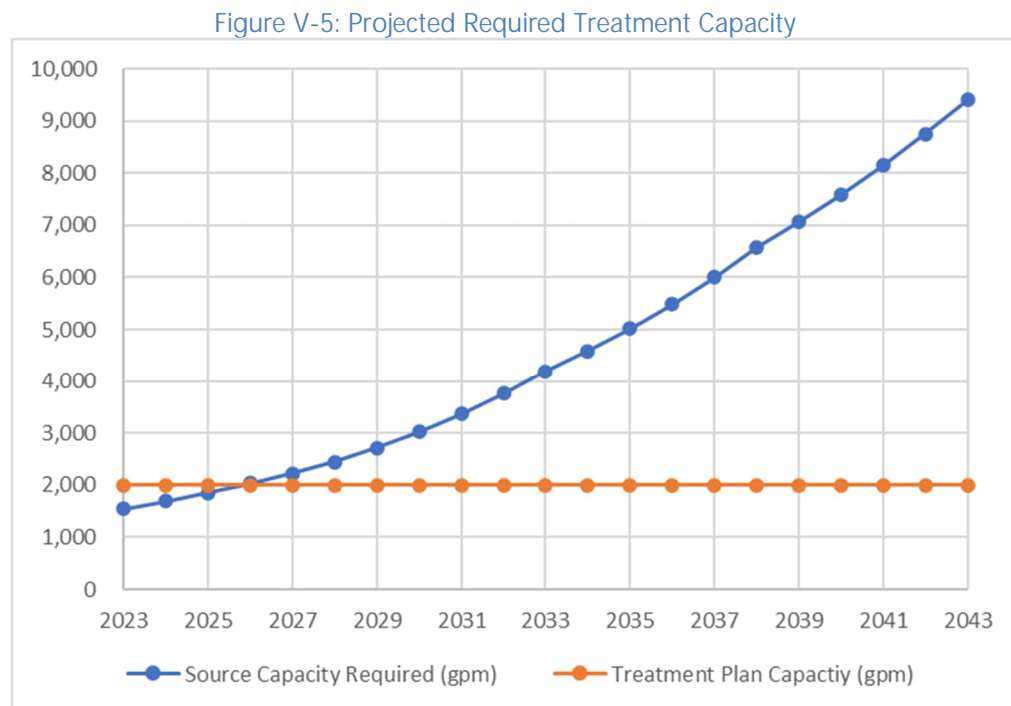
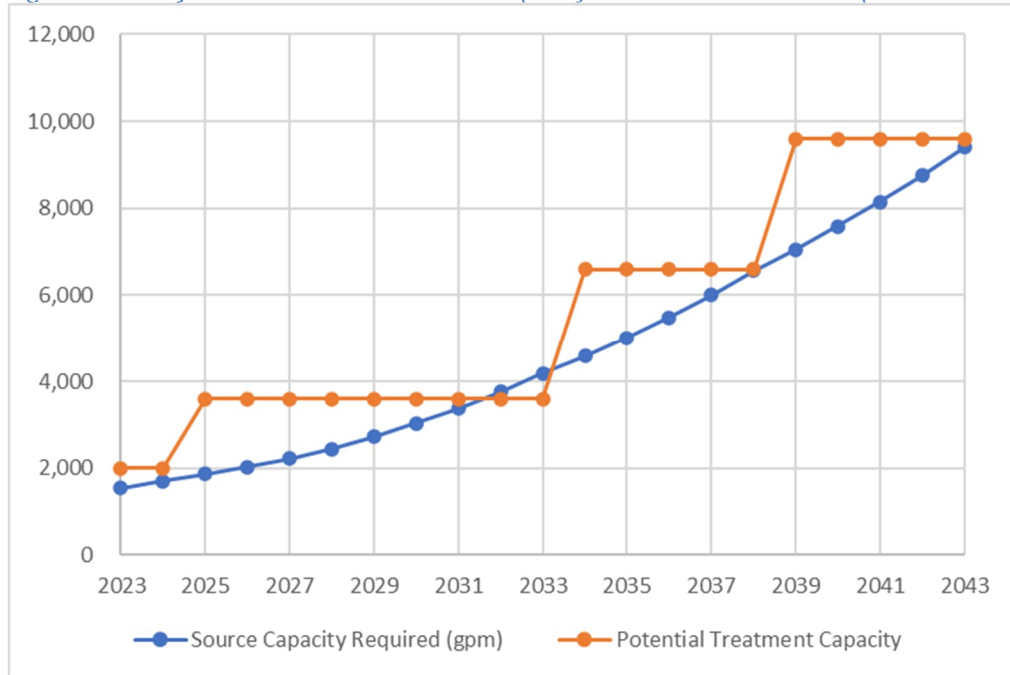


Figure V-6: Projected Available Treatment Capacity with Recommended Improvements



## VI. WATER DISTRIBUTION SYSTEM ANALYSIS

The State of Utah Public Water Regulations, R309-105-9, states three pressure conditions which must be met to demonstrate adequate service capacity of a system. These conditions are:

- At least 40 psi must be retained as residual pressure in the distribution system under a Peak Day Demand (PDD).
- At least 30 psi must be retained as residual pressure in the distribution system under Peak Instantaneous Demand (PID)
- At least 20 psi must be retained as residual pressure in the distribution system under PDD plus fire flow conditions.

### A. EXISTING DISTRIBUTION SYSTEM ANALYSIS

The existing PDD and PID were calculated in Section II. These flows are shown below:

- PDD – 1,692 gpd/ERU = 1,699 gpm with the existing number of ERUs
- PID – 2,446 gpm

As mentioned in Section IV.B, this report uses a fire flow of 1,500 gpm.

The existing Hildale and Colorado City culinary water distribution system has been modeled using the computer program WaterGEMS by Bentley Systems, Inc. For the existing system network there are areas which provide less than the required 40 psi of pressure for PDD, areas that provide less than 30 psi for PID, and areas that do not provide adequate fire flow. For the most part, the deficiencies in each of these requirements fall in the same areas of the system. Exhibits showing the areas of low pressure and fire flow are found in Appendix D. Below is a summary of these areas:

- Northwest Hildale (area between Utah Avenue and the Elm Street tank) – This area suffers from poor fire flow, lack of hydrants, and low pressure during PDD and PID. Fire flows in this area have been modeled as low as 253 gpm during PDD. This is largely the result of proximity to the elevation of the Elm St. tank. Pressures during PDD and PID are as low as 17 psi and 14 psi respectively.
- Northeast Hildale (area north of Jessop Avenue and west of Carlin Street) – This area suffers from poor fire flow, lack of hydrants, and low pressure during PDD and PID. Fire flows in this area have been modeled as low as 175 gpm during PDD. This is largely the result of proximity in elevation to the tanks, smaller line sizes, and lack of looping. Pressure during PDD and PID are as low as 27 psi and 21 psi respectively.
- East Colorado City (Between Edson Avenue and E Johnson Avenue) – This area suffers from poor fire flow and slightly low pressures during PDD and PID scenarios. Fire Flows

have been modeled as low as 544 gpm during PDD. This is largely due to the elevation of the area being too close to the same elevation of the existing tanks.

## B. PROJECTED DISTRIBUTION SYSTEM ANALYSIS

The projected distribution system analysis is performed using the same assumptions as in the existing system analysis, except that the projected number of connections for the 20-year planning window is inserted into the calculations. The results of this calculation for both PDD and PID are shown below:

- PDD – 1,531 gpd/ERU = 9,387 gpm with the projected number of ERUs
- PID – 11,412 gpm

The same water model that was used to examine the existing distribution system was used to analyze the scenarios of the projected system at the end of the 20-year window. With the relatively high projected growth rate, according to the model, the entire system does not meet the requirements of R309-105-9. The recommended improvements in Section V.D and Section VI.D and are intended to keep the system in compliance with the state code at the end of the 20-year planning window.

## C. FIRE HYDRANTS

State regulations require all new fire hydrants to be served from 8" diameter or larger pipelines unless it can be proven through the use of modeling that 6" lines are sufficient. There are several existing hydrants in the system that are on 6" or smaller pipes.

Utah state requirements also state that hydrants must be placed so no structure is further than 250 feet away from a hydrant. This means that generally, hydrants should be placed no more than 500 feet away from each other. There are numerous locations throughout the system where additional fire hydrants are needed to meet the required spacing.

## D. RECOMMENDED DISTRIBUTION SYSTEM IMPROVEMENTS

From the system deficiencies observed in the analysis, this plan recommends the following improvements:

### 1. 1 TO 5 YEAR IMPROVEMENTS

- Fire Hydrants – Install additional fire hydrants to meet the minimum required spacing. In placing these new hydrants, some smaller lines will need to be replaced with 8" lines to meet the requirements mentioned above. It is recommended that this project replace all



undersized lines which are not already included in the other improvements. This project would help bring the system into compliance with fire flow requirements.

- Upper Pressure Zone Improvements – Install a new 8" diameter water main on Jessop Avenue and Newell Avenue from Juniper Street to Redwood Street. This will provide looping and help create the pressure zone that will be implemented with the new Sandhill Tank 1. This project involves disconnecting 6 North/South lines in Utah Avenue so all flow going south will flow through one PRV connecting the two pressure zones.
- Northwest Hildale Transmission Line – As mentioned in previous sections, Hildale City has recently annexed new land west of the current city boundary. Currently there is no water infrastructure in place to provide water to this area. A transmission line would need to be installed from the Sandhill 1 tank west to the new development areas. This plan assumes that this would need to be a 16" line from Sandhill Tank 1 to the edge of the new annexation area.
- Canyon Street Line – Install a new 8" water main in Canyon Street from Memorial Street to Newell Avenue. This would provide looping to the northeast Hildale area and help mitigate some of the low pressures and low fire flows. This water main would also act as a trunkline for delivering water from the new wells in the Hildale Groundwater Project and the Trailhead Wells.

## 2. 6 TO 10 YEAR IMPROVEMENTS

- Hildale Street Line – Install a new 8" water main along Hildale Street from Academy Avenue to Cooke Avenue. This will provide looping to northern Colorado City and provide an additional line crossing the river.

## 3. 11 TO 20 YEAR IMPROVEMENTS

- Southwest Hildale Transmission Line – As the area west of Hildale City is developed, an additional transmission line should be constructed to provide additional looping to the system. The size and exact location of this line will depend on the timing and location of new development in the west side of the city. Depending on how the area develops, it is possible that this project will be installed in the earlier planning window instead of the Northwest Hildale Transmission Line.
- Transmission Line to Airport – Install a new 12" line extending south on Township Avenue towards the airport. The purpose of this line is to provide water service to potential commercial and industrial developments.

These recommended improvements are summarized in Figure VI-1. Appendix D includes an exhibit showing the location of these improvements.

Figure VI-1: Summary of Recommended Distribution Improvements

Proposed Improvement	Est. Installation Date
Fire Hydrant Project	2024
Upper Pressure Zone Improvements	2026
Canyon Street Line	2028
Northwest Hildale Transmission Line	2028
Hildale Street Line	2030
Southwest Hildale Transmission Line	2040
Transmission Line to Airport	2042

## VII. WATER AVAILABILITY

A major concern for the community is long term availability of their water source. With the ongoing drought, this is a concern for most, if not all, communities in the surrounding counties. The following are ideas that the city could investigate to potentially lengthen the availability of water in the area. These ideas are not recommended improvements but starting points for future conversations.

### A. WATER CONSERVATION PROGRAM

Implementing a water conservation program is a good way to reduce current water usage and prolong water availability as well as defer the need for some water infrastructure improvements. A conservation program is cheap in that it does not require any construction of infrastructure prior to implementation. Below is a potential list of items that could be included in such a program:

- Provide education on how much water local grasses and trees require and encourage residents to limit outdoor watering to not exceed what is needed.
- Perform a “water audit” on city owned irrigation to determine if outdoor water use could be reduced on city owned property.
- Look into capturing rainwater for outdoor watering. (This would require some investigation on how much water Utah and Arizona will allow to be captured and used)
- Provide incentives for residents to change their existing landscaping to something which requires less water such as Xeriscape.
- Add water conservation language in the Building and Zoning Codes

### B. CONSTRUCTION WATER

Currently construction water is typically obtained from fire hydrants. This means that the construction in town typically uses culinary water for construction. This may not be a major usage of the culinary water system, but there may be some inexpensive options to provide non culinary grade water for use as construction water.

The Power Plant Well is currently unavailable for use in the culinary water system. This well could be set up with a connection to provide non culinary grade construction water. While this option does alleviate some strain from the culinary water system, it is still using the same aquifer (source) that the culinary water system is using.

### C. RECYCLE BACKWASH WATER AT TREATMENT PLANT

Part of the process of the existing treatment plant includes backwashing the filters occasionally with clean, culinary grade water. Currently the backwash water is sent into the sewer system which is common in many similar plants. It is possible to capture the backwash water, reuse a portion of it, and send it back through the plant. This option saves a minimal amount of water, backwashes do not happen frequently, and they do not use a large amount of water per backwash. However,

this adjustment would save water and should be considered when making future improvements to the treatment facility.

#### D. SECONDARY WATER SYSTEM

Implementing a secondary water system would be a major benefit to the culinary water system. A secondary system in Hildale and Colorado City would reduce the culinary water use by roughly 40%. This reduction would greatly help with the deficiencies discussed in previous sections of this plan. However, constructing a new water system from the ground up is not cheap, and the added irrigation user rate needed to implement a new system would increase most customer water bills. It is possible to install a complete system in phases or install a small system just for parks or specific high outdoor use areas.

#### E. WASTEWATER REUSE

Treating wastewater for reuse is an option that would provide more water which is not coming from the same sources as the culinary water system. Treating wastewater sufficiently to be used for human consumption is very expensive and not likely practical for Hildale and Colorado City. However, reuse could be used for things such as construction water or irrigation for parks and agriculture that is not for human consumption. Treatment to this level is cheaper and may provide a cost-effective alternative for the city.

#### F. INSTALLING AUTOMATIC METERING

Installing instant read smart meters in the system would provide multiple benefits such as providing accurate usage data, acting as a leak detection system, and educating water users on their usage to encourage conservation. Smart metering can record usage to provide actual data for finding the ADD, PDD, and PID.

## VIII. SUMMARY OF RECOMMENDED IMPROVEMENTS

### A. PRIORITY OF IMPROVEMENTS

Figure VIII-1 shows a summary of the proposed improvements with the estimated cost for the project in today's dollars, the estimated year the improvements will be installed and the estimated cost of the project accounting for inflation. This plan uses an assumed inflation rate of 3%.

Figure VIII-1: Summary of Recommended Improvements

Project	Cost Estimate	Est Year of Installation	Cost Estimate With Inflation
<b>Source Improvements</b>			
Treatment Plant Wells	\$ 1,288,700	2024	\$ 1,327,400
5 Year Arizona Well Field	\$ 3,333,400	2024-2028	\$ 3,642,500
5 Year Utah Well Field	\$ 6,923,700	2024-2028	\$ 7,565,700
10 Year Arizona Well Field	\$ 3,809,600	2029-2033	\$ 4,970,700
10 Year Utah Well Field	\$ 7,912,800	2029-2033	\$ 10,324,400
Trailhead Well 1	\$ 2,445,300	2034	\$ 3,384,900
Trailhead Well 2	\$ 1,713,100	2034	\$ 2,371,300
Hildale Groundwater Project PH I	\$ 3,793,500	2035	\$ 5,408,600
Hildale Groundwater Project PH II	\$ 4,220,100	2036	\$ 6,197,400
Hildale Groundwater Project PH III	\$ 3,105,400	2040	\$ 5,132,800
20 Year Arizona Well Field	\$ 6,666,800	2033-2042	\$ 11,690,300
20 Year Utah Well Field	\$ 13,847,400	2033-2042	\$ 24,281,500
Source Subtotal	\$ 59,059,800		\$ 86,297,500
<b>Storage Improvements</b>			
Sandhill Tank 1	\$ 5,938,100	2025	\$ 6,299,700
Trailhead Tank	\$ 2,875,500	2034	\$ 3,980,400
South Concrete Tank	\$ 4,432,500	2035	\$ 6,319,700
Sandhill Tank 2	\$ 6,475,100	2038	\$ 10,088,000
Storage Subtotal	\$ 19,721,200		\$ 26,687,800
<b>Treatment Improvements</b>			
Raw Water Transmission Line	\$ 1,092,500	2024	\$ 1,125,300
Small Treatment Plant (1,600 gpm)	\$ 5,904,800	2025	\$ 6,264,400
Additional Treatment Capacity PH1	\$ 8,739,000	2034	\$ 12,096,800
Additional Treatment Capacity PH2	\$ 10,312,200	2039	\$ 16,548,100
Treatment Subtotal	\$ 19,051,200		\$ 36,034,600
<b>Distribution Improvements</b>			
Fire Hydrant Project	\$ 1,733,500	2024	\$ 1,785,500
Upper Pressure Zone Improvements	\$ 846,500	2026	\$ 925,000
Canyon St. Line	\$ 388,900	2028	\$ 450,800
Northwest Hildale Transmission Line	\$ 1,977,400	2028	\$ 2,292,300
Hildale St. Line	\$ 454,390	2030	\$ 558,800
Southwest Hildale Transmission Line	\$ 903,800	2040	\$ 1,493,800
Transmission Line to Airport	\$ 2,039,350	2042	\$ 3,576,000
Distribution Subtotal	\$ 8,343,840		\$ 11,082,200
<b>Grand Total</b>	<b>\$ 106,176,040.00</b>		<b>\$ 160,102,100.00</b>

The detailed cost estimate for each project is located in Appendix C.

## IX. POSSIBLE FINANCING PLAN

The purpose of this possible finance plan is to show what a funding plan may look like to pay for the projects recommended for 2024. The city may also choose to complete the improvements in separate smaller projects. The projects are assumed to be paid with loan and grant money. It should be noted that agencies may require some amount of self-participation in order to provide funding. This plan assumes a 10% self-participation match.

Figure IX-1 outlines a possible financing plan from the Utah Division of Drinking Water (DDW). This plan assumes 20% of the funding from DDW will be grant and 70% will be loan with the remaining 10% as self-participation. The loan is assumed to be at a 4% interest rate and payback term of 20 years. It is possible a lower interest rate or higher portion of grants will be available. It is recommended that as the city prepares to start this project they contact DDW and other funding agencies such as the Water Infrastructure Finance Authority of Arizona, US Department of Agriculture - Rural Development, or the Utah Community Impact Board to determine what funding is available and where they can get the best financing terms.

The possible financing plan shown in Figure IX-1 results in an annual loan payment of \$224,525. This annual payment along with other O&M expenses for the water system, would require an average monthly charge for culinary water user rates to be \$51.35 per ERU.

The city is looking into adjusting their culinary water impact fees. A majority of the recommended improvements in this plan are fully or partially Impact Fee eligible. Collecting impact fees would help to fund the recommended improvements.

Figure IX-1: Possible Financing plan

HILDALE CITY/TOWN OF COLORADO CITY					
POSSIBLE FINANCING PLAN 2024 projects					
<b>Total Project Cost (Construction + Professional Services):</b>					<b>\$ 4,238,200</b>
<b>Proposed Funding:</b>	<b>% of Proj.</b>	<b>Rate</b>	<b>Term</b>	<b>Principal</b>	<b>Est. Payment</b>
Self Participation	10%			\$ 423,820.00	
DDW Grant	20%			\$ 762,876.00	
DDW Loan	70%	4.00%	20	\$ 3,051,504.00	\$224,535.01
<b>TOTAL PROJECT ANNUAL PAYMENT (2023):</b>					<b>\$224,535.00</b>
<b>O&amp;M EXPENSES: (First Year of New Debt Service Payment)</b>					
Office Expenses and Travel				\$	38,867.63
Repairs and Maintenance				\$	375,825.72
Utilities				\$	189,954.97
Legal and Professional Fees				\$	68,482.00
Renewal and Replacement Fund					\$0
Interest Income				\$	(5,962.58)
<b>Subtotal Expenses:</b>					<b>\$667,168</b>
<b>EXISTING DEBT SERVICE</b>					
Existing Debt Service					\$0
<b>Subtotal Existing Annual Debt Service:</b>					<b>\$0</b>
<b>GRAND TOTAL EXPENSES:</b>					<b>\$891,703</b>
<b>ANNUAL INCOME</b>					
Impact Fees Expended for 2023 Projects				\$	-
Total Number Of <u>ERU</u>					1,447
Average Monthly Water User Rate/ERU					<b>\$51.35</b>
Charges for Services, Fees, etc.					\$891,703
<b>GRAND TOTAL INCOME:</b>					<b>\$891,703</b>

## X. IMPACT FEE ANALYSIS

This plan constitutes an Impact Fee Facilities Plan (IFFP) and Impact Fee Analysis (IFA) for Hildale City and Infrastructure Improvements Plan for the Town of Colorado City. The Utah Administrative Code allows a community to charge an impact fee to provide funding for the projects required by this growth. The Arizona Administrative Code allows a community to charge a development fee to provide funding for the projects required by this growth. This plan was developed to have the fee comply with both the Utah Administrative Code and the Arizona Revised Statutes and uses the term "impact fee" to refer to development fee in Colorado City as well as the impact fees in Hildale City.

The plan identifies the existing demands on the system as well as future demands which will be placed on the system due to growth. The total cost that is eligible for the impact fee assessment is equal to the portion of a planned project in the planning window that is attributed or caused by growth. The combined costs of these projects are divided by the projected number of new ERUs that will be added to the system. Impact fees can also cover debt service that is incurred by projects that provide excess capacity to be used for growth.

While this master plan uses a planning window of 20 years, the IFFP & IFA use a planning window of 10 years encompassing the start of 2024 to the end of 2033. This shorter window is based on regulations on impact fee collection and use. Impact fees must be encumbered within six years of their receipt according to Utah State Impact Fee law and within 10 years of receipt according to Arizona State Development Fee law. This plan accounts for all incoming fees to be encumbered for eligible projects and debts in the continuous six-year window to satisfy the more stringent law.

### A. EXISTING IMPACT FEES

Currently, neither community charges a culinary water Impact Fee.

### B. LEVEL OF SERVICE

Impact Fee laws prohibit the use of Impact Fees to increase the level of service beyond that which is currently provided. This requires a determination of the existing level of service upon which to base future improvements. The existing level of service provided by the culinary water system, and which was used to evaluate the system in previous sections of the report, is the Utah State Code minimum sizing requirements.

### C. PROPORTIONATE SHARE ANALYSIS

Impact fee laws in Utah and Arizona require that only that portion of the facility, whether existing, new, or future, that is required for growth may be included in the impact fee calculations. A proportionate share analysis must be made of all the facilities to determine a reasonable and logical ratio of cost for each improvement.



## 1. WATER SOURCE

The analysis in Section III shows that the existing system has a source capacity deficit of 465 gpm. Because this is an existing deficiency, the recommended improvements that fix this deficiency are not impact fee eligible. It is anticipated that the deep and shallow treatment plan wells are projected to provide 200 gpm which is less than the existing deficit of 465 gpm and therefore are considered non-impact fee eligible. The 5-Year well field for Utah and Arizona combined are projected to provide 1,680 gpm. This will bring the capacity above the 465 deficit and provide an additional 1,435 gpm. The additional 1,435 gpm above the existing capacity deficit is additional source capacity that is needed for the projected growth and therefore impact fee eligible. This results in both the 1-5 Year Arizona Well Field and 1-5 Year Utah Well Field projects being 84.3% impact fee eligible.

All of the other wells projects within the 10 year planning period provide additional source that is needed for the projected growth and are considered 100% impact fee eligible. This includes the following projects:

- 10 Year Arizona Well Field
- 10 Year Utah Well Field

## 2. WATER STORAGE

Only one water storage project is in the 10-year planning window, Sandhill Tank 1. The storage that is provided by this tank is needed for the projected growth. Therefore, the tank is considered 100% impact fee eligible.

## 3. WATER TREATMENT

The Raw Water Transmission Line is an improvement recommended in the water treatment section. This project helps with the operation and maintenance of the raw water line to the existing treatment plant and does not provide additional treatment capacity. Because this project does not provide any additional treatment capacity needed for the projected growth it is not considered impact fee eligible.

This plan has one recommended improvement to water treatment that will add to the treatment capacity. The Small Treatment Plant provides additional treatment capacity that is needed for the projected growth and is considered 100% impact fee eligible.

## 4. WATER DISTRIBUTION

A majority of the proposed water distribution projects in the 10-year planning period serve to improve the existing level of service for the system users or provide currently needed fire flows. These projects are not considered impact fee eligible. However, there are a few projects that would extend the service area to allow for growth in areas that currently do not have access to the water system and therefore are unable to be developed. These projects include the following:

- Upper Pressure Zone Improvements. – This project provides increased pressures for the existing units located north of Utah Avenue. This is an area that has historically had issues with low pressures and will fix an existing deficiency. However, this project also allows for the system to extend further north and allow for growth and development in new areas. Because this project fixes existing deficiencies and allows for the extension of the system it is considered 50% impact fee eligible.
- Northwest Hildale Transmission Line – This project extends the system northwest of Hildale and allows for areas to be developed that currently do not have access to the culinary water system. Because this project provides an area for growth to occur it is considered 100% impact fee eligible.

## 5. FUTURE PLANNING

It is recommended that the capital facilities plan be updated every five (5) years. Since this plan update falls within the 10-year planning period, it is 100% impact fee eligible.

### D. ZONAL IMPACT FEES

For impact fees, Hildale and Colorado City each adopt their own impact fee ordinance for their corresponding communities. With the communities being in different states, they each have different Impact Fee laws that need to be followed for each ordinance. The recommended improvements also do not affect each community equally. Zonal impact fees were established with each community being its own zone.

With the projected growth in the 10-year planning window, it is expected there will be an additional 2,417 ERUs added to the system. Based on information currently available regarding future developments, it is anticipated that more of the additional ERUs will be located in Hildale than in Colorado City. For this reason, it is assumed that 55% of the 2,417 ERUs will be in Hildale, resulting in 1,330 ERUs. The remaining 1,088 additional ERUs, or 45%, will be located in Colorado City.

The Impact Fee Analysis will establish the impact fee eligible cost for each of the eligible projects and that cost will be divided amongst both zones based on the percentage of benefit that project provides to each zone.

### E. IMPACT FEE ANALYSIS

The total cost that is eligible for the impact fee assessment is equal to the portion of any planned water improvements project that will be constructed in the next 10 years to accommodate new growth. The combined total cost that is due to new growth is divided by the projected number of new ERUs that will be added to the system.

It is recommended that Hildale City and the Town of Colorado City begin charging impact fees per ERU. Figure X-1 shows the impact fee per meter size for Hildale and Figure X-2 shows the impact fee per meter size for Colorado City. Should a lower impact fee be adopted, the remaining construction cost deficit would need to be funded through other means. Appendix E contains the analysis performed to determine the impact fee.

**Figure X-1: Maximum Zonal Impact Fee- Hildale**

<b>Meter Size</b>	<b>ERUs</b>	<b>Impact Fee</b>
5/8" & 3/4"	1.00	\$ 12,580.00
1"	1.78	\$ 22,364.44
1 1/2"	4.00	\$ 50,320.00
2"	7.11	\$ 89,457.78
3"	16.00	\$ 201,280.00
4"	28.44	\$ 357,831.11
6"	64.00	\$ 805,120.00

**Figure X-2: Maximum Zonal Impact Fee- Colorado City**

<b>Meter Size</b>	<b>ERUs</b>	<b>Impact Fee</b>
5/8" & 3/4"	1.00	\$ 11,807.00
1"	1.78	\$ 20,990.22
1 1/2"	4.00	\$ 47,228.00
2"	7.11	\$ 83,960.89
3"	16.00	\$ 188,912.00
4"	28.44	\$ 335,843.56
6"	64.00	\$ 755,648.00

It is important to note that these impact fees are for the improvements summarized in this Plan and do not provide for the city to design and build anything beyond the proposed projects. All new additions to the system will need to be considered in the impact fee calculations. Otherwise, the developer should be required to make the improvements.

## **F. IMPACT FEE CERTIFICATION**

In general, it is beneficial to update this impact fee facilities plan and analysis at least every five years, or more frequently if drastic growth or changes affect the assumptions and data in this plan. It is assumed that this plan will be updated as recommended.

There are items relating to impact fees that Hildale City and the Town of Colorado City must consider when planning for, collecting, and expending impact fees in accordance with Utah Code 11-36a-101 and Arizona Code 9-463.05.

Staff from each community must understand that impact fees can only be expended for a system improvement that is identified in the Impact Fee Facilities Plan and that is for the specific facility type for which the fee was collected. Impact fees must be expended or encumbered for permissible use within six years of their receipt unless Utah Code 11-36a-602(2)(b) applies. Also, impact fees must have proper accounting (track each fee in and out) in accordance with Utah Code 11-36a-601 and Arizona Code 9-463.05.

In accordance with Utah Code 11-36a-306 a certification of impact fee analysis is in Appendix F.

# APPENDIX A

## Growth Rate Analysis

Population & Growth Rate								
Calendar Year	Est. Growth Rate	Hildale Population	Colorado City Population	Total Population	Hildale Connections	Colorado City Connections	Total Connections	Number of ERUs
2023		3,224	5,358	8,582	435	790	1,224	1,315
2024	10.0%	3,547	5,894	9,440	478	869	1,347	1,446
2025	10.0%	3,901	6,483	10,384	526	956	1,481	1,591
2026	10.0%	4,291	7,132	11,423	578	1,051	1,630	1,750
2027	10.0%	4,720	7,845	12,565	636	1,156	1,792	1,925
2028	10.0%	5,192	8,629	13,822	700	1,272	1,972	2,117
2029	12.0%	5,816	9,665	15,480	784	1,425	2,208	2,371
2030	12.0%	6,513	10,825	17,338	878	1,596	2,473	2,656
2031	12.0%	7,295	12,124	19,419	983	1,787	2,770	2,974
2032	12.0%	8,170	13,578	21,749	1,101	2,001	3,103	3,331
2033	12.0%	9,151	15,208	24,359	1,233	2,242	3,475	3,731
2034	10.0%	10,066	16,729	26,794	1,357	2,466	3,822	4,104
2035	10.0%	11,073	18,401	29,474	1,492	2,712	4,205	4,514
2036	10.0%	12,180	20,241	32,421	1,641	2,984	4,625	4,966
2037	10.0%	13,398	22,266	35,663	1,806	3,282	5,088	5,462
2038	10.0%	14,738	24,492	39,230	1,986	3,610	5,596	6,009
2039	8.0%	15,917	26,452	42,368	2,145	3,899	6,044	6,489
2040	8.0%	17,190	28,568	45,758	2,317	4,211	6,528	7,008
2041	8.0%	18,565	30,853	49,418	2,502	4,548	7,050	7,569
2042	8.0%	20,050	33,321	53,372	2,702	4,912	7,614	8,175
2043	8.0%	21,654	35,987	57,641	2,918	5,305	8,223	8,829

# APPENDIX B

## Water Use Analysis

Year	Total Usage (Thousand Gallons)	Number of Connections	Usage per Conn (gpd/conn)	Number of ERUs	Usage per ERU (gpd/ERU)
2018	303,105	863	962	848	979
2019	251,780	763	904	806	856
2020	285,109	799	978	855	914
2021	279,736	855	896	924	829
2022	309,026	1,113	761	1,195	708
5-Year Avg:	285,751	879	900	925	846
This Master Plan will use a historic daily usage of 846 gpd/ERU					

Peak Instantaneous Demand Calculations (State)			
Indoor Peak Instantaneous Demand			
Q=	$10.8 \times N^{.64}$		N= No. of ERU
2024	Q=	1,138	gpm
	Q=	1,132	gpd/ERU
Outdoor Peak Instantaneous Demand			
Irrigation Zone 5 =		9.04	gpm/Irrigated Acre
Irrigated Acres /ERU		0.1	Irrigated Acres/ERU
Q=	Irr Acres/ERU X Irr Zone Factor X No. ERU		
Example:			
2023	Q=	1,308	gpm



### Current & Projected Required Source Capacity

Year	# of ERU	Percent Reduction In Usage Per ERU	Peak Day Usage (gpd/ERU)	Source Capacity Required (gpm)	Existing Source Available (gpm)	Treatment Plan Capacity (gpm)	Source Capacity Surplus/Deficit (gpm)
2023	1,315	0.0%	1,692	1,545	1,234	2,000	(311)
2024	1,447	0.0%	1,692	1,700	1,234	2,000	(466)
2025	1,592	0.5%	1,684	1,861	1,234	2,000	(627)
2026	1,751	1.0%	1,675	2,037	1,234	2,000	(803)
2027	1,926	1.5%	1,667	2,229	1,234	2,000	(995)
2028	2,119	2.0%	1,658	2,440	1,234	2,000	(1,206)
2029	2,373	2.5%	1,650	2,719	1,234	2,000	(1,485)
2030	2,658	3.0%	1,641	3,029	1,234	2,000	(1,795)
2031	2,977	3.5%	1,633	3,376	1,234	2,000	(2,142)
2032	3,334	4.0%	1,624	3,761	1,234	2,000	(2,527)
2033	3,734	4.5%	1,616	4,190	1,234	2,000	(2,956)
2034	4,107	5.0%	1,607	4,584	1,234	2,000	(3,350)
2035	4,518	5.5%	1,599	5,017	1,234	2,000	(3,783)
2036	4,970	6.0%	1,590	5,489	1,234	2,000	(4,255)
2037	5,467	6.5%	1,582	6,006	1,234	2,000	(4,772)
2038	6,014	7.0%	1,574	6,572	1,234	2,000	(5,338)
2039	6,495	7.5%	1,565	7,059	1,234	2,000	(5,825)
2040	7,015	8.0%	1,557	7,583	1,234	2,000	(6,349)
2041	7,576	8.5%	1,548	8,145	1,234	2,000	(6,911)
2042	8,182	9.0%	1,540	8,749	1,234	2,000	(7,515)
2043	8,837	9.5%	1,531	9,397	1,234	2,000	(8,163)

$$\text{Required Source Capacity} = \#ERU \times \frac{\text{gpd}}{\#ERU} \times \frac{1 \text{ Day}}{24 \text{ hr}} \times \frac{1 \text{ hr}}{60 \text{ min}}$$

Storage Capacity Analysis												
Year	Number of ERUs	Percent Reduction In Usage Per ERU	Avg. Usage (gpd/ERU)	Storage Required (gal)	Fire Flow Stg Rqd (gal)	Existing Stg Capacity (gal)	Total Stg Rqd (gal)	Storage Capacity Surplus/Deficit (gal)	Project Name	Added Storage (gal)	Potenential Capacity (gal)	Potential Surplus (Gal)
2023	1315	0.0%	846	1,112,490	180,000	2,460,000	1,292,490	1,167,510	Sandhill Tank 1	2,000,000	2,460,000	1,167,510
2024	1447	0.0%	846	1,224,162	180,000	2,460,000	1,404,162	1,055,838			2,460,000	1,055,838
2025	1592	0.5%	842	1,340,098	180,000	2,460,000	1,520,098	939,902			4,460,000	2,939,902
2026	1751	1.0%	838	1,466,533	180,000	2,460,000	1,646,533	813,467			4,460,000	2,813,467
2027	1926	1.5%	833	1,604,955	180,000	2,460,000	1,784,955	675,045			4,460,000	2,675,045
2028	2119	2.0%	829	1,756,821	180,000	2,460,000	1,936,821	523,179			4,460,000	2,523,179
2029	2373	2.5%	825	1,957,369	180,000	2,460,000	2,137,369	322,631			4,460,000	2,322,631
2030	2658	3.0%	821	2,181,208	180,000	2,460,000	2,361,208	98,792			4,460,000	2,098,792
2031	2977	3.5%	816	2,430,393	180,000	2,460,000	2,610,393	-150,393			4,460,000	1,849,607
2032	3334	4.0%	812	2,707,741	180,000	2,460,000	2,887,741	-427,741			4,460,000	1,572,259
2033	3734	4.5%	808	3,016,811	180,000	2,460,000	3,196,811	-736,811	Trailhead Tank	500,000	4,460,000	1,263,189
2034	4107	5.0%	804	3,300,796	180,000	2,460,000	3,480,796	-1,020,796			4,960,000	1,479,204
2035	4518	5.5%	799	3,612,005	180,000	2,460,000	3,792,005	-1,332,005	South Concrete Tank	1,000,000	5,960,000	2,167,995
2036	4970	6.0%	795	3,952,343	180,000	2,460,000	4,132,343	-1,672,343			5,960,000	1,827,657
2037	5467	6.5%	791	4,324,452	180,000	2,460,000	4,504,452	-2,044,452	Sandhill Tank 2	2,000,000	5,960,000	1,455,548
2038	6014	7.0%	787	4,731,695	180,000	2,460,000	4,911,695	-2,451,695			7,960,000	3,048,305
2039	6495	7.5%	783	5,082,662	180,000	2,460,000	5,262,662	-2,802,662			7,960,000	2,697,338
2040	7015	8.0%	778	5,459,915	180,000	2,460,000	5,639,915	-3,179,915			7,960,000	2,320,085
2041	7576	8.5%	774	5,864,506	180,000	2,460,000	6,044,506	-3,584,506			7,960,000	1,915,494
2042	8182	9.0%	770	6,298,995	180,000	2,460,000	6,478,995	-4,018,995			7,960,000	1,481,005
2043	8837	9.5%	766	6,765,872	180,000	2,460,000	6,945,872	-4,485,872			7,960,000	1,014,128

$$\text{Required Storage Capacity} = \#ERU \times \frac{\text{gpd}}{\#ERU} + \text{Fire Flow (1,500gpm)} \frac{60 \text{ min}}{1 \text{ hr}} \times 2 \text{ hr}$$

## Water Distribution Analysis

Year	No. ERU	ADD (gpm)	PDD (gpm)	PID Indoor (gpm)	PID Outdoor (gpm)	PID Total (gpm)
2023	1,315	773	1,545	1,070	1,189	2,259
2024	1,447	850	1,700	1,138	1,308	2,446
2025	1,592	931	1,861	1,210	1,439	2,649
2026	1,751	1,018	2,037	1,286	1,583	2,869
2027	1,926	1,115	2,229	1,366	1,741	3,108
2028	2,119	1,220	2,440	1,453	1,916	3,368
2029	2,373	1,359	2,719	1,562	2,145	3,707
2030	2,658	1,515	3,029	1,679	2,403	4,082
2031	2,977	1,688	3,376	1,806	2,691	4,497
2032	3,334	1,880	3,761	1,941	3,014	4,955
2033	3,734	2,095	4,190	2,087	3,376	5,463
2034	4,107	2,292	4,584	2,219	3,713	5,931
2035	4,518	2,508	5,017	2,358	4,084	6,443
2036	4,970	2,745	5,489	2,507	4,493	7,000
2037	5,467	3,003	6,006	2,664	4,942	7,606
2038	6,014	3,286	6,572	2,832	5,437	8,269
2039	6,495	3,530	7,059	2,975	5,871	8,846
2040	7,015	3,792	7,583	3,125	6,342	9,467
2041	7,576	4,073	8,145	3,283	6,849	10,132
2042	8,182	4,374	8,749	3,449	7,397	10,845
2043	8,837	4,699	9,397	3,623	7,989	11,612

# APPENDIX C

## Engineers Opinion of Probable Cost

## Engineer's Opinion of Probable Cost

**Treatment Plant Wells**

Project Location: Colorado City

18-Oct-23

BCW/tcd

NO.	DESCRIPTION	EST. QTY	UNIT	UNIT PRICE	AMOUNT
<b>GENERAL CONSTRUCTION</b>					
1	Mobilization	5%	LS	\$ 37,800.00	\$ 37,800.00
2	Pre-Construction DVD and Project Sign	1	LS	\$ 1,500.00	\$ 1,500.00
3	GeoPhysical Logging	1	LS	\$ 15,000.00	\$ 15,000.00
4	Disinfection and Capping	1	LS	\$ 4,000.00	\$ 4,000.00
5	Well Driller's Report	1	LS	\$ 2,500.00	\$ 2,500.00
6	Site Restoration	1	LS	\$ 10,000.00	\$ 10,000.00
7	Misc. Electrical Improvements	1	LS	\$ 15,000.00	\$ 15,000.00
<b>DEEP WELL</b>					
8	Conductor Casing	100	LF	\$ 400.00	\$ 40,000.00
9	20" Diameter Well Drilling	700	LF	\$ 123.00	\$ 86,100.00
10	12" Diameter Well Drilling - Pilot Hole	700	LF	\$ 160.00	\$ 112,000.00
11	12" Well Casing	600	LF	\$ 170.00	\$ 102,000.00
12	2" Galvanized Tremie Pipe	100	LF	\$ 40.00	\$ 4,000.00
13	Furnish and Install Pea Gravel	400	LF	\$ 115.00	\$ 46,000.00
14	Bentonite Packer	1	LS	\$ 6,000.00	\$ 6,000.00
15	Conductor Casing Removal	1	LS	\$ 8,000.00	\$ 8,000.00
16	Flow Meter	1	EA	\$ 10,000.00	\$ 10,000.00
17	Initial Well Development	40	HR	\$ 700.00	\$ 28,000.00
18	Install Pump for Development and Testing	1	LS	\$ 40,000.00	\$ 40,000.00
19	Well Development and Pumping	80	HR	\$ 700.00	\$ 56,000.00
20	Misc. Well and Pump Testing	1	LS	\$ 10,000.00	\$ 10,000.00
21	Well Head, Disinfection and Capping	1	LS	\$ 8,500.00	\$ 8,500.00
22	Well Pad and Pipping	1	LS	\$ 15,000.00	\$ 15,000.00
<b>SHALLOW WELL</b>					
23	Conductor Casing	1	LS	\$ 40,000.00	\$ 40,000.00
24	16" Diameter Well Drilling	120	LF	\$ 270.00	\$ 32,400.00
25	8" Well Casing	80	LF	\$ 100.00	\$ 8,000.00
26	8" Stainless Steel Screen	40	LF	\$ 300.00	\$ 12,000.00
27	2" Galvanized Tremie Pipe	20	LF	\$ 40.00	\$ 800.00
28	Instrument Pipe	120	LF	\$ 50.00	\$ 6,000.00
29	Furnish and Install Fine Silica Sand	120	LF	\$ 125.00	\$ 15,000.00
30	Bentonite Packer	1	LS	\$ 6,000.00	\$ 6,000.00
31	Conductor Casing Removal	1	LS	\$ 6,000.00	\$ 6,000.00
32	Sanitary Grout Seal	1	LS	\$ 150.00	\$ 150.00
33	Flow Meter	1	LS	\$ 10,000.00	\$ 10,000.00
34	Initial Well Development	40	HR	\$ 700.00	\$ 28,000.00
35	Install Pump for Development and Testing	1	LS	\$ 40,000.00	\$ 40,000.00
36	Well Development and Pumping	80	HR	\$ 700.00	\$ 56,000.00
37	Misc. Well and Pump Testing	1	LS	\$ 10,000.00	\$ 10,000.00
38	Well Head, Disinfection and Capping	1	LS	\$ 8,500.00	\$ 8,500.00
39	Well Pad and Pipping	1	LS	\$ 15,000.00	\$ 15,000.00
<b>SUBTOTAL</b>					<b>\$ 951,250.00</b>
<b>CONTINGENCY</b>				20%	<b>\$ 190,300.00</b>
<b>CONSTRUCTION TOTAL</b>					<b>\$ 1,141,600.00</b>
<b>INCIDENTALS</b>					
1	Engineering Design	4.3%	LS	\$ 55,000.00	\$ 55,000.00
2	Bidding & Negotiating	0.6%	HR	\$ 7,500.00	\$ 7,500.00
3	Engineering Construction Services	3.7%	HR	\$ 47,600.00	\$ 47,600.00
4	Topographic & Property Survey	0.4%	EST	\$ 5,000.00	\$ 5,000.00
5	Permitting	0.8%	EST	\$ 10,000.00	\$ 10,000.00
6	Funding and Administrative Services	0.9%	EST	\$ 12,000.00	\$ 12,000.00
7	Miscellaneous Professional Services	0.8%	EST	\$ 10,000.00	\$ 10,000.00
<b>SUBTOTAL</b>					<b>\$ 147,100.00</b>
<b>TOTAL PROJECT COST</b>					<b>\$ 1,288,700.00</b>

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## Engineer's Opinion of Probable Cost

**Trailhead Well 1**  
Project Location: Hildale City

18-Oct-23  
BCW/tcd

NO.	DESCRIPTION	EST. QTY	UNIT	UNIT PRICE	AMOUNT
<b>GENERAL CONSTRUCTION</b>					
1	Mobilization	5%	LS	\$ 83,600.00	\$ 83,600.00
2	Pre-Construction DVD & Project Sign	1	LS	\$ 1,500.00	\$ 1,500.00
3	Traffic Control	1	LS	\$ 5,000.00	\$ 5,000.00
4	Subsurface Investigation	4	HR	\$ 250.00	\$ 1,000.00
5	Materials Sampling & Testing	1	LS	\$ 7,500.00	\$ 7,500.00
6	Dust Control & Watering	1	LS	\$ 10,000.00	\$ 10,000.00
7	Construction Staking	1	LS	\$ 10,000.00	\$ 10,000.00
8	Erosion Control Compliance	1	LS	\$ 7,500.00	\$ 7,500.00
9	Geophysical Survey	1	LS	\$ 20,000.00	\$ 20,000.00
10	Access and Drill Pad Construction	1	LS	\$ 145,000.00	\$ 145,000.00
11	Conductor Casing and Seal	100	LF	\$ 650.00	\$ 65,000.00
12	Drill 12" Pilot Borehole	600	LF	\$ 160.00	\$ 96,000.00
13	Drill 20" Reamed Borehole	600	LF	\$ 123.00	\$ 73,800.00
14	Geophysical Logging	1	LS	\$ 9,000.00	\$ 9,000.00
15	Well Installation - 12" Steel Casing	500	LF	\$ 170.00	\$ 85,000.00
16	Well Installation - 12" SS Screen 70 Slot	200	LF	\$ 350.00	\$ 70,000.00
17	Installation of Gravel Pack - 8-12	550	LF	\$ 115.00	\$ 63,250.00
18	Installation of Annular Grout Seal	150	LF	\$ 115.00	\$ 17,250.00
19	Initial Well Development	40	HR	\$ 750.00	\$ 30,000.00
20	Install Pump for Development and Testing	1	LS	\$ 42,000.00	\$ 42,000.00
21	Well Development by pumping	80	HR	\$ 425.00	\$ 34,000.00
22	Misc. Well and Pump Testing	1	LS	\$ 10,000.00	\$ 10,000.00
23	Well Disinfecting	1	LS	\$ 5,000.00	\$ 5,000.00
24	Well Head	1	LS	\$ 2,500.00	\$ 2,500.00
25	Well Capping	1	LS	\$ 750.00	\$ 750.00
26	Roadway Restoration	48,000	SF	\$ 6.00	\$ 288,000.00
27	10" PVC (C900) Line, Fitting, Tracer Wire, Bedding, & Backfill	8,000	LF	\$ 72.00	\$ 576,000.00
28	10" Gate Valve Assembly	4	EA	\$ 5,000.00	\$ 20,000.00
29	Misc. Connections, Fittings and Tie-ins	1	LS	\$ 20,000.00	\$ 20,000.00
<b>SUBTOTAL</b>					<b>\$ 1,798,650.00</b>
<b>CONTINGENCY</b>				20%	<b>\$ 359,700.00</b>
<b>CONSTRUCTION TOTAL</b>					<b>\$ 2,158,400.00</b>
<b>INCIDENTALS</b>					
1	Engineering Design	4.5%	LS	\$ 110,000.00	\$ 110,000.00
2	Bidding & Negotiating	0.3%	HR	\$ 7,500.00	\$ 7,500.00
3	Engineering Construction Services	3.7%	HR	\$ 89,900.00	\$ 89,900.00
4	Topographic & Property Survey	0.7%	EST	\$ 17,500.00	\$ 17,500.00
5	Water Right Change Application	0.8%	EST	\$ 20,000.00	\$ 20,000.00
6	Funding and Administrative Services	0.5%	EST	\$ 12,000.00	\$ 12,000.00
7	Permitting	0.4%	EST	\$ 10,000.00	\$ 10,000.00
8	Miscellaneous Professional Services	0.8%	EST	\$ 20,000.00	\$ 20,000.00
<b>SUBTOTAL</b>					<b>\$ 286,900.00</b>
<b>TOTAL PROJECT COST</b>					<b>\$ 2,445,300.00</b>

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## Engineer's Opinion of Probable Cost

### Trailhead Well 2

18-Oct-23

Project Location: Hildale City

BCW/tcd

NO.	DESCRIPTION	EST. QTY	UNIT	UNIT PRICE	AMOUNT
<b>GENERAL CONSTRUCTION</b>					
1	Mobilization	5%	LS	\$ 32,000.00	\$ 32,000.00
2	Erosion Control Compliance	1	LS	\$ 5,000.00	\$ 5,000.00
3	Geophysical Survey	1	LS	\$ 20,000.00	\$ 20,000.00
4	Access and Drill Pad Construction	1	LS	\$ 50,000.00	\$ 50,000.00
5	Conductor Casing and Seal	100	LF	\$ 650.00	\$ 65,000.00
6	Drill 12" Pilot Borehole	600	LF	\$ 175.00	\$ 105,000.00
7	Drill 20" Reamed Borehole	600	LF	\$ 123.00	\$ 73,800.00
8	Geophysical Logging	1	LS	\$ 9,000.00	\$ 9,000.00
9	Well Installation - 12" Steel Casing	170	LF	\$ 170.00	\$ 28,900.00
10	Well Installation - 12" SS Screen 70 Slot	200	LF	\$ 350.00	\$ 70,000.00
11	Installation of Gravel Pack - 8-12	550	LF	\$ 115.00	\$ 63,250.00
12	Installation of Annular Grout Seal	150	LF	\$ 115.00	\$ 17,250.00
13	Initial Well Development	40	HR	\$ 750.00	\$ 30,000.00
14	Install Pump for Development and Testing	1	LS	\$ 42,000.00	\$ 42,000.00
15	Well Development by pumping	80	HR	\$ 425.00	\$ 34,000.00
16	Misc. Well and Pump Testing	1	LS	\$ 10,000.00	\$ 10,000.00
17	Well Disinfecting	1	LS	\$ 5,000.00	\$ 5,000.00
18	Well Head	1	LS	\$ 2,500.00	\$ 2,500.00
19	Well Capping	1	LS	\$ 750.00	\$ 750.00
20	8" PVC (C900) Line, Fitting, Tracer Wire, Bedding, & Backfill	150	LF	\$ 65.00	\$ 9,750.00
21	8" Gate Valve Assembly	1	EA	\$ 2,900.00	\$ 2,900.00
22	Water Right Procurement	1	LS	\$ 650,000.00	\$ 650,000.00
<b>SUBTOTAL</b>					<b>\$ 1,326,100.00</b>
<b>CONTINGENCY</b>				20%	<b>\$ 265,200.00</b>
<b>CONSTRUCTION TOTAL</b>					<b>\$ 1,591,300.00</b>
<b>INCIDENTALS</b>					
1	Engineering Design	2.6%	LS	\$ 45,000.00	\$ 45,000.00
2	Bidding & Negotiating	0.4%	HR	\$ 7,500.00	\$ 7,500.00
3	Engineering Construction Services	2.0%	HR	\$ 33,800.00	\$ 33,800.00
4	Topographic & Property Survey	0.2%	EST	\$ 3,500.00	\$ 3,500.00
5	Permitting	0.6%	EST	\$ 10,000.00	\$ 10,000.00
6	Funding and Administrative Services	0.7%	EST	\$ 12,000.00	\$ 12,000.00
39	Miscellaneous Professional Services	0.6%	EST	\$ 10,000.00	\$ 10,000.00
<b>SUBTOTAL</b>					<b>\$ 121,800.00</b>
<b>TOTAL PROJECT COST</b>					<b>\$ 1,713,100.00</b>

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## Engineer's Opinion of Probable Cost

**Hildale Groundwater Project PH I**  
Project Location: Hildale City

18-Oct-23  
BCW/tcd

NO.	DESCRIPTION	EST. QTY	UNIT	UNIT PRICE	AMOUNT
<b>GENERAL CONSTRUCTION</b>					
1	Mobilization	5%	LS	\$ 132,900.00	\$ 132,900.00
2	Pre-Construction DVD & Project Sign	1	LS	\$ 1,500.00	\$ 1,500.00
3	Traffic Control	1	LS	\$ 5,000.00	\$ 5,000.00
4	Subsurface Investigation	4	HR	\$ 250.00	\$ 1,000.00
5	Materials Sampling & Testing	1	LS	\$ 7,500.00	\$ 7,500.00
6	Dust Control & Watering	1	LS	\$ 10,000.00	\$ 10,000.00
7	Construction Staking	1	LS	\$ 10,000.00	\$ 10,000.00
8	Erosion Control Compliance	1	LS	\$ 7,500.00	\$ 7,500.00
9	Geophysical Survey	1	LS	\$ 23,000.00	\$ 23,000.00
10	Access and Drill Pad Construction	1	LS	\$ 130,000.00	\$ 130,000.00
11	Conductor Casing and Seal	100	LF	\$ 650.00	\$ 65,000.00
12	Drill 12" Pilot Borehole	650	LF	\$ 175.00	\$ 113,750.00
13	Drill 20" Reamed Borehole	650	LF	\$ 123.00	\$ 79,950.00
14	Geophysical Logging	1	LS	\$ 9,000.00	\$ 9,000.00
15	Caliper	1	LS	\$ 6,500.00	\$ 6,500.00
16	Well Installation - 12" Steel Casing	550	LF	\$ 100.00	\$ 55,000.00
17	Well Installation - 12" SS Screen 70 Slot	200	LF	\$ 350.00	\$ 70,000.00
18	Installation of Gravel Pack - 8-12	600	LF	\$ 115.00	\$ 69,000.00
19	Installation of Annular Grout Seal	150	LF	\$ 115.00	\$ 17,250.00
20	Initial Well Development	40	HR	\$ 750.00	\$ 30,000.00
21	Install Pump for Development and Testing	1	LS	\$ 42,000.00	\$ 42,000.00
22	Well Development by pumping	80	HR	\$ 425.00	\$ 34,000.00
23	Misc. Well and Pump Testing	1	LS	\$ 10,000.00	\$ 10,000.00
24	Well Disinfecting	1	LS	\$ 5,000.00	\$ 5,000.00
25	Well Head	1	LS	\$ 2,500.00	\$ 2,500.00
26	Well Capping	1	LS	\$ 750.00	\$ 750.00
27	Roadway Restoration	30,000	SF	\$ 7.75	\$ 232,500.00
28	8" PVC (C900) Line, Fitting, Tracer Wire, Bedding, & Backfill	5,000	LF	\$ 65.00	\$ 325,000.00
29	8" Gate Valve Assembly	8	EA	\$ 2,900.00	\$ 23,200.00
30	Misc. Connections, Fittings and Tie-ins	1	LS	\$ 15,000.00	\$ 15,000.00
31	Water Right Procurement	1	LS	\$ 1,300,000.00	\$ 1,300,000.00
<b>SUBTOTAL</b>					<b>\$ 2,833,800.00</b>
<b>CONTINGENCY</b>				20%	<b>\$ 566,800.00</b>
<b>CONSTRUCTION TOTAL</b>					<b>\$ 3,400,600.00</b>
<b>INCIDENTALS</b>					
1	Engineering Design	2.6%	LS	\$ 100,000.00	\$ 100,000.00
2	Bidding & Negotiating	0.2%	HR	\$ 7,500.00	\$ 7,500.00
3	Engineering Construction Services	3.0%	HR	\$ 113,400.00	\$ 113,400.00
4	Topographic & Property Survey	0.5%	EST	\$ 20,000.00	\$ 20,000.00
5	Funding and Administrative Services	0.3%	EST	\$ 12,000.00	\$ 12,000.00
5	Permitting	0.3%	EST	\$ 10,000.00	\$ 10,000.00
6	Environmental (Including Biological and Archeological) Report	0.9%	EST	\$ 35,000.00	\$ 35,000.00
8	BLM ROW Negotiation (SF299 Application & POD)	0.3%	EST	\$ 10,000.00	\$ 10,000.00
9	Miscellaneous Engineering Services	0.5%	EST	\$ 20,000.00	\$ 20,000.00
<b>SUBTOTAL</b>					<b>\$ 392,900.00</b>
<b>TOTAL PROJECT COST</b>					<b>\$ 3,793,500.00</b>

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## Engineer's Opinion of Probable Cost

**Hildale Groundwater Project PH II**  
Project Location: Hildale City

18-Oct-23  
BCW/tcd

NO.	DESCRIPTION	EST. QTY	UNIT	UNIT PRICE	AMOUNT
<b>GENERAL CONSTRUCTION</b>					
1	Mobilization	5%	LS	\$ 152,000.00	\$ 152,000.00
2	Pre-Construction DVD & Project Sign	1	LS	\$ 1,500.00	\$ 1,500.00
3	Traffic Control	1	LS	\$ 5,000.00	\$ 5,000.00
4	Subsurface Investigation	4	HR	\$ 250.00	\$ 1,000.00
5	Materials Sampling & Testing	1	LS	\$ 7,500.00	\$ 7,500.00
6	Dust Control & Watering	1	LS	\$ 10,000.00	\$ 10,000.00
7	Construction Staking	1	LS	\$ 10,000.00	\$ 10,000.00
8	Erosion Control Compliance	1	LS	\$ 7,500.00	\$ 7,500.00
9	Geophysical Survey	1	LS	\$ 23,000.00	\$ 23,000.00
10	Access and Drill Pad Construction	1	LS	\$ 130,000.00	\$ 130,000.00
11	Conductor Casing and Seal	100	LF	\$ 650.00	\$ 65,000.00
12	Drill 12" Pilot Borehole	650	LF	\$ 175.00	\$ 113,750.00
13	Drill 20" Reamed Borehole	650	LF	\$ 123.00	\$ 79,950.00
14	Geophysical Logging	1	LS	\$ 9,000.00	\$ 9,000.00
15	Caliper	1	LS	\$ 6,500.00	\$ 6,500.00
16	Well Installation - 12" Steel Casing	550	LF	\$ 100.00	\$ 55,000.00
17	Well Installation - 12" SS Screen 70 Slot	200	LF	\$ 350.00	\$ 70,000.00
18	Installation of Gravel Pack - 8-12	600	LF	\$ 115.00	\$ 69,000.00
19	Installation of Annular Grout Seal	150	LF	\$ 115.00	\$ 17,250.00
20	Initial Well Development	40	HR	\$ 750.00	\$ 30,000.00
21	Install Pump for Development and Testing	1	LS	\$ 42,000.00	\$ 42,000.00
22	Well Development by pumping	80	HR	\$ 425.00	\$ 34,000.00
23	Misc. Well and Pump Testing	1	LS	\$ 10,000.00	\$ 10,000.00
24	Well Disinfecting	1	LS	\$ 5,000.00	\$ 5,000.00
25	Well Head	1	LS	\$ 2,500.00	\$ 2,500.00
26	Well Capping	1	LS	\$ 750.00	\$ 750.00
27	Roadway Restoration	50,400	SF	\$ 7.75	\$ 390,600.00
28	8" PVC (C900) Line, Fitting, Tracer Wire, Bedding, & Backfill	8,400	LF	\$ 65.00	\$ 546,000.00
29	8" Gate Valve Assembly	9	EA	\$ 2,900.00	\$ 26,100.00
30	Misc. Connections, Fittings and Tie-ins	1	LS	\$ 15,000.00	\$ 15,000.00
31	Water Right Procurement	1	LS	\$ 1,300,000.00	\$ 1,300,000.00
<b>SUBTOTAL</b>					<b>\$ 3,234,900.00</b>
<b>CONTINGENCY</b>				20%	<b>\$ 647,000.00</b>
<b>CONSTRUCTION TOTAL</b>					<b>\$ 3,881,900.00</b>
<b>INCIDENTALS</b>					
1	Engineering Design	2.8%	LS	\$ 120,000.00	\$ 120,000.00
2	Bidding & Negotiating	0.2%	HR	\$ 7,500.00	\$ 7,500.00
3	Engineering Construction Services	2.3%	HR	\$ 96,700.00	\$ 96,700.00
4	Topographic & Property Survey	0.5%	EST	\$ 22,000.00	\$ 22,000.00
5	Funding and Administrative Services	0.3%	EST	\$ 12,000.00	\$ 12,000.00
6	Permitting	0.2%	EST	\$ 10,000.00	\$ 10,000.00
7	Environmental (Including Biological and Archeological) Report	0.9%	EST	\$ 40,000.00	\$ 40,000.00
8	BLM ROW Negotiation (SF299 Application & POD)	0.2%	EST	\$ 10,000.00	\$ 10,000.00
9	Miscellaneous Engineering Services	0.5%	EST	\$ 20,000.00	\$ 20,000.00
<b>SUBTOTAL</b>					<b>\$ 338,200.00</b>
<b>TOTAL PROJECT COST</b>					<b>\$ 4,220,100.00</b>

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## Engineer's Opinion of Probable Cost

**Hildale Groundwater Project PH III**  
Project Location: Hildale City

18-Oct-23  
BCW/tcd

NO.	DESCRIPTION	EST. QTY	UNIT	UNIT PRICE	AMOUNT
<b>GENERAL CONSTRUCTION</b>					
1	Mobilization	5%	LS	\$ 110,000.00	\$ 110,000.00
2	Pre-Construction DVD & Project Sign	1	LS	\$ 1,500.00	\$ 1,500.00
3	Traffic Control	1	LS	\$ 5,000.00	\$ 5,000.00
4	Subsurface Investigation	4	HR	\$ 250.00	\$ 1,000.00
5	Materials Sampling & Testing	1	LS	\$ 7,500.00	\$ 7,500.00
6	Dust Control & Watering	1	LS	\$ 10,000.00	\$ 10,000.00
7	Construction Staking	1	LS	\$ 10,000.00	\$ 10,000.00
8	Erosion Control Compliance	1	LS	\$ 7,500.00	\$ 7,500.00
9	Geophysical Survey	1	LS	\$ 23,000.00	\$ 23,000.00
10	Access and Drill Pad Construction	1	LS	\$ 130,000.00	\$ 130,000.00
11	Conductor Casing and Seal	100	LF	\$ 650.00	\$ 65,000.00
12	Drill 12" Pilot Borehole	600	LF	\$ 175.00	\$ 105,000.00
13	Drill 20" Reamed Borehole	600	LF	\$ 123.00	\$ 73,800.00
14	Geophysical Logging	1	LS	\$ 9,000.00	\$ 9,000.00
15	Caliper	1	LS	\$ 6,500.00	\$ 6,500.00
16	Well Installation - 12" Steel Casing	500	LF	\$ 170.00	\$ 85,000.00
17	Well Installation - 12" SS Screen 70 Slot	200	LF	\$ 350.00	\$ 70,000.00
18	Installation of Gravel Pack - 8-12	550	LF	\$ 115.00	\$ 63,250.00
19	Installation of Annular Grout Seal	150	LF	\$ 115.00	\$ 17,250.00
20	Initial Well Development	40	HR	\$ 750.00	\$ 30,000.00
21	Install Pump for Development and Testing	1	LS	\$ 42,000.00	\$ 42,000.00
22	Well Development by pumping	80	HR	\$ 425.00	\$ 34,000.00
23	Misc. Well and Pump Testing	1	LS	\$ 10,000.00	\$ 10,000.00
24	Well Disinfecting	1	LS	\$ 5,000.00	\$ 5,000.00
25	Well Head	1	LS	\$ 2,500.00	\$ 2,500.00
26	Well Capping	1	LS	\$ 750.00	\$ 750.00
27	Roadway Restoration	39,000	SF	\$ 8.00	\$ 312,000.00
28	8" PVC (C900) Line, Fitting, Tracer Wire, Bedding, & Backfill	6,500	LF	\$ 65.00	\$ 422,500.00
29	8" Gate Valve Assembly	8	EA	\$ 2,900.00	\$ 23,200.00
30	Misc. Connections, Fittings and Tie-ins	1	LS	\$ 20,000.00	\$ 20,000.00
31	Water Right Procurement	1	LS	\$ 650,000.00	\$ 650,000.00
<b>SUBTOTAL</b>					<b>\$ 2,352,250.00</b>
<b>CONTINGENCY</b>				20%	<b>\$ 470,500.00</b>
<b>CONSTRUCTION TOTAL</b>					<b>\$ 2,822,800.00</b>
<b>INCIDENTALS</b>					
1	Engineering Design	3.2%	LS	\$ 100,000.00	\$ 100,000.00
2	Bidding & Negotiating	0.2%	HR	\$ 7,500.00	\$ 7,500.00
3	Engineering Construction Services	2.2%	HR	\$ 68,100.00	\$ 68,100.00
4	Topographic & Property Survey	0.6%	EST	\$ 20,000.00	\$ 20,000.00
5	Funding and Administrative Services	0.4%	EST	\$ 12,000.00	\$ 12,000.00
6	Permitting	0.3%	EST	\$ 10,000.00	\$ 10,000.00
7	Environmental (Including Biological and Archeological) Report	1.1%	EST	\$ 35,000.00	\$ 35,000.00
8	BLM ROW Negotiation (SF299 Application & POD)	0.3%	EST	\$ 10,000.00	\$ 10,000.00
9	Miscellaneous Engineering Services	0.6%	EST	\$ 20,000.00	\$ 20,000.00
<b>SUBTOTAL</b>					<b>\$ 282,600.00</b>
<b>TOTAL PROJECT COST</b>					<b>\$ 3,105,400.00</b>

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## Engineer's Opinion of Probable Cost

**Arizona Well Fields**

Project Location: Colorado City

11-Oct-23

MCG/bcw

NO.	DESCRIPTION	EST. QTY	UNIT	UNIT PRICE	AMOUNT
<b>GENERAL CONSTRUCTION (ONE WELL)</b>					
1	Mobilization	5%	LS	\$ 16,100.00	\$ 16,100.00
2	Traffic Control	1	LS	\$ 2,000.00	\$ 2,000.00
3	SWPPP Compliance	1	LS	\$ 2,000.00	\$ 2,000.00
4	Dust Control & Watering	1	LS	\$ 2,000.00	\$ 2,000.00
5	Subsurface Investigation	10	HR	\$ 40.00	\$ 400.00
6	Construction Staking	1	LS	\$ 500.00	\$ 500.00
7	Clearing, Grubbing, Excavation, & Demolition	1	LS	\$ 2,000.00	\$ 2,000.00
8	8" Diameter Test Well Drilling	150	LF	\$ 87.00	\$ 13,050.00
9	Develop and Pump Test Well	1	LS	\$ 17,400.00	\$ 17,400.00
10	Water Sampling (Full Drinking Water Standard)	1	EA	\$ 26,000.00	\$ 26,000.00
11	Furnish and Install Conductor Casing (Production Well)	1	LS	\$ 7,800.00	\$ 7,800.00
12	20" Diameter Production Well Drilling	150	LF	\$ 160.00	\$ 24,000.00
13	12" Diameter Casing	100	LF	\$ 52.00	\$ 5,200.00
14	12" Diameter Stainless Steel Screen	50	LF	\$ 350.00	\$ 17,500.00
15	3" Galvanized Gravel Pack Tremie Pipe	60	LF	\$ 16.00	\$ 960.00
16	2" Conduit for Level Indicator	150	LF	\$ 7.00	\$ 1,050.00
17	Concrete Grout and Seal	3	CY	\$ 1,200.00	\$ 3,600.00
18	Furnish and Install Pea Gravel (Disinfected)	3	CY	\$ 350.00	\$ 1,050.00
19	Bentonite Plug	1	LS	\$ 4,400.00	\$ 4,400.00
20	Furnish and Install Fine Silica Sand	3	CY	\$ 2,100.00	\$ 6,300.00
21	Develop Production Well	150	HR	\$ 435.00	\$ 65,250.00
22	Production Well Test Pump Equipment	1	LS	\$ 17,400.00	\$ 17,400.00
23	Test Pump Production Well	48	HR	\$ 260.00	\$ 12,480.00
24	Recovery Testing	12	HR	\$ 175.00	\$ 2,100.00
25	Disinfection and Capping	1	LS	\$ 550.00	\$ 550.00
26	Well House Building	1	LS	\$ 75,000.00	\$ 75,000.00
27	Piping to Connect to Raw Water System	1	LS	\$ 12,000.00	\$ 12,000.00
<b>SUBTOTAL</b>					<b>\$ 338,100.00</b>
<b>CONTINGENCY</b>				20%	<b>\$ 67,600.00</b>
<b>CONSTRUCTION TOTAL</b>					<b>\$ 405,700.00</b>
<b>INCIDENTALS</b>					
1	Engineering Design	7.6%	LS	\$ 36,000.00	\$ 36,000.00
2	Bidding & Negotiating	1.6%	HR	\$ 7,500.00	\$ 7,500.00
3	Engineering Construction Services/Miscellaneous Services	5.7%	HR	\$ 27,000.00	\$ 27,000.00
<b>SUBTOTAL</b>					<b>\$ 70,500.00</b>
<b>TOTAL PROJECT COST FOR ONE WELL</b>					<b>\$ 476,200.00</b>
<b>0-5 YEAR WELL FIELD</b>					
	Number of New Wells	7	EA	\$ 476,200.00	\$ 3,333,400.00
<b>TOTAL PROJECT COST AZ 0-5 YEAR WELL FIELD</b>					<b>\$ 3,333,400.00</b>
<b>6-10 YEAR WELL FIELD</b>					
	Number of New Wells	8	EA	\$ 476,200.00	\$ 3,809,600.00
<b>TOTAL PROJECT COST AZ 6-10 YEAR WELL FIELD</b>					<b>\$ 3,809,600.00</b>
<b>11-20 YEAR WELL FIELD</b>					
	Number of New Wells	14	EA	\$ 476,200.00	\$ 6,666,800.00
<b>TOTAL PROJECT COST AZ 11-20 YEAR WELL FIELD</b>					<b>\$ 6,666,800.00</b>

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## Engineer's Opinion of Probable Cost

Utah Well Fields  
Project Location: Hildale City

11-Oct-23  
MCG/bcw

NO.	DESCRIPTION	EST. QTY	UNIT	UNIT PRICE	AMOUNT
<b>GENERAL CONSTRUCTION (ONE WELL)</b>					
1	Mobilization	5%	LS	\$ 16,099.50	\$ 16,099.50
2	Traffic Control	1	LS	\$ 2,000.00	\$ 2,000.00
3	SWPPP Compliance	1	LS	\$ 2,000.00	\$ 2,000.00
4	Dust Control & Watering	1	LS	\$ 2,000.00	\$ 2,000.00
5	Subsurface Investigation	10	HR	\$ 40.00	\$ 400.00
6	Construction Staking	1	LS	\$ 500.00	\$ 500.00
7	Clearing, Grubbing, Excavation, & Demolition	1	LS	\$ 2,000.00	\$ 2,000.00
8	8" Diameter Test Well Drilling	150	LF	\$ 87.00	\$ 13,050.00
9	Develop and Pump Test Well	1	LS	\$ 17,400.00	\$ 17,400.00
10	Water Sampling (Full Drinking Water Standard)	1	EA	\$ 26,000.00	\$ 26,000.00
11	Furnish and Install Conductor Casing (Production Well)	1	LS	\$ 7,800.00	\$ 7,800.00
12	20" Diameter Production Well Drilling	150	LF	\$ 160.00	\$ 24,000.00
13	12" Diameter Casing	100	LF	\$ 52.00	\$ 5,200.00
14	12" Diameter Stainless Steel Screen	50	LF	\$ 350.00	\$ 17,500.00
15	3" Galvanized Gravel Pack Tremie Pipe	60	LF	\$ 16.00	\$ 960.00
16	2" Conduit for Level Indicator	150	LF	\$ 7.00	\$ 1,050.00
17	Concrete Grout and Seal	3	CY	\$ 1,200.00	\$ 3,600.00
18	Furnish and Install Pea Gravel (Disinfected)	3	CY	\$ 350.00	\$ 1,050.00
19	Bentonite Plug	1	LS	\$ 4,400.00	\$ 4,400.00
20	Furnish and Install Fine Silica Sand	3	CY	\$ 2,100.00	\$ 6,300.00
21	Develop Production Well	150	HR	\$ 435.00	\$ 65,250.00
22	Production Well Test Pump Equipment	1	LS	\$ 17,400.00	\$ 17,400.00
23	Test Pump Production Well	48	HR	\$ 260.00	\$ 12,480.00
24	Recovery Testing	12	HR	\$ 175.00	\$ 2,100.00
25	Disinfection and Capping	1	LS	\$ 550.00	\$ 550.00
26	Well House Building	1	LS	\$ 75,000.00	\$ 75,000.00
27	Piping to Connect to Raw Water System	1	LS	\$ 12,000.00	\$ 12,000.00
<b>SUBTOTAL</b>					<b>\$ 338,089.50</b>
<b>CONTINGENCY</b>				20%	<b>\$ 67,617.90</b>
<b>CONSTRUCTION TOTAL</b>					<b>\$ 405,707.00</b>
<b>INCIDENTALS</b>					
1	Engineering Design	7.6%	LS	\$ 36,019.43	\$ 36,019.43
2	Bidding & Negotiating	1.6%	HR	\$ 7,500.00	\$ 7,500.00
3	Engineering Construction Services/Miscellaneous Services	5.7%	HR	\$ 27,000.00	\$ 27,000.00
<b>SUBTOTAL</b>					<b>\$ 70,519.43</b>
<b>TOTAL PROJECT COST FOR ONE WELL</b>					<b>\$ 476,200.00</b>
<b>0-5 YEAR WELL FIELD</b>					
	Number of New Wells	7	EA	\$ 476,200.00	\$ 3,333,400.00
	Purchase Water Rights	677	AC-FT	\$ 5,300.00	\$ 3,590,318.61
<b>TOTAL PROJECT COST AZ 0-5 YEAR WELL FIELD</b>					<b>\$ 6,923,700.00</b>
<b>6-10 YEAR WELL FIELD</b>					
	Number of New Wells	8	EA	\$ 476,200.00	\$ 3,809,600.00
	Purchase Water Rights	774	AC-FT	\$ 5,300.00	\$ 4,103,221.27
<b>TOTAL PROJECT COST AZ 6-10 YEAR WELL FIELD</b>					<b>\$ 7,912,800.00</b>
<b>11-20 YEAR WELL FIELD</b>					
	Number of New Wells	14	EA	\$ 476,200.00	\$ 6,666,800.00
	Purchase Water Rights	1,355	AC-FT	\$ 5,300.00	\$ 7,180,637.23
<b>TOTAL PROJECT COST AZ 11-20 YEAR WELL FIELD</b>					<b>\$ 13,847,400.00</b>

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## Engineer's Opinion of Probable Cost

**Sandhill Tank 1**

Project Location: Hildale City

18-Oct-23

BCW/tcd

NO.	DESCRIPTION	EST. QTY	UNIT	UNIT PRICE	AMOUNT
<b>GENERAL CONSTRUCTION</b>					
1	Mobilization	5%	LS	\$ 211,800.00	\$ 211,800.00
2	Traffic Control	1	LS	\$ 5,000.00	\$ 5,000.00
3	Pre-Construction DVD & Project Sign	1	LS	\$ 1,500.00	\$ 1,500.00
4	Dust Control & Watering	1	LS	\$ 10,000.00	\$ 10,000.00
5	Subsurface Investigation	20	HR	\$ 350.00	\$ 7,000.00
6	Restore Surface Improvements	1	LS	\$ 10,000.00	\$ 10,000.00
7	Construction Staking	1	LS	\$ 12,000.00	\$ 12,000.00
8	Materials Sampling & Testing	1	LS	\$ 35,000.00	\$ 35,000.00
9	Excavation & Demolition	1	LS	\$ 25,000.00	\$ 25,000.00
10	Earthwork & Grading	1	LS	\$ 400,000.00	\$ 400,000.00
11	2MG Concrete Storage Tank	1	LS	\$ 2,800,000.00	\$ 2,800,000.00
12	Tank Site Appurtenances	1	LS	\$ 75,000.00	\$ 75,000.00
13	Metering Station	1	LS	\$ 40,000.00	\$ 40,000.00
14	16" PVC (C900), Fittings, Installation, Pipe Bedding, Trench Backfill	1,360	LF	\$ 120.00	\$ 163,200.00
15	16" Gate Valve Assembly	4	EA	\$ 6,750.00	\$ 27,000.00
16	12" PVC (C900), Fittings, Installation, Pipe Bedding, Trench Backfill	2,264	LF	\$ 95.00	\$ 215,080.00
17	12" Gate Valve Assembly	10	EA	\$ 6,500.00	\$ 65,000.00
18	Misc. Connections, Fittings and Tie-ins	1	LS	\$ 30,000.00	\$ 30,000.00
19	Surface Restoration	1	LS	\$ 15,000.00	\$ 15,000.00
20	Elm Street PRV and Vault	1	EA	\$ 100,000.00	\$ 100,000.00
21	Valving and Piping to Create New Pressure Zone	1	LS	\$ 45,000.00	\$ 45,000.00
22	Misc Electrical and SCADA Improvements	1	LS	\$ 20.00	\$ 20.00
23	Tank Access Road	28,992	SF	\$ 2.75	\$ 79,728.00
24	Fence and Gate	1	LS	\$ 75,000.00	\$ 75,000.00
<b>SUBTOTAL</b>					<b>\$ 4,447,328.00</b>
<b>CONTINGENCY</b>				20%	<b>\$ 889,500.00</b>
<b>CONSTRUCTION TOTAL</b>					<b>\$ 5,336,800.00</b>
<b>INCIDENTALS</b>					
1	Engineering Design	3.4%	LS	\$ 200,000.00	\$ 200,000.00
2	Bidding & Negotiating	0.1%	HR	\$ 7,500.00	\$ 7,500.00
3	Engineering Construction Services	4.5%	HR	\$ 266,800.00	\$ 266,800.00
4	Topographic & Property Survey	0.3%	EST	\$ 15,000.00	\$ 15,000.00
5	Geotechnical Report	0.2%	EST	\$ 10,000.00	\$ 10,000.00
6	Funding and Administrative Services	0.2%	EST	\$ 12,000.00	\$ 12,000.00
7	Permitting	0.2%	EST	\$ 10,000.00	\$ 10,000.00
8	Environmental (Including Biological and Archeological) Report	0.5%	EST	\$ 30,000.00	\$ 30,000.00
9	SCADA Design	0.3%	EST	\$ 15,000.00	\$ 15,000.00
10	BLM ROW Negotiation (SF299 Application & POD)	0.2%	EST	\$ 10,000.00	\$ 10,000.00
11	Miscellaneous Engineering Services	0.4%	EST	\$ 25,000.00	\$ 25,000.00
<b>SUBTOTAL</b>					<b>\$ 601,300.00</b>
<b>TOTAL PROJECT COST</b>					<b>\$ 5,938,100.00</b>

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## Engineer's Opinion of Probable Cost

**Trailhead Tank**

Project Location: Hildale City

12-Oct-23

MCG/bcw

NO.	DESCRIPTION	EST. QTY	UNIT	UNIT PRICE	AMOUNT
<b>GENERAL CONSTRUCTION</b>					
1	Mobilization	5%	LS	\$ 100,700.00	\$ 100,700.00
2	Traffic Control	1	LS	\$ 5,000.00	\$ 5,000.00
3	Pre-Construction DVD & Project Sign	1	LS	\$ 1,500.00	\$ 1,500.00
4	Dust Control & Watering	1	LS	\$ 10,000.00	\$ 10,000.00
5	Subsurface Investigation	30	HR	\$ 350.00	\$ 10,500.00
6	Restore Surface Improvements	1	LS	\$ 7,800.00	\$ 7,800.00
7	Construction Staking	1	LS	\$ 5,000.00	\$ 5,000.00
8	Materials Sampling & Testing	1	LS	\$ 35,000.00	\$ 35,000.00
9	Earthwork	1	LS	\$ 200,000.00	\$ 200,000.00
10	500K Concrete Storage Tank	1	LS	\$ 810,000.00	\$ 810,000.00
11	Tank Site Appurtenances	1	LS	\$ 100,000.00	\$ 100,000.00
12	Fence and Gate	1	LS	\$ 20,000.00	\$ 20,000.00
13	Metering Station	1	LS	\$ 34,000.00	\$ 34,000.00
14	Tank Access Rd	5,500	SF	\$ 2.00	\$ 11,000.00
15	10" PVC (C900), Fittings, Installation, Pipe Bedding, Trench Backfill	8,000	LF	\$ 75.00	\$ 600,000.00
16	10" Gate Valve Assembly	5	EA	\$ 5,000.00	\$ 25,000.00
17	Misc. Connections, Fittings, and Tie-Ins	1	LS	\$ 20,000.00	\$ 20,000.00
18	Misc Electrical and SCADA Improvements	1	LS	\$ 20,000.00	\$ 20,000.00
19	PRV and Vault	1	EA	\$ 100,000.00	\$ 100,000.00
<b>SUBTOTAL</b>					<b>\$ 2,115,500.00</b>
<b>CONTINGENCY</b>				20%	<b>\$ 423,100.00</b>
<b>CONSTRUCTION TOTAL</b>					<b>\$ 2,538,600.00</b>
<b>INCIDENTALS</b>					
1	Engineering Design	3.3%	LS	\$ 95,000.00	\$ 95,000.00
2	Bidding & Negotiating	0.3%	HR	\$ 7,500.00	\$ 7,500.00
3	Engineering Construction Services	4.4%	HR	\$ 126,900.00	\$ 126,900.00
4	Topographic & Property Survey	0.3%	EST	\$ 8,000.00	\$ 8,000.00
5	Geotechnical Report	0.3%	EST	\$ 10,000.00	\$ 10,000.00
6	Funding and Administrative Services	0.4%	EST	\$ 12,000.00	\$ 12,000.00
7	Permitting	0.3%	EST	\$ 10,000.00	\$ 10,000.00
10	Environmental (Including Biological and Archeological) Report	0.9%	EST	\$ 25,000.00	\$ 25,000.00
11	BLM ROW Negotiation (SF299 Application & POD)	0.3%	EST	\$ 10,000.00	\$ 10,000.00
39	Miscellaneous Professional Services	0.7%	EST	\$ 20,000.00	\$ 20,000.00
<b>SUBTOTAL</b>					<b>\$ 336,900.00</b>
<b>TOTAL PROJECT COST</b>					<b>\$ 2,875,500.00</b>

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## Engineer's Opinion of Probable Cost

**South Concrete Tank**  
Project Location: Colorado City

12-Oct-23  
MCG/bcw

NO.	DESCRIPTION	EST. QTY	UNIT	UNIT PRICE	AMOUNT
<b>GENERAL CONSTRUCTION</b>					
1	Mobilization	5%	LS	\$ 154,900.00	\$ 154,900.00
2	Traffic Control	1	LS	\$ 2,000.00	\$ 2,000.00
3	Pre-Construction DVD & Project Sign	1	LS	\$ 1,500.00	\$ 1,500.00
4	Dust Control & Watering	1	LS	\$ 10,000.00	\$ 10,000.00
5	Subsurface Investigation	30	HR	\$ 350.00	\$ 10,500.00
6	Restore Surface Improvements	1	LS	\$ 10,000.00	\$ 10,000.00
7	Construction Staking	1	LS	\$ 12,000.00	\$ 12,000.00
8	Materials Sampling & Testing	1	LS	\$ 35,000.00	\$ 35,000.00
9	Excavation & Demolition	1	LS	\$ 25,000.00	\$ 25,000.00
10	Earthwork & Grading	1	LS	\$ 400,000.00	\$ 400,000.00
11	1MG Concrete Storage Tank	1	LS	\$ 1,500,000.00	\$ 1,500,000.00
12	Tank Site Appurtenances	1	LS	\$ 250,000.00	\$ 250,000.00
13	Metering Station	1	LS	\$ 40,000.00	\$ 40,000.00
14	12" PVC (C900), Fittings, Installation, Pipe Bedding, Trench Backfill	4,000	LF	\$ 110.00	\$ 440,000.00
15	12" Gate Valve Assembly	10	EA	\$ 6,750.00	\$ 67,500.00
16	Misc. Connections, Fittings and Tie-ins	1	LS	\$ 30,000.00	\$ 30,000.00
17	Surface Restoration	1	LS	\$ 15,000.00	\$ 15,000.00
18	PRV and Vault	1	EA	\$ 100,000.00	\$ 100,000.00
19	Valving and Piping to Create New Pressure Zone	1	LS	\$ 45,000.00	\$ 45,000.00
20	Misc Electrical and SCADA Improvements	1	LS	\$ 20,000.00	\$ 20,000.00
21	Tank Access Road	32,000	SF	\$ 2.00	\$ 64,000.00
22	Fence and Gate	1	LS	\$ 20,000.00	\$ 20,000.00
<b>SUBTOTAL</b>					<b>\$ 3,252,400.00</b>
<b>CONTINGENCY</b>				20%	<b>\$ 650,500.00</b>
<b>CONSTRUCTION TOTAL</b>					<b>\$ 3,902,900.00</b>
<b>INCIDENTALS</b>					
1	Engineering Design	4.5%	LS	\$ 200,000.00	\$ 200,000.00
2	Bidding & Negotiating	0.2%	HR	\$ 7,500.00	\$ 7,500.00
3	Engineering Construction Services	4.4%	HR	\$ 195,100.00	\$ 195,100.00
4	Topographic & Property Survey	0.3%	EST	\$ 15,000.00	\$ 15,000.00
5	Geotechnical Report	0.2%	EST	\$ 10,000.00	\$ 10,000.00
6	Funding and Administrative Services	0.3%	EST	\$ 12,000.00	\$ 12,000.00
7	Permitting	0.2%	EST	\$ 10,000.00	\$ 10,000.00
8	Environmental (Including Biological and Archeological) Report	0.7%	EST	\$ 30,000.00	\$ 30,000.00
9	SCADA Design	0.3%	EST	\$ 15,000.00	\$ 15,000.00
10	BLM ROW Negotiation (SF299 Application & POD)	0.2%	EST	\$ 10,000.00	\$ 10,000.00
11	Miscellaneous Engineering Services	0.6%	EST	\$ 25,000.00	\$ 25,000.00
<b>SUBTOTAL</b>					<b>\$ 529,600.00</b>
<b>TOTAL PROJECT COST</b>					<b>\$ 4,432,500.00</b>

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## Engineer's Opinion of Probable Cost

**Sandhill Tank 2**  
Project Location: Hildale City

18-Oct-23  
MCG/bcw

NO.	DESCRIPTION	EST. QTY	UNIT	UNIT PRICE	AMOUNT
<b>GENERAL CONSTRUCTION</b>					
1	Mobilization	5%	LS	\$ 232,100.00	\$ 232,100.00
2	Traffic Control	1	LS	\$ 2,000.00	\$ 2,000.00
3	Pre-Construction DVD & Project Sign	1	LS	\$ 1,500.00	\$ 1,500.00
4	Dust Control & Watering	1	LS	\$ 10,000.00	\$ 10,000.00
5	Subsurface Investigation	30	HR	\$ 350.00	\$ 10,500.00
6	Restore Surface Improvements	1	LS	\$ 10,000.00	\$ 10,000.00
7	Construction Staking	1	LS	\$ 12,000.00	\$ 12,000.00
8	Materials Sampling & Testing	1	LS	\$ 35,000.00	\$ 35,000.00
9	Excavation & Demolition	1	LS	\$ 25,000.00	\$ 25,000.00
10	Earthwork & Grading	1	LS	\$ 400,000.00	\$ 400,000.00
11	2MG Concrete Storage Tank	1	LS	\$ 2,800,000.00	\$ 2,800,000.00
12	Tank Site Appurtenances	1	LS	\$ 250,000.00	\$ 250,000.00
13	Metering Station	1	LS	\$ 40,000.00	\$ 40,000.00
14	24" PVC (C900), Fittings, Installation, Pipe Bedding, Trench Backfill	2,700	LF	\$ 150.00	\$ 405,000.00
15	24" Gate Valve Assembly	6	EA	\$ 9,500.00	\$ 57,000.00
16	16" PVC (C900), Fittings, Installation, Pipe Bedding, Trench Backfill	2,350	LF	\$ 120.00	\$ 282,000.00
17	16" Gate Valve Assembly	5	EA	\$ 6,750.00	\$ 33,750.00
18	Misc. Connections, Fittings and Tie-ins	1	LS	\$ 30,000.00	\$ 30,000.00
19	Surface Restoration	1	LS	\$ 15,000.00	\$ 15,000.00
20	PRV and Vault	1	EA	\$ 100,000.00	\$ 100,000.00
21	Valving and Piping to Create New Pressure Zone	1	LS	\$ 45,000.00	\$ 45,000.00
22	Misc Electrical and SCADA Improvements	1	LS	\$ 20,000.00	\$ 20,000.00
23	Tank Access Road	18,800	SF	\$ 2.00	\$ 37,600.00
24	Fence and Gate	1	LS	\$ 20,000.00	\$ 20,000.00
<b>SUBTOTAL</b>					<b>\$ 4,873,450.00</b>
<b>CONTINGENCY</b>				20%	<b>\$ 974,700.00</b>
<b>CONSTRUCTION TOTAL</b>					<b>\$ 5,848,200.00</b>
<b>INCIDENTALS</b>					
1	Engineering Design	3.1%	LS	\$ 200,000.00	\$ 200,000.00
2	Bidding & Negotiating	0.1%	HR	\$ 7,500.00	\$ 7,500.00
3	Engineering Construction Services	4.5%	HR	\$ 292,400.00	\$ 292,400.00
4	Topographic & Property Survey	0.2%	EST	\$ 15,000.00	\$ 15,000.00
5	Geotechnical Report	0.2%	EST	\$ 10,000.00	\$ 10,000.00
6	Funding and Administrative Services	0.2%	EST	\$ 12,000.00	\$ 12,000.00
7	Permitting	0.2%	EST	\$ 10,000.00	\$ 10,000.00
8	Environmental (Including Biological and Archeological) Report	0.5%	EST	\$ 30,000.00	\$ 30,000.00
9	SCADA Design	0.2%	EST	\$ 15,000.00	\$ 15,000.00
10	BLM ROW Negotiation (SF299 Application & POD)	0.2%	EST	\$ 10,000.00	\$ 10,000.00
11	Miscellaneous Engineering Services	0.4%	EST	\$ 25,000.00	\$ 25,000.00
<b>SUBTOTAL</b>					<b>\$ 626,900.00</b>
<b>TOTAL PROJECT COST</b>					<b>\$ 6,475,100.00</b>

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## Engineer's Opinion of Probable Cost

**Raw Water Transmission Line** 18-Oct-23  
Project Location: Colorado City BCW/tcd

NO.	DESCRIPTION	EST. QTY	UNIT	UNIT PRICE	AMOUNT
<b>GENERAL CONSTRUCTION</b>					
1	Mobilization	5%	LS	\$ 37,800.00	\$ 37,800.00
2	Traffic Control	1	LS	\$ 10,000.00	\$ 10,000.00
3	Dust Control & Watering	1	LS	\$ 10,000.00	\$ 10,000.00
4	Subsurface Investigation	10	HR	\$ 250.00	\$ 2,500.00
5	Restore Surface Improvements	1	LS	\$ 15,000.00	\$ 15,000.00
6	Construction Staking	1	LS	\$ 10,000.00	\$ 10,000.00
7	Erosion Control Compliance	1	LS	\$ 5,000.00	\$ 5,000.00
8	Materials Sampling & Testing	1	LS	\$ 12,500.00	\$ 12,500.00
9	Excavation & Demolition	1	LS	\$ 20,000.00	\$ 20,000.00
10	12" PVC (C900) Line, Fitting, Tracer Wire, Bedding, & Backfill	2,500	LF	\$ 110.00	\$ 275,000.00
11	12" Gate Valve Assembly	8	EA	\$ 6,500.00	\$ 52,000.00
12	Pavement Restoration	26,400	SF	\$ 7.75	\$ 204,600.00
13	Access/Cleanout Structure	4	EA	\$ 5,000.00	\$ 20,000.00
14	Misc. Fittings, Connections, and Tie-Ins	1	LS	\$ 20,000.00	\$ 20,000.00
15	Electrical Conduit	2,500	LF	\$ 40.00	\$ 100,000.00
<b>SUBTOTAL</b>					<b>\$ 794,400.00</b>
<b>CONTINGENCY</b>				20%	<b>\$ 158,900.00</b>
<b>CONSTRUCTION TOTAL</b>					<b>\$ 953,300.00</b>
<b>INCIDENTALS</b>					
1	Engineering Design	4.6%	LS	\$ 50,000.00	\$ 50,000.00
2	Bidding & Negotiating	0.7%	HR	\$ 7,500.00	\$ 7,500.00
3	Engineering Construction Services	3.6%	HR	\$ 39,700.00	\$ 39,700.00
4	Topographic & Property Survey	1.4%	EST	\$ 15,000.00	\$ 15,000.00
5	Permitting	0.5%	EST	\$ 5,000.00	\$ 5,000.00
6	Funding and Administrative Services	1.1%	EST	\$ 12,000.00	\$ 12,000.00
7	Miscellaneous Engineering Services	0.9%	EST	\$ 10,000.00	\$ 10,000.00
<b>SUBTOTAL</b>					<b>\$ 139,200.00</b>
<b>TOTAL PROJECT COST</b>					<b>\$ 1,092,500.00</b>

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## Engineer's Opinion of Probable Cost

**Small Treatment Plant (1,600 gpm)**  
Project Location: Hildale City

12-Oct-23  
MCG/bcw

NO.	DESCRIPTION	EST. QTY	UNIT	UNIT PRICE	AMOUNT
<b>GENERAL CONSTRUCTION</b>					
1	Mobilization	5%	LS	\$ 206,000.00	\$ 206,000.00
2	Pilot Study	1	LS	\$ 75,000.00	\$ 75,000.00
3	Construction Staking	1	LS	\$ 15,000.00	\$ 15,000.00
4	Dust Control & Watering	1	LS	\$ 20,000.00	\$ 20,000.00
5	Package Pressure Filtration System	1	LS	\$ 1,300,000.00	\$ 1,300,000.00
6	Site Earthwork	1	LS	\$ 150,000.00	\$ 150,000.00
7	Water Treatment Plant Building & Appurtenances	1	LS	\$ 1,000,000.00	\$ 1,000,000.00
8	Chlorinator System	1	LS	\$ 100,000.00	\$ 100,000.00
9	Chlorine Contact Chamber	1	LS	\$ 200,000.00	\$ 200,000.00
10	Effluent Pump Station	1	LS	\$ 275,000.00	\$ 275,000.00
11	Electrical Systems	1	LS	\$ 350,000.00	\$ 350,000.00
12	Mechanical System	1	LS	\$ 200,000.00	\$ 200,000.00
13	Miscellaneous Piping to and from Site	1	LS	\$ 185,000.00	\$ 185,000.00
14	Miscellaneous Valves	1	LS	\$ 90,000.00	\$ 90,000.00
15	Miscellaneous Site Improvements (parking, fence, gate, etc.)	1	LS	\$ 110,000.00	\$ 110,000.00
16	SCADA Improvements	1	LS	\$ 50,000.00	\$ 50,000.00
<b>SUBTOTAL</b>					<b>\$ 4,326,000.00</b>
<b>CONTINGENCY</b>				20%	<b>\$ 865,200.00</b>
<b>CONSTRUCTION TOTAL</b>					<b>\$ 5,191,200.00</b>
<b>INCIDENTALS</b>					
1	Engineering Design	5.3%	LS	\$ 311,500.00	\$ 311,500.00
2	Bidding & Negotiating	0.2%	HR	\$ 10,000.00	\$ 10,000.00
3	Engineering Construction Services	4.4%	HR	\$ 259,600.00	\$ 259,600.00
4	Topographic & Property Survey	0.3%	EST	\$ 15,000.00	\$ 15,000.00
5	Geotechnical Report	0.2%	EST	\$ 10,000.00	\$ 10,000.00
6	Funding and Administrative Services	0.3%	EST	\$ 20,000.00	\$ 20,000.00
7	Permitting	0.2%	EST	\$ 12,500.00	\$ 12,500.00
8	SCADA Design	0.4%	EST	\$ 25,000.00	\$ 25,000.00
9	Miscellaneous Professional Services	0.8%	EST	\$ 50,000.00	\$ 50,000.00
<b>SUBTOTAL</b>					<b>\$ 713,600.00</b>
<b>TOTAL PROJECT COST</b>					<b>\$ 5,904,800.00</b>

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## Engineer's Opinion of Probable Cost

**Additional Treatment Capacity (3,000 gpm)**  
Project Location: Not Specified

12-Oct-23  
MCG/bcw

NO.	DESCRIPTION	EST. QTY	UNIT	UNIT PRICE	AMOUNT
<b>GENERAL CONSTRUCTION</b>					
1	Mobilization	5%	LS	\$ 306,800.00	\$ 306,800.00
2	Pilot Study	1	LS	\$ 75,000.00	\$ 75,000.00
3	Construction Staking	1	LS	\$ 15,000.00	\$ 15,000.00
4	Dust Control & Watering	1	LS	\$ 20,000.00	\$ 20,000.00
5	Package Pressure Filtration System	1	LS	\$ 2,300,000.00	\$ 2,300,000.00
6	Site Earthwork	1	LS	\$ 200,000.00	\$ 200,000.00
7	Water Treatment Plant Building & Appurtenances	1	LS	\$ 1,500,000.00	\$ 1,500,000.00
8	Chlorinator System	1	LS	\$ 100,000.00	\$ 100,000.00
9	Chlorine Contact Chamber	1	LS	\$ 325,000.00	\$ 325,000.00
10	Effluent Pump Station	1	LS	\$ 375,000.00	\$ 375,000.00
11	Electrical Systems	1	LS	\$ 400,000.00	\$ 400,000.00
12	Mechanical System	1	LS	\$ 275,000.00	\$ 275,000.00
13	Miscellaneous Piping to and from Site	1	LS	\$ 225,000.00	\$ 225,000.00
14	Miscellaneous Valves	1	LS	\$ 100,000.00	\$ 100,000.00
15	Miscellaneous Site Improvements (parking, fence, gate, etc.)	1	LS	\$ 175,000.00	\$ 175,000.00
16	SCADA Improvements	1	LS	\$ 50,000.00	\$ 50,000.00
<b>SUBTOTAL</b>					<b>\$ 6,441,800.00</b>
<b>CONTINGENCY</b>				20%	<b>\$ 1,288,400.00</b>
<b>CONSTRUCTION TOTAL</b>					<b>\$ 7,730,200.00</b>
<b>INCIDENTALS</b>					
1	Engineering Design	5.5%	LS	\$ 479,800.00	\$ 479,800.00
2	Bidding & Negotiating	0.1%	HR	\$ 10,000.00	\$ 10,000.00
3	Engineering Construction Services	4.4%	HR	\$ 386,500.00	\$ 386,500.00
4	Topographic & Property Survey	0.2%	EST	\$ 15,000.00	\$ 15,000.00
5	Geotechnical Report	0.1%	EST	\$ 10,000.00	\$ 10,000.00
6	Funding and Administrative Services	0.2%	EST	\$ 20,000.00	\$ 20,000.00
7	Permitting	0.1%	EST	\$ 12,500.00	\$ 12,500.00
8	SCADA Design	0.3%	EST	\$ 25,000.00	\$ 25,000.00
9	Miscellaneous Engineering Services	0.6%	EST	\$ 50,000.00	\$ 50,000.00
<b>SUBTOTAL</b>					<b>\$ 1,008,800.00</b>
<b>TOTAL PROJECT COST</b>					<b>\$ 8,739,000.00</b>

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## Engineer's Opinion of Probable Cost

**Additional Treatment Capacity PH2 (4,000 gpm)**

12-Oct-23

Project Location: Not Specified

MCG/bcw

NO.	DESCRIPTION	EST. QTY	UNIT	UNIT PRICE	AMOUNT
<b>GENERAL CONSTRUCTION</b>					
1	Mobilization	5%	LS	\$ 363,300.00	\$ 363,300.00
2	Pilot Study	1	LS	\$ 75,000.00	\$ 75,000.00
3	Construction Staking	1	LS	\$ 15,000.00	\$ 15,000.00
4	Dust Control & Watering	1	LS	\$ 20,000.00	\$ 20,000.00
5	Package Pressure Filtration System	1	LS	\$ 3,000,000.00	\$ 3,000,000.00
6	Site Earthwork	1	LS	\$ 200,000.00	\$ 200,000.00
7	Water Treatment Plant Building & Appurtenances	1	LS	\$ 1,750,000.00	\$ 1,750,000.00
8	Chlorinator System	1	LS	\$ 100,000.00	\$ 100,000.00
9	Chlorine Contact Chamber	1	LS	\$ 375,000.00	\$ 375,000.00
10	Effluent Pump Station	1	LS	\$ 425,000.00	\$ 425,000.00
11	Electrical Systems	1	LS	\$ 450,000.00	\$ 450,000.00
12	Mechanical System	1	LS	\$ 315,000.00	\$ 315,000.00
13	Miscellaneous Piping to and from Site	1	LS	\$ 225,000.00	\$ 225,000.00
14	Miscellaneous Valves	1	LS	\$ 115,000.00	\$ 115,000.00
15	Miscellaneous Site Improvements (parking, fence, gate, etc.)	1	LS	\$ 150,000.00	\$ 150,000.00
16	SCADA Improvements	1	LS	\$ 50,000.00	\$ 50,000.00
<b>SUBTOTAL</b>					<b>\$ 7,628,300.00</b>
<b>CONTINGENCY</b>				20%	<b>\$ 1,525,700.00</b>
<b>CONSTRUCTION TOTAL</b>					<b>\$ 9,154,000.00</b>
<b>INCIDENTALS</b>					
1	Engineering Design	5.4%	LS	\$ 558,000.00	\$ 558,000.00
2	Bidding & Negotiating	0.1%	HR	\$ 10,000.00	\$ 10,000.00
3	Engineering Construction Services	4.4%	HR	\$ 457,700.00	\$ 457,700.00
4	Topographic & Property Survey	0.1%	EST	\$ 15,000.00	\$ 15,000.00
5	Geotechnical Report	0.1%	EST	\$ 10,000.00	\$ 10,000.00
6	Funding and Administrative Services	0.2%	EST	\$ 20,000.00	\$ 20,000.00
7	Permitting	0.1%	EST	\$ 12,500.00	\$ 12,500.00
8	SCADA Design	0.2%	EST	\$ 25,000.00	\$ 25,000.00
9	Miscellaneous Engineering Services	0.5%	EST	\$ 50,000.00	\$ 50,000.00
<b>SUBTOTAL</b>					<b>\$ 1,158,200.00</b>
<b>TOTAL PROJECT COST</b>					<b>\$ 10,312,200.00</b>

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## Engineer's Opinion of Probable Cost

**Fire Hydrant Improvements**

18-Oct-23

Project Location: Hildale City

BCW/tcd

NO.	DESCRIPTION	EST. QTY	UNIT	UNIT PRICE	AMOUNT
<b>GENERAL CONSTRUCTION</b>					
1	Mobilization	5%	LS	\$ 61,700.00	\$ 61,700.00
2	Pre-Construction DVD and Project Sign	1	LS	\$ 2,500.00	\$ 2,500.00
3	Traffic Control	1	LS	\$ 10,000.00	\$ 10,000.00
4	Subsurface Investigation	24	HR	\$ 250.00	\$ 6,000.00
5	Materials Sampling & Testing	1	LS	\$ 16,000.00	\$ 16,000.00
6	Dust Control & Watering	1	LS	\$ 9,000.00	\$ 9,000.00
7	Construction Staking	1	LS	\$ 13,000.00	\$ 13,000.00
8	Erosion Control Compliance	1	LS	\$ 6,000.00	\$ 6,000.00
9	6" PVC (C900) Line, Fitting, Tracer Wire, Bedding, & Backfill	2,100	LF	\$ 50.00	\$ 105,000.00
10	6" Gate Valve Assembly	80	EA	\$ 2,000.00	\$ 160,000.00
11	8" PVC (C900) Line, Fitting, Tracer Wire, Bedding, & Backfill	2,930	LF	\$ 65.00	\$ 190,450.00
12	8" Gate Valve Assembly	8	EA	\$ 2,900.00	\$ 23,200.00
13	Fire Hydrant Assembly	78	EA	\$ 7,000.00	\$ 546,000.00
14	Restore Gravel Road	21,200	SF	\$ 3.25	\$ 68,900.00
15	Pavement Restoration	9,100	SF	\$ 7.50	\$ 68,250.00
16	Restore Surface Improvements	1	LS	\$ 10,000.00	\$ 10,000.00
<b>SUBTOTAL</b>					<b>\$ 1,296,000.00</b>
<b>CONTINGENCY</b>				20%	<b>\$ 259,200.00</b>
<b>CONSTRUCTION TOTAL</b>					<b>\$ 1,555,200.00</b>
<b>INCIDENTALS</b>					
1	Engineering Design	4.6%	LS	\$ 79,000.00	\$ 79,000.00
2	Bidding & Negotiating	0.4%	HR	\$ 7,500.00	\$ 7,500.00
3	Engineering Construction Services	3.7%	HR	\$ 64,800.00	\$ 64,800.00
4	Topographic & Property Survey	0.6%	EST	\$ 10,000.00	\$ 10,000.00
5	Funding and Administrative Services	0.7%	EST	\$ 12,000.00	\$ 12,000.00
6	Miscellaneous Engineering Services	0.3%	EST	\$ 5,000.00	\$ 5,000.00
<b>SUBTOTAL</b>					<b>\$ 178,300.00</b>
<b>TOTAL PROJECT COST</b>					<b>\$ 1,733,500.00</b>

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## Engineer's Opinion of Probable Cost

**Upper Pressure Zone Improvements**  
Project Location: Hildale City

17-Oct-23  
MCG/bcw

NO.	DESCRIPTION	EST. QTY	UNIT	UNIT PRICE	AMOUNT
<b>GENERAL CONSTRUCTION</b>					
1	Mobilization	5%	LS	\$ 29,100.00	\$ 29,100.00
2	Pre-Construction DVD	1	LS	\$ 1,500.00	\$ 1,500.00
3	Traffic Control	1	LS	\$ 7,500.00	\$ 7,500.00
4	Subsurface Investigation	16	HR	\$ 250.00	\$ 4,000.00
5	Materials Sampling & Testing	1	LS	\$ 10,000.00	\$ 10,000.00
6	Dust Control & Watering	1	LS	\$ 7,500.00	\$ 7,500.00
7	Construction Staking	1	LS	\$ 7,500.00	\$ 7,500.00
8	Erosion Control Compliance	1	LS	\$ 6,000.00	\$ 6,000.00
9	8" PVC (C900) Line, Fitting, Tracer Wire, Bedding, & Backfill	5,000	LF	\$ 65.00	\$ 325,000.00
10	8" Gate Valve Assembly	14	EA	\$ 5,000.00	\$ 70,000.00
11	Disconnect and Reconnect Water Services	6	EA	\$ 2,000.00	\$ 12,000.00
12	Restore Gravel Road	30,000	SF	\$ 3.25	\$ 97,500.00
13	Restore Surface Improvements	1	LS	\$ 10,000.00	\$ 10,000.00
14	Misc. Connections, Fittings, and Tie-Ins	1	LS	\$ 10,000.00	\$ 10,000.00
15	6" Fire Hydrant Assembly	2	EA	\$ 7,000.00	\$ 14,000.00
<b>SUBTOTAL</b>					<b>\$ 611,600.00</b>
<b>CONTINGENCY</b>				20%	<b>\$ 122,300.00</b>
<b>CONSTRUCTION TOTAL</b>					<b>\$ 733,900.00</b>
<b>INCIDENTALS</b>					
1	Engineering Design	5.3%	LS	\$ 45,000.00	\$ 45,000.00
2	Bidding & Negotiating	0.9%	HR	\$ 7,500.00	\$ 7,500.00
3	Engineering Construction Services	3.6%	HR	\$ 30,600.00	\$ 30,600.00
4	Topographic & Property Survey	0.9%	EST	\$ 7,500.00	\$ 7,500.00
5	Funding and Administrative Services	1.4%	EST	\$ 12,000.00	\$ 12,000.00
6	Permitting	0.6%	EST	\$ 5,000.00	\$ 5,000.00
7	Miscellaneous Professional Services	0.6%	EST	\$ 5,000.00	\$ 5,000.00
<b>SUBTOTAL</b>					<b>\$ 112,600.00</b>
<b>TOTAL PROJECT COST</b>					<b>\$ 846,500.00</b>

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## Engineer's Opinion of Probable Cost

**Canyon Street Line**  
Project Location: Hildale City

17-Oct-23  
MCG/bcw

NO.	DESCRIPTION	EST. QTY	UNIT	UNIT PRICE	AMOUNT
<b>GENERAL CONSTRUCTION</b>					
1	Mobilization	5%	LS	\$ 12,400.00	\$ 12,400.00
2	Pre-Construction DVD	1	LS	\$ 1,500.00	\$ 1,500.00
3	Traffic Control	1	LS	\$ 10,000.00	\$ 10,000.00
4	Subsurface Investigation	8	HR	\$ 250.00	\$ 2,000.00
5	Materials Sampling & Testing	1	LS	\$ 10,000.00	\$ 10,000.00
6	Dust Control & Watering	1	LS	\$ 10,000.00	\$ 10,000.00
7	Construction Staking	1	LS	\$ 7,500.00	\$ 7,500.00
8	Erosion Control Compliance	1	LS	\$ 7,500.00	\$ 7,500.00
9	8" PVC (C900) Line, Fitting, Tracer Wire, Bedding, & Backfill	1,500	LF	\$ 65.00	\$ 97,500.00
10	8" Gate Valve Assembly	5	EA	\$ 5,000.00	\$ 25,000.00
11	Restore Surface Improvements	1	LS	\$ 10,000.00	\$ 10,000.00
12	Pavement Restoration	9,000	SF	\$ 6.00	\$ 54,000.00
13	Misc. Connections, Fittings, and Tie-Ins	1	LS	\$ 7,500.00	\$ 7,500.00
14	Reconnect Water Services	5	EA	\$ 1,200.00	\$ 6,000.00
<b>SUBTOTAL</b>					<b>\$ 260,900.00</b>
<b>CONTINGENCY</b>				20%	<b>\$ 52,200.00</b>
<b>CONSTRUCTION TOTAL</b>					<b>\$ 313,100.00</b>
<b>INCIDENTALS</b>					
1	Engineering Design	6.4%	LS	\$ 25,000.00	\$ 25,000.00
2	Bidding & Negotiating	1.9%	HR	\$ 7,500.00	\$ 7,500.00
3	Engineering Construction Services	4.7%	HR	\$ 18,300.00	\$ 18,300.00
4	Topographic & Property Survey	1.9%	EST	\$ 7,500.00	\$ 7,500.00
5	Funding and Administrative Services	2.6%	EST	\$ 10,000.00	\$ 10,000.00
6	Permitting	1.3%	EST	\$ 5,000.00	\$ 5,000.00
7	Miscellaneous Engineering Services	0.6%	EST	\$ 2,500.00	\$ 2,500.00
<b>SUBTOTAL</b>					<b>\$ 75,800.00</b>
<b>TOTAL PROJECT COST</b>					<b>\$ 388,900.00</b>

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## Engineer's Opinion of Probable Cost

**Northwest Hildale Transmission Line**  
Project Location: Hildale City

17-Oct-23  
MCG/bcw

NO.	DESCRIPTION	EST. QTY	UNIT	UNIT PRICE	AMOUNT
<b>GENERAL CONSTRUCTION</b>					
1	Mobilization	5%	LS	\$ 69,300.00	\$ 69,300.00
2	Traffic Control	1	LS	\$ 12,000.00	\$ 12,000.00
3	Pre-Construction DVD	1	LS	\$ 1,500.00	\$ 1,500.00
4	Dust Control & Watering	1	LS	\$ 20,000.00	\$ 20,000.00
5	Subsurface Investigation	8	HR	\$ 250.00	\$ 2,000.00
6	Restore Surface Improvements	1	LS	\$ 12,000.00	\$ 12,000.00
7	Erosion Control Compliance	2	LS	\$ 8,000.00	\$ 16,000.00
8	Construction Staking	1	LS	\$ 12,500.00	\$ 12,500.00
9	Materials Sampling & Testing	1	LS	\$ 12,000.00	\$ 12,000.00
10	Surface Restoration	32,500	SF	\$ 5.00	\$ 162,500.00
11	24" PVC (C900) Line, Fitting, Tracer Wire, Bedding, & Backfill	4,150	LF	\$ 150.00	\$ 622,500.00
12	24" Gate Valve Assembly	12	EA	\$ 9,500.00	\$ 114,000.00
13	16" PVC (C900) Line, Fitting, Tracer Wire, Bedding, & Backfill	2,350	LF	\$ 120.00	\$ 282,000.00
14	16" Gate Valve Assembly	12	EA	\$ 6,750.00	\$ 81,000.00
15	Misc. Connections, Fittings and Tie-ins	1	LS	\$ 35,000.00	\$ 35,000.00
<b>SUBTOTAL</b>					<b>\$ 1,454,300.00</b>
<b>CONTINGENCY</b>				20%	<b>\$ 290,900.00</b>
<b>CONSTRUCTION TOTAL</b>					<b>\$ 1,745,200.00</b>
<b>INCIDENTALS</b>					
1	Engineering Design	5.3%	LS	\$ 105,000.00	\$ 105,000.00
2	Bidding & Negotiating	0.4%	HR	\$ 7,500.00	\$ 7,500.00
3	Engineering Construction Services	3.7%	HR	\$ 72,700.00	\$ 72,700.00
4	Topographic & Property Survey	0.8%	EST	\$ 15,000.00	\$ 15,000.00
5	Funding and Administrative Services	0.6%	EST	\$ 12,000.00	\$ 12,000.00
6	Permitting	0.3%	EST	\$ 5,000.00	\$ 5,000.00
7	Miscellaneous Engineering Services	0.8%	EST	\$ 15,000.00	\$ 15,000.00
<b>SUBTOTAL</b>					<b>\$ 232,200.00</b>
<b>TOTAL PROJECT COST</b>					<b>\$ 1,977,400.00</b>

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## Engineer's Opinion of Probable Cost

**Hildale Street Line**

17-Oct-23

Project Location: Colorado City

MCG/bcw

NO.	DESCRIPTION	EST. QTY	UNIT	UNIT PRICE	AMOUNT
<b>GENERAL CONSTRUCTION</b>					
1	Mobilization	5%	LS	\$ 13,200.00	\$ 13,200.00
2	Pre-Construction DVD	1	LS	\$ 1,500.00	\$ 1,500.00
3	Traffic Control	1	LS	\$ 18,000.00	\$ 18,000.00
4	Subsurface Investigation	4	HR	\$ 250.00	\$ 1,000.00
5	Materials Sampling & Testing	1	LS	\$ 7,500.00	\$ 7,500.00
6	Dust Control & Watering	1	LS	\$ 7,500.00	\$ 7,500.00
7	Construction Staking	1	LS	\$ 7,000.00	\$ 7,000.00
8	Erosion Control Compliance	1	LS	\$ 7,500.00	\$ 7,500.00
9	8" PVC (C900) Line, Fitting, Tracer Wire, Bedding, & Backfill	2,650	LF	\$ 65.00	\$ 172,250.00
10	8" Gate Valve Assembly	7	EA	\$ 5,000.00	\$ 33,125.00
11	Restore Surface Improvements	1	LS	\$ 8,500.00	\$ 8,500.00
<b>SUBTOTAL</b>					<b>\$ 277,075.00</b>
<b>CONTINGENCY</b>				20%	<b>\$ 55,415.00</b>
<b>CONSTRUCTION TOTAL</b>					<b>\$ 332,490.00</b>
<b>INCIDENTALS</b>					
1	Engineering Design	5.5%	LS	\$ 25,000.00	\$ 25,000.00
2	Bidding & Negotiating	1.7%	HR	\$ 7,500.00	\$ 7,500.00
3	Engineering Construction Services	4.3%	HR	\$ 19,400.00	\$ 19,400.00
4	Topographic & Property Survey	1.7%	EST	\$ 7,500.00	\$ 7,500.00
5	Funding and Administrative Services	2.2%	EST	\$ 10,000.00	\$ 10,000.00
6	Land & RoW Negotiation/Acquisition	11.0%	EST	\$ 50,000.00	\$ 50,000.00
7	Miscellaneous Engineering Services	0.6%	EST	\$ 2,500.00	\$ 2,500.00
<b>SUBTOTAL</b>					<b>\$ 121,900.00</b>
<b>TOTAL PROJECT COST</b>					<b>\$ 454,390.00</b>

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## Engineer's Opinion of Probable Cost

**Southwest Hildale Transmission Line**  
Project Location: Hildale City

17-Oct-23  
MCG/bcw

NO.	DESCRIPTION	EST. QTY	UNIT	UNIT PRICE	AMOUNT
<b>GENERAL CONSTRUCTION</b>					
1	Mobilization	5%	LS	\$ 28,400.00	\$ 28,400.00
2	Traffic Control	1	LS	\$ 12,000.00	\$ 12,000.00
3	Pre-Construction DVD	1	LS	\$ 1,500.00	\$ 1,500.00
4	Dust Control & Watering	1	LS	\$ 20,000.00	\$ 20,000.00
5	Subsurface Investigation	8	HR	\$ 250.00	\$ 2,000.00
6	Restore Surface Improvements	1	LS	\$ 12,000.00	\$ 12,000.00
7	Erosion Control Compliance	2	LS	\$ 8,000.00	\$ 16,000.00
8	Construction Staking	1	LS	\$ 12,500.00	\$ 12,500.00
9	Materials Sampling & Testing	1	LS	\$ 12,000.00	\$ 12,000.00
10	Roadway Restoration	9,000	SF	\$ 6.00	\$ 54,000.00
11	12" PVC (C900) Line, Fitting, Tracer Wire, Bedding, & Backfill	1,900	LF	\$ 110.00	\$ 209,000.00
12	12" Gate Valve Assembly	12	EA	\$ 6,750.00	\$ 81,000.00
13	PRV and Vault	1	LS	\$ 100,000.00	\$ 100,000.00
14	Misc. Connections, Fittings and Tie-ins	1	LS	\$ 35,000.00	\$ 35,000.00
<b>SUBTOTAL</b>					<b>\$ 595,400.00</b>
				<b>CONTINGENCY</b>	<b>\$ 119,100.00</b>
				<b>CONSTRUCTION TOTAL</b>	<b>\$ 714,500.00</b>
<b>INCIDENTALS</b>					
1	Engineering Design	11.6%	LS	\$ 105,000.00	\$ 105,000.00
2	Bidding & Negotiating	0.8%	HR	\$ 7,500.00	\$ 7,500.00
3	Engineering Construction Services	3.3%	HR	\$ 29,800.00	\$ 29,800.00
4	Topographic & Property Survey	1.7%	EST	\$ 15,000.00	\$ 15,000.00
5	Funding and Administrative Services	1.3%	EST	\$ 12,000.00	\$ 12,000.00
6	Permitting	0.6%	EST	\$ 5,000.00	\$ 5,000.00
7	Miscellaneous Engineering Services	1.7%	EST	\$ 15,000.00	\$ 15,000.00
<b>SUBTOTAL</b>					<b>\$ 189,300.00</b>
<b>TOTAL PROJECT COST</b>					<b>\$ 903,800.00</b>

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## Engineer's Opinion of Probable Cost

**Transmission Line to Airport**  
Project Location: Colorado City

17-Oct-23  
MCG/bcw

NO.	DESCRIPTION	EST. QTY	UNIT	UNIT PRICE	AMOUNT
<b>GENERAL CONSTRUCTION</b>					
1	Mobilization	5%	LS	\$ 71,600.00	\$ 71,600.00
2	Traffic Control	1	LS	\$ 12,000.00	\$ 12,000.00
3	Pre-Construction DVD	1	LS	\$ 1,500.00	\$ 1,500.00
4	Dust Control & Watering	1	LS	\$ 20,000.00	\$ 20,000.00
5	Subsurface Investigation	8	HR	\$ 250.00	\$ 2,000.00
6	Restore Surface Improvements	1	LS	\$ 12,000.00	\$ 12,000.00
7	Erosion Control Compliance	2	LS	\$ 8,000.00	\$ 16,000.00
8	Construction Staking	1	LS	\$ 12,500.00	\$ 12,500.00
9	Materials Sampling & Testing	1	LS	\$ 12,000.00	\$ 12,000.00
10	Roadway Restoration	42,750	SF	\$ 6.00	\$ 256,500.00
11	10" PVC (C900) Line, Fitting, Tracer Wire, Bedding, & Backfill	650	LF	\$ 90.00	\$ 58,500.00
12	10" Gate Valve Assembly	2	EA	\$ 5,250.00	\$ 10,500.00
13	12" PVC (C900) Line, Fitting, Tracer Wire, Bedding, & Backfill	7,900	EA	\$ 110.00	\$ 869,000.00
14	12" Gate Valve Assembly	17	EA	\$ 6,750.00	\$ 114,750.00
15	Misc. Connections, Fittings and Tie-ins	1	LS	\$ 35,000.00	\$ 35,000.00
<b>SUBTOTAL</b>					<b>\$ 1,503,850.00</b>
<b>CONTINGENCY</b>				20%	<b>\$ 300,800.00</b>
<b>CONSTRUCTION TOTAL</b>					<b>\$ 1,804,650.00</b>
<b>INCIDENTALS</b>					
1	Engineering Design	5.1%	LS	\$ 105,000.00	\$ 105,000.00
2	Bidding & Negotiating	0.4%	HR	\$ 7,500.00	\$ 7,500.00
3	Engineering Construction Services	3.7%	HR	\$ 75,200.00	\$ 75,200.00
4	Topographic & Property Survey	0.7%	EST	\$ 15,000.00	\$ 15,000.00
5	Funding and Administrative Services	0.6%	EST	\$ 12,000.00	\$ 12,000.00
6	Permitting	0.2%	EST	\$ 5,000.00	\$ 5,000.00
7	Miscellaneous Engineering Services	0.7%	EST	\$ 15,000.00	\$ 15,000.00
<b>SUBTOTAL</b>					<b>\$ 234,700.00</b>
<b>TOTAL PROJECT COST</b>					<b>\$ 2,039,350.00</b>

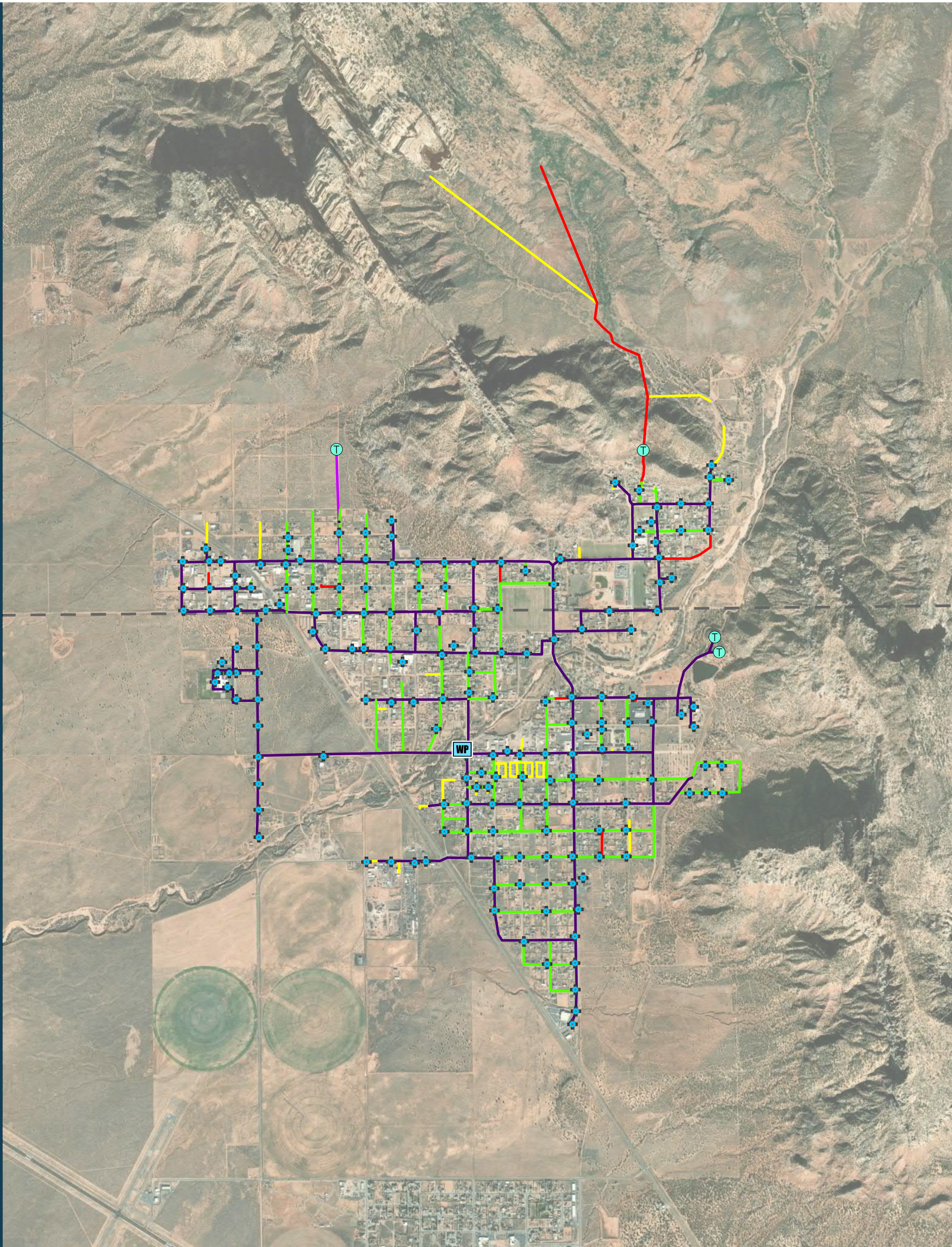
*In providing opinions of probable construction cost, the Client understands that the Engineer has no control over costs or the price of labor, equipment or materials, or over the Contractor's method of pricing, and that the opinion of probable construction cost provided herein is made on the basis of the Engineer's qualifications and experience. The Engineer makes no warranty, expressed or implied, as to the accuracy of such opinions compared to bid or actual costs.*

# APPENDIX D

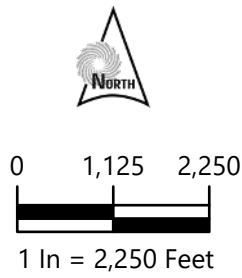
## System Maps



EXISTING WATER SYSTEM



MAP LEGEND



Water Mains  
2"  
4"  
6"  
8"  
12"

Water Hydrants  
Water Tank  
Treatment Plant

State Boundary

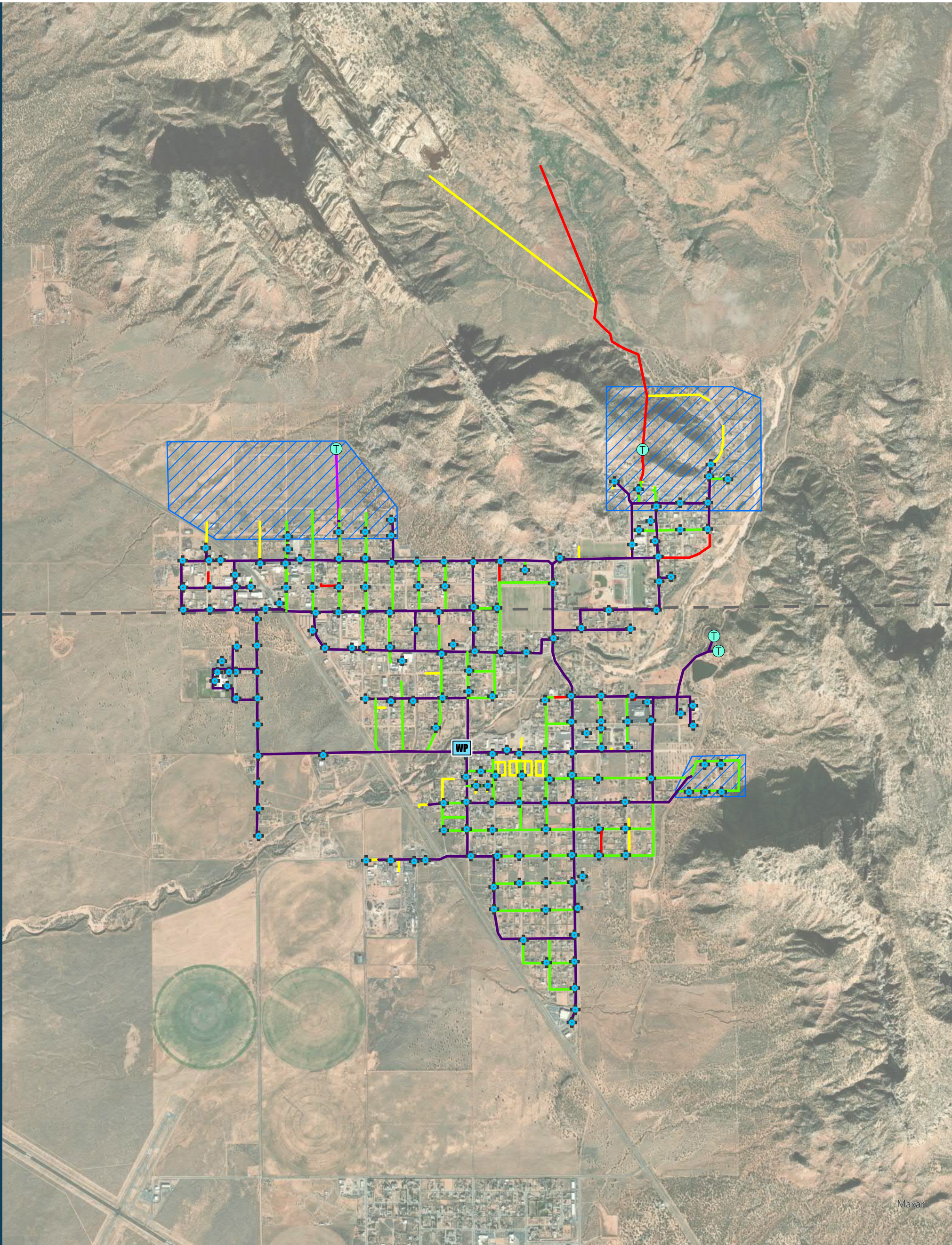


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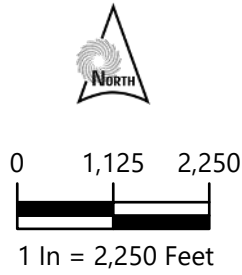




LOW FIRE FLOW AREA



MAP LEGEND



- Water Mains
- 2"
  - 4"
  - 6"
  - 8"
  - 12"

- Water Hydrants
- Water Tank
- Treatment Plant
- Pressure Zones

- State Boundary

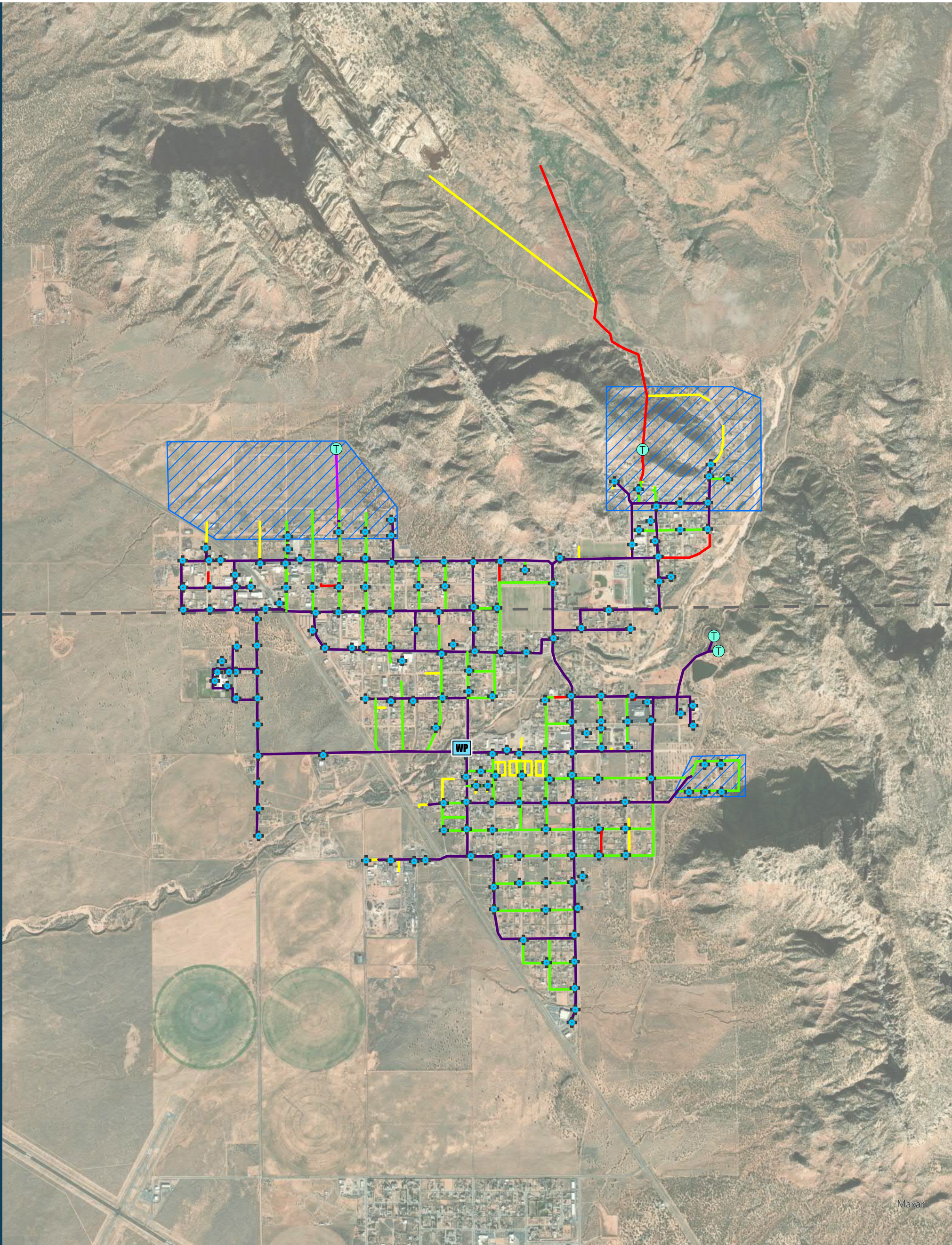


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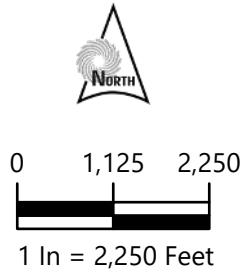




LOW PRESSURE DURING PDD SCENARIO



MAP LEGEND



- Water Mains

  - 2"
  - 4"
  - 6"
  - 8"
  - 12"
- Water Hydrants
  - Water Tank
  - Treatment Plant
  - Pressure Zones

State Boundary

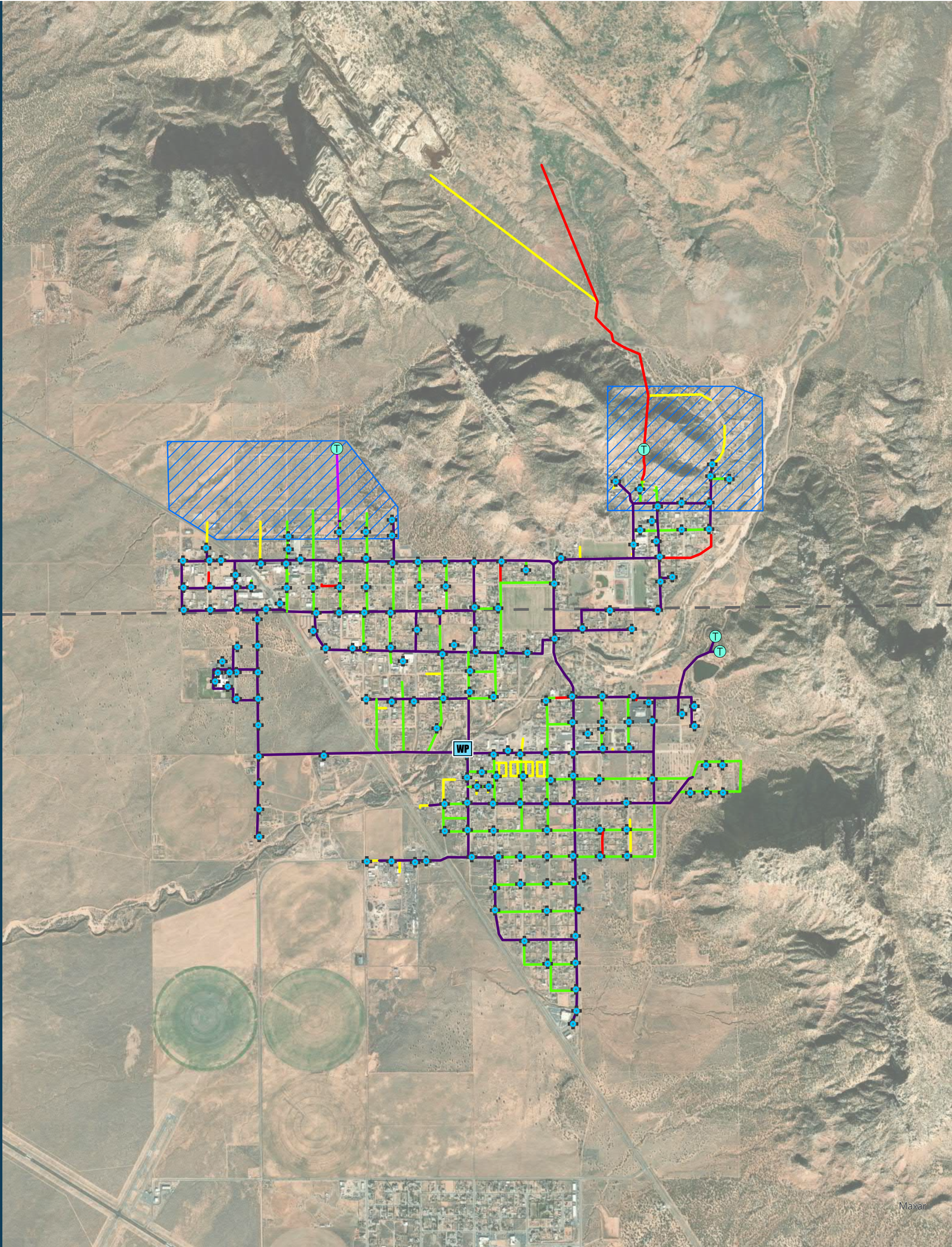


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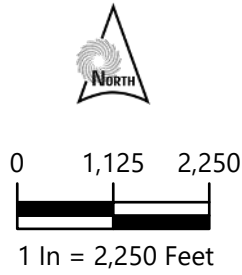




LOW PRESSURE DURING PID SCENARIO



MAP LEGEND



- Water Mains
- 2"
  - 4"
  - 6"
  - 8"
  - 12"

- Water Hydrants
- Water Tank
- Treatment Plant
- Pressure Zones

- State Boundary

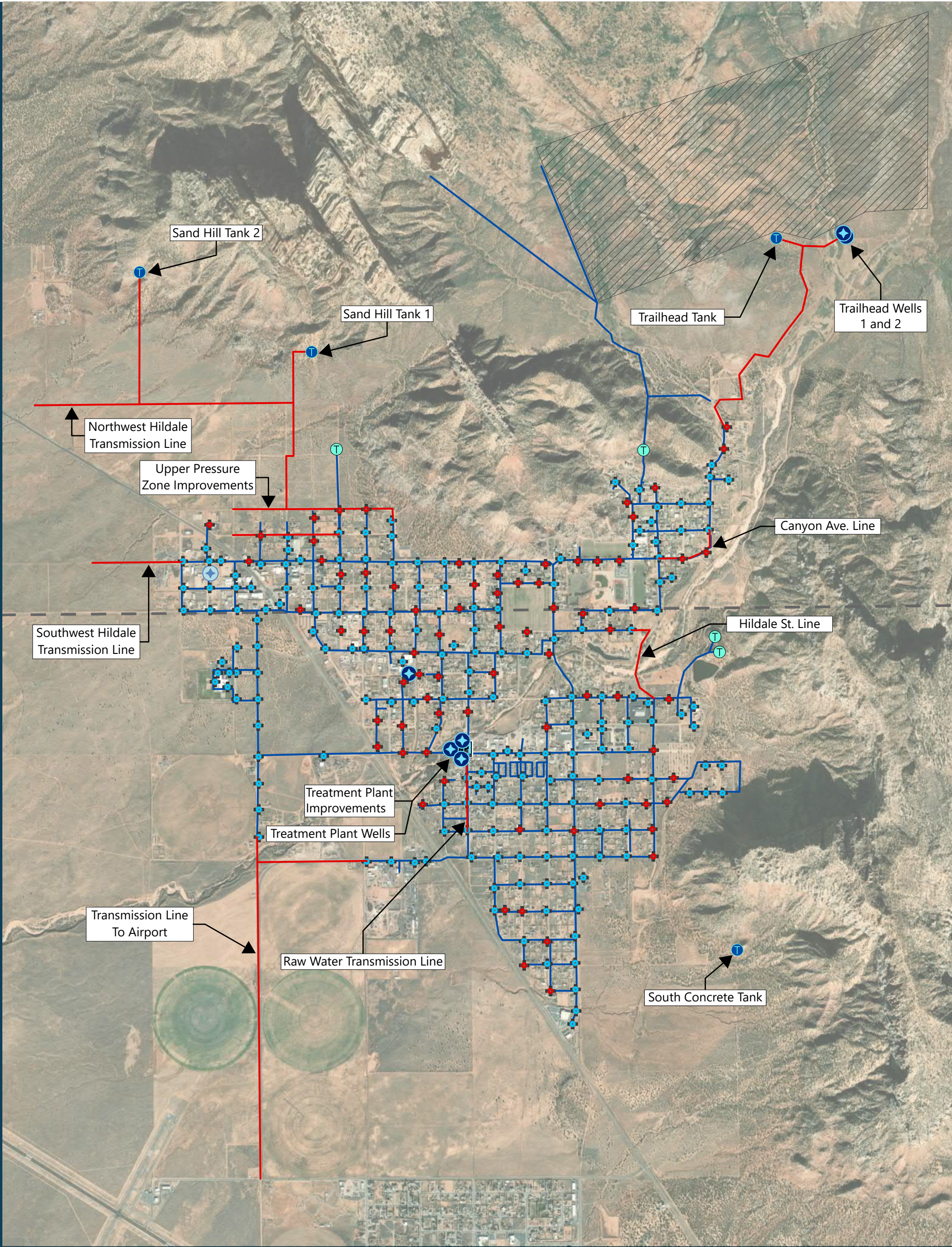


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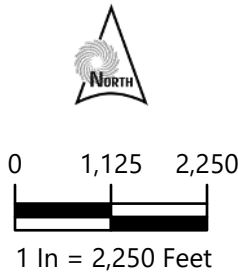




RECOMMENDED IMPROVEMENTS



MAP LEGEND



- Recommended Improvements
- Water Mains
  - Water Hydrants
  - Water Tank
  - Production Well
  - Hildale Ground Water Project Area

- Existing Water System
- Water Mains
  - Water Hydrants
  - Water Tank
  - Production Well
  - Treatment Plant

State Boundary



Map Date: 10.27.2023





# APPENDIX E

## Impact Fee Analysis

## Impact Fee Projects &amp; Impact Fee Eligibility

Source Projects	Current Costs	Year	Costs w/ Inflation*	Financed Costs**	% IF EL.	IF EL. Cost	% Hildale	Hildale IF EL. Cost	% Colorado City	Colorado City IF EL. Cost
Treatment Plant Wells	\$ 1,288,700.00	2024	\$ 1,327,361	\$ 976,695	0.0%	\$ -	50%	\$ -	50%	\$ -
5 Year AZ Well Field	\$ 3,333,400.00	2026	\$ 3,642,496	\$ 2,680,212	84.3%	\$ 2,259,419	50%	\$ 1,129,709.00	50%	\$ 1,129,709.55
5 Year UT Well Field	\$ 6,923,700.00	2026	\$ 7,565,714	\$ 5,566,985	84.3%	\$ 4,692,968	50%	\$ 2,346,484.00	50%	\$ 2,346,484.07
10 Year AZ Well Field	\$ 3,809,600.00	2032	\$ 4,970,664	\$ 3,657,502	100.0%	\$ 3,657,502	50%	\$ 1,828,750.00	50%	\$ 1,828,750.76
10 Year UT Well Field	\$ 7,912,800.00	2032	\$ 10,324,409	\$ 7,596,881	100.0%	\$ 7,596,881	50%	\$ 3,798,440.00	50%	\$ 3,798,440.52
			Sub total	\$ 20,478,275		\$ 18,206,770		\$ 9,103,383		\$ 9,103,385
Storage Projects										
Sandhill Tank 1	\$ 5,938,100.00	2025	\$ 6,299,730	\$ 4,635,452	100.0%	\$ 4,635,452	70%	\$ 3,244,816.00	30%	\$ 1,390,635.54
			Sub total	\$ 4,635,452		\$ 4,635,452		\$ 3,244,816		\$ 1,390,636
Water Treatment Projects										
Raw Water Transmission Line	\$ 1,092,500.00	2024	\$ 1,125,275	\$ 827,997	0.0%	\$ -	50%	\$ -	50%	\$ -
Small Treatment Plant (1,600 gpm)	\$ 5,904,800.00	2025	\$ 6,264,402	\$ 4,609,457	100.0%	\$ 4,609,457	50%	\$ 2,304,728.00	50%	\$ 2,304,728.44
			Sub total	\$ 5,437,454		\$ 4,609,457		\$ 2,304,728		\$ 2,304,728
Distribution System Projects										
Fire Hydrant Project	\$ 1,733,500.00	2024	\$ 1,785,505	\$ 1,313,806	0.0%	\$ -	50%	\$ -	50%	\$ -
Upper Pressure Zone Improvements	\$ 846,500.00	2026	\$ 924,993	\$ 680,626	50.0%	\$ 340,313	100%	\$ 340,313.00	0%	\$ -
Canyon St. Line	\$ 388,900.00	2028	\$ 450,842	\$ 331,737	0.0%	\$ -	50%	\$ -	50%	\$ -
Northwest Hildale Transmission Line	\$ 1,977,400.00	2028	\$ 2,292,349	\$ 1,686,750	100.0%	\$ 1,686,750	100%	\$ 1,686,750.00	0%	\$ -
Hildale St. Line	\$ 454,390.00	2030	\$ 558,842	\$ 411,206	0.0%	\$ -	50%	\$ -	50%	\$ -
			Sub total	\$ 4,424,126		\$ 2,027,063		\$ 2,027,063		\$ -
Future Planning Projects										
Capital Facilities Plan and IFFP & IFA Updat	\$ 60,000	2028	\$ 69,556	\$ 79,474	100.0%	\$ 79,474	50%	\$ 39,737.00	50%	\$ 39,737.17
			Sub total	\$ 79,474		\$ 79,474		\$ 39,737		\$ 39,737
			Total	\$ 35,054,781		\$ 29,558,216	Impact Fee Amount	\$ 16,719,727	Impact Fee Amount	\$ 12,838,486
							Number ERU Start 2024	468	Number ERU Start 2024	847
							Number ERU End 2033	1,797	Number ERU End 2033	1,934
							Number New ERU	1,329	Number New ERU	1,087
							Impact Fee per ERU	\$ 12,580.00	Impact Fee per ERU	\$ 11,807.00

\* Inflation is assumed at 3%

\*\*Financed costs assume a 20-year 4% interest loan

# Utility Advisory Board

# February 2024

Item 11.

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1	2	3
4	5	6	7 Hildale City Council 6pm	8	9	10
11	12 Town of Colorado City Council 6pm	13	14	15	16	17
18	19 Presidents' Day Holiday Office Closed	20	21	22 Utility Advisory Board 6pm	23	24
25	26	27	28	29		